in the range of 11.88 percent to 12.11 percent. While I also summarize the mean low DCF results, I do not believe that the low DCF results provide a reasonable spread over the expected yields on Treasury bonds to compensate investors for the incremental risk related to an equity investment.

Figure 6: Discounted Cash Flow Results[65]

	Mean Low	Mean	Mean High
30-Day Average	8.36%	9.73%	11.88%
90-Day Average	8.40%	9.77%	11.92%
180-Day Average	8.57%	9.96%	12.11%

Q. What are your conclusions about the results of the DCF models?

A. As discussed previously, one primary assumption of the DCF models is a constant P/E ratio. That assumption is heavily influenced by the market price of utility stocks. At times when utility valuations are high and may not be sustainable, it is important to consider the results of the DCF models with caution. The dividend yield on the 30-day average DCF analysis was 3.43 percent, lower than the long-term average average dividend yield of 3.84 percent for natural gas utilities since the year 2000.[66] These data points demonstrate that the results of the current DCF models may be understated.

The Company's current authorized midpoint ROE of 9.95 percent falls between the mean and mean high DCF results. As noted earlier, it is important to consider the

[65] *See* Exhibit AEB-4, excluding outliers.

[66] As measured by the proxy group calculated as an index. Source: S&P Global Market Intelligence.

results of multiple methodologies. Therefore, I also considered the results of the CAPM, ECAPM, and Bond Yield Plus Risk Premium analyses when assessing the reasonableness of CenterPoint Energy Entex's current authorized midpoint ROE.

D. CAPM Analyses

Q. Please briefly describe the Capital Asset Pricing Model.

A. The CAPM is a risk premium approach that estimates the cost of equity for a given security as a function of a risk-free return plus a risk premium to compensate investors for the non-diversifiable or "systematic" risk of that security. This second component is the product of the market risk premium and the Beta coefficient, which measures the relative riskiness of the security being evaluated.

The CAPM is defined by four components, each of which must theoretically be a forward-looking estimate:

$$K_e = r_f + \beta(r_m - r_f) \quad [3]$$

Where:

K_e = the required market ROE;

β = Beta coefficient of an individual security;

r_f = the risk-free rate of return; and

r_m = the required return on the market.

In this specification, the term $(r_m - r_f)$ represents the market risk premium. According to the theory underlying the CAPM, because unsystematic risk can be

diversified away, investors should only be concerned with systematic or non-diversifiable risk. Non-diversifiable risk is measured by Beta, which is defined as:

$$\beta = \frac{Covariance(r_e, r_m)}{Variance(r_m)} \quad [4]$$

The variance of the market return (i.e., Variance (r_m)) is a measure of the uncertainty of the general market, and the covariance between the return on a specific security and the general market (i.e., Covariance (r_e, r_m)) reflects the extent to which the return on that security will respond to a given change in the general market return. Thus, Beta represents the risk of the security relative to the general market.

Q. What risk-free rate did you use in your CAPM analysis?

A. I relied on three sources for my estimate of the risk-free rate: (1) the current 30-day average yield on 30-year U.S. Treasury bonds, which is 2.20 percent;[67] (2) the average projected 30-year U.S. Treasury bond yield for the fourth quarter of 2021 through the fourth quarter of 2022, which is 2.62 percent;[68] and (3) the average projected 30-year U.S. Treasury bond yield for 2023 through 2027, which is 3.50 percent.[69] In determining the security most relevant to the application of the CAPM, it is important to select the term (or maturity) that best matches the life of the underlying investment. As noted by Morningstar:

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67 Bloomberg Professional, as of June 30, 2021.
68 Blue Chip Financial Forecasts, Vol. 40, No. 7, July 1, 2021, at 2.
69 Blue Chip Financial Forecasts, Vol. 40, No. 1, June 1, 2021, at 14.

> The traditional thinking regarding the time horizon of the chosen Treasury security is that it should match the time horizon of whatever is being valued... Note that the horizon is a function of the investment, not the investor. If an investor plans to hold stock in a company for only five years, the yield on a five-year Treasury note would not be appropriate since the company will continue to exist beyond those five years.[70]

Because utility companies represent long-duration investments, it is appropriate to use yields on long-term Treasury bonds as the risk-free rate component of the CAPM. In my view, the 30-year Treasury bond is the appropriate security for that purpose. Because the cost of capital is intended to be forward-looking, it is appropriate to consider projected measures of the market risk premium and interest rates

Q. Does your use of the 30-year Treasury bond yield suggest that all investors have an investment horizon of 30 years?

A. No, it does not. As discussed above, the appropriate factor to consider in determining what duration bond to use is the expected life of the underlying assets. As noted by Morningstar, the use of the 30-year Treasury bond best matches the life of the assets being valued, not the time horizon of the investor.

Q. Would you place more weight on one of these scenarios?

A. Yes, I would. Based on current market conditions, I place more weight on the results of the projected yields on the 30-year Treasury bonds. As discussed

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70 Morningstar Inc., Ibbotson SBBI 2013 Valuation Yearbook, at 44.

previously, the estimation of the cost of equity in this case should be forward-looking because it is the return that investors would receive over the future rate period. Therefore, the inputs and assumptions used in the CAPM analysis should reflect the expectations of the market at that time. While I have included the results of a CAPM analysis that relies on the current average risk-free rate, this analysis fails to take into consideration the effect of the market's expectations for interest rate increases on the cost of equity.

Q. What Beta coefficients did you use in your CAPM analyses?

A. As shown on Exhibit AEB-5, I used the Beta coefficients for the proxy group companies as reported by Bloomberg and Value Line. The Beta coefficients reported by Bloomberg were calculated using ten years of weekly returns relative to the S&P 500 Index. Value Line's calculation is based on five years of weekly returns relative to the New York Stock Exchange Composite Index.

Additionally, as shown in Exhibit AEB-5, page 3, I also considered an additional CAPM analysis which relies on the long-term average utility Beta coefficient for the companies in the proxy group. The long-term average utility Beta coefficient was calculated as an average of the Value Line Beta coefficients for the proxy group companies from 2011 through 2020.

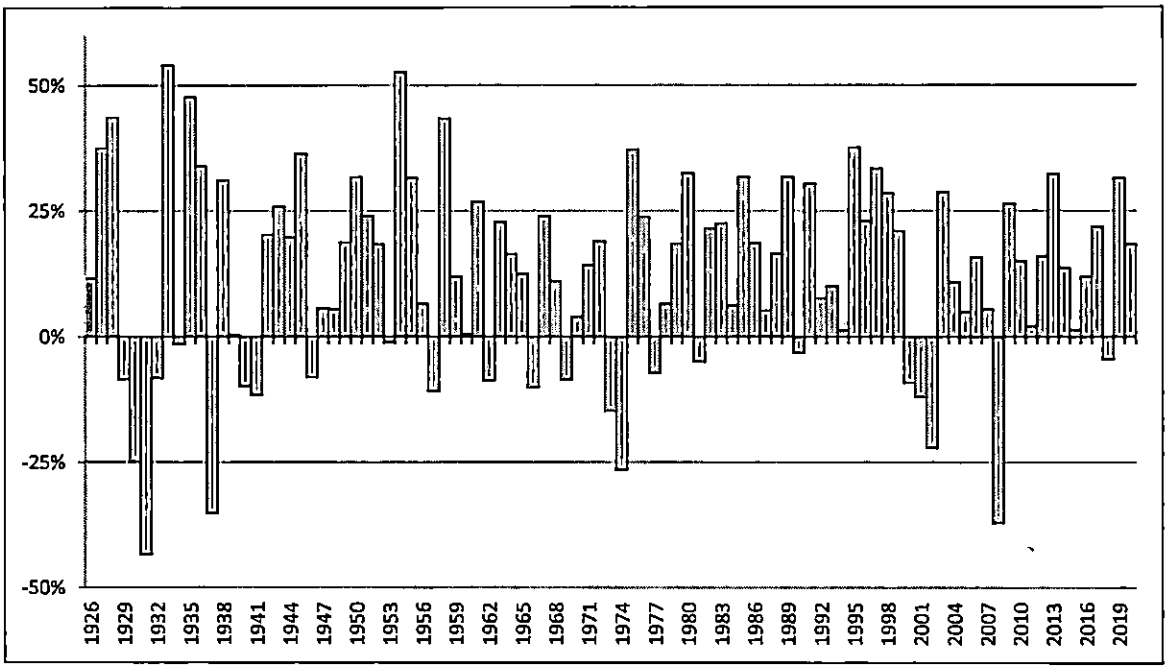
Q. How did you estimate the market risk premium in the CAPM?

A. I estimated the market risk premium based on the expected return on the S&P 500 Index less the yield on the 30-year Treasury bond. I calculated the expected return on the S&P 500 Index using publicly available data: S&P's published dividend yield and five-year projected growth rate for the entire S&P 500 Index. As shown in Exhibit AEB-5, pages 5-11, based on Value Line's five-year growth rate for the S&P 500 of 12.50 percent and dividend yield of 1.41 percent, the expected return on the S&P 500 Index is 14.00 percent. As a result, the implied market risk premium over the current 30-day average of the 30-year U.S. Treasury bond yield, and over projected yields on the 30-year U.S. Treasury bond, ranges from 10.50 percent to 11.80 percent.

Q. How does the current expected market return of 14.00 percent compare to historical observed market returns?

A. Given the range of annual equity returns that have been observed over the past century (shown in Figure 7 below), a current expected return of 14.00 is not unreasonable. In 48 out of the past 95 years (or 51 percent of observations), the realized equity return was at least 14.00 or greater.

Figure 7: Realized U.S. equity market returns 1926-2020[71]



Q. Have other regulators endorsed the use of a forward-looking market risk premium?

A. Yes. The FERC has supported the forward-looking market risk premium. In Opinion No. 569 and 569-A, the FERC specifically endorsed a method that is similar to the method I have used to calculate the forward-looking market risk premium (i.e., applying a Constant Growth DCF analysis to the S&P 500 and using the 30-year Treasury bond yields).[72]

The FERC rejected arguments to use other methodologies including a two-step DCF analysis for estimating the expected market return and found that the use of a

[71] Depicts total annual returns on large company stocks, as reported in the 2020 Duff & Phelps SBBI Yearbook.

[72] Opinion No. 569, 119 FERC ¶ 61,129 at P 260.

long-term growth rate estimate in a two-step DCF analysis does not apply to the DCF analysis of a broad representative market index with a wide variety of companies that is regularly updated to include new companies for the purpose of determining the required return on the market.[73]

> The purpose of the DCF analysis in the CAPM is to determine the "required return on the overall market" that will be used to determine the market risk premium.[74] In Opinion No. 569, the Commission stated that, while it may be unreasonable to expect an individual company to sustain high short-term growth rates in perpetuity, the same cannot be said for a broad representative market index that is regularly updated to include new companies (i.e., a portfolio of companies behaves differently than an individual company).[75] Therefore, we exclude from consideration any two-step expected market return analyses.[76]

Q. Did you consider another form of the CAPM in your analysis?

A. Yes. I have also considered the results of an Empirical CAPM ("ECAPM")[77] in estimating the cost of equity for CenterPoint Energy Entex. The ECAPM calculates the product of the adjusted Beta coefficient and the market risk premium and applies a weight of 75 percent to that result. The model then applies a 25 percent weight to the market risk premium, without any effect from the Beta coefficient. The results of the two calculations are summed, along with the risk-free rate, to produce the ECAPM result, as noted in Equation [5] below:

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73 Opinion No. 569, 169 FERC ¶ 61,129 at PP 85, 265. *See also* Docket No. ER-18-1639-000, Order Setting Base ROE, July 15, 2021, at P 56.

74 *See* Opinion No. 531-B, 150 FERC ¶ 61,165 at P 113.

75 Opinion No. 569, 169 FERC ¶ 61,129 at P 266.

76 FERC Docket No. ER18-1639-000, Order Setting Base ROE, July 15, 2021, at PP 67, 68.

77 *See e.g.*, Roger A. Morin, New Regulatory Finance, Public Utilities Reports, Inc., 2006, at 189.

$$k_e = r_f + 0.75\beta(r_m - r_f) + 0.25(r_m - r_f) \qquad [5]$$

Where:

k_e = the required market ROE;

β = Adjusted Beta coefficient of an individual security;

r_f = the risk-free rate of return; and

r_m = the required return on the market as a whole.

In essence, the Empirical form of the CAPM addresses the tendency of the "traditional" CAPM to underestimate the cost of equity for companies with low Beta coefficients such as regulated utilities. In that regard, the ECAPM is not redundant to the use of adjusted Betas; rather, it recognizes the results of academic research indicating that the risk-return relationship is different (in essence, flatter) than estimated by the CAPM, and that the CAPM underestimates the "alpha," or the constant return term.[78]

As with the CAPM, my application of the ECAPM uses the forward-looking market risk premium estimates, the three yields on 30-year Treasury securities noted earlier as the risk-free rate, and the Bloomberg and Value Line Beta coefficients.

[78] *Id.*, at 191.

Q. What are the results of your CAPM analyses?

A. As shown in Figure 8 (see also Exhibit AEB-5), my traditional CAPM analysis produces a range of returns from 10.76 percent to 12.88 percent for the proxy group. The ECAPM analysis results range from 11.57 percent to 13.16 percent for the proxy group. Thus, the range established for the proxy group by the traditional CAPM and the ECAPM is 10.76 percent to 13.16 percent with a mean of 12.09 percent.

Figure 8: CAPM Results

	Current Risk-Free Rate (2.20%)	Q4 2021–Q4 2022 Projected Risk-Free Rate (2.62%)	2023-2027 Projected Risk-Free Rate (3.50%)
CAPM			
Value Line Beta	12.74%	12.79%	12.88%
Bloomberg Beta	11.62%	11.71%	11.88%
Long-Term Avg. Beta	10.76%	10.88%	11.12%
ECAPM			
Value Line Beta	13.06%	13.09%	13.16%
Bloomberg Beta	12.21%	12.28%	12.41%
Long-Term Avg. Beta	11.57%	11.66%	11.84%

E. Bond Yield Plus Risk Premium Analysis

Q. Please describe the Bond Yield Plus Risk Premium approach.

A. In general terms, this approach is based on the fundamental principle that equity investors bear the residual risk associated with equity ownership and therefore require a premium over the return they would have earned as a bondholder. That is, because returns to equity holders have greater risk than returns to bondholders, equity investors must be compensated to bear that risk. Risk premium approaches,

therefore, estimate the cost of equity as the sum of the equity risk premium and the yield on a particular class of bonds. In my analysis, I used actual authorized returns for natural gas utility companies as the historical measure of the cost of equity to determine the risk premium.

Q. Are there other considerations that should be addressed in conducting this analysis?

A. Yes. It is important to recognize both academic literature and market evidence indicating that the equity risk premium (as used in this approach) is inversely related to the level of interest rates. That is, as interest rates increase (decrease), the equity risk premium decreases (increases). Consequently, it is important to develop an analysis that: (1) reflects the inverse relationship between interest rates and the equity risk premium; and (2) relies on recent and expected market conditions. Such an analysis can be developed based on a regression of the risk premium as a function of U.S. Treasury bond yields. If we let authorized ROEs for natural gas utilities serve as the measure of required equity returns and define the yield on the long-term U.S. Treasury bond as the relevant measure of interest rates, the risk premium simply would be the difference between those two points.[79]

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[79] *See e.g.*, S. Keith Berry, *Interest Rate Risk and Utility Risk Premia during 1982-93*, Managerial and Decision Economics, Vol. 19, No. 2 (March, 1998), in which the author used a methodology similar to the regression approach described below, including using allowed ROEs as the relevant data source, and came to similar conclusions regarding the inverse relationship between risk premia and interest rates. *See also* Robert S. Harris, *Using Analysts' Growth Forecasts to Estimate Shareholders Required Rates of Return*, Financial Management, Spring 1986, at 66.

Q. Is the Bond Yield Plus Risk Premium analysis relevant to investors?

A. Yes. Investors are aware of ROE awards in other jurisdictions, and they consider those awards as a benchmark for a reasonable level of equity returns for utilities of comparable risk operating in other jurisdictions. Because my Bond Yield Plus Risk Premium analysis is based on authorized ROEs for utility companies relative to corresponding Treasury yields, it provides relevant information to assess the return expectations of investors.

Q. What did your Bond Yield Plus Risk Premium analysis reveal?

A. As shown in Figure below, from 1992 through June 2021, there was a strong negative relationship between risk premia and interest rates. To estimate that relationship, I conducted a regression analysis using the following equation:

$$RP = a + b(T) \quad [6]$$

Where:

RP = Risk Premium (difference between authorized ROEs for natural gas utilities and the yield on 30-year U.S. Treasury bonds)

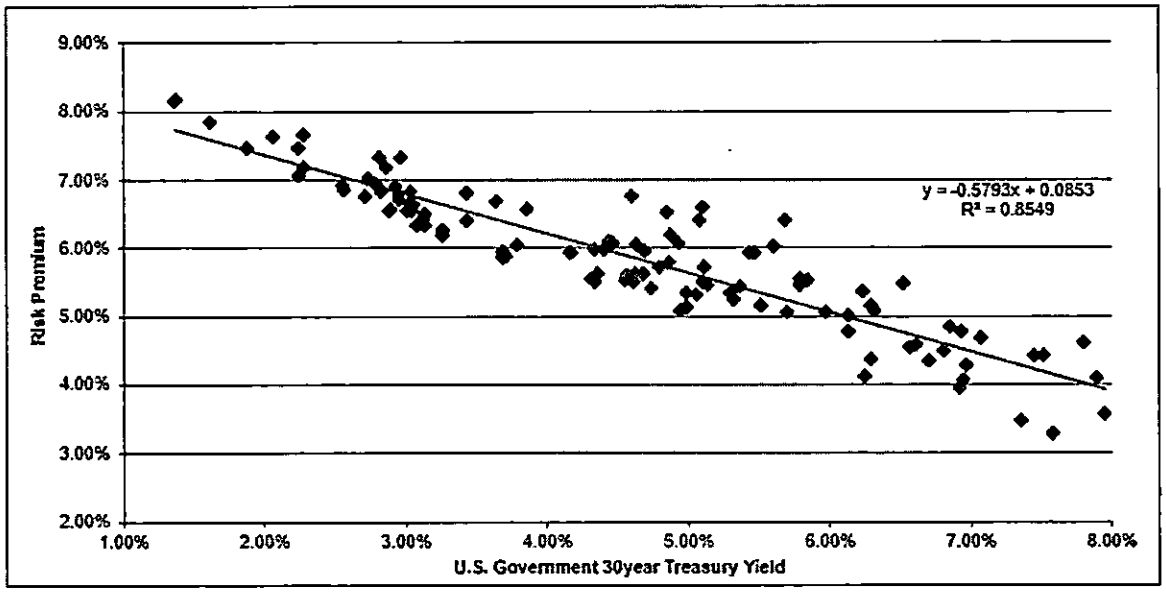
a = intercept term

b = slope term

T = 30-year U.S. Treasury bond yield

Data regarding allowed ROEs were derived from 689 natural gas utility rate cases from January 1992 through June 2021 as reported by Regulatory Research Associates ("RRA").[80] This equation's coefficients were statistically significant at the 99.00 percent level.

Figure 9: Risk Premium Results



As shown on Exhibit AEB-6, based on the current 30-day average of the 30-year U.S. Treasury bond yield (i.e., 2.20 percent), the risk premium would be 7.25 percent, resulting in an estimated ROE of 9.46 percent. Based on the near-term (Q4 2021 – Q4 2022) projections of the 30-year U.S. Treasury bond yield (i.e., 2.62 percent), the risk premium would be 7.01 percent, resulting in an estimated ROE of 9.63 percent. Based on longer-term (2023-2027) projections of the 30-year U.S.

[80] This analysis began with a total of 1,100 cases and was screened to eliminate limited issue rider cases, transmission-only cases, and cases that were silent with respect to the authorized ROE. After applying those screening criteria, the analysis was based on data for 689 cases.

Treasury bond yield (i.e., 3.50 percent), the risk premium would be 6.50 percent, resulting in an estimated ROE of 10.00 percent.

Q. How did the results of the Bond Yield Risk Premium inform your recommended ROE for CenterPoint Energy Entex?

A. I have considered the results of the Bond Yield Risk Premium analysis in setting my recommended ROE for CenterPoint Energy Entex. The results of my Bond Yield Risk Premium analysis support the reasonableness of Company's current authorized midpoint ROE of 9.95 percent. Also, as noted above, investors consider the ROE award of a company when assessing the risk of that company as compared to utilities of comparable risk operating in other jurisdictions. The risk premium analysis takes into account this comparison by estimating the return expectations of investors based on the current and past ROE awards of natural gas utilities across the U.S.

VII. REGULATORY AND BUSINESS RISKS

Q. Do the mean DCF, CAPM, ECAPM, and Risk Premium results for the proxy group, taken alone, provide an appropriate estimate of the cost of equity for CenterPoint Energy Entex?

A. No. These results provide only a range of the appropriate estimate of the Company's cost of equity. There are several additional factors that must be taken into consideration when determining where the Company's cost of equity falls

within the range of results. These factors, which are discussed below, should be considered with respect to their overall effect on the Company's risk profile.

A. Small Size Risk

Q. Please explain the risk associated with small size.

A. Both the financial and academic communities have long accepted the proposition that the cost of equity for small firms is subject to a "size effect." While empirical evidence of the size effect often is based on studies of industries other than regulated utilities, utility analysts also have noted the risk associated with small market capitalizations. Specifically, an analyst for Ibbotson Associates noted:

> For small utilities, investors face additional obstacles, such as a smaller customer base, limited financial resources, and a lack of diversification across customers, energy sources, and geography. These obstacles imply a higher investor return.[81]

Q. How does the smaller size of a utility affect its business risk?

A. In general, smaller companies are less able to withstand adverse events that affect their revenues and expenses. The impact of weather variability, the loss of large customers to bypass opportunities, or the destruction of demand as a result of general macroeconomic conditions or fuel price volatility will have a proportionately greater impact on the earnings and cash flow volatility of smaller utilities. Similarly, capital expenditures for non-revenue producing investments, such as system maintenance and replacements, will put proportionately greater

[81] Michael Annin, Equity and the Small-Stock Effect, Public Utilities Fortnightly, October 15, 1995.

pressure on customer costs, potentially leading to customer attrition or demand reduction. Taken together, these risks affect the return required by investors for smaller companies.

Q. How does CenterPoint Energy Entex's business in Louisiana compare in size to the proxy group companies?

A. As noted previously, CenterPoint Energy Entex serves approximately 117,000 residential, commercial, industrial, and transportation customers in twenty parishes in Louisiana and, as of year-end 2020, had net utility natural gas plant in Louisiana of approximately $118.69 million.[82] CenterPoint Energy Entex's operations in Louisiana are substantially smaller than the mean for the proxy group companies in terms of market capitalization. Exhibit AEB-7 provides the actual market capitalization for the proxy group companies and estimates the implied market capitalization for CenterPoint Energy Entex (i.e., the implied market capitalization if its natural gas operations in Louisiana were a stand-alone publicly-traded entity). To estimate the size of the Company's market capitalization relative to the proxy group, I multiplied CenterPoint Energy Entex's 2020 net utility plant in service of approximately $118.69 million by its requested common equity ratio of 52 percent to calculate an implied equity component of $61.72 million. I then applied the median market-to-book ratio for the proxy group of 1.75 to CenterPoint Energy Entex's implied common equity balance and arrived at an implied market

[82] Company provided data.

capitalization of approximately $107.82 million, or 2.73 percent of the median market capitalization for the proxy group.

Q. How did you estimate the size premium for CenterPoint Energy Entex?

A. Given this relative size information, it is possible to estimate the impact of size on the ROE for CenterPoint Energy Entex using Duff & Phelps data that estimates the stock risk premia based on the size of a company's market capitalization. As shown in Exhibit AEB-7, the median market capitalization of the proxy group of approximately $3.94 billion falls in the 4th decile of the Duff & Phelps market capitalization data and corresponds to a size premium of 0.75 percent (i.e., 75 basis points). CenterPoint Energy Entex's implied market capitalization of approximately $107.82 million falls within the tenth decile, which comprises market capitalization levels up to $189.83 million and corresponds to a size premium of 5.01 percent (i.e., 501 basis points). The difference between those size premia is 426 basis points (i.e., 5.01 percent minus 0.75 percent).

Q. Are utility companies included in the size premium study conducted by Duff & Phelps?

A. Yes, they are. As shown in Exhibit 7.2 of Duff & Phelps' 2019 Valuation Handbook, OGE Energy Corp. had the largest market capitalization of the

companies contained in the fourth decile.[83] Therefore, Duff & Phelps includes utility companies in its size risk premium study.

Q. Is the size premium applicable to companies in regulated industries such as natural gas utilities?

A. Yes, it is. In the article "Cost of Equity for Energy Utilities: Beyond the CAPM",[84] Stéphane Chretien and Frank Coggins studied the CAPM and its ability to estimate the risk premium for the utility industry in particular subgroups of utilities. One of the subgroups was a group of natural gas distribution companies that contained many of the same natural gas distribution companies included in my proxy group.[85] The article considered the CAPM, the Fama-French three-factor model, and a model similar to the ECAPM that I considered above. In the article, the Fama-French three-factor model explicitly included an adjustment to the CAPM for risk associated with size. As Chretien and Coggins show, the Beta coefficient on the size variable for the U.S. natural gas utility group was positive and statistically significant indicating that small size risk was relevant for regulated natural gas

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83 Source: Duff & Phelps, Valuation Handbook: Guide to Cost of Capital, 2019, Exhibit 7.2.

84 Chrétien, Stéphane, and Frank Coggins. "Cost Of Equity For Energy Utilities: Beyond The CAPM." *Energy Studies Review*, vol. 18, no. 2, 2011, doi:10.15173/esr.v18i2.531.

85 The U.S. natural gas utility group included: AGL Resources Inc., Atmos Energy Corp., Laclede Group, New Jersey Resources Corp., Northwest Natural Gas Co., Piedmont Natural Gas Co., South Jersey Industries, Southwest Gas Corp. and WGL Holdings Inc.

utilities.[86] This demonstrates that the traditional CAPM model does not account for risk associated with small size.

Q. Have regulators in other jurisdictions made a specific risk adjustment to the ROE results based on a company's small size?

A. Yes, they have. In Order No. 15, the Regulatory Commission of Alaska ("RCA") concluded that Alaska Electric Light and Power Company ("AEL&P") was riskier than the proxy group companies due to small size as well as other business risks. The RCA did "not believe that adopting the upper end of the range of ROE analyses in this case, without an explicit adjustment, would adequately compensate AEL&P for its greater risk." [87] Thus, the RCA awarded AEL&P an ROE of 12.875 percent which was 108 basis points above the highest return on equity estimate from any model presented in the case.[88] Similarly, in Order No. 19, the RCA noted that small size as well as other business risks such as structural regulatory lag, weather risk, alternative rate mechanisms, gas supply risk, geographic isolation and

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86 Chrétien, Stéphane, and Frank Coggins. "Cost Of Equity For Energy Utilities: Beyond The CAPM." *Energy Studies Review*, vol. 18, no. 2, 2011, doi:10.15173/esr.v18i2.531, at 31.

87 Docket No. U-10-29, In the Matter of the Revenue Requirement and Cost of Service Study Designated as TA381-1 Filed by Alaska Electric Light and Power Company, Order entered September 2, 2011 (Order No. 15), at 37.

88 *Id.*, at 32 and 37.

economic conditions increased the risk of ENSTAR Natural Gas Company.[89] Ultimately, the RCA concluded that:

> Although we agree that the risk factors identified by ENSTAR increase its risk, we do not attempt to quantify the amount of that increase. Rather, we take the factors into consideration when evaluating the remainder of the record and the recommendations presented by the parties. After applying our reasoned judgment to the record, we find that 11.875% represents a fair ROE for ENSTAR.[90]

Additionally, in Docket No. E017/GR-15-1033 for Otter Tail Power Company ("Otter Tail"), the Minnesota Public Utilities Commission ("Minnesota PUC") selected an ROE above the mean DCF results, as a result of multiple factors including Otter Tail's small size. The Minnesota PUC stated:

> The record in this case establishes a compelling basis for selecting an ROE above the mean average within the DCF range, given Otter Tail's unique characteristics and circumstances relative to other utilities in the proxy group. These factors include the company's relatively smaller size, geographically diffuse customer base, and the scope of the Company's planned infrastructure investments.[91]

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89 Docket No. U-16-066, In the Matter of the Tariff Revision Designated as TA285-4 Filed by ENSTAR Natural Gas Company, A Division of SEMCO Energy, Inc., Order entered September 22, 2017 (Order No. 19), at 50-52.

90 *Id.*

91 Order in Docket No. E017/GR-15-1033, In the Matter of the Application of Otter Tail Power Company for Authority to Increase Rates for Electric Service in the State of Minnesota (August 16, 2016), at 55.

Q. How have you considered the smaller size of CenterPoint Energy Entex in your recommendation?

A. While I have estimated the effect of CenterPoint Energy Entex's small size on the ROE, I am not proposing a specific adjustment for this risk factor. Rather, I believe it is important to consider the small size of CenterPoint Energy Entex's natural gas operations in Louisiana in the determination of where, within the range of analytical results, the Company's required ROE falls. Therefore, the additional risk associated with small size indicates that the Company's ROE should be established above the mean results for the proxy group companies.

B. Capital Expenditures

Q. Please summarize the Company's capital expenditure requirements.

A. The Company's current projections for 2022 through 2026 include approximately $179.91 million in capital investments for the period.[92] Based on the Company's net utility plant of approximately $118.69 million as of December 31, 2020,[93] the $179.91 million of anticipated capital expenditures are approximately 151.6 percent of CenterPoint Energy Entex's net utility plant as of December 31, 2020.

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92 Data provided by CenterPoint Energy Entex for planned capital expenditures for the years 2022-2026.

93 Data provided by CenterPoint Energy Entex.

Q. How is the Company's risk profile affected by its substantial capital expenditure requirements?

A. As with any utility faced with substantial capital expenditure requirements, the Company's risk profile may be adversely affected in two significant and related ways: (1) the heightened level of investment increases the risk of under-recovery or delayed recovery of the invested capital; and (2) an inadequate return would put downward pressure on key credit metrics.

Q. Do credit rating agencies recognize the risks associated with elevated levels of capital expenditures?

A. Yes, they do. From a credit perspective, the additional pressure on cash flows associated with high levels of capital expenditures exerts corresponding pressure on credit metrics and, therefore, credit ratings. To that point, S&P explains the importance of regulatory support for large capital projects:

> When applicable, a jurisdiction's willingness to support large capital projects with cash during construction is an important aspect of our analysis. This is especially true when the project represents a major addition to rate base and entails long lead times and technological risks that make it susceptible to construction delays. Broad support for all capital spending is the most credit-sustaining. Support for only specific types of capital spending, such as specific environmental projects or system integrity plans, is less so, but still favorable for creditors. Allowance of a cash return on construction work-in-progress or similar ratemaking methods historically were extraordinary measures for use in unusual circumstances, but when construction costs are rising, cash flow support could be crucial to maintain credit quality through the spending program. Even more favorable are those jurisdictions that

present an opportunity for a higher return on capital projects as an incentive to investors.[94]

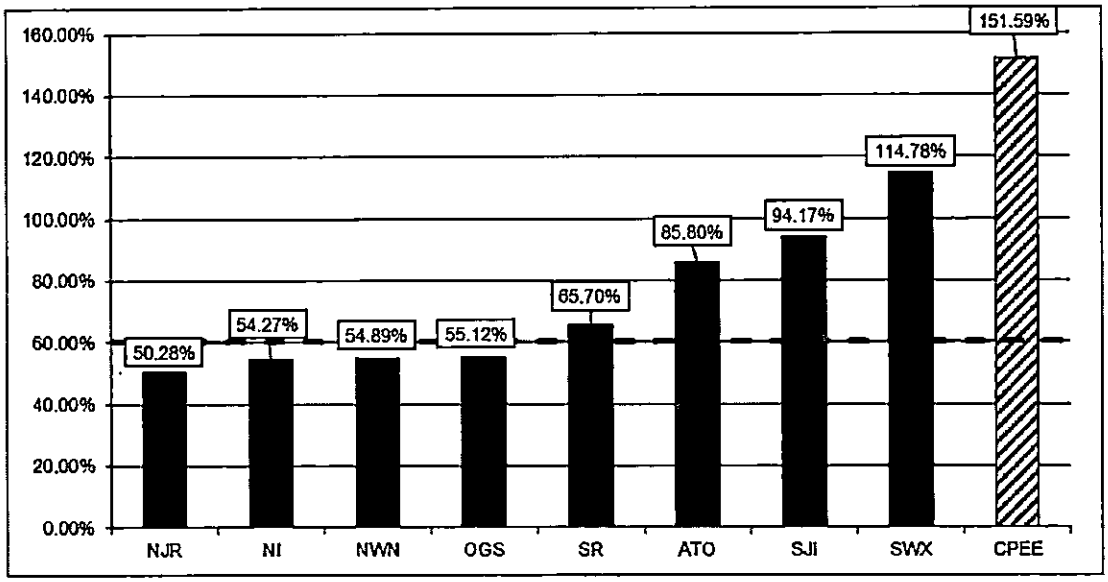
Therefore, to the extent that the ROE bandwidth parameters and midpoint of CenterPoint Energy Entex's renewed RSP and resuling rates do not permit the opportunity to recover its capital investments on a regular basis, the Company will face increased recovery risk and thus increased pressure on its credit metrics.

Q. How do CenterPoint Energy Entex's capital expenditure requirements compare to those of the proxy group companies?

A. As shown in CONFIDENTIAL Exhibit AEB-8, I calculated the ratio of expected capital expenditures to net utility plant for CenterPoint Energy Entex and each of the companies in the proxy group by dividing each company's projected capital expenditures for the period from 2022-2026 by its total net utility plant as of December 31, 2020. As shown in CONFIDENTIAL Exhibit AEB-8 (*see* also Figure below), CenterPoint Energy Entex's ratio of capital expenditures as a percentage of net utility plant is more than 151 percent, which is approximately 2.51 times the median for the proxy group companies of 60.41 percent. This result indicates significantly greater risk relative to the companies in the proxy group.

[94] S&P Global Ratings, "Assessing U.S. Investor-Owned Utility Regulatory Environments," August 10, 2016, at 7.

Figure 10: Comparison of Capital Expenditures – Proxy Group Companies



Q. Are mechanisms available to the electric and natural gas utilities in Louisiana that enable timely recovery of incremental capital investment?

A. Yes. Many Louisiana electric and natural gas utilities have been approved for and implemented formula rate plans, such as the Company's RSP. Formula rate plans enable utilities to adjust rates annually if earnings are outside of an approved bandwidth (typically 100 basis points) and typically reflect incremental capital additions.

Q. Does CenterPoint Energy Entex have a comprehensive mechanism that includes recovery of capital additions between rate cases?

A. Yes. The Company's RSP allows it to adjust rates annually if earnings reflecting total cost of service, including incremental capital investment, are outside of the approved ROE bandwidth of 9.45 percent to 10.45 percent. As shown in Exhibit AEB-9, approximately 79 percent of the proxy group utilities recover costs through

capital tracking mechanisms, which indicates that most of the proxy group companies consider the mechanisms available to them to be effective tools to recover a return of, and on, incremental capital costs. Further, approximately 29 percent of the proxy group companies have formula rate plans, which allow for periodic adjustments to rates. Considering both types of these mechanisms, CenterPoint Energy Entex has similar risk from a capital cost recovery standpoint as the proxy group companies.

Q. What are your conclusions regarding the effect of the Company's capital spending requirements on its risk profile and cost of capital?

A. The Company's capital expenditure requirements as a percentage of net utility plant are significant and will continue over the next few years. As such, the continuation of the RSP is critical to the Company's ability to recover its capital costs in a timely basis. Because the majority of the proxy companies have a comprehensive capital tracking mechanism to recover their projected capital expenditures, and several have formula rate plans, the Company's RSP renders it comparable in risk to the proxy group.

C. Severe Weather Risk

Q. Please describe the risk associated with severe weather activity in the Company's service territory.

A. CenterPoint Energy Entex faces the risk of sudden, unexpected damage from severe storms due to the geographic location of its operations. The propensity for

hurricanes and severe weather in the Company's operating area renders it a high-risk region for incurring weather-related infrastructure repair costs and service disruptions. In addition to the need to fund repair costs, severe weather causes the Company to incur unplanned expenses (such as labor costs that may not be recovered in existing rates or unanticipated increases in fuel and commodity prices) and results in lower sales. Together, these effects can reduce the Company's revenue and put strain on its operating cash flow.

As capital-intensive operations, utilities often are cash flow neutral or negative entities, requiring access to short-term credit markets to fund day-to-day operations. In the event of significant storm damage, the Company may not have a reserve needed to fund restoration activities and its internal cash flow may not be sufficient to fund ongoing restoration activities. In that case, the need to efficiently access short-term capital would be heightened. That access will depend on a strong financial profile. In short, regulatory support for storm cost recovery is important to maintain the Company's financial integrity.

Q. Have the credit rating agencies commented on weather related risks?

A. Yes. A November 8, 2018 article by S&P stressed the importance of regulatory mechanisms as one means of mitigating risk due to adverse weather conditions, noting "[w]ithout the appropriate regulatory compact and other risk mitigation, the

financial aftermath of these events could be devastating to any individual utility, adding another layer of unpredictability that utilities must effectively manage."[95]

Q. What are your conclusions regarding the risk associated with severe weather?

A. The Company's operations are in an area prone to hurricanes and severe weather events. As such, a strong financial profile that enables access to capital on reasonable terms, as well as a supportive regulatory environment that provides timely recovery of costs is critical to the financial health of the Company. To the extent that the proxy companies operate in areas that are less prone to significant adverse weather events, a higher ROE for CenterPoint Energy Entex is required.

D. Regulatory Risk

Q. Please explain how the regulatory environment affects investors' risk assessments.

A. The ratemaking process is premised on the principle that, for investors and companies to commit the capital needed to provide safe and reliable utility service, the subject utility must have the opportunity to recover the return of, and the market-required return on, invested capital. Regulatory authorities recognize that because utility operations are capital intensive, regulatory decisions should enable the utility to attract capital at reasonable terms when needed and under various market conditions; doing so balances the long-term interests of investors and customers. Utilities must finance their operations and require the opportunity to

[95] S&P Global Ratings, *Can US. Utilities Weather The Storm?* November 8, 2018, at 1 [clarification added].

earn a reasonable return on their invested capital to maintain their financial profiles. CenterPoint Energy Entex is no exception. In that respect, the regulatory environment is one of the most important factors considered in both debt and equity investors' risk assessments.

From the perspective of debt investors, the authorized return should enable the utility to generate the cash flow needed to meet its near-term financial obligations, make the capital investments needed to maintain and expand its systems, and maintain the necessary levels of liquidity to fund unexpected events. This financial liquidity must be derived not only from internally generated funds, but also by efficient access to capital markets. Moreover, because fixed income investors have many investment alternatives, even within a given market sector, the utility's financial profile must be adequate on a relative basis to ensure its ability to attract capital under a variety of economic and financial market conditions.

Equity investors require that the authorized return be adequate to provide a risk-comparable return on the equity portion of the utility's capital investments. Because equity investors are the residual claimants on the utility's cash flows (which is to say that the equity return is subordinate to interest payments), they are particularly concerned with the strength of regulatory support and its effect on future cash flows.

Q. Please explain how credit rating agencies consider regulatory risk in establishing a company's credit rating.

A. Both S&P and Moody's consider the overall regulatory framework in establishing credit ratings. Moody's establishes credit ratings based on four key factors: (1) regulatory framework; (2) the ability to recover costs and earn returns; (3) diversification; and (4) financial strength, liquidity and key financial metrics. Of these criteria, regulatory framework and the ability to recover costs and earn returns are each given a broad rating factor of 25 percent. Therefore, Moody's assigns regulatory risk a 50 percent weighting in the overall assessment of business and financial risk for regulated utilities.[96]

S&P also identifies the regulatory framework as an important factor in credit ratings for regulated utilities, stating: "One significant aspect of regulatory risk that influences credit quality is the regulatory environment in the jurisdictions in which a utility operates."[97] S&P identifies four specific factors that it uses to assess the credit implications of the regulatory jurisdictions of investor-owned regulated utilities: (1) regulatory stability; (2) tariff-setting procedures and design; (3) financial stability; and (4) regulatory independence and insulation.[98]

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96 Moody's Investors Service, Rating Methodology: Regulated Electric and Gas Utilities, June 23, 2017, at 4.

97 Standard & Poor's Global Ratings, Ratings Direct, U.S. and Canadian Regulatory Jurisdictions Support Utilities' Credit Quality—But Some More So Than Others, June 25, 2018, at 2.

98 *Id.*, at 1.

Q. How does the regulatory environment in which a utility operates affect its access to and cost of capital?

A. The regulatory environment can significantly affect both the access to, and cost of capital in several ways. First, the proportion and cost of debt capital available to utility companies are influenced by the rating agencies' assessment of the regulatory environment. As noted by Moody's, "[f]or rate regulated utilities, which typically operate as a monopoly, the regulatory environment and how the utility adapts to that environment are the most important credit considerations."[99] Moody's further highlighted the relevance of a stable and predictable regulatory environment to a utility's credit quality, noting: "[b]roadly speaking, the Regulatory Framework is the foundation for how all the decisions that affect utilities are made (including the setting of rates), as well as the predictability and consistency of decision-making provided by that foundation."[100]

Q. Have you analyzed the regulatory framework in Louisiana relative to the jurisdictions in which the companies in your proxy group operate?

A. Yes. I have evaluated the regulatory framework in Louisiana on four factors that are important in terms of providing a regulated utility an opportunity to earn its authorized ROE. These are: (1) test year convention (i.e., forecast vs. historical); (2) method for determining rate base (i.e., average vs. year-end); (3) use of revenue

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99 Moody's Investors Service, Rating Methodology: Regulated Electric and Gas Utilities, June 23, 2017, at 6.

100 *Id.*

decoupling mechanisms or other clauses that mitigate volumetric risk; and (4) prevalence of capital cost recovery between rate cases. The results of this regulatory risk assessment are shown in Exhibit AEB-9 and are summarized below.

Test year convention: CenterPoint Energy Entex uses a historical test year in Louisiana. As shown in Exhibit AEB-9, approximately 57 percent of the companies in the proxy group use forecasted or partially forecasted test years. All else equal, the use of a historical test year tends to increase regulatory lag, increasing regulatory risk.

Rate Base: The majority of the Company's rate base in Louisiana is determined based on a 13-month average original cost, while approximately 61 percent of the operating companies held by proxy group are allowed to use year-end rate base, meaning that the rate base includes capital additions that occurred in the second half of the test year and is more reflective of net utility plant going forward. The combination of an average rate base methodology and a historical test year can contribute significantly to regulatory lag. As shown in Exhibit AEB-9, only two of 28 proxy group operating companies employ both an average rate base and historical test year methodology. Therefore, I conclude the Company has greater risk than the proxy group on average based on its use of both a 13-month average rate base and a historical test year.

Volumetric Risk: CenterPoint Energy Entex has protection against volumetric risk in Louisiana, as its RSP adjusts rates if earnings are outside of the approved ROE bandwidth of 9.45 percent to 10.45 percent.[101] Additionally, the Company has a Weather Normalization Adjustment ("WNA") mechanism. Similarly, 93 percent of the operating companies held by the proxy group have some form of protection against volumetric risk, such as weather normalization or decoupling mechanisms. Further, approximately 29 percent have formula rate plans which allow for periodic increases in rates if earnings are outside of an approved bandwidth. Therefore, I conclude the Company is comparable to its peers on account of its RSP and WNA.

Capital Cost Recovery: CenterPoint Energy Entex's RSP allows it to recover incremental capital investment on an annual basis. As discussed above, approximately 79 percent of the operating companies held by the proxy group have some form of capital cost recovery mechanism in place. Further, approximately 29 percent have formula rate plans which allow for periodic increases in rates if earnings are outside of an approved bandwidth. Therefore, with the implementation of its RSP, I conclude the Company is comparable to the proxy group companies in the ability to recover capital costs.

[101] LPSC Order No. U-32996.

Q. What are your conclusions regarding the perceived risks related to the Louisiana regulatory environment?

A. As discussed throughout this section of my testimony, both Moody's and S&P have identified the supportiveness of the regulatory environment as an important consideration in developing their overall credit ratings for regulated utilities. Considering the regulatory adjustment mechanisms, many of the companies in the proxy group have timely cost recovery through forecasted test years, year-end rate base, cost recovery trackers and revenue stabilization mechanisms (such as formula rate plans) similar to CenterPoint Energy Entex in Louisiana. On balance, I conclude that CenterPoint Energy Entex has similar regulatory risk compared to the proxy group.

E. Flotation Cost

Q. What are flotation costs?

A. Flotation costs are the costs associated with the sale of new issues of common stock. These costs include out-of-pocket expenditures for preparation, filing, underwriting, and other issuance costs.

Q. Why is it important to consider flotation costs in the allowed ROE?

A. A regulated utility must have the opportunity to earn an ROE that is both competitive and compensatory to attract and retain new investors. To the extent that a company is denied the opportunity to recover prudently incurred flotation

costs, actual returns will fall short of expected (or required) returns, thereby diluting equity share value.

Q. Are flotation costs part of the utility's invested costs or part of the utility's expenses?

A. Flotation costs are part of the invested costs of the utility, which are properly reflected on the balance sheet under "paid in capital." They are not current expenses, and, therefore, are not reflected on the income statement. Rather, like investments in rate base or the issuance costs of long-term debt, flotation costs are incurred over time. As a result, the great majority of a utility's flotation cost is incurred prior to the test year but remains part of the cost structure that exists during the test year and beyond, and as such, should be recognized for ratemaking purposes. Therefore, it is irrelevant whether an issuance occurs during the test year, or is planned for the test year, because failure to allow recovery of past flotation costs may deny CenterPoint Energy Entex the opportunity to earn its required ROR in the future.

Q. Please provide an example of why a flotation cost adjustment is necessary to compensate investors for the capital they have invested.

A. Suppose CNP issues stock with a value of $100, and an equity investor invests $100 in CNP in exchange for that stock. Further suppose that, after paying the flotation costs associated with the equity issuance, which include fees paid to underwriters and attorneys, among others, CNP ends up with only $97 of issuance proceeds,

rather than the $100 the investor contributed. CNP invests that $97 in plant used to serve its customers, which becomes part of rate base. Absent a flotation cost adjustment, the investor will thereafter earn a return on only the $97 invested in rate base, even though she contributed $100. Making a small flotation cost adjustment gives the investor a reasonable opportunity to earn the authorized return, rather than the lower return that results when the authorized return is applied to an amount less than what the investor contributed.

Q. Is the date of CNP's last issued common equity important in the determination of flotation costs?

A. No. As shown in Exhibit AEB-10, CNP closed on equity issuances of approximately $1.90 billion and $326 million (for a total of 94.9 million shares of common stock) in September 2018 and June 2010, respectively. The vintage of the issuance, however, is not particularly important because the investor suffers a shortfall in every year thereafter that she is denied a reasonable opportunity to earn a return on the full amount of capital she has contributed. Returning to my earlier example, the investor who contributed $100 is entitled to a reasonable opportunity to earn a return on $100 not only in the first year after the investment, but in every subsequent year in which she has the $100 invested. Leaving aside depreciation, which is dealt with separately, there is no basis to conclude that the investor is entitled to earn a return on $100 in the first year after issuance, but thereafter is

entitled to earn a return on only $97. As long as the $100 is invested, the investor should have a reasonable opportunity to earn a return on the entire amount.

Q. Is the need to consider flotation costs recognized by the academic and financial communities?

A. Yes. The need to reimburse shareholders for the lost returns associated with equity issuance costs is recognized by the academic and financial communities in the same spirit that investors are reimbursed for the costs of issuing debt. This treatment is consistent with the philosophy of a fair ROR. According to Dr. Shannon Pratt:

> Flotation costs occur when new issues of stock or debt are sold to the public. The firm usually incurs several kinds of flotation or transaction costs, which reduce the actual proceeds received by the firm. Some of these are direct out-of-pocket outlays, such as fees paid to underwriters, legal expenses, and prospectus preparation costs. Because of this reduction in proceeds, the firm's required returns on these proceeds equate to a higher return to compensate for the additional costs. Flotation costs can be accounted for either by amortizing the cost, thus reducing the cash flow to discount, or by incorporating the cost into the cost of capital. Because flotation costs are not typically applied to operating cash flow, one must incorporate them into the cost of capital.[102]

Q. How did you calculate the flotation costs for CenterPoint Energy Entex?

A. My flotation cost calculation is based on the costs of issuing equity that were incurred by CNP in its two most recent common equity issuances. Those issuance costs were applied to my proxy group. Applying the actual issuance costs for

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102 Shannon P. Pratt, Cost of Capital Estimation and Applications, Second Edition, at 220-221.

CenterPoint Energy, Inc provided in Exhibit AEB-10, to the DCF analysis, the flotation costs are estimated to be 0.11 percent (i.e., 11 basis points).

Q. Do your final results include an adjustment for flotation cost recovery?

A. No, they do not. I did not make an explicit adjustment for flotation costs to any of my quantitative analyses. Rather, I consider the effect of flotation costs in my ultimate recommendation that is based the range of results from my Constant Growth DCF, CAPM, ECAPM, and Bond Yield Plus Risk Premium analyses.

VIII. CAPITAL STRUCTURE, COST OF DEBT, OVERALL RATE OF RETURN

A. Capital Structure

Q. Is the capital structure of the Company an important consideration in the determination of the appropriate ROE?

A. Yes, it is. Assuming other factors equal, a higher debt ratio increases the risk to investors. For debt holders, higher debt ratios require a greater portion of available cash flow to meet debt service, thereby increasing the risk associated with the payments on debt. A consequence of increased risk is a higher interest rate. The incremental risk of a higher debt ratio is more significant for common equity shareholders, who are the residual claimants on the cash flow of the Company. In other words, the greater the debt service requirement, the less cash flow is available for common equity holders.

Q. What is CenterPoint Energy Entex's proposed capital structure?

A. The Company proposes to maintain its current authorized hypothetical capital structure consisting of 52 percent common equity and 48 percent total debt that includes 43.70 percent long-term debt and 4.30 percent short-term debt.

Q. Did you conduct any analysis to determine if the requested equity ratio was reasonable?

A. Yes, I did. I reviewed the Company's proposed capital structure and the capital structures of the utility operating subsidiaries of the proxy companies. Because the ROE is set based on the return that is derived from the risk-comparable proxy group, it is reasonable to look to the proxy group average capital structure to benchmark the equity ratio for the Company.

Q. Please discuss your analysis of the capital structures of the proxy group companies.

A. To assess whether the Company's current approved hypothetical capital structure remains appropriate, I calculated the mean proportions of common equity, long-term debt, short-term debt, and preferred equity for the most recent year for each of the companies in the proxy group at the operating subsidiary level.[103] My analysis of the capital structures of the proxy group companies is provided in Exhibit AEB-11. As shown in Exhibit AEB-11, the equity ratios for the proxy group at the operating utility company level ranged from 41.92 percent to 60.07 percent, with

[103] Source: S&P Global Market Intelligence and FERC Form 2 annual reports.

an average of 52.94 percent. CenterPoint Energy Entex's request to maintain its currently authorized equity ratio of 52 percent is well within the range of equity ratios for the utility operating subsidiaries of the proxy group companies, generally consistent with the proxy group average, and therefore is reasonable.

Q. Are there other factors to be considered in setting the Company's capital structure?

A. Yes. The credit rating agencies' response to the TCJA must also be considered when determining the equity ratio. As discussed previously in my testimony, all three rating agencies have noted that the TCJA has negative implications for utility cash flows. S&P and Fitch Ratings have specifically identified increasing the equity ratio as one approach to ensure that utilities have sufficient cash flows following the tax cuts and the loss of bonus depreciation. Furthermore, Moody's unprecedented downgrade of the rating outlook for the entire utilities sector in June 2018 stresses the importance of maintaining adequate cash flow metrics for the industry as a whole and for CenterPoint Energy Entex in the context of this proceeding.

Additionally, it is important to consider the negative effects of COVID-19 on the credit metrics of utilities. In April 2020, S&P revised the outlook on the entire North American utilities sector downward, noting that COVID-19 would create incremental pressure on credit metrics and that a recession would lead to an

increasing number of credit rating downgrades and negative outlooks.[104] As a result, the credit ratings agencies' continued concerns over the negative effects of the TCJA, coupled with concern over the negative effects of COVID-19, underscores the importance of maintaining adequate cash flow metrics for the industry—and for the Company—in the context of this proceeding.

Q. Is there a relationship between the equity ratio and the authorized ROE?

A. Yes. The equity ratio is the primary indicator of financial risk for a regulated utility such as CenterPoint Energy Entex. To the extent the authorized equity ratio is reduced, a higher authorized ROE will be required to compensate investors for the greater financial risk associated with a lower equity ratio.

Q. Will the capital structure and ROE authorized in this proceeding affect the Company's access to capital at reasonable rates?

A. Yes. The level of earnings authorized by the Commission directly affects the Company's ability to fund its operations with internally generated funds. Both bond investors and rating agencies expect a significant portion of ongoing capital investments to be financed with internally generated funds.

It also is important to realize that because a utility's investment horizon is very long, investors require the assurance of a sufficiently high return to satisfy the long-

104 Standard & Poor's Ratings Direct, COVID-19: The Outlook for North American Regulated Utilities Turns Negative, April 2, 2020.

run financing requirements of the assets placed into service. Those assurances, which often are measured by the relationship between internally generated cash flows and debt (or interest expense), depend quite heavily on the capital structure. As a consequence, both the ROE and capital structure are very important to debt and equity investors. Furthermore, considering the capital market conditions discussed in Section IV, the authorized ROE and capital structure take on even greater significance.

Q. What is your conclusion regarding an appropriate equity ratio for CenterPoint Energy Entex?

A. Considering the actual capital structures of the proxy group operating companies, CenterPoint Energy Entex's current authorized common equity ratio of 52 percent is reasonable. The proposed equity ratio is slightly below the average equity ratio established by the capital structures of the utility operating subsidiaries of the proxy companies. Although a higher equity ratio would be appropriate to address the cash flow concerns raised by credit rating agencies as a result of the TCJA and COVID-19, the Company's request to continue its current equity ratio of 52 percent is conservative and therefore reasonable.

Q. Did you also evaluate the Company's proposed short-term debt ratio?

A. Yes. The capital structure that is established for ratemaking purposes should reflect the permanent financing of rate base assets. Natural gas utilities often use short-term debt to manage gas costs and as short-term financing prior to investment in

assets being placed into service. In many circumstances, when short-term debt is not financing permanent capital it is not included in the ratemaking capital structure. As discussed above, I compared the Company's proposed capital structure to the capital structures of the utility operating subsidiaries of the proxy companies. As shown in Exhibit AEB-11, the range established by the proxy group is from 0.00 percent to 11.63 percent. The Company's proposed short-term debt ratio of 4.30 percent is at the low end of the range but slightly above the average short-term debt ratio for operating subsidiaries of the proxy group companies.

Q. Is there any reasonable basis to increase the Company's proposed short-term debt ratio based on the range set by the proxy companies?

A. No. As discussed previously, natural gas distribution utilities such as CenterPoint Energy Entex often use short-term debt to meet seasonal working capital requirements, which can include financing seasonal gas supply inventories. As a result, the percentage of short-term borrowings tends to exhibit a seasonal pattern, with the highest percentages occurring in the winter. The percentage of short-term debt varies widely based on seasonal expenses, the timing of refinancing with long-term debt, and the lag in cost recovery. For example, Atmos Energy Corporation (one of my proxy companies) notes:

> We utilize short-term debt to provide cost-effective, short-term financing until it can be replaced with a balance of long-term debt and equity financing that achieves the Company's desired capital structure with an equity-to-capitalization ratio between 50% and 60%, inclusive of long-term and short-term

> debt. Our short-term borrowing requirements are affected primarily by the seasonal nature of the natural gas business. Changes in the price of natural gas and the amount of natural gas we need to supply our customers' needs could significantly affect our borrowing requirements. Our short-term borrowings typically reach their highest levels in the winter months.[105]

Similarly, another of my proxy companies, Spire Inc. notes:

> The Company's short-term borrowing requirements typically peak during colder months when the Utilities borrow money to cover the lag between when they purchase natural gas and when their customers pay for that gas.[106]

The Company's gas distribution system assets are long-lived assets and the ratemaking capital structure should reflect the financing of the rate base with permanent capital. Therefore, any amount of short-term debt included in the ratemaking capital structure should not include the short-term debt used to finance seasonal working capital requirements. Since, the Company's proposed short-term debt ratio is based on a 13-month average, the proposed ratio includes the effect of seasonal working capital requirements. Therefore, the Company's calculation is conservative in that it results in a more leveraged capital structure since the effect of seasonal working capital requirements has not been excluded from the 13-month average.

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105 Atmos Energy Corporation, 2020 SEC Form 10-K, at 58.
106 Spire Inc., 2020 SEC Form 10-K, at 48.

Q. What is your conclusion regarding an appropriate short-term debt ratio for CenterPoint Energy Entex?

A. CenterPoint Energy Entex's proposed short-term debt ratio of 4.30 percent is within the range of short-term debt ratios produced by the utility operating subsidiaries of the proxy companies and slightly higher than the proxy group average. Therefore, I conclude that Company's proposed short-term debt ratio is reasonable.

B. Cost of Long-Term Debt

Q. What is CenterPoint Energy Entex's proposed cost of long-term debt?

A. In accordance with the Company's request to renew its current RSP mechanism, the Company proposes a cost of long-term debt of 5.17 percent, based on its most recent approved actual embedded cost of long-term debt. The cost of long-term debt is updated to actual in each annual RSP filing made by the Company with the Commission.

Q. Have you evaluated the Company's proposed cost of long-term debt?

A. Yes, I have reviewed the embedded cost of long-term debt for CenterPoint Energy Entex. To evaluate the Company's cost of long-term debt, I compared the cost for each of the Company's debt issuances to the Moody's Baa- and A-rated utility bond index yields at the time of issuance. As shown in Exhibit AEB-12 the embedded cost of debt requested by the Company is, on average, consistent with the utility bond index rates reported by Moody's at the time the debt was issued and is therefore reasonable.

C. Cost of Short-Term Debt

Q. What is CenterPoint Energy Entex's proposed cost of short-term debt?

A. In accordance with the Company's request to renew its current RSP mechanism, the Company proposes a short-term debt cost of 0.26 percent, which is its actual cost of short-term debt during the test year. As with the cost of long-term debt, the cost of short-term debt is updated to actual cost in each annual RSP filing made by the Company with the Commission.

Q. Have you evaluated the Company's proposed cost of short-term debt?

A. Yes, I have. To determine the reasonableness of the Company's short-term debt rate, I compared the requested short-term debt cost of 0.26 percent to the yields for 1-year A-rated and BBB-rated utility debt as reported by Bloomberg Professional. As shown in Figure 11 below, the Company's proposed short-term debt cost of 0.26 percent is below the yields on 1-year utility debt, both on a spot basis and on a twelve-month average basis. Therefore, I conclude the Company's proposed short-term debt rate is reasonable.

Figure 11: Bloomberg Fair Value 1-year A-Rated and BBB-Rated Utility Debt Yields[107]

	A-Rated	BBB-Rated
Spot yield as of 6/30/2021	0.32%	0.40%
12-month average ending 6/30/2021	0.34%	0.42%

[107] Source: Bloomberg Professional Service.

D. Overall Rate of Return

Q. Based on the Company's proposed capital structure, long-term debt cost and short-term debt cost and your recommended ROE, what is the recommended overall Rate of Return?

A. As shown in Figure below, the recommended overall rate of return is 7.44 percent. As noted above, the costs of debt is updated in each annual RSP filing of the Company.

Figure 12: Overall Test Rate of Return

	Ratio	Cost Rate	Weighted Cost Rate
Long-Term Debt	43.70%	5.17%	2.26%
Short-Term Debt	4.30%	0.26%	0.01%
Common Equity	52.00%	9.95%	5.17%
Overall Rate of Return	100.00%		7.44%

IX. CONCLUSIONS AND RECOMMENDATION

Q. What is your conclusion regarding a fair ROE for CenterPoint Energy Entex?

A. Based on the quantitative and qualitative analyses presented in my Direct Testimony, I conclude that the reasonable range for the ROE for the Company is between 9.90 percent and 10.50 percent. Considering the business and financial risks of CenterPoint Energy Entex compared to the proxy group and the effects of federal tax reform on the cash flow metrics of utilities, it is my view that the Company's request to renew and continue its RSP with a midpoint ROE of 9.95 percent is conservative and fairly balances the interests of customers and

shareholders. While the Company's request is at the low end of the range established using my analytical results, I believe that this ROE would enable the Company to attract capital at reasonable rates under a variety of economic and financial market conditions, while continuing to provide safe, reliable and affordable natural gas utility service to customers in Louisiana.

Figure 13: Summary of Analytical Results[108]

Constant Growth DCF			
	Mean Low	Mean	Mean High
30-Day Average Price	8.36%	9.73%	11.88%
90-Day Average Price	8.40%	9.77%	11.92%
180-Day Average Price	8.57%	9.96%	12.11%
Capital Asset Pricing Model			
	Current Risk-Free Rate (2.20%)	Q4 2021–Q4 2022 Projected Risk-Free Rate (2.62%)	2023-2027 Projected Risk-Free Rate (3.50%)
Value Line Beta	12.74%	12.79%	12.88%
Bloomberg Beta	11.62%	11.71%	11.88%
Long-Term Avg. Beta	10.76%	10.88%	11.12%
Empirical Capital Asset Pricing Model			
Value Line Beta	13.06%	13.09%	13.16%
Bloomberg Beta	12.21%	12.28%	12.41%
Long-Term Avg. Beta	11.57%	11.66%	11.84%
Bond Yield Plus Risk Premium			
	Current Risk-Free Rate (2.20%)	Q4 2021–Q4 2022 Projected Risk-Free Rate (2.62%)	2023-2027 Projected Risk-Free Rate (3.50%)
Risk Premium Results	9.46%	9.63%	10.00%

Q. What is your conclusion with respect to CenterPoint Energy Entex's proposed capital structure?

A. My conclusion is that CenterPoint Energy Entex's proposal to maintain its current authorized hypothetical capital structure consisting of 52 percent common equity and 48 percent total debt is reasonable when compared to the capital structures of

[108] The analytical results included in Figure 13 reflect the results of the Constant Growth DCF analysis excluding the results for individual companies that did not meet the minimum threshold of 7.00 percent. A low DCF result for New Jersey Resources, Inc. was excluded.

the companies in the proxy group and taking in consideration the impact of the TCJA on the Company's cash flows and therefore should be adopted.

Q. Does this conclude your Direct Testimony?

A. Yes, it does.