

ORANGE AND ROCKLAND UTILITIES, INC.
RETURN ON EQUITY REBUTTAL TESTIMONY

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I. INTRODUCTION AND PURPOSE

1 **Q. Please state your name.**

2 A. My name is James H. Vander Weide.

3 **Q. Are you the same James H. Vander Weide who filed direct testimony in this**
4 **proceeding?**

5 A. Yes, I am.

6 **Q. What is the purpose of your rebuttal testimony in this proceeding?**

7 A. I have been asked by Orange and Rockland Utilities, Inc. (“O&R” or the
8 “Company”) to review the direct testimony of the Staff Finance Panel (“Panel” or
9 “Finance Panel”) on behalf of the New York State Department of Public Service
10 and to respond to their recommended allowed rate of return on equity (“ROE”)
11 for O&R in this proceeding. I will also respond to the Finance Panel’s comments
12 on my direct testimony and analyses.

13 **Q. What ROE does the Finance Panel recommend for O&R?**

14 A. The Finance Panel recommends an ROE equal to 8.6 percent for O&R.

15 **Q. How does the Finance Panel’s recommended 8.6 percent ROE for O&R**
16 **compare to the average allowed ROE for other U. S. electric utilities?**

17 A. The Finance Panel’s recommended 8.6 percent allowed ROE is at least 100 basis
18 points less than the average allowed ROE for other U. S. electric utilities. Indeed,
19 if the Finance Panel’s recommended ROE were accepted, O&R would have the
20 second lowest allowed ROE of any U. S. electric utility.

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1 **Q. How does the Finance Panel estimate O&R's required rate of return on**
2 **equity?**

3 A. The Finance Panel estimates O&R's required ROE by: (1) applying a discounted
4 cash flow ("DCF") analysis to a proxy group of electric utilities; (2) applying two
5 forms of the Capital Asset Pricing Model ("CAPM") to the same proxy group of
6 utilities; and (3) averaging the results of their DCF and CAPM applications,
7 giving the DCF result a two-thirds weight and the average CAPM result a one-
8 third weight.

9 **Q. What required rate of return on equity does the Finance Panel find for the**
10 **utility operations of O&R in this proceeding?**

11 A. The Finance Panel finds a DCF cost of equity equal to 8.38 percent and an
12 average CAPM cost of equity equal to 8.93 percent. On the basis of these results,
13 the Finance Panel recommends that O&R be allowed an ROE for its utility
14 operations equal to 8.6 percent.

15 **Q. What issues will you address in your rebuttal to the Finance Panel's**
16 **testimony?**

17 A. I will address the Finance Panel's: (1) comparable companies; (2) DCF analysis;
18 (3) traditional CAPM and zero-beta CAPM analyses; (4) failure to include an
19 allowance for flotation costs; (5) failure to test the reasonableness of their cost of
20 equity recommendation; and (6) comments on my direct testimony.

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1 **Q. How does the Finance Panel’s recommended 8.6 percent ROE for the**
2 **Company compare to the average allowed ROE for other U. S. electric**
3 **utilities?**

4 A. The Finance Panel’s recommended 8.6 percent allowed ROE is at least 100 basis
5 points less than the average allowed ROE for other U. S. electric utilities, and
6 among the lowest allowed ROEs for all U. S. electric utilities.

II. COMPARABLE COMPANIES

7 **Q. What comparable companies does the Finance Panel use to estimate O&R’s**
8 **cost of equity?**

9 A. The Finance Panel uses the 25 electric utilities shown in their Exhibit__(FP-5),
10 page 1 of 3.

11 **Q. How does the Finance Panel arrive at the 25 electric utilities they use to**
12 **estimate O&R’s required ROE in this proceeding?**

13 A. The Finance Panel includes all Value Line electric utilities that: (1) serve retail
14 customers; (2) have investment grade bond ratings; (3) receive at least 70 percent
15 of total revenues from regulated utility operations; and (4) are not involved in
16 transformational activities such as mergers and acquisitions.

17 **Q. Did the Finance Panel eliminate any additional companies from its proxy**
18 **group that met their stated criteria for inclusion in the proxy group?**

19 A. Yes. The Finance Panel eliminated two companies that met all their stated criteria,
20 Avangrid and Sempra Energy.

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1 **Q. Why did the Finance Panel eliminate Avangrid and Sempra?**

2 A. The Finance Panel notes that it eliminated Avangrid because “it has only been
3 publicly-traded since December 2015, which we believe is an insufficient track
4 record to establish confidence in the financial forecasts needed for calculating a
5 company’s estimated cost of equity.” (Finance Panel at 72) The Finance Panel
6 eliminated Sempra Energy because “Value Line has not yet updated its forecasts
7 to reflect the recently completed acquisition of Oncor Electric Delivery, LLC.”
8 (Finance Panel at 72)

9 **Q. In your opinion, is it reasonable to eliminate Avangrid because they have
10 only been publicly traded since December 2015?**

11 A. No. As of the end of December 2017, Avangrid had been publicly traded for two
12 years. Two years is more than sufficient time for investors to absorb information
13 regarding the financial prospects of Avangrid, and certainly sufficient time for
14 those prospects to have been incorporated into Avangrid’s share price.

15 **Q. The Finance Panel argues that they eliminated Sempra Energy because
16 Value Line had not yet updated its forecasts to reflect Sempra’s acquisition
17 of Oncor. Do you agree that Value Line had not yet updated its forecasts to
18 reflect Sempra’s acquisition of Oncor?**

19 A. No. Value Line states:

20 We have adjusted our estimates and projections to include the
21 acquisition and have boosted our 2018 estimate by \$.020 a share,
22 to \$5.50. Note that Oncor will not be consolidated for financial
23 reporting purposes due to the “ring fencing” that was required as a

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1 condition for regulatory approval. [Value Line report for Sempra
2 Energy, April 27, 2018]

3 **Q. Why does the Finance Panel require that its proxy utilities serve retail**
4 **customers?**

5 A. The Finance Panel requires that its proxy utilities serve retail customers because,
6 in their opinion, electric utilities with no retail customers are more risky than
7 electric utilities with retail customers.

8 **Q. Do you agree with the Finance Panel's assertion that electric utilities with no**
9 **retail customers are necessarily more risky than electric utilities with retail**
10 **customers?**

11 A. No. For example, electric utilities that serve wholesale customers willing to sign
12 long-term contracts that provide for a reasonable return on investment may be less
13 risky than electric utilities with retail customers because the company serving
14 wholesale customers has a high probability of recovering costs, including a return
15 on investment, over the life of the project. Such contracts are common for
16 independent wind and solar investments.

17 **Q. The Finance Panel states that one of their selection criterion is that a**
18 **company in the Value Line electric utility industry must serve retail**
19 **customers. Are there any Value Line electric utilities that fail to meet this**
20 **selection criterion?**

21 A. No.

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1 **Q. With regard to the Finance Panel's second selection criterion that**
2 **comparable companies must have investment-grade bond ratings, do any**
3 **Value Line electric utilities have non-investment grade bond ratings at this**
4 **time?**

5 A. No.

6 **Q. The Finance Panel's third selection criterion is that proxy companies must**
7 **have at least 70 percent of revenues from regulated services. Does the**
8 **Finance Panel eliminate any companies from its proxy group because the**
9 **company has less than 70 percent of revenues from regulated services?**

10 A. Yes. Based upon this third selection criterion, the Finance Panel eliminates
11 CenterPoint Energy, Dominion Resources, DTE Energy, Exelon, NextEra Energy,
12 Otter Tail Corp., Public Service Enterprise Group, Sempra Energy, and Vectren
13 (see Exhibit__ (FP-5). (I note that Vectren and CenterPoint were also excluded by
14 the Finance Panel because of the announcement on April 23, 2018, that Vectren
15 was the target of a merger offer from CenterPoint.)

16 **Q. Why does the Finance Panel require that comparable electric utilities have**
17 **70 percent or greater revenues from regulated utility operations?**

18 A. The Finance Panel requires that comparable utilities have 70 percent or more
19 revenues from regulated utility operations because they believe that utilities that
20 meet this criterion are less risky than electric utilities that do not.

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1 **Q. Does the Finance Panel present any evidence that supports their opinion that**
2 **electric utilities with less than 70 percent revenues from regulated service are**
3 **more risky than electric utilities with 70 percent or more revenues from**
4 **regulated service?**

5 A. No. Although the Finance Panel’s exhibits contain information regarding the
6 Standard & Poor’s and Moody’s bond ratings for the Value Line electric utilities,
7 the Finance Panel does not compare the average ratings for the companies
8 eliminated from their proxy group because they have less than 70 percent of
9 revenues from regulated utility operations to the average ratings for the
10 companies included in their recommended proxy group.

11 **Q. How do the average Standard & Poor’s and Moody’s bond ratings for those**
12 **electric utilities eliminated by the Finance Panel on the basis that they receive**
13 **less than 70 percent of revenues from regulated utility services compare to**
14 **the average Standard & Poor’s and Moody’s bond ratings for the electric**
15 **utilities in the Finance Panel’s recommended proxy group?**

16 A. The average Standard & Poor’s and Moody’s bond ratings for those electric
17 utilities eliminated by the Finance Panel on the basis of receiving less than 70
18 percent of revenues from regulated services are virtually identical to the average
19 ratings of the utilities in the Finance Panel’s recommended proxy group, with
20 both the average for the utilities eliminated and the average for the Finance
21 Panel’s selected proxy group being “BBB+” and “Baa1” (see TABLE 1 below).

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TABLE 1
COMPARISON OF STANDARD & POOR’S AND MOODY’S BOND RATINGS FOR UTILITIES
ELIMINATED BY FINANCE PANEL DUE TO PERCENT REGULATED REVENUES TO
FINANCE PANEL’S RECOMMENDED PROXY GROUP (DATA FROM EXHIBIT__ (FP-5))

FINANCE PANEL ELIMINATED <70% REVENUE	S&P BOND RATING	S&P BOND RATING (NUMERICAL)	MOODY'S BOND RATING	MOODY'S BOND RATING (NUMERICAL)
CenterPoint Energy	A-	5	Baa1	6
Dominion Energy, Inc.	BBB+	6	Baa2	7
DTE Energy Co.	BBB+	6	Baa1	6
Exelon Corp.	BBB	7	Baa2	7
NextEra Energy, Inc.	A-	5	Baa1	6
Otter Tail Corp.	BBB	7	Baa2	7
Public Service Enterprise Group	BBB+	6	Baa1	6
Vectren Corp.	A-	5	A2	4
Average Eliminated Companies	BBB+	6	Baa1	6
Average Staff Proxy Group	BBB+	6	Baa1	6

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2 **Q. Do the Standard & Poor’s and Moody’s bond ratings measure risk from the**
 3 **equity investors’ point of view?**

4 A. No. The Standard & Poor’s and Moody’s bond ratings indicate risk from the bond
 5 investors’ point of view, that is, the bond ratings primarily relate to the risk that a
 6 company will default on the payment of interest and principal on its bonds. In
 7 contrast to bond investors, who are concerned with the risk of default, equity
 8 investors are concerned with the variability in the return on their equity
 9 investment. Because equity risk is different from bond risk, bond ratings may be a
 10 poor indicator of the risk of investing in a company’s equity.

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1 **Q. The Finance Panel relies on various data from Value Line. Does Value Line**
2 **provide information about the risk of investing in the stocks of the companies**
3 **it follows?**

4 A. Yes. Value Line publishes various equity risk ratings, including Safety Rank,
5 Earnings Predictability, Price Stability, and Financial Strength.

6 **Q. How does Value Line define “Safety Rank,” “Earnings Predictability,”**
7 **“Price Stability,” and “Financial Strength”?**

8 A. Value Line defines the risk indicators of Safety Rank, Earnings Predictability,
9 Price Stability, and Financial Strength as follows:

10 **Safety Rank:** A measurement of potential risk associated with
11 individual common stocks. The Safety Rank is computed by
12 averaging two other Value Line indexes, the Price Stability Index
13 and the Financial Strength Rating. Safety Ranks range from 1
14 (Highest) to 5 (Lowest).

15 **Earnings Predictability:** A measure of the reliability of an
16 earnings forecast. Predictability is based upon the stability of year-
17 to-year comparisons, with recent years being weighted more
18 heavily than earlier ones. The most reliable forecasts tend to be
19 those with the highest rating (100); the least reliable, the lowest
20 (5).

21 **Price Stability:** A measure of the stability of a stock's price. It
22 includes sensitivity to the market (see Beta as well as the stock's
23 inherent volatility). Value Line Stability ratings range from 1
24 (highest) to 5 (lowest).

25 **Financial Strength:** A relative measure of financial strength of the
26 companies reviewed by Value Line. The relative ratings range
27 from A++ (strongest) down to C (weakest), in nine steps.

28 **Q. Is there an appreciable difference in the Value Line equity risk ratings for**
29 **the electric utilities the Finance Panel eliminated because they had less than**

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1 **70 percent revenues from regulated operations compared to the Value Line**
 2 **equity risk ratings for the utilities the Finance Panel included in its**
 3 **recommended proxy group?**

4 A. No. The Value Line equity risk ratings, including Safety Rank, Earnings
 5 Predictability, Price Stability, and Financial Strength, are similar for the utilities
 6 the Finance Panel eliminated because of its 70 percent regulated revenue criterion
 7 and for the Finance Panel’s recommended proxy group of utilities (see TABLE 2
 8 below).

TABLE 2
COMPARISON OF VALUE LINE EQUITY RISK RATINGS FOR UTILITIES ELIMINATED BY
FINANCE PANEL DUE TO PERCENT REGULATED REVENUES TO FINANCE PANEL’S
RECOMMENDED PROXY GROUP

FINANCE PANEL ELIMINATED <70% REVENUE	VALUE LINE BETA	SAFETY RANK	EARNINGS PREDICTABILITY	PRICE STABILITY RANK	FINANCIAL STRENGTH	FINANCIAL STRENGTH
CenterPoint Energy	0.85	3	70	90	B+	5
Dominion Energy, Inc.	0.65	2	90	100	B++	4
DTE Energy Co.	0.65	2	80	100	B++	4
Exelon Corp.	0.70	3	55	85	B++	4
NextEra Energy, Inc.	0.65	1	65	100	A+	2
Otter Tail Corp.	0.85	2	55	80	A	3
Public Service Enterprise Group	0.70	1	65	95	A++	1
Vectren Corp.	0.75	2	80	90	A	3
Average Eliminated Companies	0.73	2	70	93	A	3
Average Staff Proxy Group	0.68	2	80	93	B++	4

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11 **Q. What conclusion do you reach from your comparison of the stock and bond**
 12 **risk ratings of electric utilities with less than 70 percent revenues from**

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1 **regulated utility operations to the stock and bond risk ratings of the electric**
2 **utilities included in the Finance Panel’s comparable group?**

3 A. I conclude that the Finance Panel’s requirement that comparable companies have
4 at least 70 percent revenues from regulated utility service is unreasonable because
5 there is no evidence that revenues from regulated utility services is a significant
6 risk factor for the Value Line electric utilities at this time, and my comparison of
7 the risk ratings of the two sets of companies indicate that the companies
8 eliminated by the Finance Panel have risk ratings that are equivalent to those of
9 the companies included in the Panel’s proxy group.

10 **Q. Do you have additional issues with the Finance Panel’s use of percent of**
11 **regulated revenues to select its recommended proxy group of utilities?**

12 A. Yes. First, the Finance Panel does not explain why it chose to use percent of
13 regulated revenues, rather than percent of regulated income or percent of
14 regulated assets, to assess the extent to which an electric utility is regulated.
15 Because an electric utility’s revenues are highly sensitive to natural gas and power
16 prices, an attempt to segment a utility’s business into “regulated” versus
17 “unregulated” categories based on percent of revenues from “regulated” utility
18 services can be highly sensitive to changes in natural gas and power prices. For
19 this reason, the Edison Electric Institute, for example, uses broad categories of
20 total assets to assess the extent to which a utility’s business is impacted by

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1 regulation. However, I have not seen evidence that percent of regulated assets
2 impacts the risk of investing in electric utilities at this time.

3 Second, the Finance Panel fails to recognize that it is quite difficult to
4 quantify the percentage of a utility's business that is regulated. Electric utilities'
5 Form 10-Ks only provide information on the book values of revenues, net income,
6 and assets that are administratively located in each of the companies' business
7 segments. Many electric utilities have business segments with both regulated and
8 unregulated operations, and electric utilities are not required to report the
9 percentage of regulated revenues, income, or assets in each business segment.
10 Thus, any conclusion regarding the percentages of an electric utility's revenues,
11 net income, and assets that are regulated, is necessarily subjective.

12 Third, the Finance Panel's criterion that a utility must have 70 percent of
13 revenues from regulated services relates to a single dimension of risk, rather than
14 to an overall assessment of a utility's risk. Seven utilities fail the Finance Panel's
15 selection criterion that the utility must have at least 70 percent revenues from
16 regulated utility operations, even though those excluded utilities are comparable
17 in risk as measured by broader risk categories such as the Value Line equity risk
18 ratings. As discussed above, the overall risk of utilities with less than 70 percent
19 revenues from regulated utility service is approximately the same as the overall
20 risk of utilities with 70 percent or greater revenues from regulated utility service
21 at this time.

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1 Fourth, the Finance Panel's decision to use 70 percent of revenues from
2 regulated services, rather than some other value, is arbitrary. I note, for example,
3 that the Finance Panel eliminates NextEra, which would otherwise meet all
4 selection criteria, because it has 69.6 percent revenues from regulated services, as
5 measured by the Finance Panel, even though any reasonable observer of the
6 electric utility industry would consider NextEra to be less risky than the average
7 company in the Finance Panel's proxy group.

8 Fifth, the Finance Panel's 70 percent revenue criterion causes them to
9 eliminate from their studies any data for a very significant percentage of the
10 dollars invested in the electric utility industry in capital markets in the United
11 States. The total market capitalization of the seven companies excluded from the
12 Finance Panel's group by the 70 percent criterion, \$216.1 billion, is
13 approximately 60 percent of the value of the \$372.7 billion market capitalization
14 of the 25 companies included in the Finance Panel's proxy group.

15 **Q. The Finance Panel defends its use of their 70 percent regulated revenue**
16 **criterion on the grounds that their proxy companies received only**
17 **6.19 percent of their revenues from non-regulated activities, on average,**
18 **whereas your proxy companies received 13.5 percent of revenues from non-**
19 **regulated activities (pp. 118-119). Does the Finance Panel's comparison of the**
20 **average percent revenues from non-regulated activities in their**
21 **recommended proxy group to the average percent revenues from non-**

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1 **regulated activities in your proxy group have any significance, either for the**
2 **purpose of assessing the relative risk of your and the Finance Panel's**
3 **comparable groups or for the purpose of estimating the cost of equity for**
4 **O&R in this proceeding?**

5 A. No. For both the purpose of assessing the relative risk of the Finance Panel's
6 group and my group, and for the purpose of estimating O&R's cost of equity, the
7 relevant issue is whether the overall risk of investing in the electric utilities is
8 comparable, not whether the percent of revenues from non-regulated activities is
9 comparable. My comparison of the bond ratings and equity risk rankings of the
10 electric utilities identified by the Finance Panel as having less than 70 percent
11 regulated revenues to the bond ratings and equity risk rankings of electric utilities
12 having more than 70 percent regulated revenues indicates that the overall risk of
13 investing in electric utilities is unrelated to whether the utility has less than
14 70 percent revenues from regulated activities.

15 However, even under the Finance Panel's unproven assumption that
16 revenue from non-regulated activities is a determinant of risk, the difference
17 between the Finance Panel's reported average 6.2 percent revenues from
18 unregulated activities for its proxy group, versus the Finance Panel's reported
19 13.2 percent revenues from unregulated activities for my proxy group, is
20 insignificant, particularly in view of the substantial difficulties and inherent

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1 subjectivity in measuring the percentages of regulated and unregulated revenues
2 for electric utilities.

3 **Q. You note that the Finance Panel eliminates seven companies with less than**
4 **70 percent revenues from regulated operations, and two companies,**
5 **Avangrid (“insufficient track record”) and Sempra (alleging “insufficient**
6 **data”). How does the total market capitalization for these eliminated utilities**
7 **compare to the total market capitalization for the companies included in the**
8 **Finance Panel’s proxy group?**

9 A. The total market capitalization for the nine eliminated companies is \$261.108
10 billion, and the total market capitalization for the 25 electric utilities included in
11 the Finance Panel group is \$372.689 billion (values at April 2018). Thus, the
12 Finance Panel has eliminated from their studies electric utilities that represent
13 more than 41 percent of the total dollars invested in electric utilities in capital
14 markets in the United States at this time.

15 **Q. What does this information imply about the Finance Panel’s studies?**

16 A. These data suggest that, by failing to consider the cost of equity for 41 percent of
17 the total dollars invested in electric utilities at the time of their studies, the
18 Finance Panel’s results may not be indicative of the return required on the dollars
19 invested in the electric utility industry.

20 **Q. You have compared the overall risk of the Finance Panel’s proxy group,**
21 **using both bond ratings and Value Line equity risk ratings, to the overall**

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1 **risk of companies they have eliminated from their analyses, finding that the**
 2 **utilities the Finance Panel eliminated have no greater risk than the average**
 3 **risk for their proxy group. How does the overall risk of your proxy utility**
 4 **group compare to the overall risk of the Finance Panel’s proxy group?**

5 A. Both my proxy group and the Finance Panel’s proxy group have approximately
 6 the same overall risk as measured by bond ratings and Value Line equity risk
 7 ratings. The Finance Panel group has an average Standard & Poor’s bond rating of
 8 approximately “BBB+” and an average Moody’s bond rating of “Baa1,”
 9 compared to a slightly higher average Standard & Poor’s bond rating of A- to
 10 BBB+ and a Moody’s average rating of Baa1 for my proxy group. With regard to
 11 the Value Line equity risk ratings, both groups have an average Safety Rank of 2;
 12 with regard to Earnings Predictability, the Finance Panel’s group average is 80,
 13 compared to a value of 79 for the Vander Weide proxy group; the average Price
 14 Stability ranking is 93 for the Finance Panel’s group and 95, slighter higher, for
 15 the Vander Weide proxy group; and the average Financial Strength rating for the
 16 both groups is ‘A’ (see TABLE 3 and TABLE 4 below).

TABLE 3
COMPARISON OF BOND RATINGS OF FINANCE PANEL PROXY GROUP AND VANDER
WEIDE PROXY GROUP

PROXY GROUP	S&P BOND RATING	S&P BOND RATING (NUMERICAL)	MOODY'S BOND RATING	MOODY'S BOND RATING (NUMERICAL)
Finance Panel Average	BBB+	5.8	Baa1	5.9
Finance Panel Median	BBB+	6.0	Baa1	6.0

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Vander Weide Average	BBB+ to A-	5.5	Baa1	5.9
Vander Weide Median	A-	5.0	Baa1	6.0

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TABLE 4
COMPARISON OF VALUE LINE EQUITY RISK RATINGS OF FINANCE PANEL PROXY
GROUP AND VANDER WEIDE PROXY GROUP

PROXY GROUP	VALUE LINE BETA	SAFETY RANK	EARNINGS PREDICTABILITY	PRICE STABILITY	FINANCIAL STRENGTH	FINANCIAL STRENGTH (NUMERICAL)
Finance Panel Average	0.68	2	80	93	A	3
Finance Panel Median	0.65	2	85	95	A	3
Vander Weide Average	0.68	2	79	95	A	3
Vander Weide Median	0.65	2	85	95	A	3

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4

5 **Q. Has the Finance Panel’s elimination of companies based on its 70 percent**
6 **regulated revenue criterion biased the cost of equity results reported by the**
7 **Finance Panel?**

8 A. Yes. The Finance Panel would have obtained a higher DCF result if they had
9 included in their analysis all of the utilities that were eliminated by their selection
10 criterion requiring at least 70 percent of revenues from regulated activities. Using
11 the Finance Panel’s Excel spreadsheet and specific DCF model to calculate a DCF
12 cost of equity for the companies eliminated by the 70 percent regulated revenue
13 criterion, I find an average DCF result equal to 9.24 percent, a result that is
14 approximately 90 basis points higher than the Finance Panel’s 8.38 percent
15 average result. Five of these seven companies have DCF results higher than the
16 Finance Panel’s average DCF result for their proxy group (see **TABLE 5** below).

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TABLE 5
CALCULATION OF FINANCE PANEL DCF MODEL RESULTS AT APRIL 2018 FOR UTILITIES
THE FINANCE PANEL ELIMINATED SOLELY BECAUSE THEY HAD LESS THAN 70 PERCENT
REGULATED REVENUES (CALCULATED USING FINANCE PANEL EXCEL SPREADSHEET
EXHIBIT__(FP-6))

COMPANY	DPS GROWTH 2022	RETENTION RATE 2022	RETURN ON EQUITY 2022	BXR	INCREASE IN SHARES	MBR -1 2018	S x V	SUSTAINABLE GROWTH	LONG-FORM ROE
CenterPoint Energy	3.36	0.37	14.68	5.36	0.23	1.36	0.31	5.67	9.65%
Dominion Energy, Inc.	8.11	0.11	16.63	1.90	0.61	1.48	0.90	2.80	8.57%
DTE Energy Co.	5.82	0.39	11.19	4.40	1.67	0.84	1.40	5.80	9.43%
Exelon Corp.	5.45	0.48	8.46	4.04	0.41	0.16	0.07	4.10	7.97%
NextEra Energy, Inc.	6.97	0.42	13.79	5.85	1.71	1.54	2.63	8.49	11.32%
Otter Tail Corp.	3.95	0.38	10.59	4.02	2.41	1.26	3.03	7.05	9.99%
Public Serv Enterprise Grp	5.01	0.37	10.51	3.90	0.00	0.72	0.00	3.90	7.78%
Average									9.24%

6

7 **Q. What DCF model result would the Finance Panel have obtained if they had**
8 **properly chosen to include these companies in the proxy group to estimate**
9 **O&R’s cost of equity?**

10 A. The Finance Panel would have obtained a DCF cost of equity estimate equal to
11 8.57 percent, rather than 8.38 percent.

12 **Q. What ROE recommendation would the Finance Panel have reached using**
13 **this DCF result, absent corrections to their CAPM analyses?**

14 A. The Finance Panel would have reached an ROE recommendation equal to
15 8.81 percent.

III. DISCOUNTED CASH FLOW

16 **Q. What DCF model does the Finance Panel use to estimate O&R’s cost of**
17 **equity?**

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1 A. The Finance Panel estimates O&R's cost of equity using a multi-stage annual
2 DCF model.

3 **Q. What average DCF result does the Finance Panel obtain?**

4 A. The Finance Panel obtains an average DCF result equal to 8.38 percent.

5 **Q. Do you agree with the Finance Panel's DCF analysis of the Company's cost
6 of equity?**

7 A. No. I disagree with the Finance Panel's: (1) comparable companies; (2) use of an
8 annual rather than a quarterly DCF model; (3) use of the sustainable growth
9 method to estimate investors' growth expectations; and (4) failure to include an
10 allowance for flotation costs. I have explained my disagreement with the Finance
11 Panel's comparable company selection in Section II above.

12 **A. Annual DCF Model**

13 **Q. What is the annual DCF model?**

14 A. The annual DCF model is based on the assumptions that: (1) investors value an
15 asset because they expect to receive a sequence of cash flows from owning the
16 asset; (2) investors expect to receive cash flows only at the end of each year; and
17 (3) investors value a dollar in the future less than a dollar received today because,
18 if they had the dollar today, they could earn a return on the dollar equal to
19 "k" percent per year. Applying these principles to an investment in a company's
20 stock suggests that the price of the stock should be equal to:

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EQUATION 1

$$P_s = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \dots + \frac{D_n + P_n}{(1+k)^n}$$

1 where:

- 2 P_s = Current price of the company's stock;
3 $D_1, D_2 \dots D_n$ = Expected annual dividend per share on the company's stock;
4 P_n = Price per share of stock at the time the investor expects to sell
5 the stock; and
6 k = Return the investor expects to earn on alternative investments
7 of the same risk, i.e., the investor's required rate of return.

8 Equation 1 is frequently called the annual DCF model of stock valuation.

9 **Q. What stock prices does the Finance Panel use in its DCF calculations?**

10 A. The Finance Panel (p. 79) uses the average of the high and low stock prices for its
11 proxy electric utilities for the three-month period ended April 2018.

12 **Q. Why do you disagree with the Finance Panel's use of an annual DCF model
13 to estimate the Company's cost of equity?**

14 A. The DCF model assumes that a company's stock price is equal to the present
15 discounted value of all expected future dividends. The annual DCF model is only
16 a correct expression of the present value of future dividends if dividends are paid
17 annually at the end of each year. Because the companies in both my comparable
18 group and in the Finance Panel's comparable group all pay dividends quarterly,
19 the current market price that investors are willing to pay reflects the expected

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1 quarterly receipt of dividends. Therefore, a quarterly DCF model should be used
2 to estimate the cost of equity for these firms.

3 **Q. How does the quarterly DCF model differ from the annual DCF model?**

4 A. The quarterly DCF model differs from the annual DCF model in that it expresses
5 a company's stock price as the present value of a quarterly stream of dividend
6 payments. A complete analysis of the implications of the quarterly payment of
7 dividends on the DCF model is provided in my direct testimony, Appendix 2. For
8 the reasons cited there, I employed the quarterly DCF model in the DCF analysis I
9 presented in my direct testimony.

10 **B. Sustainable Growth Method**

11 **Q. How does the Finance Panel forecast the future dividends investors expect to
12 receive from their investments in the comparable companies?**

13 A. The Finance Panel assumes that investors forecast the comparable companies'
14 dividends for two periods. For the first period, ending in 2022, the Finance Panel
15 calculates the current dividend by adding $\frac{1}{2}$ of the current period dividend to $\frac{1}{2}$ of
16 the next period dividend. For the second period, extending from 2022 to the
17 distant future (year 2217), the Finance Panel assumes that investors forecast that
18 the comparable companies' dividends will grow at a "sustainable growth" rate
19 calculated by multiplying Value Line's estimate of each company's average
20 return on equity for the period 2018 to 2021 by Value Line's estimate of each
21 company's average retention ratio for the same period. The Finance Panel notes

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1 (p. 82) that its “sustainable growth rate also incorporates growth resulting from
2 the increase in common share balances over time at prices above book value.”

3 **Q. Does the Finance Panel provide any evidence to support its belief that**
4 **investors use Value Line’s projected dividends to estimate dividends for a**
5 **near term ending in 2021, and then use the sustainable growth method to**
6 **estimate dividends for all subsequent years?**

7 A. No.

8 **Q. You note that the Finance Panel uses the “sustainable growth” method to**
9 **implement its DCF model. Does the Finance Panel describe their**
10 **interpretation of the “sustainable growth” rate?**

11 A. Yes. The Finance Panel states (p. 82):

12 The “sustainable growth” rate is commonly viewed as the
13 maximum growth rate an enterprise can achieve while maintaining
14 a constant debt to equity ratio, i.e., without having to increase its
15 financial leverage.

16 **Q. Is the Finance Panel’s statement correct?**

17 A. No. An enterprise can increase its growth above the sustainable growth rate
18 without increasing its financial leverage simply by financing its new investment
19 with both debt and equity, without changing its target debt to equity ratio.

20 **Q. Do you agree with the Finance Panel’s use of the “sustainable growth”**
21 **method to estimate investors’ growth expectations in the DCF model?**

22 A. No. I have two objections to the Finance Panel’s use of the “sustainable growth”
23 method of estimating investors’ growth expectations. First, the DCF model

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1 requires the growth forecasts of investors; and my studies, along with those of
2 others, provide strong evidence that analysts' growth forecasts are a better proxy
3 for investors' growth expectations than the sustainable growth rates used by the
4 Finance Panel. Second, the sustainable growth method is logically circular in that
5 each company's rate of return on equity must be known in order to estimate the
6 sustainable growth rate, at the same time that the sustainable growth rate must be
7 known to estimate the rate of return on equity through the DCF model. It is not
8 possible for the rate of return on equity to be known before the sustainable growth
9 rate, and, at the same time, the sustainable growth rate to be known before the rate
10 of return on equity.

11 **Q. You note that your studies, as well as those of other researchers, provide**
12 **evidence that analysts' earnings per share growth forecasts are a better**
13 **proxy for investors' growth expectations than "sustainable" growth rates.**
14 **Did you discuss the results of your studies in your direct testimony?**

15 A. Yes. I discuss the results of my studies that demonstrate that analysts' earnings
16 per share growth forecasts are superior to "sustainable" growth rates in explaining
17 stock prices in my direct testimony (pp. 28 – 30).

18 **Q. The Finance Panel bases its use of the "sustainable growth" method, in part,**
19 **on their opinion that investors' growth expectations must be "rational." Are**
20 **investors' growth expectations always rational?**

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1 A. No. In hindsight, most economists would agree that stock investors' growth
2 expectations during the tech stock boom of the late 1990s and early 2000s, and
3 real estate investors' growth expectations during the real estate boom of 2001 to
4 2007, were irrational. Yet, it was these "irrational" growth expectations that
5 caused stock and real estate prices to rise by so much during those periods.

6 **Q. Is it appropriate for the Finance Panel to adjust the growth term in their**
7 **DCF model to reflect their opinion regarding "rational" growth forecasts,**
8 **without also adjusting the stock price term in their model to reflect the**
9 **market value associated with "rational" growth rate forecasts?**

10 A. No. If the Finance Panel believes that investors' growth expectations are
11 irrational, the Panel should recognize that "irrational" growth expectations are
12 likely to be accompanied by "irrational" stock prices. Indeed, as discussed above,
13 both growth expectations and stock prices were "irrational" during the stock
14 market boom of the late 1990s and early 2000s. To be consistent in applying their
15 own definition of "rational," the Finance Panel would need to adjust not only the
16 growth estimates to reflect a "rational" estimate of growth, but also the
17 comparable companies' stock prices to reflect a "rational" estimate of the value of
18 the companies.

19 **Q. Why do you rely on analysts' projections of future earnings per share**
20 **("EPS") growth in estimating the investors' expected growth rate rather than**
21 **looking at past historical growth rates?**

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1 A. I rely on analysts' projections of future EPS growth because there is considerable
2 empirical evidence that investors use analysts' EPS growth forecasts to estimate
3 future earnings growth, including evidence in studies I have published. These
4 results are also consistent with the hypothesis that investors use analysts'
5 forecasts, rather than historically-oriented or sustainable growth calculations, in
6 making stock buy and sell decisions. As noted in my direct testimony (pp. 28-30),
7 the empirical studies provide overwhelming evidence that the analysts' forecasts
8 of future growth are superior to historically-oriented or sustainable growth
9 measures in predicting a company's stock price.

10 **IV. CAPITAL ASSET PRICING MODEL**

11 **Q. Does the Finance Panel provide CAPM analyses of O&R's cost of equity?**

12 A. Yes. The Finance Panel provides two CAPM analyses of O&R's cost of equity, a
13 traditional CAPM analysis and a Zero-beta CAPM analysis.

14 **Q. What is the traditional CAPM?**

15 A. The traditional CAPM is an equilibrium model of the security markets in which
16 the expected or required return on a given security is equal to the risk-free rate of
17 interest, plus the company equity "beta," times the market risk premium:

$$\text{Cost of equity} = \text{Risk-free rate} + \text{Equity beta} \times \text{Market risk premium}$$

19 The risk-free rate in this equation is the expected rate of return on a risk-free
20 government security, the equity beta is a measure of the company's risk relative to
21 the market as a whole, and the market risk premium is the premium investors

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1 require to invest in the market basket of all securities compared to the risk-free
2 security.

3 **Q. How does the Finance Panel use the traditional CAPM to estimate the cost of**
4 **equity for O&R?**

5 A. The traditional CAPM requires an estimate of the risk-free rate, the company-
6 specific risk factor or beta, and the expected return on the market portfolio. For
7 the estimate of the risk-free rate, the Finance Panel uses the average of the 10-
8 year and 30-year Treasury bond yields for the three months ending April 2018,
9 which they calculate as 2.98 percent. For the estimate of the company-specific
10 risk factor, or beta, the Finance Panel uses the median 0.65 Value Line beta for
11 the Finance Panel's group of comparable electric utilities. For the estimate of the
12 expected risk premium on the market portfolio, the Finance Panel uses the
13 difference between the average 11.55 percent required market return published by
14 Merrill Lynch for the three months, February, March, and April 2018, and its
15 2.98 percent estimate of the risk-free rate, finding a market risk premium equal to
16 8.57 percent ($11.55 - 2.98 = 8.57$).

17 **Q. What traditional CAPM result does the Finance Panel obtain from its**
18 **assumed values for the risk-free rate, the company-specific risk factor or**
19 **beta, and the risk premium on the market portfolio?**

20 A. The Finance Panel obtains a traditional CAPM result equal to 8.55 percent ($2.98 +$
21 $0.65 \times 8.57 = 8.55$).

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1 **Q. Do you have any criticisms of the Finance Panel's application of the**
2 **traditional CAPM?**

3 A. Yes. I disagree with the Finance Panel's: (1) use of current average yields on
4 Treasury securities to estimate the risk-free rate; and (2) failure to adjust for the
5 tendency of the traditional CAPM to underestimate the required return on
6 investment for companies with betas less than 1.0.

7 **Q. Why do you disagree with the Finance Panel's use of current yields on**
8 **Treasury securities to estimate the risk-free rate component of the CAPM?**

9 A. I disagree with the Finance Panel's use of current yields on Treasury securities to
10 estimate the risk-free rate component of the CAPM because current yields on
11 Treasury bonds are artificially low as a result of the Federal Reserve's efforts to
12 stimulate the economy. Because current interest rates in recent years have been
13 determined more by Federal Reserve policy interventions than by market forces, I
14 believe forecasted interest rates are better indicators of investor-required returns
15 on Treasury securities in the market place. Indeed, most observers believe that the
16 Federal Reserve will increase the Federal funds rate three more times during
17 2018. The forecasted yield on long-term Treasury bonds at March 2018 is 4.2
18 percent for the year 2021, whereas the Finance Panel's CAPM studies use a risk-
19 free rate equal to 2.98 percent.

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1 **Q. What cost of equity would the Finance Panel have obtained from the**
2 **traditional CAPM if the Panel had used the 4.2 percent forecasted yield on**
3 **20-year Treasury bonds?**

4 A. The Finance Panel would have obtained a CAPM cost of equity equal to
5 9.8 percent ($4.2 + 0.65 \times 8.57 = 9.8$).

6 **Q. You note that you also disagree with the Finance Panel's application of the**
7 **traditional CAPM because it fails to adjust for the tendency of the traditional**
8 **CAPM to underestimate the required return for companies with betas less**
9 **than 1.0. Did you provide evidence that the traditional CAPM**
10 **underestimates the required return on investments in companies with betas**
11 **less than 1.0 in your direct testimony?**

12 A. Yes. I provided evidence (pp. 36-39) that the traditional CAPM underestimates
13 the required return on investments in companies with betas less than 1.0 in my
14 direct testimony.

15 **Q. What is the difference between the traditional CAPM and the Zero-beta**
16 **CAPM?**

17 A. The traditional CAPM estimates the cost of equity using the equation, *Cost of*
18 *equity = Risk-free rate + Equity beta x Market risk premium*. The Zero-beta
19 CAPM estimates the cost of equity using the equation, *Required return = Rf +*
20 *(.75 * B * MRP) + (.25 * MRP)*.

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1 **Q. Does the Finance Panel use the same inputs in its Zero-beta CAPM cost of**
2 **equity analysis, (namely, a 2.98 percent risk-free rate, a 0.65 utility beta, and**
3 **a 8.57 percent market risk premium), as in its traditional CAPM cost of**
4 **equity estimate?**

5 A. Yes.

6 **Q. What cost of equity estimate does the Finance Panel obtain from its**
7 **application of the Zero-beta CAPM?**

8 A. The Finance Panel obtains a Zero-beta CAPM cost of equity estimate equal to
9 9.3 percent.

10 **Q. What cost of equity estimate would the Finance Panel have obtained from its**
11 **application of the Zero-beta CAPM if it had used a 4.2 percent forecasted**
12 **yield on long-term Treasury bonds?**

13 A. The Finance Panel would have obtained a Zero-beta CAPM cost of equity
14 estimate equal to 9.62 percent.

15 **V. FLOTATION COSTS**

16 **Q. Does the Finance Panel include an adjustment for flotation costs in its cost of**
17 **equity analyses?**

18 A. No.

19 **Q. Should the Finance Panel have included an adjustment for flotation costs in**
20 **its cost of equity analyses?**

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1 A. Yes. The Finance Panel should have included an adjustment for flotation costs
2 because, without such an adjustment, O&R and its parent, Consolidated Edison,
3 Inc., will not be able to recover all the costs they incur to finance O&R's
4 investments in plant and equipment.

5 **Q. Does the Finance Panel explain why they do not include a flotation cost**
6 **adjustment?**

7 A. Yes. The Finance Panel claims (pp. 146-149) that a flotation cost adjustment is
8 inappropriate because: (1) the adjustment "is excessive"; (p. 146) (2) an
9 adjustment for flotation costs "has repeatedly been rejected by the Commission;"
10 (p. 147) and (3) they do not have "specific knowledge and/or confirmation of an
11 equity issuance actually taking place during the Rate Year." (p. 149)

12 **Q. Did the Finance Panel acknowledge that it had evidence relating to the**
13 **flotation costs incurred in an equity issuance in 2016?**

14 A. Yes. The Finance Panel acknowledges that the Company provided evidence that
15 an equity issuance in 2016 incurred expenses equal to 3.2 percent of the proceeds
16 of the issuance and that flotation costs as a percentage of the pre-issue price were
17 equal to 6.1 percent (pp. 146 – 147).

18 **Q. Why does the Finance Panel reject a flotation cost allowance, even if a**
19 **common equity issuance is planned for the Rate Year?**

20 A. The Finance Panel claims that no information has been provided regarding a plan
21 to issue common equity:

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1 Considering that there have been no public announcements about a
2 planned equity issuance occurring during the Rate Year, we are not
3 confident that such an equity issuance will actually occur. Without
4 specific knowledge and/or confirmation of an equity issuance actually
5 taking place during the Rate Year, we are unable to recommend an
6 adjustment for flotation costs at this time. [p. 149]

7 **Q. Has information been provided to the Finance Panel and to the investing**
8 **public that Consolidated Edison plans to issue equity in 2018?**

9 A. Yes. Information has been provided both to the Finance Panel and to the investing
10 public that in 2018 Consolidated Edison plans to issue \$450 million in common
11 equity, in addition to equity issued through dividend reinvestment, employee
12 stock purchase, and long-term incentive plans. (*See*, for example, numerous
13 announcements publicly available on various financial web sites,
14 including [https://www.cnbc.com/2018/02/15/globe-newswire-con-edison-reports-](https://www.cnbc.com/2018/02/15/globe-newswire-con-edison-reports-2017-earnings.html)
15 [2017-earnings.html](https://www.cnbc.com/2018/02/15/globe-newswire-con-edison-reports-2017-earnings.html), February 15,
16 2018; <https://www.reuters.com/finance/stocks/ED.N/key-developments>, April 9,
17 2018) [https://www.rtoinsider.com/consolidated-edison-con-ed-q4-earnings-2017-](https://www.rtoinsider.com/consolidated-edison-con-ed-q4-earnings-2017-86635/)
18 [86635/](https://www.rtoinsider.com/consolidated-edison-con-ed-q4-earnings-2017-86635/), February 18, 2018, and Consolidated Edison, Inc. Form 8-K, May 3,
19 2018.)

20 **Q. Why do you include an equity flotation cost allowance in your cost of equity**
21 **studies in this proceeding?**

22 A. I include an equity flotation cost allowance in my cost of equity studies because
23 equity flotation costs are a legitimate cost of issuing new equity in the capital
24 markets that should be reflected in a company's cost of equity.

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1 **Q. Are equity flotation costs typically included in the operating expenses a**
2 **company uses to calculate its revenue requirement?**

3 A. No. Equity flotation costs are typically treated as an offset to the proceeds of a
4 new equity issuance in the equity account on the balance sheet.

5 **Q. What is the economic basis of your recommended flotation cost allowance?**

6 A. My recommended flotation cost allowance is based on the fundamental economic
7 and regulatory principles that: (1) a company should only invest in a new project
8 if it can earn a return on its investment that is equal to or greater than its cost of
9 capital; and (2) the time pattern of expense recovery should match the time
10 pattern of benefits resulting from the expense. Because equity flotation costs are a
11 legitimate expense of raising capital, a company has no incentive to invest in new
12 capital projects if equity flotation costs are not included in the cost of capital
13 estimate. In addition, because the proceeds of an equity issuance are invested in
14 assets that provide benefits over a long time period, the costs of an equity
15 issuance should be recovered over a long period of time.

16 **Q. Can you illustrate how these economic and regulatory principles support**
17 **your recommendation to include a flotation cost allowance in the Company's**
18 **allowed return on equity?**

19 A. Yes. My illustration of how these economic and regulatory principles support my
20 recommendation to include a flotation cost allowance in a regulated company's
21 allowed return on equity is shown below in **TABLE 6**. As shown in **TABLE 6**, a

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1 regulated company that experiences a five percent flotation cost is able to recover
2 its five percent flotation cost under my recommendation by earning a higher
3 return on rate base than investors require on their investment in the company's
4 stock. The difference between the company's earnings at a 10.26 percent allowed
5 ROE and its 10.0 percent investor required return represents the amortization of
6 the company's initial five percent (\$5) flotation cost. If the Commission were to
7 allow the company to recover its flotation cost as a current year expense, there
8 would be no amortization of the company's flotation costs, and the company
9 would recover its \$5 flotation cost entirely in year one. Under my
10 recommendation to include an allowance for flotation costs in the cost of equity,
11 the \$5 of flotation costs are recovered slowly over time. The first year
12 amortization of the flotation cost is only twenty-five cents, and the company
13 would not recover the present value of its flotation costs until year 150. Thus,
14 although my recommendation fulfills the *Hope* standard that investors be allowed
15 to earn a fair return on their investment over the life of the investment, the
16 customers who benefit from the additional equity investment in the company's
17 assets are charged for the initial flotation cost only over a long period of time.

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TABLE 6
ILLUSTRATION OF THE RECOVERY OF EQUITY FLOTATION COSTS
WHEN EQUITY FLOTATION COSTS ARE INCLUDED IN THE COST OF EQUITY

ANNUAL TIME PERIOD	RATE BASE	EARNINGS @ 10.26%	EARNINGS @ 10%	DIVIDENDS	AMORTIZATION INITIAL FLOTATION COST
0	\$ 95.00				
1	99.75	\$ 9.75	\$ 9.50	\$ 5.00	\$ 0.25
2	104.74	10.24	9.98	5.25	0.26
3	109.97	10.75	10.47	5.51	0.28
4	115.47	11.29	11.00	5.79	0.29
5	121.25	11.85	11.55	6.08	0.30
6	127.31	12.44	12.12	6.38	0.32
7	133.67	13.07	12.73	6.70	0.34
8	140.36	13.72	13.37	7.04	0.35
9	147.38	14.41	14.04	7.39	0.37
10	154.74	15.13	14.74	7.76	0.39
11	162.48	15.88	15.47	8.14	0.41
12	170.61	16.68	16.25	8.55	0.43
13	179.14	17.51	17.06	8.98	0.45
14	188.09	18.39	17.91	9.43	0.47
15	197.50	19.30	18.81	9.90	0.49
16	207.37	20.27	19.75	10.39	0.52
17	217.74	21.28	20.74	10.91	0.55
18	228.63	22.35	21.77	11.46	0.57
19	240.06	23.46	22.86	12.03	0.60
20	252.06	24.64	24.01	12.63	0.63
...					
50	1,089.40	106.48	103.75	54.61	2.73
...					
100	12,493	1,221	1,190	626	31
...					
150	143,258	14,003	13,644	7,181	359
Present Value@10%				\$100	\$5

4
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Q. Your illustration is based on an assumed five percent equity flotation cost. Have financial economists quantified the amount of equity flotation costs companies generally incur when they issue new securities in the marketplace?

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1 A. Yes. As described in my direct testimony (p. 31), the finance literature provides
2 evidence that equity flotation costs generally are in the range of five percent to
3 eight percent of the proceeds from a new equity issuance.

4 **Q. The Finance Panel argues that expressing flotation costs as a percentage of**
5 **the pre-issue price, (which, in the case of the 2016 equity offering, were equal**
6 **to 6.1 percent) does not “represent a cost that the Company is entitled to**
7 **record in rates,” but is “merely a comparison” of proceeds to the pre-issue**
8 **price. (p. 147) Is the difference between the lower offering share price**
9 **compared to the pre-issue price a cost to the Company?**

10 A. Yes. Underwriters set the public offering price in CEI’s equity issuance in 2016 at
11 a value less than the most recent market price prior to the issuance in order to
12 reduce the risk that they would have to sell the equity at a loss. However, the
13 difference between the recent market price and the lower public offering price is a
14 real cost to the Company because it reduces the proceeds the company receives
15 from the offering. Thus, the company will have to earn a higher return on the
16 lower proceeds they receive in order for existing shareholders to earn their
17 required return.

18 **Q. Are you familiar with the term “market pressure” as it relates to flotation**
19 **costs?**

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1 A. Yes. The term “market pressure” is generally used to refer to the decline in stock
2 price that may occur immediately after the announcement of a new stock
3 issuance.

4 **Q. Does your estimate of the flotation costs associated with CEI’s equity
5 issuance in 2016 include quantification of the effect of any market pressure?**

6 A. No. My estimate of CEI’s flotation costs does not include an analysis of stock
7 price decline due to the announcement of the equity issuance. My analysis begins
8 with the most recent closing stock price just prior to the equity issuance.

9 **Q. Are equity flotation costs already reflected in the stock prices you use in your
10 DCF studies?**

11 A. No. A flotation cost adjustment is required because a company actually receives
12 an amount to invest that is less than the market price of its stock at the time of the
13 equity issuance. Thus, equity flotation costs are not included in a company’s stock
14 or unit price.

15 **Q. Does an allowance for recovery of flotation costs associated with stock or unit
16 sales in prior years constitute retroactive rate making?**

17 A. No. An adjustment for equity flotation costs on equity is not meant to recover any
18 cost that is properly assigned to prior years. In fact, the adjustment allows a
19 company to recover only the amortization of equity flotation costs incurred at the
20 time stock or unit sales were made.

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1 **Q. Is the need for an equity flotation cost allowance eliminated if a company's**
2 **stock/unit is selling above book value?**

3 A. No. Because of equity flotation costs, the amount of money a company can invest
4 in new projects will always be less than the amount of equity it issues in the
5 capital markets. This statement remains true even if the company's stock/unit is
6 selling above book value. For example, in the illustration above, the \$100 equity
7 issuance is a measure of the company's market price, and the \$95 is a measure of
8 the amount the company has available to invest in new projects. Yet, under the
9 assumptions of my illustration in **TABLE 6**, in order to earn the required return of
10 ten percent, the company has to earn 10.26 percent on its investment in the
11 project. The difference between the 10.26 percent required return on the project
12 and the investors' ten percent required return on the investment in the company is
13 the equity flotation cost allowance.

14 **VI. TESTS OF REASONABLENESS**

15 **Q. Does the Finance Panel provide any tests of the reasonableness of its**
16 **recommended 8.6 percent ROE for O&R?**

17 A. No.

18 **Q. In prior testimonies, has the finance Panel attempted to test the**
19 **reasonableness of its recommended return on equity?**

20 A. Yes. For example, in its testimony in Case No. 16-E-0060, the Finance Panel
21 compared its recommended ROE to the current yields on Baa-rated utility bonds

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1 and 20-year Treasury bonds, noting the spread between its recommended ROE
2 and the current yields on those debt securities.

3 **Q. How does the Finance Panel's current 8.60 percent recommended ROE**
4 **compare to the current yield on Moody's Baa-rated utility bonds and the**
5 **yield on 20-year Treasury bonds?**

6 A. The Finance Panel's current ROE recommendation is 389 basis points higher than
7 the current 4.71 percent yield on long-term Baa-rated utility bonds and 555 basis
8 points higher than the current 3.05 percent yield on 20-year Treasury bonds.

9 **Q. Does a simple comparison of the Finance Panel's recommended ROE to the**
10 **yields on Baa-rated utility bonds and 20-year Treasury bonds provide an**
11 **appropriate test of the reasonableness of the Finance Panel's recommended**
12 **ROE?**

13 A. No. A simple comparison of average allowed risk premiums to bond yields fails
14 to take into consideration the relationship between the allowed equity risk
15 premium and the level of interest rates. Numerous studies have validated the
16 conclusion that the relationship between the equity risk premium and interest rates
17 is inverse, that is, the equity risk premium increases when interest rates decline,
18 and the equity risk premium decreases when interest rates increase. A simple
19 addition of historical average implied equity risk premiums to current interest
20 rates ignores the strong inverse relationship between allowed equity risk
21 premiums and interest rates.

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1 **Q. Can one test the reasonableness of the Finance Panel’s recommended ROE**
2 **by studying the relationship between the risk premiums implied by historical**
3 **allowed rates of return on equity and yields on Baa-rated utility bonds and**
4 **20-year Treasury bonds?**

5 A. Yes. To test the reasonableness of the Finance Panel’s recommended 8.60 percent
6 ROE, I have performed regression analyses of the relationship between the risk
7 premium implied by the allowed ROEs issued by regulatory commissions and the
8 level of interest rates.-Specifically, I have performed regression analyses of the
9 relationship between the historical allowed equity risk premiums and: (1) Baa-
10 rated utility bond yields; and (2) 20-year Treasury bond yields.

11 **Q. What does your regression analysis of the relationship between historical**
12 **allowed risk premiums and Baa-rated utility bond yields show?**

13 A. I find that the risk premium implied by historical allowed ROEs compared to the
14 yield on Baa-rated utility bonds is given by the relationship:

$$15 \quad RP_{\text{AUTHORIZED}} = \quad 8.17 \quad - \quad 0.627 \times BAA_B$$
$$16 \quad \quad \quad \quad (22.85) \quad \quad \quad (11.34)$$

17 where:

18 $RP_{\text{AUTHORIZED}}$ = the risk premium implied by utility
19 commission authorized rates of return on
20 equity,

21 8.17 and 0.627 = estimated regression coefficients with t-
22 statistics shown in parentheses; and

23 BAA_B = the yield on Moody’s Baa-rated utility

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1 bonds.

2 **Q. What is the meaning of the negative 0.602 coefficient on the Baa-utility bond**
3 **yield variable?**

4 A. The negative 0.627 coefficient on the Baa-utility bond yield variable indicates that
5 the allowed equity risk premium increases by approximately 63 basis points for
6 every one hundred basis point decrease in the yield on Baa-rated utility bonds.

7 **Q. What is the meaning of the 11.34 t-statistic in the above equation?**

8 A. The 11.34 t-statistic indicates that the strong negative relationship between the
9 risk premium and utility bond yields is statistically significant.

10 **Q. Have you also analyzed the relationship between the historical allowed equity**
11 **risk premiums and the yield on 20-year Treasury bonds?**

12 A. Yes. I find that the relationship between the risk premium implied by historical
13 allowed rates of return on equity and the yield on 20-year Treasury bonds is given
14 by the following equation:

$$\begin{aligned} 15 \quad \text{RP}_{\text{AUTHORIZED}} &= 8.88 - 0.621 \times T_B \\ 16 & \quad \quad \quad (48.52) \quad \quad (15.67) \end{aligned}$$

17 where:

18 $\text{RP}_{\text{AUTHORIZED}}$ = the risk premium implied by utility
19 commission authorized rates of return on
20 equity,

21 8.88 and 0.621 = estimated regression coefficients with t-
22 statistics shown in parentheses; and

23 T_B = the yield on long-term Treasury bonds.

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1 **Q. What is the meaning of the negative 0.621 coefficient on the Treasury bond**
2 **variable?**

3 A. The negative 0.621 coefficient on the Treasury bond variable indicates that the
4 authorized risk premium increases by approximately 62 basis points for every one
5 hundred basis point decrease in the yield on 20-year Treasury bonds.

6 **Q. What is the meaning of the 15.67 t-statistic in the above equation?**

7 A. The 15.67 t-statistic indicates that the strong negative relationship between the
8 risk premium and the yield on 20-year Treasury bonds is statistically significant.

9 **Q. Do these regression results support the conclusion that the historical allowed**
10 **equity risk premium increases when interest rates decline?**

11 A. Yes. The negative coefficients associated with the interest rate variables, BAA_B
12 and T_B , indicate that the allowed equity risk premium moves in the opposite
13 direction as interest rates; that is, the allowed equity risk premium increases when
14 interest rates decline.

15 **Q. What risk premium and cost of equity does your study of the empirical**
16 **relationship between historical allowed equity risk premiums and the yield**
17 **on Baa-rated utility bonds indicate?**

18 A. My study indicates a risk premium equal to 5.22 percent. Using an interest rate
19 equal to the current average Baa-rated utility bond yield at May 2018,
20 4.71 percent and adding the 5.22 percent equity risk premium produces a cost of
21 equity equal to 9.93 percent ($4.71 + 5.22 = 9.93$).] (See TABLE 7 below.)

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1
2
3
4
TABLE 7
COST OF EQUITY ESTIMATED FROM HISTORICAL RELATIONSHIP BETWEEN
ALLOWED EQUITY RISK PREMIUMS AND BAA-UTILITY BOND YIELDS

INTERCEPT	8.17%
Slope	-62.71%
Baa-Utility Yield	4.71%
Bond Yield x Slope Coef	-2.95%
Risk Premium	5.22%
Cost of Equity	9.93%

5

6 **Q. Does your statistical analysis of the relationship between historical allowed**
7 **electric utility equity risk premiums and Baa-utility bond yields justify the**
8 **reasonableness of the Finance Panel’s recommended 8.6 percent cost of**
9 **equity?**

10 A No. Indeed, the cost of equity estimate derived from the data comparing the
11 historical allowed electric utility equity risk premiums to the yield on Baa-rated
12 utility bonds is 9.93 percent, an estimate that is approximately 130 basis points
13 higher than the Finance Panel’s recommended ROE (and higher than the
14 Company’s requested ROE).

15 **Q. What equity risk premium and cost of equity is found from your comparison**
16 **of the relationship between historical allowed equity risk premiums and the**
17 **yield on 20-year Treasury bonds?**

18 A. My study of the relationship between historical allowed equity risk premiums and
19 the yield on 20-year Treasury bonds produces an equity risk premium equal to
20 6.98 percent. Adding the average 3.05 percent yield on 20-year Treasury bonds at

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1 May 2018 to the 6.98 percent risk premium produces a cost of equity equal to
2 10.03 percent (6.98 + 3.05 = 10.03).] (See TABLE 8 below.)

3 **TABLE 8**
4 **COST OF EQUITY ESTIMATED FROM HISTORICAL RELATIONSHIP BETWEEN**
5 **ALLOWED EQUITY RISK PREMIUMS AND 20-YEAR TREASURY BOND YIELDS**

INTERCEPT	8.88%
Slope	-62.07%
T-bond Yield	3.05%
Bond Yield x Slope Coefficient	-1.89%
Risk Premium	6.98%
Cost of Equity	10.03%

6

7 **Q. Does your statistical analysis of the relationship between historical average**
8 **allowed risk premiums and 20-year Treasury bond yields justify the Finance**
9 **Panel’s recommended 8.6 percent cost of equity?**

10 A No. The cost of equity estimate derived from a regression analysis comparing the
11 risk premium on historical allowed electric utility returns to the yield on 20-year
12 Treasury bonds is 10.03 percent, an estimate that is approximately 140 basis
13 points higher than the Finance Panel’s recommended cost of equity, and higher
14 than the Company’s requested ROE.

15 **Q. Are there other tests of the reasonableness of the Finance Panel’s 8.6 percent**
16 **ROE recommendation?**

17 A. Yes. My cost of equity studies in my direct testimony were based on data through
18 September 2017. I have also tested the reasonableness of the Finance Panel’s

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1 8.6 percent ROE recommendation by updating my DCF, CAPM, and Comparable
2 Earnings studies using data through May 2018.

3 **Q. What cost of equity would you find based on model results from updated cost**
4 **of equity studies?**

5 A. If I were to update my analyses in the same manner as presented in my direct
6 testimony, I would find that the average result of my updated cost of equity
7 studies is 10.4 percent (see Table 9 below), an average result which is ten basis
8 points higher than the result I obtained from the studies presented in my direct
9 testimony, and 180 basis points higher than the ROE recommended by the
10 Finance Panel.

**TABLE 9
COST OF EQUITY MODEL RESULTS USING
CAPITAL MARKET DATA THROUGH MAY 2018**

METHOD	MODEL RESULT	WEIGHT	WEIGHTED RESULT
DCF	10.0%	33.3%	3.33%
CAPM – Historical	9.6%		
CAPM – DCF-based	12.0%		
Average CAPM	10.8%	33.3%	3.60%
Comparable Earnings	10.5%	33.3%	3.50%
Weighted Average	10.4%		

11

VII. RESPONSE TO FINANCE PANEL’S COMMENTS ON VANDER WEIDE TESTIMONY

12 **Q. Does the Finance Panel agree with the cost of equity and fair rate of return**
13 **studies you present in your direct testimony?**

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1 A. No. The Finance Panel disagrees with my DCF analysis, CAPM analyses, and
2 comparable earnings analysis.

3 **A. DCF Analysis**

4 **Q. What concerns does the Finance Panel have with your DCF analysis of**
5 **O&R's cost of equity?**

6 A. The Finance Panel disagrees with: (1) my choice of comparable companies,
7 (2) my estimates of investors' growth expectations, and (3) my inclusion of a
8 flotation cost allowance.

9 **1. Comparable Companies**

10 **Q. What comparable utilities do you use to estimate O&R's ROE?**

11 A. I use the electric utilities shown on Exhibit__(JVW-1) in my direct testimony.

12 **Q. Why does the Finance Panel disagree with your choice of comparable electric**
13 **utilities?**

14 A. The Finance Panel claims that my comparable electric utility group is more risky
15 than the group of electric utilities they have included in their proxy group because
16 my proxy group contains utilities with less than 70 percent of revenues from
17 regulated utility operations and several utilities that are acquiring other utilities.
18 (pp. 113 – 114)

19 **Q. Have you addressed the Finance Panel's argument that utilities with less**
20 **than 70 percent of revenues from regulated utility operations are more risky**

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1 **than utilities with 70 percent or greater revenues from regulated utility**
2 **operations in Section II above?**

3 A. Yes. I present evidence (see Section II. above) that: (1) the average stock and
4 bond risk ratings for the electric utilities the Finance Panel eliminated from their
5 proxy group on the basis that these companies have less than 70 percent of
6 revenues from regulated utility operations are approximately the same as the
7 average stock and bond risk ratings for the utilities included in the Finance
8 Panel's group; and (2) the average stock and bond risk ratings for my comparable
9 utilities are approximately the same as the average stock and bond risk ratings for
10 the utilities in the Finance Panel's proxy group. This evidence contradicts the
11 Finance Panel's contention that percent revenues from regulated utility operations
12 is a significant risk factor for electric utilities.

13 **Q. Does the Finance Panel disagree with your having included companies in a**
14 **proxy group, such as Great Plains, Dominion, and CenterPoint, that have**
15 **offered to acquire other electric utilities?**

16 A. Yes. However, I note that the Dominion announcement of its offer for SCANA
17 did not take place until January 3, 2018, and the CenterPoint offer for Vectren did
18 not occur until April 23, 2018. Thus, I would have had no information regarding
19 these merger announcements at the time I prepared my cost of equity studies. I
20 also note that Great Plains is not one of the companies included in my cost of
21 equity studies.

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1 **Q. Why does the Finance Panel argue that a company planning to acquire**
2 **another company should be removed from a proxy group?**

3 A. The Finance Panel argues that companies planning to acquire other companies
4 should be removed from a proxy group because such companies “are in a state of
5 flux and, therefore, are facing a materially different situation from companies that
6 are conducting business as usual.” (p. 117) However, the Finance Panel provided
7 no evidence that the merger announcements affected any of the inputs in the cost
8 of equity analyses for the acquiring company; and, because the Dominion and
9 CenterPoint mergers were not announced until months after the time of my
10 studies, there would be no such evidence. I further note that removing Dominion
11 and CenterPoint from the cost of equity studies in my direct testimony would
12 have had a de minimus impact on my estimate of the Company’s cost of equity
13 and would not have affected my recommended cost of equity.

14 **Q. Does the Finance panel offer other arguments supporting their position that**
15 **both the acquiring company and the target company should not be included**
16 **in a proxy group?**

17 A. Yes. The Finance Panel argues that companies involved in mergers:
18 are facing a materially different situation from companies that are
19 conducting business as usual. This transformational activity
20 changes investor expectations, and analysts’ growth forecasts do
21 not necessarily reflect this reality. By eliminating only one side of
22 this distortion, Company witness Vander Weide appears to be
23 injecting an undesirable bias into his analysis. For this reason, we
24 believe all companies party to a merger or acquisition should be
25 removed from proxy group consideration.” (pp. 117 – 118)

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1 **Q. Do analysts' alter their growth forecasts for the merging companies before a**
2 **merger transaction is completed?**

3 A. No. Because of uncertainty regarding whether a merger will be completed, the
4 timing for completion, and terms for completion, analysts continue to provide
5 forecasts for the entities as they exist in the present, only incorporating new
6 forecasts once mergers have been completed. For example, the Great
7 Plains/Westar transaction took nearly two years to complete, having just been
8 completed on May 24, 2018, although it was announced in May 2016. NextEra
9 proposed to acquire Hawaiian Electric in December 2014, but the transaction was
10 canceled in July 2016.

11 **2. Investors' Growth Expectations**

12 **Q. Why do you use analysts' EPS growth forecasts to estimate the investors'**
13 **growth expectation component of the DCF model in your DCF analysis of**
14 **O&R's cost of equity?**

15 A. As discussed in my direct testimony and in Section III.B. above, I recommend
16 using the average analysts' EPS growth forecasts to estimate the growth
17 component of the DCF model because my studies have shown that the analysts'
18 EPS growth forecasts are more highly correlated with stock prices than other
19 growth indicators, such as historical growth rates or the "sustainable" growth rates
20 calculated by the Finance Panel.

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1 **Q. Why does the Finance Panel disagree with your use of the I/B/E/S analysts’**
2 **EPS growth forecasts to estimate investors’ expectations of growth in your**
3 **DCF analysis?**

4 A. The Finance Panel argues that it is unreasonable to use the I/B/E/S EPS growth
5 forecast to estimate future growth because “there is no way of isolating a
6 sustainable growth rate.” (p. 124)

7 **Q. Does the growth rate in a DCF calculation have to be a “sustainable” growth**
8 **rate?**

9 A. No. The only important requirement for the growth rate to be used in a DCF
10 analysis is that the growth rate reflect investors’ growth expectations. Because my
11 studies demonstrate that the analysts’ EPS growth forecasts do reflect investors’
12 growth expectations, it is reasonable to use the analysts’ growth forecasts in the
13 DCF model.

14 **3. Flotation Costs**

15 **Q. Why does the Finance Panel disagree with your inclusion of flotation costs in**
16 **your cost of equity estimates?**

17 A. As noted above in Section V, the Finance Panel claims (pp. 146-148) that a
18 flotation cost adjustment is inappropriate because: (1) the adjustment “is
19 excessive”; (p. 146) (2) an adjustment for flotation costs “has repeatedly been
20 rejected by the Commission;” (p. 147) and (3) they do not have “specific

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1 knowledge and/or confirmation of an equity issuance actually taking place during
2 the Rate Year.” (p. 149)

3 **Q. Did the Finance Panel acknowledge that it had evidence relating to the**
4 **flotation costs incurred in an equity issuance in 2016?**

5 A. Yes. The Finance Panel acknowledges that the Company provided evidence that
6 an equity issuance in 2016 incurred expenses equal to 3.2 percent of the proceeds
7 of the issuance and that flotation costs as a percentage of the pre-issue price were
8 equal to 6.1 percent (pp. 146 – 147).

9 **Q. Have you addressed the reasons why flotation costs should be included in the**
10 **estimate of the cost of equity in your direct testimony and in your rebuttal**
11 **testimony?**

12 A. Yes. I have provided support for including flotation costs in the cost of equity
13 estimate in my direct testimony at pp. 30 – 31 and Appendix 3, and in my rebuttal
14 testimony above in Section V.

15 **B. CAPM Analysis**

16 **Q. What concerns does the Finance Panel have with your CAPM analysis?**

17 A. The Finance Panel is concerned with my: (1) use of a second beta estimate;
18 (2) estimate of the required return on the market portfolio; and (3) estimate of the
19 risk-free rate (p. 132).

20 **Q. Why do you use a second beta estimate in your CAPM analysis?**

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1 A. As discussed in Section V of my direct testimony, I use a second beta in my
2 CAPM analysis to adjust for the tendency of the CAPM to underestimate the cost
3 of equity for companies with measured betas less than 1.0.

4 **Q. Does the Finance Panel also provide an additional CAPM analysis to account**
5 **for the tendency of the traditional CAPM to underestimate the cost of equity**
6 **for companies with measured betas less than 1.0?**

7 A. Yes. In addition to its traditional CAPM analysis, the Finance Panel provides a
8 Zero-beta CAPM analysis that adjusts for the tendency of the traditional CAPM
9 analysis to underestimate the cost of equity for companies with measured betas
10 less than 1.0

11 **Q. Is the Finance Panel's Zero-beta CAPM analysis conceptually similar to your**
12 **use of a second beta in your CAPM analysis?**

13 A. Yes.

14 **Q. The CAPM requires an estimate of the risk premium on the market**
15 **portfolio. How do you estimate the risk premium on the market portfolio?**

16 A. I estimate the risk premium on the market portfolio in two ways. First, I calculate
17 the long-run arithmetic average earned risk premium on the market portfolio from
18 1926 to the present. Second, I calculate the expected return on the S&P 500 using
19 the DCF model, and subtract the forecasted interest rate on 20-year Treasury
20 bonds.

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1 **Q. What risk premiums on the market portfolio do you estimate from your two**
2 **studies?**

3 A. From my analysis of the historical risk premium on the S&P 500, at the time of
4 my direct studies, I obtain a risk premium equal to 6.9 percent. From my analysis
5 of the forward-looking return on the S&P 500, I obtain a risk premium equal to
6 8.5 percent.

7 **Q. What risk premium on the market portfolio does the Finance Panel use in its**
8 **CAPM calculations?**

9 A. The Finance Panel uses a risk premium on the market portfolio equal to
10 8.57 percent, calculated by subtracting a 2.98 percent estimate of the risk-free rate
11 from the Panel's 11.55 percent estimate of the required return on the market
12 portfolio.

13 **Q. Recognizing that your estimates of the market risk premium are less than the**
14 **Finance Panel's estimate of the market risk premium, is it fair to say that**
15 **your risk premium estimates, on average, are conservative?**

16 A. Yes.

17 **Q. How do you estimate the risk-free rate component of the CAPM?**

18 A. I estimate the risk-free rate component using Value Line and Energy Information
19 Administration ("EIA") forecast interest rate data.

20 **Q. Why do you use forecast interest rate data rather than a current interest rate**
21 **in your CAPM analysis?**

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1 A. I use a forecasted interest rate rather than a current interest rate because the fair
2 rate of return standard requires that a company have an opportunity to earn its
3 required return on its investment during the forward-looking period during which
4 rates will be in effect. In addition, because current interest rates are depressed as a
5 result of the Federal Reserve’s efforts to keep interest rates low in order to
6 stimulate the economy, current interest rates at this time are a poor indicator of
7 expected future interest rates. Economists project that future interest rates will be
8 higher than current interest rates as the Federal Reserve allows interest rates to
9 rise in order to prevent inflation. Thus, the use of forecasted interest rates is
10 consistent with the fair rate of return standard, whereas the use of current interest
11 rates at this time is not. (Vander Weide Direct at 48 – 49)

12 **Q. Why is the Finance Panel critical of your risk-free rate?**

13 A. The Finance Panel argues that my risk-free rate is “inflated” because I use “two
14 different values for the risk-free rate,” (p. 137), 4.1 percent and 5.01 percent.

15 **Q. Do you, in fact, use “two different values” for the risk-free rate in your
16 CAPM analyses?**

17 A. No. My only estimate of the risk-free rate is the forecasted yield on 20-year
18 Treasury bonds, 4.1 percent at the time of my studies.

19 **C. Comparable Earnings Analysis**

20 **Q. What are the Finance Panel’s concerns with your comparable earnings
21 analysis?**

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1 A. The Finance Panel argues that my comparable earnings analysis is not a legitimate
2 method for estimating a company's cost of equity because it relies on data
3 regarding the forecasted ROEs for the proxy electric utilities (p. 138)

4 **Q. Why do you employ the comparable earnings method to estimate the**
5 **required ROE?**

6 A. I employ the comparable earnings method because it is consistent with the U.S.
7 Supreme Court standard in the *Hope Natural Gas* case that the "return to the
8 equity owner should be commensurate with returns on investments in other
9 enterprises having corresponding risks." [*Federal Power Comm'n v. Hope*
10 *Natural Gas Co.*, 320 U.S. 591, 603 (1944).] The comparable earnings approach
11 implements the *Hope* standard by calculating the expected rate of return on equity
12 for a group of comparable-risk companies.

13 **Q. Does this conclude your rebuttal testimony?**

14 A. Yes, it does.

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