

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

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

COMMENTS OF THE ASSOCIATION OF OIL PIPE LINES

On March 21, 2019, the Federal Energy Regulatory Commission (“FERC” or “Commission”), issued a Notice of Inquiry (“NOI”) in the above-referenced docket. *Inquiry Regarding the Commission’s Policy for Determining Return on Equity*, 166 FERC ¶ 61,207 (2019). The NOI seeks comment on the Commission’s policies for determining the return on equity (“ROE”) to be used in calculating rates for regulated entities, including “whether any changes to its policies concerning public utility ROEs should be applied to interstate natural gas and oil pipelines.” NOI at P 1. The Association of Oil Pipe Lines (“AOPL”) appreciates the opportunity to provide comments on this important topic as it relates to the Commission’s application of its ROE policies to oil pipelines.¹ AOPL’s comments are supported by the affidavit of Dr. Michael J. Webb, an economist and expert on FERC regulation of oil pipelines.

¹ AOPL is a nonprofit trade association that represents the interests of oil pipelines regulated by the Commission. AOPL members transport approximately 96 percent of the crude oil and refined petroleum products shipped through pipelines in the United States.

As discussed in the NOI, the Commission has traditionally used the discounted cash flow (“DCF”) model to determine the ROE for entities that it regulates. NOI at P 4. For oil and gas pipelines, the Commission has, for the past twenty years or more, used a two-step, constant growth DCF model that gives a two-thirds weighting to short-term investor growth expectations as published by the Institutional Brokers Estimate System (“IBES”) and a one-third weighting to long-term growth based on projections for the United States economy as a whole. *See* NOI at PP 7-10.

Although the Commission has used the DCF model to determine ROEs since the 1980s, the Commission recognizes that “investors use other financial models in addition to the DCF model to evaluate investments.” NOI at P 13. These other financial models, which include the Capital Asset Pricing Model (“CAPM”), Expected Earnings Model, and Risk Premium method, are described in the NOI (PP at 14-16) and discussed further by Dr. Webb in his affidavit appended to these comments. *See* Webb Aff. at PP 21-31.

In the electric utility context, the Commission recently proposed a new approach to determining ROE in which it gives equal weight to the four financial models described above (*i.e.*, DCF, CAPM, Expected Earnings and Risk Premium), instead of relying solely on the DCF. *See* NOI at P 24; *Martha Coakley v. Bangor Hydro-Elec. Co.*, 165 FERC ¶ 61,030 (2018) (“*Coakley* Briefing Order”); *Ass’n of Businesses Advocating Tariff Equity v. Midcontinent Indep. Sys. Operator, Inc.*, 165 FERC ¶ 61,118 (2018) (“*MISO* Briefing Order”).

The Commission explained that “evidence indicates that investors do not rely on any one model to the exclusion of others,” and that “relying on multiple financial models

makes it more likely that the Commission’s decision will accurately reflect how investors make their investment decisions.” NOI at P 24 (citing *Coakley* Briefing Order, 165 FERC ¶ 61,030, at P 34; MISO Briefing Order, 165 FERC ¶ 61,118, at P 36). The Commission established a paper hearing in the *Coakley* and MISO complaint proceedings to further consider the new proposed approach. See NOI at P 27. The Commission also issued the NOI to “provide all interested stakeholders with the opportunity to comment on the Commission’s ROE policy,” including advising the Commission whether its proposed new ROE policy should also apply in the natural gas pipeline and oil pipeline context. NOI at PP 28-29.

AOPL believes that the Commission’s proposed four-part ROE approach is also a reasonable method for calculating the ROE for an oil pipeline, subject to certain modifications primarily related to the Risk Premium approach, and for an oil pipeline cost-of-service rate case, the record developed therein. Below AOPL also proposes certain refinements to the Commission’s method for selecting proxy groups and calculating the DCF formula, and responds to questions posed in the NOI.

I. EXECUTIVE SUMMARY

- *The Commission’s proposed four-part ROE approach is a reasonable method for calculating the ROE for an oil pipeline, subject to (i) certain modifications to account for the specific context of oil pipeline regulation and (ii) the underlying requirement that the result be commensurate with the return on investments in other enterprises having corresponding risks and be sufficient to*

assure confidence in the financial integrity of the regulated pipeline so as to maintain its credit and to attract capital.

- *The Commission's findings that investors do not rely solely on the DCF model and that inclusion of other established models in the ROE calculation will make its ROE calculations more likely to reflect investor expectations, is based on logic that is equally applicable to oil pipelines as it is to electric utilities.*
- *Certain modifications are needed to the Risk Premium approach to apply it in the oil pipeline context, because of the lack of sufficient prior Commission ROE rulings for oil pipelines. Dr. Webb proposes two potential alternative Risk Premium approaches that could be used to provide a reasonable method for calculating the Risk Premium method in the oil pipeline context.*
- *With respect to the process for selecting proxy groups, AOPL submits that:*
 - *The outlier test proposed by the Commission in the electric context is not necessary or appropriate for oil pipelines, as the Commission's use of the median ROE of the proxy group results for oil pipelines mitigates the effect of outliers, in contrast to use of the midpoint in the Coakley Briefing Order.*
 - *While proxy group members should be involved in regulated oil pipeline operations as a significant portion of their business, the Commission should not exclude otherwise qualified companies simply because the percentage of regulated oil pipeline assets or revenues does not meet a strict 50 percent threshold.*

- *The Commission should also continue to apply its flexible approach to the formation of the oil pipeline proxy group and not impose rigid screens that automatically exclude companies from the proxy group as the Coakley Briefing Order suggested the Commission might do in the electric context.*
- *Two adjustments should be made to the DCF methodology. These adjustments would improve the Commission's ROE determinations and should be made regardless of whether the Commission adopts its proposed four-part approach.*
 - *The Commission should eliminate the 50 percent downward adjustment to the long-term growth rate for MLP proxy group members. Such an adjustment is arbitrary and inconsistent with the purpose of using GDP as the long-term growth rate. Moreover, actual experience demonstrates that the theory that MLPs grow more slowly than GDP over the long term is unsupported.*
 - *While the Commission should continue to primarily rely on IBES for short-term growth rates, it should also permit oil pipelines to rely on Value Line (and potentially other sources) that do not duplicate the IBES data.*

II. COMMUNICATIONS

AOPL requests that the following person be placed on the Commission's service list for this proceeding:

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III. THE COMMISSION'S ROE POLICIES SHOULD CONTINUE TO REFLECT THE OIL PIPELINE INDUSTRY'S UNIQUE MARKET AND REGULATORY LANDSCAPE.

In considering the appropriate ROE policies to apply to oil pipelines regulated by the Commission, it is important to take into account the specific market and regulatory contexts in which oil pipelines operate. Oil pipelines differ from traditional regulated utilities and are governed by a unique regulatory regime that recognizes the significant competition that oil pipelines face. As such, it is important that any ROE methodology applied to oil pipelines produces results that are sufficient to compensate investors for the additional risks they bear and allow oil pipelines to attract capital and maintain their credit and access to financing.

Oil pipelines differ from traditional regulated utilities in several ways. Crucially, oil pipelines have no certificated, captive markets or franchise service areas, and face significant risks from competition and changing market dynamics. As the Commission has recognized, oil pipelines face competition from other pipelines as well as other modes

of transportation such as rail, trucks, barges and tankers. *See, e.g., Enterprise Products Partners L.P.*, 146 FERC ¶ 61,115, at P 45 (2014). Oil pipeline shippers are also generally sophisticated customers that have significant bargaining leverage and various transportation alternatives.

In recognition of the specific commercial environment in which they operate, oil pipelines are not subject to a traditional public utility regulatory model, but rather, are regulated as common carriers under the Interstate Commerce Act. 49 U.S.C. app. §1, *et seq.* (1988) (“ICA”). Moreover, most oil pipeline rates are set by rate indexing, with exceptions permitted only where cost-of-service rates, market-based rates, or settlement rates are demonstrated to be appropriate. *Revisions to Oil Pipeline Regulations Pursuant to the Energy Policy Act of 1992*, 58 Fed. Reg. 30,985 (Oct. 22, 1993), FERC Stats. & Regs., Regs. Preambles, 1999-1996, ¶ 30,985, at 30,940, 30,946-51 (“Order No. 561”). As the D.C. Circuit has explained, while cost-of-service rates are permitted as a safety valve when indexed rates prove inadequate, cost-of-service rates are intended to be “the exception, rather than the rule.” *Ass’n of Oil Pipe Lines v. FERC*, 83 F.3d 1424, 1442 (D.C. Cir. 1996).

Given that cost-of-service rates are the exception in oil pipeline ratemaking, there are fewer ROE-related Commission decisions in the oil pipeline context than in the electric utility context. Nevertheless, the Commission’s approach to ROE issues has become fairly well-defined, as a result of developments in oil pipeline cases and the Commission’s 2008 policy statement on the issue. *See Composition of Proxy Groups for*

Determining Gas and Oil Pipeline Return on Equity, 123 FERC ¶ 61,048 (2008) (“Policy Statement”).

For the past two decades, the Commission has set ROEs for oil pipelines based on an oil pipeline proxy group, which has historically been composed entirely of oil pipeline master limited partnerships (“MLPs”). *See* Policy Statement, at PP 2, 49-51, 57-63; *SFPP, L.P.*, 86 FERC ¶ 61,022, at 61,099 (1999). In doing so, the Commission has recognized that regulated oil pipelines must receive an ROE that is commensurate with the return that investors expect from companies of comparable risk and that is sufficient to maintain the pipeline’s credit and attract capital.

As discussed below, AOPL believes that many of the Commission’s proposed changes to the methods for calculating ROEs in the electric utility context are also reasonable for oil pipelines. However, any changes to the Commission’s ROE policies for oil pipelines should continue to reflect the significant risks that oil pipelines face.

IV. THE COMMISSION’S NEW FOUR-PART ROE METHOD IS A REASONABLE APPROACH IN THE OIL PIPELINE CONTEXT SUBJECT TO CERTAIN MODIFICATIONS.

The Commission’s reasons for applying the four-part ROE methodology to electric utilities – that investors do not rely solely on the DCF model and use of other models is likely to produce a more accurate result that better reflects investor expectations – also applies to oil pipelines. Thus, provided that the unique risks of the oil pipeline industry are recognized and other modifications are made as discussed below to

account for the specific oil pipeline context, the Commission's four-part approach is a reasonable approach for oil pipelines.

A. The Commission's Proposed Four-Part ROE Approach

The Commission proposed its new four-part ROE approach in order to bring its ROE methodology "into closer alignment with how investors inform their investment decisions." *Coakley* Briefing Order, at P 15. The Commission began its analysis with the Supreme Court's instruction that "'the return to the equity owner should be commensurate with the return on investments in other enterprises having corresponding risks [and] be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital.'" *Coakley* Briefing Order at P 33 (citing *Fed. Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591, 605 (1944)); *see also* *Bluefield Waterworks & Improvement Co. v. Pub. Serv. Comm'n*, 262 U.S. 679, 692-693 (1923). The Commission explained that a "key consideration" in setting an appropriate ROE is therefore "determining what ROE a [regulated entity] must offer in order to attract capital [and] induce investors to invest in the [regulated entity] in light of its risk profile." *Coakley* Briefing Order at P 33. In other words, in setting an ROE, the Commission "must look to how investors analyze and compare their investment opportunities." *Id.*

The Commission also observed that "[i]nvestors have varying preferences as to which of [the four methods] or other methods they may use to inform their investment decisions," and there "is no monopoly as to which method is used by investors." *Id.* at P 35 (citing Roger A. Morin, *New Regulatory Finance* 428 (Public Utilities Reports, Inc.

2006) (“Morin”)). Moreover, “none of [the four] methods ‘conclusively determines or estimates the expected return for an individual firm. Each methodology possesses its own way of examining investor behavior, its own premises, and its own set of simplifications of reality.’” *Id.* at P 34 (citing Morin at 429).

Consistent with these findings, the Commission determined that “investors do not rely on the DCF alone.” *Coakley* Briefing Order at P 40. The Commission also expressed concern “with the low number of current IBES [short term] growth projections available for use in a two-step DCF analysis.” *Id.* at P 47. The Commission indicated that the “reduced number of current IBES growth projections raises the question of whether the IBES growth rates reflect a consensus among investors,” and also expressed concern that changes in a single analyst’s projections could have a major effect on the results. *Id.* at P 48. Nevertheless, the Commission determined that “because at least some investors continue to use the DCF model, we find it reasonable to give that model some weight, along with other models used by investors, in the overall approach to determining ROE.” *Coakley* Briefing Order at P 48.

The Commission therefore concluded that it should give equal weight to all four financial models (*i.e.*, DCF, CAPM, Expected Earnings, and Risk Premium), instead of relying exclusively on the DCF. *Coakley* Briefing Order at P 36. The Commission explained that there “is significant evidence indicating that combining estimates from different models is more accurate than relying on a single model,” and that “providing four different approaches to estimating the cost of equity and determining ROEs [and] using these models together reduces the risk associated with relying on only one model;

that is, the risk of misidentifying the just and reasonable ROE by relying on a flawed cost of equity estimate.” *Id.* at P 38. Moreover, “relying on multiple financial models makes it more likely that our decision will accurately reflect how investors are making their investment decisions.” *Id.* at P 44. In sum, the Commission concluded that “cost of equity estimates based on all four of the methods described above are a reasonable measure of investor expectations, since they are among the information that investors rely upon when making investment decisions.” *Coakley* Briefing Order at P 36.

In AOPL’s view, the reasons underlying the Commission’s adoption of its new four-part approach are also valid in the oil pipeline context. The Commission’s observations regarding the financial models used by investors apply to all investors, not just investors in electric utilities. Moreover, the Commission’s reasoning that combining estimates from four models is more accurate than relying on a single model applies equally in the oil pipeline context, as does the Commission’s concern with relying solely on the DCF, given that it is not the sole model used by investors. However, any return must ultimately be commensurate with investments of similar risk and must be sufficient to ensure the financial integrity of the regulated pipeline and its ability to maintain its credit and attract capital. Thus, subject to certain modifications discussed below, and subject to the record that may be developed in a specific oil pipeline cost-of-service rate case, AOPL submits that the Commission’s proposed four-part approach is also a reasonable method for calculating the ROE for an oil pipeline.

B. Certain Modifications to the Commission’s Proposed Four-Part Approach and Existing ROE Policies are Necessary.

Certain modifications are necessary to the Commission’s four-part approach when applied to oil pipelines. The main adjustment necessary is to the Risk Premium method. AOPL also proposes certain adjustments to the Commission’s proposed method for selecting proxy groups as well as certain changes to the DCF methodology.

1. Risk Premium Method

The Commission’s proposed four-part methodology included a Risk Premium calculation as one of the four financial models used. In general, a Risk Premium approach attempts to calculate the additional return that investors expect to earn above a bond investment. *See* NOI at P 16. The Commission has explained that the “link between interest rates and risk premiums provides a helpful indicator of how the interest rate environment affects investors’ required rates of return.” *Id.*

The specific Risk Premium approach used by the Commission in its recent electric utility decisions involved a comparison of long-term bond yields to ROEs approved by the Commission in prior approved settlements in the electric utility context. *See* Webb Aff. at P 41; NOI at P 32 (Question B.2). As the Commission correctly observed in the NOI, “there is no history” of similar ROE settlements in the oil pipeline context. NOI at P 32 (Question B.2). Thus, as Dr. Webb discusses, it is not possible to apply a Risk Premium analysis in the oil pipeline context in precisely the same way that the Commission proposes to apply it to electric utilities. Webb Aff. at 42.

As Dr. Webb explains, there are two potential approaches that could be used to calculate the Risk Premium method that reflect the specific regulatory context for oil pipelines. The first method is to perform a regression analysis that compares the change in market price for proxy company shares over a given period against bond yields during the same period (*e.g.*, using long-term treasury yields). The second is to perform a regression analysis that compares the ROE developed from information reported in the SEC Form 10-K of the oil pipeline proxy companies against the bond yield. Like the approach used by the Commission in the electric context, both methods that Dr. Webb discusses rely on a comparison of historical trends; however, the first alternative method uses a market-based approach, while the second approach is accounting-based. In Dr. Webb's view the first approach is superior, because it uses market data, but the second method is another way to calculate the Risk Premium method that can also be implemented based on the record developed in a specific rate proceeding. *See Webb Aff.* at PP 44-47.

Of course, parties to a specific oil pipeline rate case may also propose refinements to these methods or propose other alternatives. The key, in AOPL's view, is to allow for use of the four-part methodology with a Risk Premium approach adapted for the specific regulatory context applicable to oil pipelines. An appropriate Risk Premium calculation should enhance the Commission's approach to calculating oil pipeline ROEs by incorporating the additional perspective that this financial model provides regarding the relationship between interest rates and risk premiums.

2. Proxy Group Selection

Under the Commission's four-part methodology, the DCF, CAPM, and Expected Earnings methods each rely on a proxy group. Both of the two alternative Risk Premium approaches proposed by Dr. Webb would also require use of a proxy group. Proxy Group selection is therefore an important consideration under both the traditional DCF methodology and the Commission's four-part approach.

In the electric context, the Commission has applied certain "screens" in developing the proxy group, and the Commission has proposed to continue to apply those screens as part of its four-part approach for electric utilities. *See Coakley* Briefing Order at P 49. For example, in forming an electric utility proxy group, the Commission proposes to begin with those companies "considered electric utilities by Value Line," and then exclude companies that (1) lack a credit rating that is no more than one notch above or below the electric utility at issue, (2) have not paid dividends or have had a dividend cut within the past six months, (3) have had "merger activity during the six-month study period that is significant enough to distort the study inputs," and (4) have ROEs that do not "pass threshold tests of economic logic," or are considered "outliers." *Coakley* Briefing Order at P 49.

The Commission has previously used some of the same standards in the oil pipeline context, although it has traditionally applied them as guidelines rather than absolute conditions. *See, e.g.,* Policy Statement at PP 1, 8-9. AOPL urges the Commission to retain its flexible approach in forming oil pipeline proxy groups. As Dr. Webb explains, imposing unduly rigid screens can exclude valuable information about

investor expectations regarding the appropriate ROE for oil pipelines. *See* Webb Aff. at PP 69-72. Indeed, flexibility is especially warranted in the oil pipeline context given the relatively few potential oil pipeline proxy group members and the historic challenges in forming an oil pipeline proxy group. *See, e.g.,* Policy Statement at PP 1, 8-9, 79. The key is that proxy group members must have risks that are similar to those of the oil pipeline for which rates are being set. *See Petal Gas Storage, L.L.C. v. FERC*, 496 F.3d 695, 697 (D.C. Cir. 2007). That analysis is best conducted using the Commission’s current standards for oil pipelines, rather than overlaying additional screens that may serve to exclude valuable information and make the proxy group less – rather than more – “risk appropriate” for oil pipelines. *Id.*

As discussed below, AOPL therefore urges the Commission (1) not to adopt in the oil pipeline context the outlier screens that it has proposed for electric utilities, (2) to continue to require that oil pipeline operations constitute a significant proportion of the business of any firm included in the oil pipeline proxy group, but not impose a mandatory 50 percent threshold, and (3) to continue to apply its other guidelines for forming oil pipeline proxy groups in a reasonable way and not impose rigid screens that automatically exclude companies from the proxy group based on certain criteria.

a. The Commission’s proposed outlier screens are not necessary or appropriate in the oil pipeline context.

The Commission has proposed to adopt a low-end and high-end outlier test for selecting the members of the electric utility proxy group. *Coakley* Briefing Order at PP 50-54. “Under the low-end outlier test, the Commission proposes to exclude from the

proxy group companies whose ROE fails to exceed the average 10-year bond yield by approximately 100 basis points, taking into account any natural break between the cost of equity estimates of the companies excluded from the proxy group and the lowest cost of equity estimate of the companies included in the proxy group.” *Id.* at P 51. Under the high-end outlier test, the Commission proposes to exclude “any proxy company whose cost of equity estimated under the model in question is more than 150 percent of the median result of all of the potential proxy group members in that model before any high or low-end outlier test is applied, subject to a ‘natural break’ analysis similar to the approach the Commission uses for low-end DCF analysis results.” *Id.* at P 53.

Whatever the merits of that approach in the electric context, it is neither necessary nor appropriate for oil pipelines. As Dr. Webb discusses, the Commission has traditionally used the “median” ROE for oil pipelines which inherently reduces the effect of outliers, rather than using the “midpoint” (*i.e.*, the average of the highest and lowest proxy group ROE) as the Commission does when setting ROEs for groups of electric utilities. *See Webb Aff.* at PP 62-64. Moreover, there are considerably fewer potential oil pipeline proxy group members than there are potential proxy group members in the electric utility context. Removing so-called outliers in the oil pipeline context could easily result in there not being sufficient publicly-traded companies to form a proxy group, an issue the Commission has had to wrestle with in the past. As Dr. Webb also discusses, removing “outliers” reduces the accuracy of the ROE results by arbitrarily excluding valuable information regarding investor expectations. *See Webb Aff.* at P 64. Finally, the Commission’s specific method for applying its outlier approach results in a

downward bias, because it leaves the “low end” outliers in the proxy group for purposes of determining the median that is then used to exclude “high end” outliers. *See Webb Aff.* at PP 66-68.

b. Oil pipeline proxy group members should have significant involvement in the oil pipeline business, but a strict 50 percent threshold should not be used.

In its 2008 review of ROE issues, the Commission determined that oil pipeline proxy group members should be “predominantly” involved in the oil pipeline business. Policy Statement at P 79. The Commission also agreed that it was useful to determine whether a potential proxy group member “derives 50 percent of its operating income from, or has 50 percent of its assets devoted to,” interstate oil pipeline operations, because such companies are the “most likely to have risk comparable to the pipeline seeking to justify its rates.” *Id.* The Commission, however, found that while a 50 percent threshold was a useful “guideline,” there may be firms that do not meet that threshold “but are still appropriate for inclusion in the proxy group.” *Id.* The Commission therefore concluded that it would not impose a 50 percent threshold as “a condition of including a particular [firm] in the proxy group.” *Id.*

AOPL urges the Commission to continue to follow that reasonable approach. Proxy group members must be of comparable risk to the pipeline whose rates are being set. *See Petal v. FERC*, 496 F.3d at 697. Oil pipeline proxy group members therefore should have significant involvement in oil pipeline operations. Nevertheless, the Commission should not exclude otherwise qualified companies simply because the percentage of regulated oil pipeline assets or revenues does not meet a strict 50 percent

threshold. The Commission's existing policy of eschewing bright-line percentage thresholds is reasonable and should be maintained.

- c. The Commission should continue to apply its traditional guidelines for forming oil pipeline proxy groups rather than imposing rigid "screens" as suggested in the Coakley Briefing Order.*

The Commission should also continue to apply reasonable guidelines that make sense for oil pipelines and not simply exclude potential proxy group members by imposing the rigid screens proposed in the *Coakley* Briefing Order.

For example, while the Commission has historically required oil pipeline proxy group members to be "tracked by an investment information service such as Value Line," it has not made coverage by Value Line an absolute "condition" of inclusion in the proxy group. Policy Statement at 8, 79. That policy is reasonable and there is no reason to change it. As Dr. Webb discusses, most publicly-traded oil pipelines will be covered by Value Line, but there may be exceptions. *See Webb Aff.* at P 71. Thus, while coverage by Value Line is a useful guideline, it should not be rigidly applied to exclude otherwise qualified oil pipeline proxy group members.

In the electric context, the Commission has required the proxy group members to have credit ratings that fall within a prescribed range of that of the utility whose rates are at issue. *See Coakley* Briefing Order at P 49. AOPL is not aware of the Commission ever having imposed such a requirement on oil pipelines. *See Policy Statement* at PP 8, 79. Indeed, in the pipeline context, the Commission has rejected an "absolutist position" with respect to credit ratings or requiring proxy group members to have an investment-

grade credit rating. *See El Paso Natural Gas Company*, 145 FERC ¶ 61,040, at P 623 (2013); *see also Portland Natural Gas Transmission System*, 142 FERC ¶ 61,197, at PP 304-307 (2013). AOPL urges the Commission to continue its flexible approach in the oil pipeline context and not impose any rigid threshold with respect to credit ratings.

In the *Coakley* Briefing Order, the Commission proposes to exclude from the proxy group companies that have had a dividend cut within the past six months. *Coakley* Briefing Order at P 49. But as Dr. Webb discusses, there may be various reasons why a company decides to cut its dividend. *See Webb Aff.* at P 72. While it may be appropriate to exclude companies from the proxy group due to bankruptcy or other significant financial difficulties (*see, e.g.*, Policy Statement at P 18; *High Island Offshore System, L.L.C.*, 110 FERC ¶ 61,043, at P 118 (2005)), there is no valid basis to automatically exclude a company from the proxy group because of a dividend cut.

There is similarly no valid ground to exclude companies from the proxy group solely because of recent merger activity. As Dr. Webb discusses, mergers are a normal aspect of business, and companies should not be excluded from the proxy group simply for “breaching some arbitrary merger threshold (*e.g.*, being involved in a merger in excess of \$1 billion).” *Webb Aff.* at P 69. While it is appropriate to exclude a company that has been acquired and will no longer be publicly traded, *see HIOS*, 110 FERC ¶ 61,043, at P 118, a merger alone should not be a reason to exclude a company from the proxy group and thereby eliminate valuable information regarding investor expectations.

Finally, AOPL urges the Commission not to exclude oil pipelines from the proxy group based on arbitrary thresholds related to short-term growth rates. The Commission

has previously indicated that it will exclude a company from the proxy group “if its growth projection is illogical or anomalous.” Policy Statement at 79. The determination of what is illogical or anomalous should be left to the specific circumstances of individual pipeline cases. There is no reason for the Commission to establish a general policy of excluding companies from the proxy group based on bright-line thresholds related to growth rate projections.²

3. Adjustments to DCF Methodology

As noted above, the Commission’s DCF model gives a two-thirds weighting to short-term investor growth expectations and a one-third weighting to long-term growth projections. *See* NOI at PP 7-10. The long-term growth projections are based on expected growth in the U.S. economy as a whole. However, if an MLP is included in the proxy group, its long-term growth rate is reduced by one half. NOI at 10 n.20 (citing Policy Statement at P 58). AOPL proposes two changes related to these issues.

a . The Commission should discontinue the arbitrary 50 percent reduction in long-term growth rates for MLP proxy group members.

As noted, if an MLP is included in the proxy group, the long-term GDP growth rate is reduced by one half. The Commission’s rationale for this reduction is that “MLPs

² Although not proposed as a screen in the *Coakley* Briefing Order, the Commission has previously indicated that oil pipeline proxy group members should generally have been in operation for at least five years, while recognizing that this guideline may not be appropriate for all proxy group members. Policy Statement at P 79. Again, AOPL urges the Commission to continue its flexible approach and not exclude otherwise qualified oil pipeline proxy group members solely on this basis.

have less growth potential than corporations, because they generally distribute to partners an amount in excess of their reported earnings.” NOI at 10 n.20 (citing Policy Statement at P 58). AOPL respectfully submits that the Commission should no longer apply a downward adjustment to MLP growth rates. Such an adjustment is arbitrary and inconsistent with the purpose of using GDP as the long-term growth rate. Moreover, as Dr. Webb discusses, actual experience over the decade since the Commission issued its Policy Statement demonstrates that the theory that MLPs grow more slowly than GDP over the long term is unsupported. *See Webb Aff.* at PP 83-88.

The purpose of using GDP as one-third of the overall growth element in the DCF formula is not to provide company-specific or even industry-specific long-term growth forecasts. Instead, the Commission uses GDP as a counter-weight to the company-specific, short-term growth forecasts, tying the overall growth forecast to the economy as a whole and smoothing out any anomalies that might exist in the short-term forecasts due to the business cycle. Use of GDP as the long-term forecast is also based on the realistic view that it is not possible to make long-term growth predictions with anything close to precision.

On occasion, the Commission has explained its use of GDP on the ground that in the long run a company’s “growth rate will approach that of the economy as a whole.” *Transcontinental Gas Pipe Line Corp.*, 80 FERC ¶ 61,157, at 61,668 (1997); *Ozark Gas Transmission System*, 68 FERC ¶ 61,032, at 61,105 (1994) (noting that “company growth tends toward that of the general economy over the long run”). As Dr. Webb explains, however, there is no real empirical support for that theory. *Webb Aff.* at P 87. In fact,

many companies that have been in existence for long periods of time still have IBES growth forecasts that exceed GDP growth. *Id.* (explaining that ExxonMobil, which has been in business since 1870 (originally as Standard Oil of New Jersey), has a current IBES growth forecast of 13.31 percent, and Proctor and Gamble, which was established in 1837, has an IBES growth forecast of 6.22 percent). Indeed, it only makes sense that some companies will exceed GDP growth and others will not. Thus, as a predictor of individual company growth, the theory that all companies will ultimately trend toward GDP growth has no merit. However, since it is not possible to predict with any accuracy which companies will exceed GDP growth and which will not, the use of GDP for all companies as one element in the overall growth forecast is reasonable as a policy matter.

Given the purpose for which GDP is used in the DCF formula, as a generic proxy for long-term growth, there is no merit in using GDP for corporations and only half of GDP for MLPs. There is no factual support for the view that MLPs will necessarily grow more slowly than corporations – let alone at half the rate of corporations. As Dr. Webb explains, MLPs have every incentive to grow and have numerous tools available to them to do so. *See Webb Aff.* at P 86. Ultimately, the extent to which an MLP or corporation can grow depends on the quality of the projects that it undertakes. If the company picks good quality, high growth projects, it will continue to grow whether it funds investments through retained earnings or by accessing the capital markets. If the company picks low-growth projects, the value of the firm will diminish, regardless of how the investments are funded and regardless of whether it is structured as an MLP or a corporation.

It is unrealistic to assume that MLP management will permit growth to fall significantly below GDP without taking steps to increase it. As Dr. Webb explains, MLP managers have various tools at their disposal for ensuring that limited partner distribution growth remains high. *See Webb Aff. at PP 85-86.* Among other things, they can lower the share of distributions made to the general partner, and many MLPs have done so. *Id.* Thus, it is reasonable to assume that an MLP would cut the growth of general partner distributions before it would let the growth of limited partner distributions fall significantly below GDP, since the latter approach would effectively shut off the MLP's access to equity capital.

MLP managers can also issue additional units to investors in lieu of cash, which helps to free up additional cash for investment. Additionally, MLP managers can engage in numerous other activities to ensure growth, including cutting costs, finding better projects to invest in, and borrowing money. *See Webb Aff. at P 86.*

Moreover, as Dr. Webb explains, MLP practices have changed in the decade since the Commission issued its Policy Statement, and MLPs now generally retain more cash than they previously did. *See Webb Aff. at P 84.* The Commission's assumption that MLP growth rates would be lower than GDP because they distribute more cash than expected earnings therefore lacks a factual basis.

Ultimately, cutting the MLP long-term growth forecast to half of GDP is simply arbitrary and without any empirical or theoretical support. The Commission's traditional use of GDP as the long-term growth forecast wisely recognizes the futility in attempting to make long-term growth predictions with respect to individual companies or groups of

companies. There is nothing about MLPs that makes it any more sensible to try to make long-term growth projections specifically for those entities.

b. IBES is a reasonable source for short-term growth projections, but Value Line provides additional data that should also be considered.

The Commission has traditionally relied on IBES for the short-term growth projection in the DCF methodology. *See* Policy Statement at PP 2, 73. In its 2008 review of ROE issues, the Commission determined that “despite some statistical limitations,” IBES “remains the best and most reliable source of [short-term] growth information available.” *Id.* at P 75; *see also id.* at P 76. Although certain commenters in that docket urged the Commission to rely on other sources of short-term growth projections, the Commission stated that it would “not require that IBES growth rates be averaged with the corresponding company’s growth rates as reported for Zacks Investment at this time, or that Value Line reports be used to test the reasonableness of projected growth rates” *Id.* at P 84.

In AOPL’s view, the Commission should continue to rely primarily on IBES for the short-term growth rate. While no growth forecast is perfect, IBES provides the best and most comprehensive available information about what investors expect. The IBES forecasts are also unbiased and publicly available. Nevertheless, as the Commission has noted, IBES projections are sometimes based on relatively few analyst projections. *Coakley* Briefing Order at PP 47-48. Thus, as Dr. Webb discusses, the Commission should permit pipelines to use other sources of short-term growth information where they can be shown not to duplicate the IBES data. *See Webb Aff.* at P

80. For example, as Dr. Webb explains, Value Line is a subscription service, and its growth forecast is not included in IBES. Dr. Webb suggests that it would be reasonable to average Value Line with the IBES forecast, giving the Value Line forecast the same weight as one of the IBES analysts. For example, if the IBES forecast was based on the projections of three analysts, the Value Line projection would be given $\frac{1}{4}$ weight and the IBES forecast would be given $\frac{3}{4}$ weight. *See Webb Aff. at P 81.*

V. RESPONSES TO SPECIFIC NOI QUESTIONS

A. Role and Objectives of the Commission's Base ROE Policy³

Question A1: To what extent would the ROE methodology described in the *Coakley* and MISO Briefing Orders impact the predictability of ROE determinations and the costs for market participants of making or intervening in such proceedings?

AOPL Response: To the extent the Commission were to adopt the four-part approach, that would enhance the predictability of the Commission's ROE determinations. Indeed, as Dr. Webb discusses, the four-part approach is likely to produce more stable returns over time than the DCF methodology, which can be somewhat volatile for oil pipelines. *See Webb Aff. at PP 19, 24, 27, 90.* AOPL does not believe there would be any material difference in cost for market participants if the

³ AOPL does not address Questions A.3 and A.4 in its initial comments.

Commission were to adopt the new four-part approach instead of relying solely on the DCF methodology.

Question A2: How would using the ROE methodology described in the *Coakley* and MISO Briefing Orders affect an investor's ability to forecast the ROE the Commission would establish in a litigated proceeding and the ability of participants to propose, contest, and settle base ROEs as compared to using only the DCF methodology?

AOPL Response: To the extent the Commission were to adopt the proposed four-part method, the ability of investors to forecast ROEs and participants to propose, contest and settle ROEs should be better than under the current approach where the Commission relies solely on the DCF methodology. Although the use of three additional methods may create some additional complexity, the likelihood that the four-part method will produce more stable returns over time and provide a more accurate representation of investor expectations should enhance the ability to forecast and use that approach. The enhanced predictability and stability should help facilitate settlement of rate disputes and thus save resources of all parties over time.

B. ROEs for Different Commission-Regulated Industries

Question B1: In Opinion No. 531, the Commission found that the same DCF methodology should be used to determine an ROE for all its regulated industries, including public utilities, as well as gas and oil pipelines. If the Commission departs

from our sole use of a two-step DCF methodology for public utilities, should the new method or methods also be used to determine natural gas and oil pipeline ROEs?

AOPL Response: Yes, for oil pipelines. As discussed above, the reasons that the Commission developed its new approach are also applicable in the oil pipeline context. The Commission's proposed four-part ROE approach is a reasonable method for calculating the ROE for an oil pipeline, subject to certain modifications to account for the specific context of oil pipeline regulation (including adjustments to the Risk Premium method discussed above and in response to Question B2), and the underlying requirement that the result be commensurate with the return on investments in other enterprises having corresponding risks and be sufficient to assure confidence in the financial integrity of the regulated pipeline so as to maintain its credit and to attract capital.

Question B2: The Risk Premium methodology approved in Opinion Nos. 531 and 551 relied to a large extent on ROEs set forth in numerous settlements involving public utility formula rates approved by the Commission over the preceding 15 or 20 years. Natural gas and oil pipelines have stated rates and settlements of their rate cases are typically "black box" settlements that do not specify an agreed-upon ROE. How could the Risk Premium methodology be implemented in natural gas or oil pipeline rate cases where there is no history of ROE settlements from which to develop a risk premium study of the type used in Opinion Nos. 531 and 551?

AOPL Response: As the Commission correctly observes, the lack of sufficient prior Commission decisions regarding oil pipeline ROEs and prior settlements with an

identifiable ROE, makes it impossible to calculate the Risk Premium method for oil pipelines in precisely the same way it was done in the *Coakley* Briefing Order and the MISO Briefing Order. Dr. Webb has proposed two potential methods that AOPL submits could be adopted for oil pipelines. *See Webb Aff.* at PP 44-47. Participants in individual oil pipeline cases may also propose other methods. The key, in AOPL's view, is to apply the Commission's proposed four-part methodology for oil pipelines with a Risk Premium approach adapted for the specific regulatory context applicable to oil pipelines in order to enhance the Commission's approach with the additional perspective that this financial model provides regarding the relationship between interest rates and risk premiums.

Question B3: Given the tendency of the Expected Earnings methodology to produce more high-end outliers than the other methodologies, would there be a sufficient number of natural gas and oil pipeline proxy members to implement the Expected Earnings methodology for gas and oil pipelines?

AOPL Response: As Dr. Webb explains, if an appropriate approach to outliers is used, there should be sufficient oil pipeline proxy group members to implement the Expected Earnings methodology for oil pipelines. *See Webb Aff.* at P 54. There is no reason why the standards for oil pipeline proxy groups should vary under any of the four methodologies, including the Expected Earnings methodology. More generally, as Dr. Webb discusses, the potential for the Expected Earnings methodology to produce different results from other methodologies is a reason to include it in the four-part methodology, not to exclude it. As Dr. Webb explains, the Expected Earnings approach

is an accounting-based approach that provides “additional useful information regarding investor expectations that is not provided by the other models,” which in combination with the other three methodologies produces “a more accurate estimate of the cost of capital.” Webb Aff. at PP 54-55.

Question B4: What, if any, differences between public utilities on the one hand and natural gas and oil pipelines on the other would justify using different methodologies to determine their ROEs?

AOPL Response: Apart from the different risks faced by the oil pipeline industry, which should be reflected in the proxy group, the primary differences that require a modification of the Commission’s four-part approach are (1) the need for modifications to the Risk Premium method as discussed above and in response to Question B.2., and (2) the need to amend the Commission’s proposed approach to proxy group outliers as discussed above.

C. Performance of the DCF Model

AOPL does not address this topic in its initial comments.

D. Proxy Groups⁴

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

AOPL Response: The oil pipeline proxy group should consist of companies with a substantial amount of regulated oil pipeline business. As discussed above, given the significant risks of the oil pipeline industry, it would not be appropriate to assume that all “regulated businesses” are of equal risk or to include in the oil pipeline proxy group companies that are primarily involved in less risky lines of business. On the other hand, it is not appropriate to rely on a rigid percentage test and the Commission has appropriately recognized the need for flexibility on that issue.

Question D1.a: For companies with a combination of regulated and unregulated businesses, should a company be required to derive a certain percentage of its revenues from the applicable regulated business in order for that company to be included in the proxy group that is used to determine an ROE for a company in that regulated business?

AOPL Response: As discussed above, the Commission should avoid the rigid application of screens based on strict percentages of revenue or assets from the applicable regulated business. While it is important to ensure that the oil pipeline proxy group includes companies that are substantially involved in oil pipeline operations, the

⁴ AOPL’s initial comments do not address Questions D.3.a., D.3.b., D.5, D6, D7, and D10.

Commission has correctly recognized the need for flexibility on this point and the Commission should maintain that reasonable policy.

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

AOPL Response: To date, the Commission has been able to form proxy groups with a sufficient number of members, but this has required that it not adopt an overly-rigid approach to screening the potential proxy group members. The Commission should continue to reject an overly-rigid approach to applying proxy group screens to oil pipelines and should instead permit pragmatic and reasonable adjustments in order to form an appropriate proxy group based on the facts and circumstances of each case.

Question D2: Should risk be considered both in the proxy group selection and in the placement within the zone of reasonableness?

AOPL Response: In general, risk should be considered both in the proxy group selection and in determining whether to adjust the allowed ROE above or below the median of the proxy group. As noted, proxy group members must have risks that are similar to those of the regulated entity for which rates are being set. *See Petal Gas Storage, L.L.C. v. FERC*, 496 F.3d 695, 697 (D.C. Cir. 2007). Once the proxy group is selected, the Commission has traditionally used the median ROE of the proxy group to set the ROE for the specific oil pipeline whose rates are at issue absent “unusual circumstances and a showing of anomalously high or low risk.” *See BP Pipelines*

(*Alaska*) Inc., 123 FERC ¶ 61,287, at P 195 (2008); *see also SFPP, L.P.*, 113 FERC ¶ 61,277, at P 78 (2005); Policy Statement at P 7. Nevertheless, where such a showing can be made, an adjustment to the median ROE would be appropriate. *See, e.g., Colonial Pipeline Co.*, 116 FERC ¶ 61,078, at PP 59-60 (2006) (indicating the Commission would consider granting an ROE “toward the upper end” of the range of reasonable returns for a proposed expansion of the pipeline’s mainline, given the scope of the project and the “enormous investment” involved); *Enbridge Pipelines (Southern Lights) LLC*, 121 FERC ¶ 61,310, at P 18 (2007) (similar holding).

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

AOPL Response: AOPL is not aware of any reason why the standards for proxy group selection should be different for different financial models.

Question D3: Should the Commission consider non-energy companies when selecting proxy groups?

AOPL Response: As discussed above, the Commission’s current precedent requires that oil pipeline proxy groups consist of companies with a substantial amount of regulated oil pipeline business, but without applying a rigid 50 percent threshold. AOPL believes this current precedent is appropriate.

Question D4: What, if any, are appropriate high- and low-end outlier tests?

AOPL Response: As discussed above and in Dr. Webb's affidavit, the Commission's use of the median ROE of the oil pipeline proxy group obviates the need for high-and low-end outlier tests. *See Webb Aff. at PP 62-65.*

Question D4.a: The Commission currently excludes from the proxy group companies whose ROE fails to exceed the average 10-year bond yield by approximately 100 basis points. Should the low-end outlier test continue to be based on a fixed value relative to the costs of debt or (a) should it be based on its value relative to the median (i.e., less than 50 percent of the median); or (b) still reflect the cost of debt but vary based on interest rates?

AOPL Response: As discussed above in response to Question D.4, there is no need for either a high- or low-end outlier test in the oil pipeline context given the Commission's use of the median ROE of the oil pipeline proxy group.

Question D4.b: How, if at all, should the Commission's approach to outliers vary among different financial models?

AOPL Response: As discussed above in response to Question D.2.a, AOPL is not aware of any reason why the standards for oil pipeline proxy group selection should be different for different financial models.

Question D8: The Commission excludes from the proxy group companies with merger activity during the six-month study period that is significant enough to distort study inputs. Should the Commission continue using our existing merger screen?

AOPL Response: For the reasons discussed above, the Commission should not automatically exclude companies from the proxy group simply because of merger activity during the six-month study period.

Question D8.a: If so, should the Commission revise its standards for what conduct constitutes merger and acquisition activity?

AOPL Response: AOPL submits that this issue is best left for application in individual pipeline cases, and that the Commission should avoid excluding pipelines from the proxy group based on bright line screens.

Question D9: What circumstances or factors, if any, warrant an adjustment from the midpoint/median to other points within the zone of reasonableness (e.g., lower or upper midpoint/median)?

AOPL Response: As noted in response to Question D.2., while the Commission historically uses the median of the oil pipeline proxy group, it has indicated that adjustments may be appropriate in certain circumstances. Whether such an adjustment is appropriate would depend upon the record in each case.

Question D11: Can the Commission continue to construct proxy groups of sufficient size for natural gas and oil pipeline companies using the DCF methodology, or in general for the alternative methodologies, particularly considering the increased amount of merger and acquisition activity involving master limited partnerships (MLPs) and the multiple recent conversions of MLPs to C-corporations?

AOPL Response: Currently, there appear to be sufficient oil pipeline companies to form a proxy group, but the Commission is right to be concerned that the limited number of pure-play oil pipeline MLPs makes it more difficult to form a proxy group. As discussed above, the Commission should therefore not take an overly-rigid stance toward screens with respect to the proxy group for oil pipelines. Also, as discussed above, the Commission should eliminate the downward adjustment to the long-term growth rate for MLP proxy group members. Imposition of such arbitrary burdens on MLP pipelines, especially when coupled with the recent elimination of the income tax allowance for MLP pipelines, will only further discourage the use of the MLP form, which not only contravenes Congressional policy to encourage that form but will make it more difficult for the Commission to form a proxy group.

E. Financial Model Choice⁵

Question E: What models do investors use to evaluate utility equities?

AOPL Response: As the Commission has recognized, investors rely on a variety of financial models and other methods to inform their investment decisions. *See Coakley* Briefing Order at P 35. It may not be possible to capture all of the methods that investors use, but the Commission's proposed four-part method provides a reasonable approach to reflecting investor expectations, while still being predictable and relatively straightforward to apply.

F. Mismatch Between Market-Based ROE Determinations and Book-Value Rate Base⁶

Question F1: Does the mismatch between market-based ROE determinations and a book value rate base support current market values? Is this mismatch a problem?

AOPL Response: This issue should not be a concern in setting ROEs for oil pipelines. As Dr. Webb explains, there are no publicly-traded oil pipeline companies that receive all of their revenue from cost-of-service rates. *See Webb Aff.* at P 42. As explained above, most oil pipelines charge rates on some basis other than cost-of-service. It is also not uncommon for oil pipelines to be involved in other unregulated lines of

⁵ AOPL's initial comments do not address Questions E2 through E11.

⁶ AOPL's initial comments do not address Questions F2 through F5.

business (e.g., storage, fractionation). There is thus no reason to expect that a publicly-traded oil pipeline company's market-based ROE would or should match its book value.

G. First Prong of ROE Determination

AOPL does not address this topic in its initial comments.

H. Model Mechanics and Implementation⁷

1. General Issues/Issues That Affect Multiple Models

Question H.1.1: Are IBES data a good proxy for “investor consensus?”

AOPL Response: The Commission has historically relied on IBES growth rates as a good proxy for investor consensus, but has expressed concern regarding the relatively few analysts whose projections make up the IBES short-term growth forecasts. *See Coakley* Briefing Order at P 47. As discussed above, while IBES remains the best source of information regarding investor short-term growth expectations, it has its limitations, so it is prudent for the Commission to permit oil pipelines to propose other sources of short-term growth data in individual rate cases provided they do not overlap with or duplicate the IBES data.

⁷ AOPL's initial comments do not address Questions H.1.3., H.1.6., H.2.a.1., H.2.a.2., H.2.a.6., H.2.b.2., H.2.b.4., H.2.d.2., H.2.d.3.i., and H.2.d.3.ii.

Question H.1.1.a: If not, are there better alternatives, such as Bloomberg, Zacks, S&P Capital, Morningstar, and Value Line?

AOPL Response: As Dr. Webb discusses, the Commission should permit oil pipelines to use other sources of short-term growth data provided they can be shown not to overlap with or duplicate the IBES data. Since Value Line is a subscription service, it is not included among the IBES projections. Thus, as Dr. Webb explains, pipelines should be permitted to include the Value Line projection and to give it the same weight as one of the underlying IBES analysts. For example, if the IBES projection is based on the projections of three analysts, the IBES projection should be given a $\frac{3}{4}$ weight and the Value Line projection should be given a $\frac{1}{4}$ weight. *See Webb Aff. at P 81.*

Question H.1.1.b: Should the Commission combine data from multiple sources?

AOPL Response: See response to Question H.1.1.a.

Question H.1.1.c: What weight, if any, should be given to an estimate if the number and identity of analysts contributing to the estimate is not available?

AOPL Response: See response to Question H.1.1.a.

Question H.1.2: To what extent does model risk affect all ROE methodologies?

AOPL Response: As Dr. Webb explains, all financial models are likely affected by model risk to some degree. That is why the Commission's proposal to combine the four methods makes sense. In fact, as Dr. Webb explains, the use of the four models will

tend to reduce the effect of model risk by not relying exclusively on any one model. *See Webb Aff. at P 55.*

Question H.1.4: Should the Commission continue to rely on the efficient market hypothesis, which underlies the DCF and CAPM models? Why or why not?

AOPL Response: Yes, the efficient market hypothesis is a bedrock principle of modern financial theory. As the Commission notes, it also underlies the DCF and CAPM models, which are important components of the Commission's four-part methodology. Nevertheless, as Dr. Webb explains, because the efficient market hypothesis is an ideal, the Commission is right to incorporate other methods into its ROE calculation, such as the Expected Earning model, which relies on accounting estimates. *See Webb Aff. at P 28.* In addition, the strong reliance on the efficient market hypothesis by methodologies such as the DCF, which are highly sensitive to market fluctuations, can make those methodologies more volatile. The Commission's proposal to incorporate other models into its ROE calculation therefore can be expected to produce a more stable and robust result. For example, as Dr. Webb explains, one of the advantages of the Risk Premium approach is its reliance on historical data, which makes it more stable over time. In addition, because the Risk Premium approach tends to correlate negatively with the DCF, that further enhances the stability of the Commission's proposed aggregate approach. *See Webb Aff. at P 30.*

Question H.1.4.a: If yes, should the Commission continue to employ outlier screens, M&A screens, etc., for the DCF and CAPM models since these models need to incorporate all relevant information?

AOPL Response: As discussed above, the outlier screens are not necessary or appropriate in the oil pipeline context. The importance of incorporating all relevant information is an additional reason for not using such screens.

Question H.1.5: Should growth rates be based on Value Line, IBES, or alternative estimates?

AOPL Response: See discussion above and response to Question H.1.1.a.

2. Model-Specific Questions

a. DCF

Question H.2.a.3: Do investment analysts project earnings/dividends growth beyond five years, and if not, why not, and is GDP an appropriate proxy for long-term growth?

AOPL Response: Investment analysts do not project growth rates beyond five years because it is too speculative. As discussed above, the use of GDP as a proxy for long-term growth is reasonable and is based on the realistic view that it is not possible to make long-term growth projections with any accuracy. Cutting GDP in half for MLPs, however, is arbitrary and unjustified for the reasons discussed above.

Question H.2.a.4: How should the Commission weight short-term and long-term earnings/dividend growth projections?

AOPL Response: As discussed above, the Commission has historically given a two-thirds weighting to the short-term growth forecast and a one-third weighting to the long-term growth forecast. See NOI at P 10. The D.C. Circuit has affirmed this weighting. See *Canadian Ass'n of Petroleum Producers v. FERC*, 254 F.3d 289, 297 (D.C. Cir. 2001). AOPL is not proposing any adjustment to this weighting.

Question H.2.a.5: The Commission uses a constant growth DCF model. Should the Commission consider using a multi-stage DCF model? If so, how would the Commission determine the length of each stage of a proxy company's growth?

AOPL Response: AOPL does not believe there is any valid basis to switch from the Commission's current DCF approach to a multi-stage DCF model. As Dr. Webb explains, a multi-stage DCF model would add complexity without any greater accuracy. See Webb Aff. at P 82.

b. CAPM

Question H.2.b.1: If the market risk premium is determined by applying the DCF methodology to a representative market index, should a long-term growth rate be used, as in the Commission's two-step DCF methodology?

AOPL Response: No. As the Commission has explained, the reason for using a two-stage growth analysis in the Commission's traditional DCF methodology does not

apply to the DCF study of the S&P 500 for purposes of determining the market return component of the CAPM analysis. *Coakley v. Bangor Hydro-Elec. Co.*, 150 FERC ¶ 61,165, at PP 110, 113 (2015) (Opinion No. 531-B), *vacated and remanded sub nom. Emera Maine v. FERC*, 854 F.3d 9 (D.C. Circ. 2017). The purpose of the CAPM is to determine the market risk premium based on the difference between the required return on the overall market and the risk free rate. *Id.* at P 113. In other words, the CAPM is different from the DCF. It is the differences in the four financial models that provide one of the main advantages of the Commission’s proposed four-part approach. As the Commission has found, there “is significant evidence indicating that combining estimates from different models is more accurate than relying on a single model.” *Coakley* Briefing Order at P 38.

Question H.2.b.3: What are appropriate data sources for the beta value?

AOPL Response: As Dr. Webb discusses, Value Line provides the best source for the beta value for use in the CAPM. *See Webb Aff.* at P 89.

c. Expected earnings

Question H.2.c.1: Should the use of utilities in the proxy group for the Expected Earnings model be predicated on the Expected Earnings analysis being forward-looking?

AOPL Response: As Dr. Webb discusses, the Expected Earnings analysis should be forward-looking, because investors generally give more weight to expectations of future earnings than historical performance. *See Webb Aff.* at PP 49-50. Moreover,

other methods such as the Risk Premium approach provide a historical approach. *Id.* at PP 29-30. Use of these different methods in combination can be expected to produce a more stable result. *Id.* at PP 24, 27, 52-55.

Question H.2.c.2: What, if any, concerns regarding circularity are there with using the Expected Earnings analysis to determine the base ROE, as opposed to using the analysis for corroborative purposes?

AOPL Response: As Dr. Webb discusses, there is not a significant circularity issue in applying the Expected Earnings analysis in the oil pipeline context, because the vast majority of oil pipeline revenue does not come from cost-based rates. *See Webb Aff.* at PP 42, 49 n.13. Moreover, because the Expected Earnings model provides an accounting-based perspective, it includes additional useful information regarding investor expectations that is not directly provided by the other models and which therefore tends to compliment them when used in the Commission's four-part approach. *Id.* at PP 54-55.

Question H.2.c.2.i: If there are circularity concerns, are there ways to mitigate these concerns for the Expected Earnings analysis? If these concerns exist, are these concerns more significant than those surrounding the DCF methodology, which effectively separates Expected Earnings and ROE into its dividend yield and growth rate subcomponents?

AOPL Response: As noted above in response to Question H.2.c.2., there is not a significant circularity issue in applying the Expected Earnings analysis in the oil pipeline

context, because the vast majority of oil pipeline revenue does not come from cost-based rates. Moreover, to the extent there is any circularity, it can be mitigated by applying all four methods as the Commission has proposed.

d. Risk premium

Question H.2.d.1: Should the analysis be historical or forward-looking?

AOPL Response: The Risk Premium approach used by the Commission in the electric context was based on a comparison of the historical relationship between Commission-approved ROEs and bond yields. The alternatives proposed by Dr. Webb also involve historical comparisons of equity returns and bond yields. *See Webb Aff.* at PP 44-47. In AOPL's view, the methods proposed by Dr. Webb are reasonable, but that does not preclude examination of alternative approaches in individual cases.

Question H.2.d.3: Unlike the financial models discussed above, the Risk Premium analysis produces a single ROE rather than a zone of reasonableness. Does this characteristic require the Commission to use the Risk Premium model differently than the other models?

AOPL Response: As noted, in the oil pipeline context, the Commission applies the median of the proxy group to the pipeline whose rates are being set. The ROE produced by the Risk Premium analysis can therefore be averaged with the median of the other methods to produce the average result.

Respectfully submitted,

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June 26, 2019

Appendix A

Affidavit of Dr. Michael J. Webb

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

Inquiry Regarding the Commission's Policy or Determining Return on Equity

Docket No. PL19-4-000

AFFIDAVIT OF DR. MICHAEL J. WEBB
ON BEHALF OF
THE ASSOCIATION OF OIL PIPE LINES

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I. INTRODUCTION

1. My name is Michael J. Webb. I am a Director at Regulatory Economics Group, LLC. My business address is 11180 Sunrise Valley Drive, Suite 320, Reston, VA 20191. I hold a B.A. in International Studies and Economics from American University. I hold an M.A. and a Ph.D. in Economics from George Mason University. I am an adjunct professor at George Mason University where I have taught courses in law and economics, the economics of regulation, and the economics of energy at both undergraduate and graduate levels. In my twenty years of experience in the oil pipeline industry, I have consulted on behalf of numerous oil pipeline companies on rate regulation and antitrust matters. I have filed testimony at the Federal Energy Regulatory Commission (“FERC” or “Commission”), the California Public Utilities Commission, the Regulatory Commission of Alaska, the Kansas Corporation Commission, the Wyoming Public Service Commission, the Virginia State Corporate Commission, the National Energy Board of Canada, the Railroad Commission of Texas, the Pennsylvania Public Utility Commission, the Louisiana Public Service Commission, the American Arbitration Association, and the District Court for the 269th District of Texas. I have attached my CV as Exhibit No. MJW-1.
2. The Association of Oil Pipe Lines (“AOPL”) has asked me to review and provide a statement on certain issues in the Notice of Inquiry Regarding the Commission’s Policy for Determining Return on Equity (hereinafter “NOI”) issued on March 21, 2019 in Docket No. PL19-4-000. It is my understanding that the NOI arose in the context of a group of electric cases, which I collectively reference as the *Coakley Cases*. See *Martha Coakley v. Bangor Hydro-Elec.*, 165 FERC ¶ 61,030 (2018) (“Coakley Briefing Order”).

Specifically, in the *Coakley Cases* the Commission determined that its traditional reliance on the Discounted Cash Flow (“DCF”) methodology for determining return on equity (“ROE”) was no longer producing just and reasonable results. As a result, the Commission proposed use of a composite methodology (“Composite Method”) consisting of

- A DCF Calculation
- A Capital Asset Pricing Model (“CAPM”) Calculation
- A Risk Premium Calculation
- An Expected Earnings Calculation.

I discuss these different elements of the Composite Method in my affidavit and explain how the Composite Method produces a reasonable method for calculating the ROE for an oil pipeline, subject to (i) certain modifications to account for the specific context of oil pipeline regulation, and (ii) the underlying requirement that the result be commensurate with the return on investments in other enterprises having corresponding risks and be sufficient to assure confidence in the financial integrity of the regulated pipeline so as to maintain its credit and to attract capital.

3. I have organized my affidavit into six major sections, following this introductory section. Section II provides a discussion of the role of cost of capital in regulating oil pipelines as well as a framework for evaluating cost of capital. Section III provides a conceptual discussion of the issues identified in the *Coakley Cases* as well as a discussion of the four methods. Section IV provides a discussion of some of the unique aspects of the Risk Premium method and the Expected Earnings method and how each should be applied in the context of setting an ROE for oil pipelines. Section V provides a detailed discussion

of the construction and role of proxy groups under the four methods. Section VI provides a discussion of the mechanics of implementing the four methods. Section VII provides a concluding section in which I explain how application of the framework developed in Section II and the facts from the subsequent sections support the use of a composite method to set ROE in an oil pipeline context subject to the conditions noted above.

II. A FRAMEWORK FOR ESTIMATING COST OF CAPITAL

4. As the Commission is well aware, certain fundamental differences exist between the economic conditions in which oil pipelines operate and the economic conditions in which electric utilities operate. For example, oil pipelines typically face substantially greater degrees of competition than electric utilities. Oil pipelines also lack the protection afforded by serving a franchised service territory.¹ Consequently, a somewhat different regulatory structure applies to oil pipelines, in which a price cap, or index, acts as the generally applicable ratemaking approach. However, the cost-of-service methodology can be and is invoked either by the pipeline to establish initial rates without third-party shipper agreement, if its index ceiling rates are substantially below cost, or by shippers asserting in a complaint that the pipeline's rates are substantially above cost.² In the former case, the pipeline demonstrates that the index ceiling rates generate an insufficient return. In the latter case, the shippers demonstrate that the existing rates generate an excessive return. As such, cost of capital, and specifically ROE, is a fundamental issue in determining whether rates are just and reasonable. For this reason, the issues related to ROE raised in the NOI are significant and important for the oil pipeline industry.

¹ In many states, public utilities are granted an exclusive franchise to provide service to a given geographic area.

² In addition to indexing and cost-of-service, parties may agree to settlement rates and pipelines may obtain market-based ratemaking authority. Finally, the Energy Policy Act of 1992 deemed certain rates just and reasonable.

5. Any analysis of ROE necessarily relies on *Bluefield Water Works & Improvement Co. v. Public Service Commission* (“*Bluefield*”) and *Federal Power Commission v. Hope Natural Gas Co.* (“*Hope*”).³ These two Supreme Court decisions provide the conceptual basis of nearly all subsequent decisions regarding ROE, and in cost-based ratemaking more generally. In relevant part, *Hope* requires that “the return to the equity owner should be **commensurate with returns on investment in other enterprises having corresponding risks**. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and **to attract capital**.”⁴ These requirements are sometimes described in shorthand as the corresponding risk requirement and the capital attraction requirement.
6. It is important to recognize that any cost of capital methodology will adhere to the corresponding risk and the capital attraction requirements imperfectly. In other words, one might imagine that a “True Cost of Capital” exists that would attract the optimal amount of capital while making investors indifferent between investing in the regulated enterprise and investing in another investment opportunity with corresponding risk. If it were possible to calculate this True Cost of Capital, regulation would be a relatively straightforward exercise. In reality, all cost of capital methodologies represent an approximation or estimate of the True Cost of Capital. However, the fact that all cost of capital methodologies are approximations of the ideal does not mean that the concept of the True Cost of Capital, or the principles enunciated in *Bluefield* and *Hope*, are without value. Instead, this ideal provides a way to compare different methodologies and to

³ *Bluefield Water Works & Improvement Co. v. Public Service Commission*, 262 U.S. 679 (1923); *Federal Power Commission v. Hope Natural Gas Co.* 320 U.S. 591 (1944).

⁴ *Hope* at 603 (emphasis added).

determine how to apply a methodology. In other words, a methodology that more closely adheres to the corresponding risk and the capital attraction requirements is necessarily superior to one that does not closely adhere to these requirements.

7. To apply these principles in a systematic way, it is useful to rely on a principles-based framework. In this way, the regulator may employ a consistent framework to test the reasonableness of different ROE methodologies.
8. In evaluating different methodologies for estimating the cost of capital I recommend a framework with the following elements:
 - Empirical Evidence of Attracting Appropriate Levels of Capital;
 - Minimizing Bias;
 - Generating Reproducible Results;
 - Minimizing Volatility;
 - Minimizing *Ad Hoc* Adjustments.

Before briefly discussing each of these elements below, it is important to recognize that these different elements may interrelate. For example, a methodology that attracts the appropriate levels of capital with lower volatility will require fewer *ad hoc* adjustments than one that consistently produces results that attract insufficient or excessive capital. It is also important to recognize that weakness in one element of the framework may be offset either by strengths in another aspect or by adding another estimation technique to offset the weakness. In this sense a composite approach, as suggested by the Commission, may be advantageous over the long-term as compared to an ROE developed under a single method. For example, if two methodologies are volatile in opposite

directions (*i.e.*, one is high when the other is low) a composite of the two methodologies will provide greater stability and predictability to the calculation of ROE.

9. First, the most important role of a cost of capital methodology involves generating a result that attracts the appropriate level of capital. To the extent a regulator allows regulated entities to charge rates based on a cost of capital above the True Cost of Capital this industry will attract excessive capital. To the extent a regulator limits regulated entities' rates based on a cost of capital below the True Cost of Capital, the industry will attract insufficient capital over time. In assessing whether a cost of capital methodology produces appropriate results, it is important to avoid comparison to some pre-determined assumption about what the cost of capital should be. Instead, it should be compared to the end result. If the allowed return is above the True Cost of Capital, one would expect to see investment flowing into regulated industries even when such investment is inefficient (*e.g.*, seeing capital substituting for labor in an inefficient manner). By contrast, if the allowed return is below the True Cost of Capital, one would expect to see increasing reluctance to invest in regulated industries (*e.g.*, increases in regulated investment failing to correspond to increases in demand).
10. Second, a sound methodology should minimize the possibility of bias. In this context, a biased methodology will consistently produce a result that is either higher or lower than the true result. For example, if a sample for a political poll is not carefully constructed and contains a disproportionate number of people likely to vote for one party, the result will be biased. It will consistently show that a higher number of people will vote for one party than will actually vote for that party. In estimating cost of capital, it is possible to employ techniques that bias the results away from the True Cost of Capital in a

systematic way. For obvious reasons such techniques should be avoided, and to do so one must examine the underlying techniques to ensure there is no bias.

11. Third, a sound methodology is one that generates reproducible results. In other words, if different analysts employ the same inputs they will generate the same result. By requiring reproducible results, the Commission minimizes the chance of adopting rhetorically plausible methodologies that lack economic foundation.
12. Fourth, a sound methodology should minimize volatility so that an ROE calculation is more stable and predictable over time. Certain methodologies will generate more volatile results compared to others. In this case, volatility means the estimate of the cost of capital will vary over time. As a theoretical matter, there is nothing *per se* undesirable about volatile estimates as long as these estimates mirror the volatility in the True Cost of Capital or the estimates are normally distributed around the True Cost of Capital. For example, if the True Cost of Capital was 10% and one estimation technique produced results with a normal distribution ranging from 6% to 14%, while another produced results with a normal distribution ranging from 8% to 12%, both methodologies are centered around the True Cost of Capital. The relatively low results produced by the first methodology are balanced out by the high results so that on average the first technique (and the second) will be expected to generate a result consistent with the True Cost of Capital. However, employing a single volatile estimation technique can create problems. For example, a regulated firm may choose to initiate a rate case when the volatile methodology is producing relatively high results, or a customer may choose to initiate a complaint when the methodology is producing relatively low results. In addition, if there is a time lag between the initiation of the case and the issuance of the Commission's

decision, there will be uncertainty about whether the rate case (or complaint) will succeed. Such uncertainty can reduce the incentives for investment.

13. Finally, sound methodologies should require a minimum of *ad hoc* adjustments. For example, if a methodology consistently produces estimates of the cost of capital below the True Cost of Capital, as demonstrated by capital leaving the regulated industry, such that *ad hoc* increases must be employed, such a methodology should be viewed with skepticism.⁵

III. CONCEPTUAL BASIS OF *COAKLEY* COMPOSITE METHOD

14. Since the mid-1980's, the Commission has relied on some version of the "DCF method" to calculate the ROE for oil pipelines, natural gas pipelines, and electric utilities. In essence, the DCF method calculates the yield plus growth for members of a "proxy group" of publicly traded pipeline companies.⁶ Yield consists of the average of the most recent six months of stock (or unit) prices divided by dividends (or distributions). In the oil and gas industry, growth consists of a short-term growth factor (which is given 2/3 weight) and long-term growth (which is given 1/3 weight). The short-term factor is based on the most recent 5-year earnings forecast as reported by IBES. The long-term factor is based on long run estimates of GDP growth. Combining the yield and growth figures for each member of the proxy group generates the ROE under the DCF method.

⁵ As with this framework more generally, this element cannot be applied rigidly. For example, if a particular firm has a high degree of risk, it may be necessary to make an upward adjustment to the ROE to account for this risk. Such an adjustment is not *ad hoc* but rather a necessary component of properly applying *Hope*.

⁶ Typically, the Commission uses a proxy group consisting of firms operating in the same line of business. In other words, in setting an ROE for an electric transmission company, the Commission would use the DCF of electric companies. In setting an ROE for an oil pipeline company, the Commission would use the DCF of oil pipeline companies.

A. Recent Experience with the DCF

15. In the electric industry, the Commission has traditionally used the DCF methodology to calculate a “zone of reasonableness,” which was then used to set the ROE.
16. In recent years, the Commission has become concerned that the DCF methodology was no longer producing just and reasonable results. For example, in Opinion No. 531 the Commission stated that it

departed from its typical practice of setting the just and reasonable ROE of a group of utilities at the midpoints of the zone of reasonableness. The Commission explained that the evidence of ‘anomalous capital market conditions, including ‘bond yields [that were] at historical lows made the Commission ‘less confident[t] that the midpoint of the zone of reasonableness accurately reflects the [ROE] necessary to meet the *Hope* and *Bluefield* capital attraction standards.⁷

Instead, the Commission adopted the midpoint of the upper-half of the range, which it concluded generated more reasonable results.
17. In Opinion No. 511, the Commission departed from its usual practice of updating the ROE calculation to reflect the most recent data at the time of the hearing, determining that the ROE at the time of the hearing reflected anomalous market conditions.⁸ Instead, the Commission adopted an ROE calculated at the end of the test period. In short, in both cases, the Commission made *ad hoc* adjustments to the ROE to address what it perceived as anomalous results.
18. While correcting apparent anomalous results is understandable, as discussed above, relying on *ad hoc* adjustments suggests infirmities in the methodology. In both cases, the

⁷ 165 FERC ¶ 61,130 at P. 4 citing Opinion No. 531, 147 FERC ¶ 61,234 at PP 144-145.

⁸ 134 FERC ¶ 61,121 at PP 208-209.

Court of Appeals for the DC Circuit rejected the Commission's adjustments, concluding that remedies employed by the Commission were not justified.

19. As noted in Section I, in response to the remand of Opinion No. 531, the Commission proposed moving away from sole reliance on the DCF methodology. *See Coakley Briefing Order at PP 15-18.* In my opinion, this is appropriate. In recent years, the DCF has been extremely volatile. For example, in September 2008 the DCF method produced a 7.69 percent real ROE for an oil pipeline proxy group. By April 2009, the DCF had increased to a 14.83 percent real ROE for the same proxy group. In Docket No. OR16-6-000, a case in which I offered testimony, the DCF ROE would vary on both a real and a nominal basis by hundreds of basis points from one month to the next, even holding the proxy groups constant. This volatility has resulted in *ad hoc* adjustments. The *ad hoc* adjustments in turn cause the estimated cost of capital to deviate from the True Cost of Capital.

B. Benefits of the Inclusion of Each Methodology

20. As noted above, the four elements of the Composite Method that the Commission proposes are the DCF, CAPM, Risk Premium, and Expected Earnings approaches. In general terms this composite methodology will provide a more complete picture of the True Cost of Capital.
21. Specifically, the four approaches in the Composite Method that the Commission proposes each provide different pieces of information. By combining these different pieces of information, the Commission can develop a more complete picture of the True Cost of Capital. Indeed, as the Commission recognized in the *Coakley Cases*

Morin states, “Investors do not necessarily subscribe to any one single method, nor does stock price reflect the application of any one single method by the price setting investor. There is no monopoly as to which method is used by investors. While some investors may give some weight to a DCF analysis, it is clear that other investors place greater weight on one or more of the other methods for estimating the expected return from a utility investment as well as taking other factors into account. Thus cost of equity estimates based on all four of the methods described above are a reasonable measure of investor expectations, since they are among the information that investors rely upon when making investment decision.”⁹

I agree with both Dr. Morin and the Commission.

22. Any methodology for estimating the True Cost of Capital will have certain strengths and certain limitations. For example, the DCF provides valuable information about the market perspective on the cost of capital. To assist the Commission in understanding each methodology, below I discuss some of the more important observations of each methodology, and how they add value to a composite methodology.
23. As discussed above, the DCF methodology is a yield plus growth formula. In other words, it is calculated by summing the Dividend divided by Price plus the expected growth in dividend. This figure represents the return the market demands for a given security.
24. The DCF methodology is the most purely market-based methodology. This is both a strength and a limitation. The efficient market hypothesis means that the ROE will quickly change as a result of new information. It also means that the ROE may change in a manner that is inconsistent with how capital decisions are made. For example, pipeline companies typically make investments that will last for decades. If the DCF-based ROE suddenly increases, because new information causes the price of the component securities

⁹ 165 FERC ¶ 61,030 at P 35

to fall, it is unlikely that this will suddenly cause capital to flood into the market. The market-based nature of the DCF also means that it tends to be a relatively volatile methodology. For these reasons, combining the DCF with other methodologies that are either more stable, such as CAPM, or that vary inversely to the DCF, will produce a superior result.

25. Under the CAPM methodology, ROE is equal to the risk-free rate of return plus the product of a security's beta and the market return. One can conceptualize this methodology more broadly as a series of steps. First, an investor chooses whether to consume now or defer consumption in the form of investment. The risk-free rate of return represents the payment the investor receives for deferring consumption. Because an equity investment typically carries additional levels of risk, as equity holders have a subordinate claim to company assets relative to debt holders, equity investors typically require additional compensation. If the investor is willing to bear this additional risk (or values the additional return more than the cost of the risk), he or she will invest in a well-balanced portfolio of equities (sometimes referred as "the market"). Finally, a given security will either increase or decrease the risk of the portfolio. Beta measures whether a given security has more or less variance compared to the market as a whole. If a security has more variance, investors will require a higher return before adding it to a perfectly balanced portfolio of stocks and a lower return if it has less variance than the market as a whole. Therefore, to calculate CAPM one needs three elements:

- A projection of the "risk-free" rate of return;
- An estimate of the market rate of return;
- A measure of Beta.

With these elements, it is possible to calculate a CAPM ROE for any security.

26. Two key strengths of CAPM are that it is consistent with basic corporate finance theory and it provides a comprehensible and easily quantified way of addressing risk. However, just as reliance on the efficient market hypothesis under the DCF method is both a strength and a weakness, the strong reliance of CAPM on corporate finance theory is also a strength and a weakness. For example, the theoretical literature shows that Beta's predictive power is limited. Further, CAPM assumes a highly liquid market with limited transaction costs. For example, if a given set of investors have different risk tolerance from that captured by Beta they may be willing to invest more (or less) than the CAPM model would imply.
27. Another aspect of CAPM, which makes it an appropriate complement to the other methods used in the Composite Method, is that it typically produces a stable ROE calculation. This avoids some of the volatility issues associated with the DCF methodology. However, to the extent the risk of oil pipeline investment suddenly increases, perhaps because new environmental laws are passed, the CAPM approach will reflect this change slowly. By contrast, because the DCF methodology is price-based this new information will be incorporated into the required ROE almost instantly. For this reason, the combination of the DCF and the CAPM will likely produce a more accurate estimate of the True Cost of Capital than either methodology alone.
28. Both DCF and CAPM rely on the efficient market hypothesis, which is a bedrock principle of modern financial theory. As such, it is appropriate to place significant weight on this concept when estimating the cost of capital. However, it is also important to recognize that the efficient market hypothesis is an ideal. As such, it is reasonable to

incorporate other sources of information based on accounting information, as the Commission proposes in the NOI.

29. The Risk Premium approach provides an intuitively obvious way to meet the requirements of *Hope*. Specifically, it compares some measure of historic return against the risk-free rate and then adds this premium to the current risk-free rate. As discussed in depth in Section IV below, application of this approach will necessarily differ in the oil pipeline industry as compared to the electric industry. However, the basic concept of using historic performance measures to estimate the risk associated with regulated activity is reasonable.
30. A core difference in the Risk Premium approach relative to either CAPM or DCF is that it is based on historic measures of performance. As a result, changes in market conditions will take longer to permeate through the calculation. To the extent the DCF produces results that are inconsistent with capital decisions, adding the Risk Premium approach may ameliorate this issue. In addition, the Risk Premium approach is likely to correlate negatively with the DCF because the Risk Premium approach is pro-cyclical and the DCF is counter-cyclical. In other words, adverse events typically cause the price of a security to fall, which, holding all other variables equal, would cause the DCF ROE to rise. By contrast, the Risk Premium approach would typically be pro-cyclical, meaning that adverse events would cause the Risk Premium approach to result in a lower ROE, all else equal. Under the four-part Composite Method, this inverse correlation helps to mitigate one of the most significant weaknesses of the DCF, namely, its volatility.

31. Expected Earnings provides a fourth meaningful piece of information. As applied in *Coakley*, it relies on earnings forecasts divided by book equity. In this way, it provides a measure that has a relationship to the book rate based upon which oil pipeline rates are regulated.

A key strength of the Expected Earnings approach is that it adds another source of information of investor expectations that the Commission can use to estimate the cost of capital. Key to its utility, it is unlikely to provide the same type of information as the other methods. As such, it is independent of these other methodologies. Its relevance is also highlighted by the fact that it is based on information published by research firms and accounting data. Given that both research firms and publicly traded firms have an incentive to provide relevant information to investors, such data is almost certainly relied upon when making investment decisions. I will discuss both Risk Premium and Expected Earnings in greater depth in Section IV.

C. The Composite Method More Closely Adheres to the Principles-Based Framework

32. The Composite Method can be expected to more reliably result in an ROE calculation that is in line with the True Cost of Capital, as it provides data from multiple and relatively independent sources. This point is perhaps best illustrated by way of a hypothetical example that considers how a regulator can be expected to reach conclusions resulting from new sources of information.
33. First, assume that for several years the DCF method has produced an estimated ROE of 10 percent. Next, assume that some event occurs that causes security prices to rise such that the DCF begins producing an estimated ROE of 8 percent. This result would seem to

suggest that the cost of capital has fallen. However, knowing only this information raises the basic question of whether the regulator can have a high degree of confidence that the fall in the estimated cost of capital generated by the DCF represents a fall in the True Cost of Capital. In this case, additional sources of data could increase (or decrease) the confidence in the conclusion. For example, if multiple methods all showed that the ROE had declined to 8 percent, the regulator can have more confidence that the True Cost of Capital has in fact fallen to 8 percent. By contrast, if the DCF is the only method that shows a decrease, the regulator should have less confidence that the True Cost of Capital has fallen. By only giving partial weight to the DCF, as suggested in the NOI, the Commission accounts for this fact under the Composite Method.

34. Analyzing the results of all four methods also captures the fact that investors do consider multiple metrics beyond the DCF, as the Commission has recognized. *See* NOI at P 13. Moreover, different investors may place different weight on one methodology compared to another. Continuing with the example above, if the DCF shows a decline in the ROE, while other methods do not, averaging the different approaches provides a way to recognize that investors may place varying degrees of weight on the decline implied by the ROE.
35. In addition, combining the results of different methodologies is likely to minimize bias and minimize volatility, two key principles in the framework discussed in Section II. As noted above, because the four methodologies are driven by different market factors, combining the methodologies is likely to result in a more accurate and predictable result over time, due to the fact that the different methods will tend to complement each other. For example, the DCF method, which responds strongly to changes in price, will likely

move in the opposite direction of the Risk Premium or the Expected Earnings approaches which are more based on historical information. In this way, increases in one method will tend to cancel out decreases in the other, particularly if such changes do not result from a change in economic fundamentals. Moreover, to the extent one of the methodologies contains a subtle bias it is unlikely that the other methodologies would contain the same bias. In this way, combining different methodologies will reduce, although not cancel, bias.

36. In addition, all four methodologies generate reproducible results. As such, combining the four methodologies also generates reproducible results.
37. Finally, a composite methodology, properly applied, is likely to require fewer *ad hoc* adjustments. A volatile methodology necessarily requires more *ad hoc* adjustments. The fact that the DCF estimate of the ROE in Opinion No. 511 had increased from 7.69 percent to 14.83 percent in the space of seven months perfectly illustrates this point. The Commission determined that although the 14.83 percent figure was calculated consistent with its standard method, an adjustment was necessary to ensure a more reasonable result. Obviously, a less volatile methodology would necessitate fewer *ad hoc* adjustments.

IV. APPLICATION OF THE COAKLEY METHOD

38. In general terms, the DCF and the CAPM methods are relatively standard methodologies. In Section VI, I discuss a few details about the inputs to both methodologies that I recommend the Commission consider.
39. In contrast to the DCF and CAPM methods, both the Risk Premium and Expected Earnings methods require additional explanation. Indeed, in Section B of the NOI, the

Commission explicitly asked a number of questions related to these methodologies and how they could apply to oil pipelines. *See* NOI at P 32. In this section of my statement, I will discuss the Risk Premium method, the Expected Earning method, and conclude by explaining why I believe that (with modifications to the Risk Premium method) the Commission can and should use the same methods for calculating ROE in the oil pipeline industry and in the electric industry.

A. Risk Premium

40. The Risk Premium method is based on the principle that equity investments are riskier than bond investments; and thus, investors require a risk premium on equity investments compared to bond investments. The risk premium is calculated by subtracting the bond yield from the expected return of the proxy group.
41. In the *Coakley Cases*, the Commission adopted the approach proposed by Dr. William Avera, which used data on the FERC-approved allowed returns on equity for electric utilities in decisions from 2006 to June 2012¹⁰ to calculate the implied equity risk premium compared to the yield on BBB-rated utility bonds and 10-year Treasury bonds over the same period. Specifically, he subtracted the allowed returns against the debt cost and then regressed the result against the cost of debt. Dr. Avera then examined the relationship between the equity risk premium and the bond yields, and found that there is an inverse relationship between the equity risk premium and the bond yield. Dr. Avera used his knowledge of this inverse relationship to forecast the current required equity risk premium for the electric utilities. He then added his estimate of the required equity risk premium to interest rates to obtain an estimate of the risk premium cost of equity.

¹⁰ Docket No. EL11-66-01 Exhibit No. NET-704.

42. Direct application of Dr. Avera's approach would not work in the case of oil pipelines. First, most oil pipelines set their regulated rates using a methodology other than cost-of-service. In fact, only one member of the proxy group used in Opinion No. 511 owns an oil pipeline whose rates have been set using a FERC prescribed cost-of-service. As such, directly employing Dr. Avera's methodology is unworkable, as there are few, if any, data points to plug into the regression.
43. Beyond this practical problem, a core difference between oil pipelines and electric utilities is that most oil pipelines are held within larger midstream companies that derive a substantial amount of revenue from non-regulated sources. When companies determine whether to allocate capital to the oil pipeline division or the non-regulated division they will evaluate overall returns, not regulated returns. If the allowed return is below the return available in non-regulated divisions, then companies will allocate capital to the non-regulated division. A sound methodology should recognize this reality of oil pipelines; otherwise, the methodology will fail the capital attraction requirement.
44. To replicate the methodology that the Commission employed for electric utilities in *Coakley*, I recommend subtracting some measure of achieved return against the cost of debt and regressing the result against the cost of debt as Dr. Avera did. In my opinion, two reasonable methods exist to estimate achieved return.
45. First, one could compare the market ROE to the risk-free rate. Under this approach, one calculates the market return by dividing the Adjusted Close Price at the end of the period compared to the beginning of the period to get the total return. The Adjusted Close Price represents the price after all dividends and stock splits have been taken into account. This calculation provides the total return. To convert this total return to an annual return

one simply takes the Nth root. For example, assume that someone purchased a unit of stock in 2008 and holds it for ten years until 2018. During this time, they receive quarterly dividend payments. At the end of 2018, assume the person sells the stock for \$259.38. Further assume that in 2008 the Adjusted Close Price of the stock was \$100.¹¹ Dividing \$259.38 by \$100 and taking the 10th root of the result implies an annualized return of 10 percent per year. Performing this type of calculation for all publicly traded midstream companies with significant oil pipeline assets provides information about the level of return generated by these companies.

46. Alternatively, one could regress ROE as reported in the SEC Form 10-K against the cost of debt.¹² ROE in this context would represent an accounting-based return.
47. In my view, the first approach is superior, because it uses market data. However, both approaches are reasonable and both rely on a comparison of historical trends consistent with the Risk Premium calculated in *Coakley*. Whether using the historic accounting-based return or the market-based return, I recommend that the Commission conduct the analysis over a significant time period. It would be reasonable to calculate the return generated since the formation of the proxy group member since this would provide the longest term return possible. In this way, the Risk Premium appropriately captures the difference in long-term return.
48. In some cases, analysts criticize the Risk Premium approach as being circular. This may be relevant if the return calculated by the regulator influences the calculation of the Risk

¹¹ The Adjusted Close Price represents the actual price paid less the value of any dividends as well as stock splits. In other words, the Adjusted Close Price is a way to capture all of the value generated by holding the stock to the current period.

¹² This figure is reported in the 10-K. In the case of a Master-Limited Partnership, it would represent return on partners' equity. These figures are typically reported by research services such as Value Line.

Premium figure itself. Because few oil pipelines set cost-based rates, this issue of circularity is unlikely to create issues in the oil pipeline context.

B. Expected Earnings

49. The Expected Earnings Approach estimates the investor's required ROE by examining the forecasted returns on book equity investors expect comparable companies to earn over the next several years. In this case, the comparable companies consist of other midstream companies with significant oil pipeline activity.¹³
50. Consistent with calculations performed by Dr. Avera in the *Coakley Cases*, I recommend using the ROE values reported in Value Line.¹⁴ I would note that employing the Value Line ROE data requires an adjustment because Value Line calculates ROE by dividing net income earned throughout the year by end of the year equity. Since equity changes throughout the year, an adjustment to the Value Line ROE data is needed to accurately reflect the average equity during the measurement period. In the *Coakley Cases*, Dr. Avera calculated an adjustment factor, which he applied to the Value Line ROE in order to come to an adjusted return on common equity.¹⁵ I recommend employing the same adjustment. A further advantage of Value Line forecasts is that they contain forward looking information which is the most relevant in identifying the basis of investment decisions.

¹³ In some industries using other regulated companies may lead to circularity. However, as noted above, because most revenue of companies owning oil pipelines is not subject to cost-of-service regulation, this circularity is unlikely to cause issues in this industry.

¹⁴ Docket No. EL11-66-01 Exhibit No. NET-709.

¹⁵ Docket No. EL11-66-01 Exhibit No. NET-703.

51. The Expected Earnings approach represents the methodology that is most purely accounting-based. In other words, it calculates ROE by dividing forecasted income by book equity. Since the SEC requires firms to publish net income and other accounting-based measures, it is reasonable to conclude that investors place some reliance on this type of information. I would further note that financial reporting services such as Value Line and Yahoo Finance report all of the components employed in the Expected Earnings calculation, including net income and book equity, which further supports the conclusion that investors rely on this type of information.

C. All Four *Coakley* Methods Are Valid in Calculating Oil Pipeline ROE

52. In the NOI, the Commission asks whether the Risk Premium method or the Expected Earnings method produce useable results in the oil pipeline context. *See* NOI at P 32 (Questions B.2 and B.3). In my opinion, the answer to both questions is yes.
53. While the Risk Premium method cannot be directly imported from *Coakley*, for the reasons discussed in subsection A above, it can be employed with minor variations. As such, it provides an additional source of information upon which the Commission can rely in estimating the cost of capital. As I have discussed, inclusion of models relying on different analytical assumptions can produce more stable and more accurate estimates of the cost of capital.
54. The Commission also states that the Expected Earnings method tends “to produce more high-end outliers than the other methodologies,” and asks whether elimination of outliers will generate a sufficiently large proxy group to provide meaningful results. NOI at P 32 (Question B.3). In my opinion, as long as the Commission continues to use the median of the oil pipeline proxy group (which as discussed below reduces the effect of outliers),

the Expected Earnings approach will provide additional useful information regarding investor expectations that is not provided by the other models and there should be no adjustment or exclusion of perceived outliers.

55. In my opinion, all four methods provide useful information upon which the Commission can rely. At the same time, all financial models are likely affected by model risk to some degree. For this reason, using four models will tend to reduce the effect of model risk. Combining estimates from these different methodologies will produce a more accurate estimate of the cost of capital.

V. CONSTRUCTION OF PROXY GROUPS

56. All of the methodologies discussed to this point require development of a proxy group. DCF, CAPM, and Expected Earnings calculate a ROE for each member of the proxy group and then take some measure of central tendency (*e.g.*, median or mean) to calculate the final ROE. The Risk Premium approach incorporates the achieved return of each member of the proxy group into a regression equation to develop a single ROE. As such, it also relies on a proxy group, albeit in a different manner than the DCF, CAPM, and Expected Earnings approach.
57. In developing any proxy group, it is important to ensure that the members of the proxy group are as comparable as possible in terms of risk to the subject pipeline. For example, local gas distribution companies (“LDCs”) typically have far lower risk than oil pipelines because they frequently face little or no competition and serve a captive load of customers. As such, they do not face the competitive risk that an oil pipeline would face. In the NOI, the Commission asks a number of questions about the construction of proxy groups. In this portion of my statement, I will address two broad topics. First, I will provide my

recommendations on choosing members of a proxy group of comparable risk. Second, I will provide my recommendations regarding the exclusion of otherwise comparable proxy companies.

A. Choosing Members of the Proxy Group

58. Historically, the Commission has required that members of the proxy group should derive a substantial portion of their revenue from a similar line of business as the subject entity. In the context of oil pipeline regulation, this has typically meant that publicly traded firms deriving at least 50 percent of their revenue from the transportation or storage of crude oil or petroleum products are included in the proxy group. Nevertheless, while the Commission has considered the 50 percent threshold to be a useful guideline, it has not imposed a strict percentage threshold as an absolute condition.
59. In my opinion, the approach of developing a proxy group from firms in the same industry is appropriate and should generally be continued. In general, proxy group members should be of comparable risk to the pipeline whose rates are being set. Oil pipeline proxy group members should therefore have significant involvement in oil pipeline operations. Nevertheless, the Commission should not exclude otherwise qualified companies from the proxy group simply because the percentage of regulated oil pipeline assets or revenues does not meet a strict 50 percent threshold.

B. Exclusion of Proxy Companies

60. The Commission also raises a couple of issues regarding the exclusion of otherwise comparable companies from the proxy group. First, the Commission suggests excluding companies that fail to meet certain criteria. Second, the Commission suggests that companies undergoing a merger should be excluded from the proxy group. While I agree

with the Commission's goal of ensuring that the ROE estimation produces reasonable results, I believe, at least in the context of oil pipelines, such exclusion of companies from the proxy group would almost never accomplish this goal. In fact, many of the techniques the Commission appears to contemplate would produce a less representative ROE estimate.

1. Exclusion of Outliers

61. In the *Coakley Briefing Order*, the Commission suggested that companies that produce an ROE that is either less than 100 basis points above the cost-of-debt or more than 150 percent above the median should be excluded from the ROE calculation.¹⁶ In my opinion these criteria are inappropriate and do not accomplish the Commission's goal of ensuring that the ROE used in a cost-of-service calculation is representative of the return investors would expect of an investment of similar risk, *i.e.* the comparable risk requirement of *Hope*.
62. I would first note that these "outlier" criteria were largely developed in the context of the Commission's electric utility regulation. In this context, the Commission typically considered two figures. First, the Commission considered the range of ROE's to define the "Zone of Reasonableness." Second, it typically looked to the "midpoint" (*i.e.*, the average of the highest and lowest ROE of the proxy group members) to calculate the ROE for a group of utilities (such as the New England transmission companies whose ROEs were at issue in *Coakley*).¹⁷ In this case, outliers could have an undue influence that would generate unreasonable results. As the Commission has explained, the

¹⁶ *Coakley Briefing Order* 165 FERC ¶ 61,030 at P. 53.

¹⁷ See, e.g., *Coakley Briefing Order* at PP 27-28. By contrast, where the Commission is setting the ROE for a single utility, it generally uses the median. *Id.* at P 27 n.62.

“elimination of ... outliers is particularly important where the Commission uses the midpoint of the zone of reasonableness because a single outlier can dramatically affect the resulting ROE.”¹⁸ Therefore, removing these unusual results is appropriate and necessary.

63. The reason it is necessary to remove outliers when considering the range and midpoint is best illustrated by way of example. In Table 1 below, I create a hypothetical 10 member proxy group consisting of Company 1 – Company 10 with assumed ROE’s shown therein.¹⁹ As shown in Table 1, the ROE’s range from 5 percent to 25 percent and the midpoint is 15 percent while the median is 10.76 percent.

Table 1: ROE Example	
	Iteration 1
Company 1	5.00%
Company 2	7.00%
Company 3	7.91%
Company 4	8.94%
Company 5	10.10%
Company 6	11.41%
Company 7	12.90%
Company 8	14.57%
Company 9	20.00%
Company 10	25.00%
Midpoint	15.00%
Range	(5%, 25%)
Median	10.76%

¹⁸ *Id.* at P 54.

¹⁹ To develop these numbers, I assumed that Company 1 has an ROE of 5 percent; Company 2 an ROE of 7 percent; Company 3-Company 8 has an ROE that is 13 percent higher than the company below it; Company 9 has an ROE of 20percent; and Company 10 has an ROE of 25 percent.

In this case, the midpoint and the range are being unduly influenced by the extremely high ROE of Company 10. Indeed, the ROE of Company 10 is causing the midpoint to exceed the ROE of every Company except Company 9 and 10. Such a result is not reasonable.

64. I would first emphasize that in oil pipeline cases, the Commission typically sets the ROE at the median rather than the midpoint. As shown in Table 1, the median is not unduly influenced by the high (or low) results. For this reason, I do not believe it is necessary to eliminate outliers in the oil pipeline context. Even if one believes that the ROE of Company 10 is not sustainable, this figure is not directly influencing the ROE. The only way Company 10 influences the median is by signaling that some companies are generating an above average ROE. Whether Company 10 has an ROE of 14 percent, 20 percent, 25 percent or 50 percent will have absolutely no impact on the median. For this reason, I do not believe it is necessary to exclude outliers, so long as the high and low ROE cannot directly influence the result. Excluding outliers discards important information.
65. I would not recommend employing arbitrary criteria to eliminate Companies from a proxy group whose outcome differs from expectations. For example, eliminating Companies from Table 1 whose ROE is more than 150 percent above the median would eliminate Company 9 and 10. However, there is no principled reason why a company whose ROE is 150 percent above the median should be eliminated. Some parties might argue that companies with an ROE 130 percent above the median should be eliminated. In the example above, a lower threshold would also eliminate Company 7 from the proxy group. This example highlights the basic problem with the Commission employing

outlier screens contemplated for electric utilities when determining a proxy group that relies on the Median in the oil pipeline context; namely, it involves data trimming of useful information based on pre-determined criteria that lack foundation in economic theory. As such, it is akin to the type of subjective and arbitrary manual data trimming that the Commission has rejected in other contexts.²⁰

66. A further problem with applying the outlier test suggested in the NOI in the oil pipeline context involves the fact that it generates biased results, as demonstrated by the fact that employing the same inputs will generate different and lower results depending on the order high-end and low-end outliers are removed. To demonstrate this bias, I begin with the same hypothetical ROE figures as shown in Table 1. In Table 2 below, I have highlighted the high outliers in yellow and the low outliers in red.²¹ Consistent with the instructions in *Coakley*, I first eliminated the high-end outliers, followed by the low-end outliers.

²⁰ See, e.g., *Five-Year Review of Oil Pricing Index*, 133 FERC ¶ 61,228, at PP 48-49 (2010), *aff'd on reh'g*, 135 FERC ¶ 61,172 (2011).

²¹ I have assumed that the cost-of-debt is 4.5% meaning that Company 1 is a low-end outlier.

Table 2: Removing High-End ROE First				
	Iteration 1	Iteration 2	Iteration 3	Iteration 4
Company 1	5.00%	5.00%	5.00%	
Company 2	7.00%	7.00%	7.00%	7.00%
Company 3	7.91%	7.91%	7.91%	7.91%
Company 4	8.94%	8.94%	8.94%	8.94%
Company 5	10.10%	10.10%	10.10%	10.10%
Company 6	11.41%	11.41%	11.41%	11.41%
Company 7	12.90%	12.90%	12.90%	12.90%
Company 8	14.57%	14.57%		
Company 9	20.00%			
Company 10	25.00%			
Median	10.76%	9.52%	8.94%	9.52%
150% Above Median	16.14%	14.28%	13.41%	14.28%
Cost of Debt + 100%	5.50%	5.50%	5.50%	5.50%

Initially, only Company 9 and 10 are high-end outliers. However, the removal of Companies 9 and 10 causes Company 8 to fail the outlier test because the median falls, causing the calculation of 150 percent above the median to fall also. As a result, after all of the Outliers (both high and low) are eliminated by Iteration 4 the median ROE is 9.52 percent.

67. However, eliminating the low-end outliers first generates a different result as shown in Table 3.

Table 3: Removing Low-End ROE First				
	Iteration 1	Iteration 2	Iteration 3	Iteration 4
Company 1	5.00%			
Company 2	7.00%	7.00%	7.00%	7.00%
Company 3	7.91%	7.91%	7.91%	7.91%
Company 4	8.94%	8.94%	8.94%	8.94%
Company 5	10.10%	10.10%	10.10%	10.10%
Company 6	11.41%	11.41%	11.41%	11.41%
Company 7	12.90%	12.90%	12.90%	12.90%
Company 8	14.57%	14.57%	14.57%	14.57%
Company 9	20.00%	17.49%		
Company 10	25.00%	20.99%		
Median	10.76%	11.41%	10.10%	10.10%
150% Above Median	16.14%	17.12%	15.15%	15.15%
Cost of Debt + 100%	5.50%	5.50%	5.50%	5.50%

In this case, Company 8 never fails the high-end outlier test and so is retained. As a result, the median ROE is 10.10 percent or 62 basis points above the level shown in Table 4. There is no principled reason to eliminate the high-end outliers first. The fact that eliminating the high-end outliers first generates a lower median demonstrates that this approach has an inherent downward bias. The fact that a calculation based on the same inputs can produce different results depending on the order of the calculation also demonstrates that it is arbitrary. It is unlikely that a method with an inherent downward bias and arbitrary results will reflect the True Cost of Capital.

68. Further, the fact that the same inputs generate different outcomes is inconsistent with the principle that the methodology should be “reproducible.” Different analysts employing the same inputs, but removing outliers in a different order, will generate different results. A non-reproducible methodology is also unlikely to reflect the True Cost of Capital.

2. Addressing Mergers and Other Screens

69. The Commission also asks in the NOI how it should address mergers. Just as I recommend against eliminating companies breaching some arbitrary threshold in terms of ROE, I also recommend against eliminating companies breaching some arbitrary merger threshold (*e.g.*, being involved in a merger in excess of \$1 billion). Mergers are an aspect of business. To the extent a merger causes the ROE to become unusually high or unusually low, the use of the median in the oil pipeline context will ensure that the merger activity does not unduly impact the ROE. Information regarding companies engaged in a merger remains a valid source of information of market perceptions.
70. I would recommend eliminating a company from the proxy group if it has ceased providing a valid source of information of market perceptions. For example, if a firm has filed for bankruptcy protection, the price of its securities likely do not represent a risk comparable to that of the regulated pipeline. Instead, there would be a substantial probability that equity holders will lose their investment. For similar reasons, if a firm is undergoing an acquisition that will cause it to no longer be publicly traded it would not be included in the proxy group. For example, Buckeye Products Partners (“BPL”) is currently in the process of being acquired by IFM Investors who intend to take BPL private. While BPL continues to trade on the market until the acquisition is consummated, the current price reflects the approximate price IFM is willing to pay for the units. This price does not reflect the same type of market-based information as that reflected in the unit price of publicly-traded midstream companies. For this reason, I would exclude BPL from a proxy group.

71. I recommend employing a similar criterion when employing other screens that are employed in the electric industry. For example, at times participants in a rate case recommend eliminating a company from the proxy group because it lacks a credit rating or is not covered by Value Line. In my opinion, the Commission should not employ a bright line requirement that a proxy company *must* have a credit rating or be covered by Value Line to be included in the proxy group. A credit rating and coverage by Value Line are important pieces of data suggesting that investors perceive a given company to be a relevant potential investment (*i.e.* an alternative investment of comparable risk). However, there may be valid reasons why a relevant potential investment would not have a credit rating for Value Line coverage. For example, if a midstream company has not issued debt it may not have a credit rating, despite having a large market capitalization being publicly traded on a major stock exchange and competing for investors with the subject company. In this case, it is likely reasonable to include the company in a proxy group. On the other hand, a company with a small market capitalization that is not traded on a major stock exchange is likely not competing for investors with the subject company, particularly if the subject company is a large company worth hundreds of millions of dollars. In the latter case, it is likely appropriate to exclude this company.
72. For similar reasons I would not recommend employing a bright-line test to eliminate a company that has had a dividend cut within the past six months, as is sometimes recommended. A company may choose to reduce its dividend to ensure that it can continue to attract capital and as such is providing valid market information. On the other hand, a company in bankruptcy or suffering severe financial difficulty may be

appropriate to exclude from the proxy group because it is no longer providing valid market data.

73. In calculating a reasonable ROE, the FERC must ensure that it does not allow the estimate of ROE to be unduly influenced by events that cause the estimate to deviate from the True Cost of Capital. However, employing subjective factors to exclude “outliers” necessarily increases the chances of introducing bias, generating non-reproducible results, increasing volatility, and requiring *ad hoc* adjustments. In other words, excluding outliers necessarily increases the probability that the ROE estimate will violate the framework I outlined in Section II above. This fact also highlights an advantage of the Composite Method. Namely, because the methodology averages many data sources, the impact of any one data source, even if it is an outlier that deviates from the True Cost of Capital, will be minimal. As a result, the need to make *ad hoc* adjustments that may generate bias is reduced.

VI. MECHANICS OF IMPLEMENTING THE COMPOSITE METHOD

74. In Part E of the NOI, the Commission asks a variety of questions about how investors make use of different financial models. Ultimately, any precise answer to these questions involves a significant degree of speculation. However, as I discussed in Section III, the Commission, citing *Morin*, has recognized that investors rely on a variety of information sources in developing their expectations. These different information sources have strengths and weaknesses as I outlined in Section III. Combining these different sources of information provides the Commission with a more complete method for estimating the True Cost of Capital.

75. In my opinion, the four methods the Commission suggested in the NOI reasonably capture most of the information on which investors rely. The fact that all of these methods are based on information published by various research services supports this conclusion. Research services are unlikely to publish information that provides no value to their customers. As such, I recommend the Commission require all elements of the Composite Method to rely on information published by a major research service such as Value Line or Thomson/Reuters (which publishes IBES). I also recommend that the Commission incorporate estimation techniques that have different conceptual bases.
76. As I discussed in Section III, the DCF, CAPM, Risk Premium, and Expected Earnings methods all consider different aspects of financial performance and projections. For example, the DCF places significant reliance on price while the Expected Earnings focuses on accounting measures. In this way, the two measures complement each other rather than overlap each other. Developing a composite method consisting of several variants of one method (such as the DCF) would have limited value.
77. With regard to combining these different sources of information, I find the Commission's proposal that each method should be given equal weight to be reasonable.
78. In subpart F, the Commission raised questions about the potential mismatch between book and market values. Because oil pipeline firms typically derive little if any revenue from rates set on a cost-of-service basis, this issue is of minimal relevance in an oil pipeline context. To the extent this is an issue of concern for the Commission, I would note that because the Expected Earnings approach is based on book earnings, calculated on a GAAP basis, inclusion of this method in the Composite Method addresses this issue. This fact provides an additional example of the benefit of relying on a composite method.

79. In subpart H, the Commission raises several questions about the mechanics of the various methods. These questions include how to incorporate analyst growth forecasts, the relevance of the efficient market hypothesis, issues related to long-term growth forecasts in the DCF method, and the mechanics of the CAPM, Risk Premium and Expected Earnings methods.
80. In my opinion, incorporating as many analyst growth forecasts as possible is a valid goal. However, it is important to ensure that particular analysts are not given undue weight. Specifically, the IBES service of Thomson/Reuters typically includes most, if not all, major analysts covering a security. Including other services, such as Zacks, may result in overweighting the opinions of particular analysts. To illustrate this point, assume that IBES includes the opinion of Analysts A, B, C, D and E, while Zacks includes the opinion of analyst A, B, and F. Simply averaging the growth forecast of IBES and Zacks will give double weight to analysts A and B because both are included in the IBES and Zacks forecasts. Unless there is evidence that investors place more reliance on analyst A and B, giving double weight to these analysts will bias the results. Generally, IBES is viewed as the most comprehensive service for analyst forecasts. In my opinion, additional forecasts should be included only to the extent it can be shown there is no overlap.
81. Because Value Line is a proprietary service, its forecasts are not contained in IBES forecasts. To the extent parties wish to incorporate these growth forecasts into the DCF calculation they should be given appropriate weight. For example, if an IBES consensus forecast was based on the consensus of eight analysts, averaging the IBES forecast with the Value Line forecast would give Value Line eight times the weight of the analysts

underlying the IBES forecasts. Therefore, I recommend that if Value Line is incorporated it should be treated as an additional analyst added to the IBES forecast. In other words, if there are 8 IBES analysts the IBES forecast should be given $8/9^{\text{th}}$ weight and the Value Line forecast should be given $1/9^{\text{th}}$ weight.

82. The issue of short-term versus long-term growth is another area of constant controversy in the estimate of ROE using the DCF model. The basic issue revolves around the fact that the DCF model assumes an infinite growth horizon. This is one of the “strong” assumptions of the DCF model. In my opinion, the Commission’s current approach of using a two-stage model that assumes that at some point in the future securities will revert to a long-term growth rate is appropriate. I further recommend that the Commission continue to assign two-thirds weight to the short-term growth factor and assign one-third weight to the long-term growth factor. Other methodologies, such as the multi-stage growth model, add additional complexity for little if any increase in accuracy.
83. I would recommend that the Commission revise the way it estimates long-term growth for MLPs included in the proxy group. Under current policy, the Commission estimates long-term growth based on a combination of GDP growth estimates. Since the future is unknown, this approach makes the simplifying assumption that at some point in the future a company will shift to a long-term growth rate that will equal the economy as a whole. However, in 2008 the Commission determined that because MLPs distributed nearly all their earnings, their long-term growth prospects were lower relative to subchapter C corporations. In my opinion, there are several flaws with continuing to make this adjustment.

84. As has been well recognized in the investment community, MLPs have changed their practices since 2008 and now retain more cash. For example, in a recent article in *Seeking Alpha*, entitled “What’s The Outlook for MLPs,” the authors explain that MLPs historically prioritized distribution growth over earnings that other companies would have retained for growth. The article goes on to note that MLPs have shifted and tried to “be more self-funding in their approach and be able to fund projects without the need for capital markets.”²² Therefore, even if the basis for the Commission’s adjustment in the 2008 Policy Statement was valid at that time, facts have changed such that the adjustment is no longer valid.
85. In addition, the assumption that MLPs will distribute cash in a manner that causes them to *shrink* relative to the rest of the economy is illogical. Management has a strong incentive to manage its cash-flow in a manner that prevents the firm from shrinking into irrelevance. For example, in the early 2000s most MLPs contained provisions that gave their general partners Incentive Distribution Rights (“IDRs”). As noted in an article written by the Alerian MLP Fund, most companies have eliminated IDRs.²³ In fact, Alerian describes IDRs as a dying breed. In other words, rather than continue to distribute cash in a manner that would shrink their firm to irrelevance, management altered the distribution to ensure continued growth.
86. I would also note that managers of MLPs have the ability to issue additional units to investors in lieu of cash. This in turn frees up cash for investment. Additionally, these

²² See <https://seekingalpha.com/article/4260796-outlook-mlps> (last accessed June 19, 2019).

²³ <https://www.alerian.com/mlp-structural-simplifications-part-2-idr-eliminations/> (accessed on June 5, 2019).

managers can engage in numerous other activities to ensure growth, including cutting costs, finding better projects in which to invest, and borrowing money.

87. Finally, while it is reasonable to make the simplifying assumption that the long-term growth prospects of all companies can be expected to equal that of the economy as a whole, assumptions about the long-term growth prospects of specific companies or even specific industries are tenuous at best. For example, Standard Oil of New Jersey, now ExxonMobil (“XOM”), was founded in 1870. Currently, its five-year growth forecast is 13.31 percent, well in excess of GDP growth. Proctor and Gamble (“PG”) was founded in 1837. Currently, its five-year growth forecast is 6.22 percent. Both of these figures are well above the current long-term estimates of GDP growth of 4.35 percent. As such, the assumption that a particular firm will revert to some permanent state of growth equivalent to the economy as a whole is weak at best. Assuming that a specific class of firms, such as MLPs, will revert to a growth rate *below* that of the economy as a whole lacks foundation.
88. For these reasons, I recommend the Commission eliminate this requirement and employ the same long-term growth forecast for MLPs and Subchapter C corporations.
89. Finally, the Commission asks a variety of questions about the implementation of the CAPM, Risk Premium, and Expected Earnings methods. With the exception of the Risk Premium, I recommend that the Commission employ the methodology that it approved in *Coakley*. As in *Coakley*, I recommend that to calculate CAPM, the Commission use the Betas calculated by Value Line in the absence of evidence that another estimate of Beta is superior. I discussed modifications to the Risk Premium Method in Subpart IV above. In my opinion, these methodologies produce reasonable results. At the current time, there is

no reason to believe that methodologies that are more complex will produce results that are more reasonable. To the extent participants are able to demonstrate in a future rate case that some variant to one of these methodologies produces more reasonable results, I would expect the Commission would be open to such evidence.

VII. CONCLUSION

90. For the reasons I have described in this Statement, I believe that the Composite Method proposed in the NOI is reasonable and consistent with the framework I described in Section II of my testimony. Specifically, it will reduce bias and subtle biases may be cancelled out. Also, it will generate reproducible results. This outcome is particularly true if the Commission adopts the treatment of outliers I recommend in Section V of my Affidavit. In addition, the Composite Method is likely to be less volatile than sole reliance on the DCF. A less volatile methodology will minimize the need to make *ad hoc* adjustments. Finally, each of the methodologies the Commission contemplates in the NOI provides different sources of useful information on the return investors require.

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

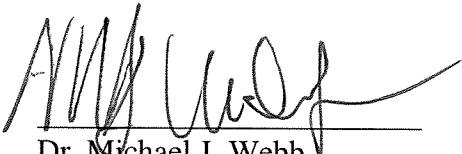
**Inquiry Regarding the Commission's
Policy or Determining Return on Equity**)

Docket No. PL19-4-000

AFFIDAVIT OF MICHAEL J. WEBB

Pursuant to 28 U.S.C. § 1746, I, Michael J. Webb, declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct to the best of my knowledge.

Executed this 25th day of June, 2019.



Dr. Michael J. Webb

**MICHAEL J. WEBB***Director*

Dr. Webb has twenty years of energy industry experience. Dr. Webb has extensive experience in all aspects of pipeline rate regulation at the Federal and State levels. He has participated in numerous projects involving the calculation of cost-based rates. He has also prepared several applications for authority to charge market-based rates on interstate oil pipelines. He has prepared whitepapers and met with FTC Staff to gain approval for mergers on behalf of oil companies. Dr. Webb holds a PhD in economics from George Mason University in Fairfax, Virginia and has published in the journals *Public Choice* and *Natural Gas & Electricity*. His academic interests include applied microeconomics, industrial organization, and auction theory. He has taught courses in Law and Economics, the Economics of Regulation, and the Economics of Energy at the graduate and undergraduate level.

Relevant Experience**Testimony**

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|------------------|---|
| Jun. 19, 2019 | Filed an affidavit on behalf of SFPP, L.P. discussing methodology employed to calculate cost of capital used in SFPP's Page 700 in Docket No. IS19-508-000. |
| Mar. 27, 2019 | Filed an affidavit on behalf of MPLX Ozark Pipe Line, LLC addressing issues related to product and destination markets and HHI calculations in Docket No. OR19-14-000. |
| Mar. 20-21, 2019 | Oral testimony and cross examination on behalf of White Cliffs Pipeline, LLC at the Federal Energy Regulatory Commission in Docket No. OR18-9-000 addressing issues related to market power. |
| Sept. 10, 2018 | Filed an affidavit on behalf of SFPP, L.P. addressing issues related to rates deemed just and reasonable by the Energy Policy Act of 1992 in Docket No. OR11-13-000 <i>et al.</i> |
| Aug. 7, 2018 | Filed affidavit on behalf of SFPP, L.P. in support of motion to reopen the record with regard to issues related to the impact of the Commission's Policy Statement on Income Tax Allowance in Docket No. IS08-390-000 <i>et al.</i> |



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| Jul. 30, 2018 | Filed Supplemental Direct Testimony on behalf of White Cliffs Pipeline, L.L.C. containing a market power analysis in support of White Cliffs' application for authorization to charge market-based rates in Docket No. OR18-9-000 |
| Jul. 11, 2018 | Filed affidavit on behalf of SFPP, L.P. explaining the basis for eliminating ADIT for a MLP that is not entitled to a tax allowance in Docket Nos. IS08-390-000 <i>et al.</i> |
| Jun. 14, 2018 | Filed Prepared Supplement Direct Testimony on behalf of West Texas LPG Pipeline Limited Partnership ("WTXP") addressing issues related to market power analyses in support of WTXP's application for authorization to charge market-based rates in Docket No. OR17-19-000. |
| May 2, 2018 | Filed Prepared Supplemental Direct Testimony on behalf of Wood River Pipe Lines LLC that contains a market power analyses in support of Wood River's application for authorization to charge market-based rates in Docket No. OR17-11-000. |
| Apr. 9, 2018 | Filed affidavit in support of the answer of Buckeye Pipeline Company, L.P. to the protest of various shippers to the tariff filing on Buckeye's Eastern Products System in Docket No. IS18-229-000. |
| Apr. 9, 2018 | Filed affidavit in support of the answer of Buckeye Pipeline Company, L.P. to the protest of various shippers to the tariff filing on Buckeye's Midwest Products System in Docket No. IS18-230-000. |
| Mar. 22, 2018 | Filed affidavit in support of the answer of White Cliffs Pipeline, L.L.C. to Protest of the Liquids Shippers Group to application of White Cliffs Pipeline, LLC's request for market-based ratemaking authority. |
| Dec. 22, 2017 | Filed affidavit in support of the request for rehearing of Plains Marketing, L.P. discussing pricing dynamics in the crude petroleum market. |
| Dec. 21, 2017 | Prepared Direct Testimony on behalf of White Cliffs Pipeline, L.L.C. in support of application for Market-Based Ratemaking Authority at the Federal Energy Regulatory Commission in Docket No. OR18-8-000. |



- Nov. 7, 2017 Cross Examination on behalf of Laurel Pipe Line Company, L.P. at the Pennsylvania Public Utilities Commission in Docket No. A-2016-2575829 supporting Laurel's request to make operational changes to its pipeline service.
- Nov. 1, 2017 Filed Supplemental Rejoinder testimony on behalf of Laurel Pipe Line Company, L.P. at the Pennsylvania Public Utilities Commission in Docket No. A-2016-2575829 supporting Laurel's request to make operational changes to its pipeline service.
- Oct. 6, 2017 Filed Rejoinder testimony on behalf of Laurel Pipe Line Company, L.P. at the Pennsylvania Public Utilities Commission in Docket No. A-2016-2575829 supporting Laurel's request to make operational changes to its pipeline service.
- Aug. 31, 2017 Filed Rebuttal testimony on behalf of Laurel Pipe Line Company, L.P. at the Pennsylvania Public Utilities Commission in Docket No. A-2016-2575829 supporting Laurel's request to make operational changes to its pipeline service.
- Aug. 28, 2017 Filed Rebuttal Expert Witness Statement in Suburban Heating Oil Partners, LLC v. Buckeye Terminals LLC before the American Arbitration Association Case No. 01-16-0003-4900 involving the calculation of damages for alleged breach of contract.
- Aug. 7, 2017 Filed affidavit on behalf of Wood River Pipe Line, LLC responding to Protest of the application for Market-Based Ratemaking Authority at the Federal Energy Regulatory Commission in Docket No. OR17-11-000.
- Jul. 20, 2017 Cross Examination in Suburban Heating Oil Partners, LLC v. Buckeye Terminals LLC before the American Arbitration Association Case No. 01-16-0003-4900 involving the calculation of damages for alleged breach of contract.
- Jun. 26, 2017 Filed Rebuttal Expert Witness Statement in Suburban Heating Oil Partners, LLC v. Buckeye Terminals LLC before the American Arbitration Association Case No. 01-16-0003-4900 involving the calculation of damages for alleged breach of contract.
- Jun. 19, 2017 Filed Expert Witness Statement in Suburban Heating Oil Partners, LLC v. Buckeye Terminals LLC before the American Arbitration Association Case No. 01-16-0003-4900 involving the calculation of damages for alleged breach of contract.



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| May 5, 2017 | Filed Direct testimony on behalf of Wood River Pipe Line, LLC in support of application for Market-Based Ratemaking Authority at the Federal Energy Regulatory Commission in Docket No. OR17-11-000. |
| Mar. 8, 2017 | Oral testimony and cross examination of Crimson Pipeline, L.P. at the California Public Utilities Commission in Docket No. A.16-03-009 addressing issues related to cost of capital, risk and the use of the cost-of-service methodology in assessing whether rates are just and reasonable. |
| Feb. 7, 2017 | Filed Direct testimony on behalf of Laurel Pipe Line Company, L.P. at the Pennsylvania Public Utilities Commission in Docket No. A-2016-2575829 supporting Laurel's request to make operational changes to its pipeline service. |
| Feb. 3, 2017 | Filed 2 nd Supplemental Rebuttal Testimony on behalf of West Texas LPG Pipeline Limited Partnership at the Railroad Commission of Texas in GUD No. 10455 regarding the calculation of cost-based rates in the presence of competition. |
| Feb. 2, 2017 | Oral testimony and cross examination in on behalf of SFPP, L.P. at the Federal Energy Regulatory Commission in Docket No. OR16-6-000 addressing issues related to cost of capital, risk, and billing determinants used to set cost-based rates for SFPP. |
| Jan. 16, 2017 | Filed Rebuttal Testimony on behalf of Crimson Pipeline, L.P. at the California Public Utilities Commission in Docket No. A.16-03-009 addressing issues related to cost of capital, risk and the use of the cost-of-service methodology in assessing whether rates are just and reasonable. |
| Oct. 28, 2016 | Filed Prepared Answering Testimony in response to Commission Trial Staff on behalf of SFPP, L.P. at the Federal Energy Regulatory Commission in Docket No. OR16-6-000 addressing issues related to the cost of capital. |
| Oct. 21, 2016 | Filed Supplemental Rebuttal Testimony on behalf of West Texas LPG Pipeline Limited Partnership at the Railroad Commission of Texas in GUD No. 10455 regarding the calculation of cost-based rates in the presence of competition. |
| Oct. 18, 2016 | Filed Prepared Answering Testimony in response to Commission Trial Staff on behalf of SFPP, L.P. at the Federal Energy Regulatory Commission in Docket No. OR16-6-000 addressing issues related to test period volumes and market evaluation. |



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| Sep. 19, 2016 | Filed Affidavit on behalf of Enterprise TE Products Pipeline Company, LLC in Docket No. OR16-23-000, addressing issues related to cost-of-service and cost-allocation. |
| Sep. 16, 2016 | Filed Rebuttal Testimony on behalf of West Texas LPG Pipeline Limited Partnership at the Railroad Commission of Texas in GUD No. 10455 regarding economic theory underpinning the analysis of market rates. |
| Aug. 17, 2016 | Filed Direct Testimony on behalf of Crimson Pipeline, L.P. at the California Public Utilities Commission in Docket No. A.16-03-009 addressing issues related to cost of capital, risk and the use of the cost-of-service methodology in assessing whether rates are just and reasonable. |
| Aug. 12, 2016 | Filed Answering Testimony on behalf of SFPP, L.P. at the Federal Energy Regulatory Commission in Docket No. OR16-6-000 addressing issues related to cost of capital, risk, and billing determinants used to set cost-based rates for SFPP. |
| Aug. 1, 2016 | Filed Direct Testimony in support of the application for market-based ratemaking authority of Buckeye Linden Pipe Line Company LLC. |
| Jul. 25, 2016 | Provided Verified Statement on behalf of Crimson Pipeline, L.P. at the California public Utilities Commission in Docket No. A.16-03-009 addressing issues raised by shippers in response to request for emergency rate relief |
| Jun. 15, 2016 | Provided Verified Statement on behalf of Crimson Pipeline, L.P. at the California public Utilities Commission in Docket No. A.16-03-009 regarding the need for emergency rate relief. |
| Mar. 11, 2016 | Provided Testimony on behalf of Crimson Pipeline, L.P. at the California Public Utilities Commission in Docket No. A.16-03-009 regarding achieved return and cost of capital |
| Oct. 8, 2015 | Presented Oral Testimony on behalf of Buckeye Pipe Line Company, L.P. at FERC in Docket No. OR14-4-000 responding to testimony regarding the competitive status of certain markets served by the carrier |
| Jul. 1, 2015 | Provided Testimony on behalf of Newfield Production Company at the 269 th District Court in Case No. 201534624 regarding FERC process and principles related to committed rates |



- Jun. 26, 2015 Filed Prepared Answering Testimony on behalf of Buckeye Pipe Line Company, L.P. at FERC in Docket No. OR14-4-000 responding to testimony regarding the competitive status of certain markets served by the carrier
- May 15, 2015 Filed Prepared Rebuttal Testimony on behalf of Zydeco Pipeline Company LLC at FERC in Docket No. IS14-607-000 *et al* responding to overhead cost allocation, rate design and cost of capital related issues
- Mar. 24-27, 2015 Presented Oral Testimony at FERC on behalf of Buckeye Pipe Line Company, L.P. in Docket No. OR12-28-001 regarding economic principles of cost allocation and evaluation of allocation methodology
- Jan. 20, 2015 Filed Prepared Answering Testimony at FERC on behalf of Buckeye Pipe Line Company, L.P. in Docket Nos. OR14-4-000 *et al.* regarding analyses underlying a market power determination
- Dec. 19, 2014 Filed Prepared Answering Testimony Responding to Commission Trial Staff at FERC on behalf of Buckeye Pipe Line Company, L.P. in Docket No. OR12-28-001 regarding economic principles of cost allocation and evaluation of allocation methodology
- Dec. 15, 2014 Filed Direct Testimony at FERC on behalf of Zydeco Pipeline Company LLC in Docket No. IS14-607-000 *et al* discussing regarding cost allocation and cost of capital issues
- Oct. 7, 2014 Filed Prepared Answering Testimony on behalf of Buckeye Pipe Line Company, L.P. at FERC in Docket No. OR12-28-001 regarding economic principles of cost allocation and evaluation of allocation methodology
- Aug. 7, 2014 Filed Rebuttal Written Evidence at the Canadian National Energy Board on behalf of Shell Trading Canada on matters regarding apportionment methodologies in Hearing Order RHW-001-2013
- Jul. 27, 2014 Filed Affidavit on behalf of SFPP, L.P. in Docket No. OR14-35 regarding the efficiency of the FERC's indexing methodology
- Jun. 4, 2014 Filed Direct Testimony at FERC on behalf of Shell Pipeline Company, L.P. in Docket No. IS14-104-000 *et al.* discussing regarding cost allocation and cost of capital issues



- Apr. 25, 2014 Filed Direct Written Evidence at the Canadian National Energy Board on behalf of Shell Trading Canada on matters regarding apportionment methodologies in Hearing Order RHW-001-2013
- Nov. 12-14, 2013 Presented oral testimony, cross examination before the Virginia State Corporation Commission regarding cost-of-service and rate design issues for a private toll road in PUE-2013-00011
- Nov. 4, 2013 Filed Affidavit at FERC on behalf of Buckeye Pipeline Company, L.P. in Docket No. OR14-4 in support of its motion to dismiss
- Oct. 15, 2013 Filed Rebuttal testimony at the Virginia State Corporation Commission regarding cost-of-service regulation and ratemaking issues in Case No. PUE-2013-00011
- Sept. 23, 2013 Filed prepared testimony at the Regulatory Commission of Alaska on behalf of BP Pipelines (Alaska) Inc. calculating a cost-based rate and providing theoretical support in Docket No. TL143-311
- Apr. 30, 2013 Submitted Joint Expert Report to the Virginia State Corporation Commission regarding cost-of-service regulation and ratemaking issues in Case No. PUE-2013-00011
- Apr. 29, 2013 Presented oral testimony and cross examination at the California Public Utilities Commission on behalf of SFPP, L.P. discussing theoretical principles of cost allocation with regard to Application No. 09-05-014
- Dec. 12, 2012 Filed Rebuttal Testimony at FERC on behalf of Enterprise TE Products Pipeline Company LLC in Docket No. IS12-203-000 on matters relating to rate design and cost-of-capital
- Nov. 5, 2012 Filed Direct Testimony at the California Public Utilities Commission on behalf of SFPP, L.P. discussing theoretical principles of cost allocation with regard to Application No. 09-05-014
- Oct. 10, 2012 Filed Verified Statement at FERC on behalf of Buckeye Pipeline Company, L.P. in Docket No. OR12-28-000 regarding the justness and reasonableness of the pipeline's rates
- Jul. 18, 2012 Filed Affidavit at FERC on behalf of Association of Oil Pipe Lines in Docket No. OR12-4-000 on issues related to assessing competition in the context of applications for market-based ratemaking authority



- Jul. 16, 2012 Filed Reply Verified Statement at FERC on behalf of Buckeye Pipeline Company, L.P. in Docket No. IS12-185-000

- Jul. 9, 2012 Filed Prepared Direct Testimony at FERC on behalf of Enterprise TE Products Pipeline Company LLC in Docket No. IS12-203-000 on matters relating to rate design and cost-of-capital

- May 15, 2012 Filed Verified Statement at FERC on behalf of Buckeye Pipeline Company, L.P. in Docket No. IS12-185-000 addressing issues related to ratemaking in the context of the company's ratemaking program

- Apr. 18-20, 2012 Presented oral testimony and responded to questions of Commissioners at the Public Service Commission of the State of Wyoming on behalf of Belle Fourche Pipeline Company in Docket no. 50000-61-PR-11 on issues related to cost-of-service and cost-of-capital

- Feb. 1, 2012 Filed Supplement Direct Testimony at the Public Service Commission of the State of Wyoming on behalf of Belle Fourche Pipeline Company in Docket No. 50000-61-PR-11 on issues related to cost-of-service and cost of capital

- Jan. 10-11, 2012 Presented Oral Testimony and cross examination at the FERC on behalf of Enbridge Pipelines (Southern Lights) LLC in Docket Nos. IS10-399-000 *et al.* on issues related to cost-of-service and rate design

- Jan. 9, 2012 Filed Supplemental Direct Testimony at FERC on behalf of SFPP, L.P. in Docket No. IS11-444-001 revising calculations to accord with Commission's new cost-of service ruling

- Jan. 6, 2012 Filed Rebuttal Testimony before the State Corporation Commission of the State of Kansas on behalf of Mid-America Pipeline Company, LLC in Docket No. 12-MDAP-068-RTS on issues related to cost-of-service and rate design

- Dec. 13, 2011 Filed Direct Testimony at FERC on behalf of SFPP, L.P. in Docket No. IS11-444-001 regarding the proposed indexation of pipeline rates and the economic principles of the Commission's indexing methodology

- Nov. 1, 2011 Filled Rebuttal Testimony at the Federal Regulatory Commission on behalf of Enbridge Pipelines (Southern Lights) LLC in Docket Nos. IS10-399-000 *et al.* on issues related to cost-of-service and rate design



- Oct. 25, 2011 Filed Affidavit on behalf of Mid-America Pipeline Company, LLC before the State Corporation Commission of the State of Kansas in Docket No. 12-MDAP-068-RTS in support of a Motion to Compel
- Oct. 14, 2011 Filed Direct Testimony before the Public Service Commission of the State of Wyoming on behalf of Belle Fourche Pipeline Company in Docket No. 50000-61-PR-11 on issues related to cost-of-service and cost-of-capital
- Aug. 19, 2011 Filed Direct Testimony before the State Corporation Commission of the State of Kansas on behalf of Mid-America Pipeline Company, LLC in Docket No. 12-MDAP-068-RTS on issues related to cost-of-service and rate design
- Jun. 7, 2011 Filed Direct Testimony at FERC on behalf of Enbridge Pipelines (Southern Lights) LLC in Docket Nos. IS10-399-000, *et al.* on issues related to cost-of-service and rate design
- Jul. 2, 2010 Presented oral cross examination of behalf of SFPP, L.P. addressing issues associated with cost allocation and volume projections in Docket No. IS09-437
- May 14, 2010 Filed Rebuttal Testimony on behalf of SFPP, L.P. addressing issues associated with cost allocation, and volume projections in Docket No. IS09-437
- May 10-11, 2010 Presented oral cross examination behalf of San Pablo Bay Pipeline Company, LLC at the California Public Utility Commission supporting its Application for market based rates in Docket No. A.08-09-024
- Apr. 15, 2010 Filed Direct Testimony on behalf of Kuparuk Transportation Company on cost of service issues before the Regulatory Commission of Alaska
- Feb. 23-24, 2010 Presented oral Testimony on behalf of SFPP, L.P. at the California Public Utilities Commission addressing issues associated with competition, sound regulatory policy, and macro-economic conditions in Docket No. 09-05-014
- Feb. 8, 2010 Filed Rebuttal Testimony on behalf of San Pablo Bay Pipeline Company LLC in Docket No. A-08-09-024 addressing issues related to competitive analysis of its markets



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| Jan. 25, 2009 | Filed Rebuttal Testimony on behalf of SFPP, L.P. at the California Public Utilities Commission addressing issues associated with competition, sound regulatory policy and macro-economic conditions in Docket No. A. 09-05-014 |
| Dec. 29, 2009 | Filed Verified Statement on behalf of San Pablo Bay Pipeline, LLC supporting Motion to Compel in Docket No. A 08-09-024 |
| Dec. 11, 2009 | Filed Direct Testimony on behalf of SFPP, L.P. addressing issues associated with cost-allocation, and volume projections in Docket No. IS09-437 |
| Sept. 21, 2009 | Filed Affidavit supporting SFPP, L.P.'s Petition for Rehearing in Docket No. IS09-437 |
| Jun. 26, 2009 | Presented Oral Sur-rebuttal testimony on behalf of SFPP, L.P. addressing issues associated with volume projections and economic conditions |
| Jun. 18-19, 2009 | Presented Oral Testimony on behalf of SFPP, L.P. at FERC in Docket No. IS08-390-002 addressing issues discussed in prepared Direct and Rebuttal Testimony |
| Mar. 27, 2009 | Filed Rebuttal Testimony at FERC discussing cost-allocation, depreciation, and the economic conditions associated with demand for refined petroleum products in SFPP's destination market |
| Jan. 13, 2009 | Filed Sworn Declaration on behalf of San Pablo Bay Pipeline, LLC supporting its Response to Tesoro's Motion for Summary Adjudication in Docket No. A.08-09-024 |
| Dec. 2-4, 2008 | Presented Oral Testimony on behalf of SFPP, L.P. at FERC addressing theoretical issues related to allocation of cost and the economic life of the pipeline |
| Oct. 16, 2008 | Filed Direct Testimony at FERC on behalf of SFPP, L.P. in Docket No. IS08-390-002 discussing theoretical principles of cost allocation |
| Sept. 30, 2008 | Filed Direct Testimony on behalf of San Pablo Bay Pipeline Company LLC at the California Public Utilities Commission in Docket No. A.08-09-024 supporting its market based rates and examining the competition in origin and destination markets using conventional measures of market concentration and competition |



- Sept. 9, 2008 Filed Answering Testimony at FERC on behalf of SFPP, L.P. in Docket No. OR03-5-000, discussing theoretical issues associated with cost-allocation and the economic life of the pipeline
- Jul. 6, 2007 Filed Affidavit at FERC in support of a motion for rehearing of Frontier Pipeline Company in Docket No. OR01-2-000 and OR01-4-000 discussing calculation of refunds owed by Frontier.

Rate Regulation Issues

- Led the project team in developing data and preparing cost-of-service calculation in cost-based rate cases. Assisted multiple witnesses in drafting testimony regarding FERC requirements for cost-based ratemaking.
- Prepared cost-of-service filings, consistent with FERC regulations in 18 CFR § 346.2 on behalf of numerous oil pipelines.
- Assisted counsel in preparing cross examination regarding cost-based ratemaking and regulatory theory.
- Assisted multiple witnesses in drafting testimony presenting Stand-Alone Cost theory to the FERC.

Antitrust Matters

- Prepared a whitepaper for the Federal Trade Commission analyzing the competitive impact of a pipeline acquisition in the Eastern Pennsylvania area.
- Developed a computer-based model to analyze the competitive impact of an oil pipeline acquisition in the mid-continent region. Prepared a detailed whitepaper explaining the theory behind the analysis and the results of the analysis. Met with FTC Staff to discuss the results of the analysis.
- Analyzed the competitive impact of a refinery acquisition in the northeastern United States. Constructed a computer-based simulation based on publicly available data and an analysis of how the acquisition would impact the market. Prepared multiple whitepapers reporting results of the analysis. Met with FTC Staff to discuss the results of the analysis.

Market-Based Rate Filings

- Assisted in the preparation of an application for market-based ratemaking authority and associated exhibits consistent with 18 CFR § 348 on behalf of Sunoco Pipeline, LP's market-based rate filing.



- Assisted in the preparation of expert testimony and exhibits filed in Shell Pipe Line Company LP in market-power case.
- Participated in the development of applications for market-based ratemaking authority on behalf of Chase Pipeline Company, Inc. West Shore Pipeline Company, Inc, and Marathon-Ashland Pipe Line LLC.

Acquisition Due Diligence

- Participated in a project team analyzing the regulatory risk that a private equity fund faced if it acquired a controlling interest in liquids.
- Participated in a project team analyzing the regulatory risk that a pipeline company considering a conversion in ownership structure from a corporation to a master limited partnership could face if its rates were contested by its shippers.

Involvement in Prior Regulatory Matters

FERC Matters

OR03-5-001	Complaint against the rates of SFPP's North Line and Oregon Line
IS05-216-000	Protest against the rates of Mid-America Pipeline
IS05-82-000, IS06-01-000	Protest and Complaint against TAPS CARRIERS rates
OR05-7-000	Sunoco Logistics Partners, L.C. Market Based Rate filing
OR96-2-000, IS98-1-000	Protest and complaint against SFPP's Sepulveda pipeline system
OR05-1-000	Petition for Declaratory Order Filed by Enbridge's Spearhead pipeline
OR01-2-000	Calculating reparations owed by Frontier to Big West and Chevron
OR02-10-000	Shell Pipe Line Company, LP application for market-based ratemaking authority
IS02-384-000	Protest and Complaint against Platte Pipe Line Company and Express Pipeline Company, LLC



OR96-2-000	Complaint against SFPP's rates
OR01-06-000	Application of West Shore Pipe Line Company for market-based ratemaking authority
OR01-03-000, OR01-05-000	Complaint against the rates of Anschutz Ranch East Pipeline Inc.
OR01-02-000, OR01-04-000	Complaint against the rates of Frontier Pipeline Company
OR01-1-000	Application of Chase Transportation Company for market-based ratemaking authority
OR00-1-000	Application of Marathon-Ashland Pipe Line, LLC for market-based ratemaking authority

State Matters

P-03-4	Protest and complaint at the Regulatory Commission of Alaska against the rates of the TAPS Carriers
TO-01147	Protest against Olympic Pipe Line Company, Inc's rate increase at the Washington Utilities and Telecommunications Commission
P97-4 and P97-7	Protest and complaint at the Regulatory Commission of Alaska against the rates of the TAPS Carriers
TX 1999-00532	Challenge to Arizona tax court's determination that SFPP's property should be valued at other than original cost

Other Entities

Docket No. 42084	Analyzing the return of Valero's ammonia pipeline
Civ No. 96-Z-2451	Challenge to the rates charged by a CO ₂ Pipeline in Federal District Court
Case No. 70 198 00294-99	Challenge to a pro-rationing policy of Amoco Oil Company filed before the American Arbitration Association



Publications and Presentations

“Pipeline Economics 101” Presented at the 2018, 2017, 2011, and 2010 Annual Business Conference of the Association of Oil Pipe Lines

“Allocating Pipeline Capacity and Priority Service” Presented at the 2018 Annual Business Conference of the Association of Oil Pipe Lines

“State Regulation” Presented at the 2018 Annual Business Conference of the Association of Oil Pipe Lines

“Market-Based Rates” Presented at the 2017, 2016, 2015, 2014, 2013, and 2012 Annual Business Conference of the Association of Oil Pipe Lines

“State-Based Regulation” Presented at the 2017 Annual Business Conference of the Association of Oil Pipe Lines

“Introduction to FERC Ratemaking” Presented at the 2016, 2015 and 2014 Annual Business Conference of the Association of Oil Pipe Lines

“Cost of Service Concepts” Presented at the 2015 Annual Business Conference of the Association of Oil Pipe Lines

“Pipeline Update” Presented at the November 2014 Mexican Energy Infrastructure Symposium

Webb, M.J and Williams, J.C “Price Regulation Allowing NGL Pipelines to Adjust to Current Conditions” Natural Gas & Electricity (August 2013) 17-22

Presentation at EUCI regarding all aspects of ratemaking for the liquid pipeline industry, December 2012

“Regulatory Basics for Oil Pipelines” Presented at the 2013, 2012, 2011, 2010, and 2009 Annual Business Conference of the Association of Oil Pipe Lines

“Ratemaking: Beyond the Basics” Presented at the 2011, 2010, 2009, and 2008 Annual Business Conference of the Association of Oil Pipe Lines

“New Developments in Pipeline Expansions: Executing the Deal” Presented at the 2011 Annual Business Conference of the Association of Oil Pipe Lines

“FERC 101” Presented at the 2008 and 2007 Annual Business Conference of the Association of Oil Pipe Lines

The Political Economy of the Israel Palestine Conflict: An Evolutionary Game Theory Approach: Doctoral Dissertation

Rowley, C.K and M. J. Webb “Israel and Palestine: the slow road to peace or the fast track to mutual annihilation” Public Choice (July 2007) 132: 7-26



“The Antitrust Review of Oil Pipe Line Mergers at the FTC” Presented that the 2007 Annual Business Conference of the Association of Oil Pipe Lines

“Surviving a Rate Case” Presented at the 2006 Annual Business Conference of the Association of Oil Pipe Lines

Previous Relevant Employment

<i>Association of Oil Pipe Lines (1997-1998)</i>	<i>Intern</i> Prepared statistical analysis of pipe line failures from publicly available sources. Assisted Executive Director in employing economic theory to address industry concerns.
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Education

<i>George Mason University</i>	PhD, Economics MA, Economics
<i>American University</i>	BA (<i>Magna Cum Laude</i>) International Relations, Economics