



GOVERNOR GREG GIANFORTE
DIRECTOR BRENDAN BEATTY

TO: Steve Klekar, Director Property Taxation
TC Energy

FROM: Doug Roehm, Unit Manager
Centrally Assessed Property

DATE: April 28, 2023

SUBJECT: Response to Comments on the 2023 Capitalization Rate Study,
Pipelines

Dear Mr. Klekar:

The department would like to thank you for taking the time to review our study and for providing additional information for us to consider. We received your submission email on April 13, 2023, along with attached capitalization rates studies for the natural gas and liquids industry prepared by Bruce Nielson of Nielsen Management Services, LLC.

The comments received are posted along with these responses on our website at:
<https://mtrevenue.gov/dor-publications/cap-rate-studies/>

Based on the comments, and our analysis discussed below, we moved 10% weight off the Capital Asset Pricing Model on to the Dividend Discount Model, increased the weighting of equity in the capital structure for incorporated and liquid pipelines, and utilized additional cost of debt information from Bloomberg and Capital IQ. The changes to the Weighted Average Cost of Capital and Direct Capitalization Rate are summarized below:

Weighted Average Cost of Capital (WACC)									
	Gas			Incorporated			Liquid		
	Initial	Final	Change	Initial	Final	Change	Initial	Final	Change
Cost of Equity	14.32%	14.80%	0.48%	13.08%	13.08%	0.00%	15.22%	14.80%	-0.42%
Cost of Debt	6.84%	7.17%	0.33%	6.14%	6.17%	0.03%	5.87%	5.88%	0.01%
Equity Weight	50.00%	50.00%	0.00%	55.00%	60.00%	5.00%	50.00%	55.00%	5.00%
Debt Weight	50.00%	50.00%	0.00%	45.00%	40.00%	-5.00%	50.00%	45.00%	-5.00%
WACC	9.80%	10.15%	0.35%	9.30%	9.75%	0.45%	9.85%	10.15%	0.30%

NOI After-tax Direct Capitalization Rate									
	Gas			Incorporated			Liquid		
	Initial	Final	Change	Initial	Final	Change	Initial	Final	Change
Equity Cap Rate	11.12%	11.12%	0.00%	6.34%	6.34%	0.00%	10.10%	10.10%	0.00%
Debt Cap Rate	5.32%	5.32%	0.00%	5.06%	5.06%	0.00%	4.82%	4.82%	0.00%
Equity Weight	50.00%	50.00%	0.00%	55.00%	60.00%	5.00%	50.00%	55.00%	5.00%
Debt Weight	50.00%	50.00%	0.00%	45.00%	40.00%	-5.00%	50.00%	45.00%	-5.00%
Weighted Cap Rate	7.60%	7.60%	0.00%	5.25%	5.35%	0.10%	6.90%	7.25%	0.35%

GCF After-tax Direct Capitalization Rate									
	Gas			Incorporated			Liquid		
	Initial	Final	Change	Initial	Final	Change	Initial	Final	Change
Equity Cap Rate	14.83%	14.83%	0.00%	10.83%	10.83%	0.00%	17.30%	17.30%	0.00%
Debt Cap Rate	5.32%	5.32%	0.00%	5.06%	5.06%	0.00%	4.82%	4.82%	0.00%
Equity Weight	50.00%	50.00%	0.00%	55.00%	60.00%	5.00%	50.00%	55.00%	5.00%
Debt Weight	50.00%	50.00%	0.00%	45.00%	40.00%	-5.00%	50.00%	45.00%	-5.00%
Weighted Cap Rate	9.45%	9.45%	0.00%	7.70%	8.05%	0.35%	10.50%	11.20%	0.70%

A more detailed discussion on how we arrived at these conclusions follows.

Consideration of Additional Guideline Companies

In part one of your comment, you named 5 companies that you would like to see included in the Incorporated Pipelines cost of capital study. Of those five companies, three are interlisted on both the Toronto and New York Stock Exchanges. It has been the policy of the Department to not use interlisted companies as guideline public companies for the purposes of calculating the cost of capital. However, there are arguments that can be made that companies interlisted on American and Canadian exchanges share enough similarities in risk profile that some testing was warranted. For this purpose, TC Energy, Enbridge, and Pembina were further examined. Enbridge being the only company that files a 10-K with the Securities and Exchange Commission was selected for further testing.

When the cost of capital was analyzed for Enbridge, it was found that inclusion in the Incorporated Pipelines cost of capital study would lower the overall cost of capital by 15 basis points in the direct approaches and 30 basis points for the yield approach. This result aligns with the theory that interlisted companies have lower systemic risk profiles. For this reason, it was decided not to include it in the study.

Of the two remaining companies, Energy Transfer, LP is already included in the Gas Pipelines study so was not further examined. Lastly, National Fuel Gas was examined and determined that the pipeline transportation business segment does contribute a significant portion of the overall revenues, so was not included as a guideline public company.

Capital Structure

The capital structure was reconsidered for liquid and incorporated pipelines. We changed the capital structure for liquid pipelines from 50% equity and 50% debt to 55% equity and 45% Debt. We changed the capital structure for incorporated pipelines from 55% equity and 45% debt to 60% equity and 40% Debt.

FERC 2 Stage DCF Model

We do recognize that FERC has a pre-defined 2 Stage DCF model utilized for rate regulation purposes. This model is used for setting rates under a cost-of-service model, which for the industries these comments pertain to primarily impact gas pipelines.

The difference between the FERC 2 stage model and the department's 3 stage model is due to different growth assumptions. However, the resulting cost of equity conclusions between the two approaches are not overly different. For example, the exhibit below demonstrates the result of the FERC model compared to the department's model:

	Dividend Growth					Earnings Growth				
	EPD	ET	HESM	WES	AVG	EPD	ET	HESM	WES	AVG
FERC Model										
Ke	20.6876%	16.1226%	17.6840%	22.9277%	19.3555%	12.6525%	18.7586%	17.1291%	13.9586%	15.6247%
D/P	8.1260%	7.7506%	7.6872%	8.0074%		8.1260%	7.7506%	7.6872%	8.0074%	
g	12.07%	8.06%	9.63%	14.35%	11.0259%	4.35%	10.60%	9.09%	5.72%	7.4404%
stg	15.88%	9.86%	12.22%	19.29%		4.30%	13.67%	11.41%	6.36%	
ltg	4.45%	4.45%	4.45%	4.45%		4.45%	4.45%	4.45%	4.45%	
DOR Model										
Ke	21.60%	16.27%	18.05%	24.29%	20.0522%	12.47%	19.30%	17.41%	13.86%	15.7618%
D/P	8.1260%	7.7506%	7.6872%	8.0074%		8.1260%	7.7506%	7.6872%	8.0074%	
g	13.48%	8.52%	10.36%	16.28%	12.1594%	4.34%	11.55%	9.73%	5.86%	7.8690%
stg	15.88%	9.86%	12.22%	19.29%		4.30%	13.67%	11.41%	6.36%	
ltg	4.45%	4.45%	4.45%	4.45%		4.45%	4.45%	4.45%	4.45%	

FERC formula:
 $Ke = D/P (1 + 5 * g) + g$
 $g = ((2/3) * stg) + ((1/3) * ltg)$

FERC's model results in a DGM of 19.4% based on dividend growth and 15.6% based on earnings growth where our model produced a slightly higher 20.1% and 15.8%.

Multi-Stage Models

A multi-stage model does not make predictions about future yields being less than today unless this is specifically built into the model, and this is not assumed in our model. In our model the yield is projected to remain the same over the holding period. The only change over time is the growth rate of the dividend.

A single stage model is simply a multi-stage model that has had simplifying assumptions made (intended or otherwise) to convert the multi-stage model to a single stage model. A single stage model is only relevant if the growth assumption is consistent with the holding period. In the context of estimating a long-term cost of equity, a single stage model will overstate the cost of equity if the growth rate is higher than a long-term sustainable growth rate.

This is also discussed at length in the FERC docket that adopted the 2 stage FERC DCF model. For example, the docket provides the following discussion on page 11.¹

The Commission first required a two-step method for determining constant growth of dividends in natural gas pipeline cases in 1994, in Ozark Gas Transmission System, 68 FERC ¶ 61,032 (1994) (Ozark). In Ozark, the Commission held that the constant growth DCF model that the Commission uses requires consideration of long-term growth projections. The Commission explained:

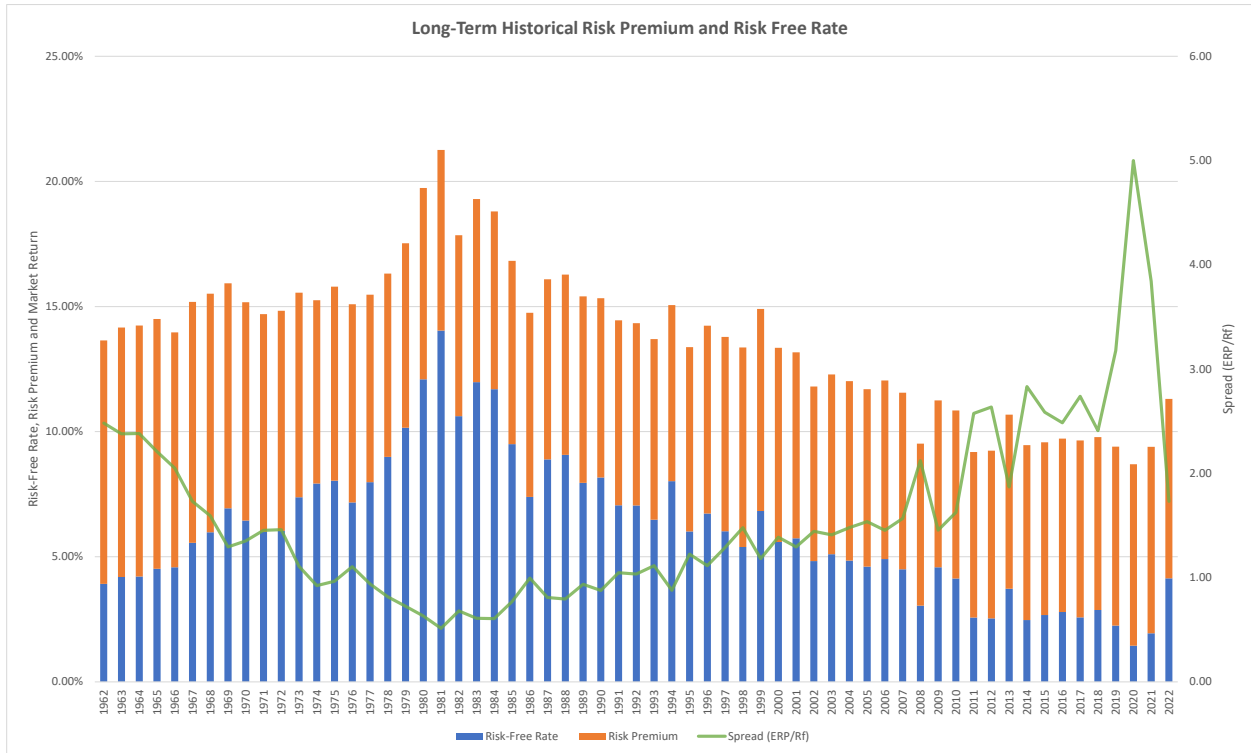
In the constant growth DCF model used by both parties in this proceeding, dividends are expected to grow indefinitely at the rate of (g). The indefinite future used by the DCF model is 50 years or more. . . . While we concede that it is more difficult to project growth for many years from the present time, we conclude that a projection limited to five years, with no evidence of what is anticipated beyond that point, is not consistent with the DCF model and cannot be relied on in a DCF analysis

Spread Between Debt and Equity Rates

We agree that the cost of equity should be higher than the cost of debt as an equity investor has greater risk than a debt holder. We also recognize that the spread between debt and equity has contracted this year compared to the prior year. However, the spread between debt and equity is not constant. One way to demonstrate this is to compare the equity risk premium vs the risk-free rate over time.

The chart below was developed from the long-term historical risk premium and risk-free rate data to show how the spread between the equity risk premium and the risk-free rate varies over time. The spread between the risk premium and risk-free rate is demonstrated by the green line and shows that the spread is not constant and primarily changes along with the risk-free rate.

¹ https://www.ferc.gov/sites/default/files/2020-04/E-7_2.pdf



The equity risk premium as well as the cost of equity compared to the cost of debt varies over time.

Cost of Debt

Additional cost of debt information from Bloomberg and Capital IQ was provided during the comment period and used for all industries. This change did result in a slight upward increase to the cost of debt for pipelines.

Comparison of Rates to Prior Year

There was some confusion in the comments in comparing the current year rates to the prior year. The tables below provide a comparison of current year final rates to the prior year, which demonstrate an increase to the cost of equity and the weighted average cost of capital for each pipeline industry over the prior year.

