Cost of Service Rates

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Agenda

- I. Why do we have cost of service
- II. Cost of service concepts
- III. Key elements
- IV. Return on Equity
- v. Impact of acquisitions on cost of service
- VI. Rate design

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Why Do We Have Cost of Service?

- Section 1(5) of the Interstate Commerce Act requires that rates for oil pipeline transportation be "just and reasonable."
- FERC has a statutory responsibility under Section 15(1) of the Interstate Commerce Act to ensure that oil pipeline rates are "just and reasonable."
- Cost of service is one method the FERC uses to evaluate if rates are just and reasonable.

Opinion No. 154-B

- "Devised generic cost of service principles for the setting of just and reasonable oil pipeline rates."
- Established a cost of service methodology pursuant to which the FERC can evaluate the reasonableness of oil pipeline rates on a caseby-case basis.

Subsequent Commission Opinions

- Provided additional clarification about specific elements of the 154-B cost of service methodology. For example:
 - Opinion 351 provided additional clarification about the treatment of the SRB write-up
 - Opinion 435 provided additional clarification about the amortization of the SRB write-up and deferred return
 - Opinion 511-A provided additional clarification about the treatment of the SRB write-up when calculating deferred return

Why Should a Pipeline Charge Cost of Service Rates?

- When it's necessary:
 - New service requires cost of service justification unless a nonaffiliated shipper agrees to the rate
 - Raising non-market-based rates above the index ceiling
 - □ In response to a shipper complaint
- When it's optional
 - □ Pros:
 - Can justify an increase greater than annual index adjustment
 - Provides stability and predictability going forward
 - Cons:
 - Can lead to contentious, expensive and intrusive litigation
 - Less potential upside than other methodologies
 - May not fully recover actual "cost of service"

Base and Test Periods

- Cost of service information is developed using data from two time periods:
 - Base period 12 consecutive months of actual experience, adjusted to eliminate non-recurring items
 - Test period adjustments to the base period for changes in revenue and costs that are known and measurable with reasonable accuracy at the time of filing and which will become effective within nine months after the last month of available actual experience
 - FERC's regulations for new pipelines require use of a test period based on a 12-month projection of costs and revenues
 - In SFPP Op. 522, FERC held that not all cost of service elements must be updated to reflect more recent data

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Conceptually, Cost of Service is Comprised of:



Expenses

An oil pipeline carrier is allowed the opportunity to recover its prudently incurred expenses.

Operating Expenses

- Consists of operating and maintenance expenses incurred in providing regulated services
- Disputes more often concern the appropriate level of adjustments than actual categories

Operating Expenses

- Salaries and Wages
- Materials and Supplies
- Outside Services
- Fuel and power
- DR&R
- Pensions and benefits
- Insurance
- Oil losses and shortages
- Taxes other than income taxes
- Allocated overhead

Return of Capital

An oil pipeline carrier is allowed the opportunity to recover the cost of its investment in regulated assets over its life through periodic charges to depreciation (of carrier property).

Depreciation

- Pipelines recover capital investments through depreciation expense.
- Depreciation expense is computed by multiplying the depreciation rate by the appropriate property balance
- The depreciation rate is calculated by dividing 1 by the average remaining life (e.g., 1/30=3.33 %)
 - Average remaining life is determined through a study of the pipeline's economic and physical lives; generally, the average remaining life is shorter than the economic and physical lives because not all categories of property will last until the truncation date

Return on Capital (i.e., Return on Rate Base)

An oil pipeline carrier is allowed the opportunity to earn compensation for the use of its capital to finance the investment necessary to provide regulated service.

Where Concept Meets Page 700

		Expenses
Line	Item	
No.	(a)	
1	Operating and Maintenance Expenses	Return of
2 3	Depreciation Expense	
3	AFUDC Depreciation	
4	Amortization of Deferred Earnings	
5	Rate Base	
5a	Rate Base – Original Cost	
5b	Rate Base – Unamortized Starting Rate Base Write-Up	
5c	Rate Base – Accumulated Net Deferred Earnings	
5d	Total Rate Base – Trended Original Cost – (line 5a + line 5b + line 5c)	
6	Rate of Return % (10.25% - 10.25)	
6a	Rate of Return – Adjusted Capital Structure Ratio for Long Term Debt	Return on
6b	Rate of Return – Adjusted Capital Structure Ratio for Stockholders' Equity	
6c	Rate of Return – Cost of Long Term Debt Capital	Capital
6d	Rate of Return – Real Cost of Stockholders' Equity	
6e	Rate of Return – Weighted Average Cost of Capital – (line 6a x line 6c + line 6b x	
	line 6d)	
7	Return on Trended Original Cost Rate Base	
7a	Return on Rate Base – Debt Component – (line 5d x line 6a x line 6c)	
7b	Return on Rate Base – Equity Component – (line 5d x line 6b x line 6d)	
7c	Total Return on Rate Base – (line 7a + line 7b)	
8	Income Tax Allowance	
8a	Composite Tax Rate % (37.50% - 37.50)	$\left - \right $
9	Total Cost of Service	

Jurisdictional Costs

- Order 620 clarified that only FERC-jurisdictional costs and revenues are to be reported on Page 700
- Non-jurisdictional costs and revenues are excluded from the relevant cost of service and include:
 - Intrastate services
 - □ Merchant storage, other non-tariff services, etc.

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Key Elements

Rate Base

- Return on Rate Base
- Income Tax Allowance

Key Elements

Rate Base

- Return on Rate Base
- Income Tax Allowance

Rate Base Conceptual Overview

- Oil pipelines are entitled to the opportunity to earn a "reasonable" return on capital
- Comprised of debt and equity components
 - Portion associated with debt and equity is determined by capital structure
 - Different rates of return for investment funded by debt and equity

Rate Base Common Methodologies

Trended Original Cost (TOC)
Promulgated by Opinion 154-B

Depreciated Original Cost (DOC)
Used for many state regulatory cost of service calculations

Rate Base TOC vs. DOC

- Both start with original cost rate base, but inflation is treated differently:
 - TOC factors inflation into the equity portion of rate base. The trending, or deferred equity return, is amortized. The debt portion is not trended.
 - DOC immediately factors inflation into (nominal) return on equity rate base.

Rate Base TOC vs. DOC



Components of 154-B Rate Base

- + Carrier Property in Service
- Accrued Depreciation
- + Net Allowance for Funds Used During Construction ("AFUDC")
- + Working Capital
- Accumulated Deferred Income Taxes ("ADIT")
- = DOC Rate Base
- + Net Deferred Return
- = TOC Rate Base
- + Net Starting Rate Base Write-Up
- = 154-B Rate Base

Carrier Property in Service and Accrued Depreciation

- Typically based on original cost property records and FERC prescribed composite depreciation rates.
 - There are exceptions when purchase price amounts may be used for ratemaking purposes.
- A Carrier needs to receive FERC approval to modify its depreciation rates.

AFUDC

- Compensates investors for funds expended to construct pipeline assets before the assets are placed in service.
- Allowed on both equity and debt expenditures.
- AFUDC is added to rate base at the same time the asset is placed in service.
- AFUDC is amortized, and its amortization is included in cost of service. The unamortized balance is included in rate base.

ADIT Cost of Service Implications

The standard convention is to deduct ADIT from rate base.

Theoretically, a pipeline is not permitted to earn a return on ADIT because ADIT is viewed as cost-free capital that is not supplied by investors.

Working Capital

Working capital consists of investments required to support the operation of a pipeline.

 Typically includes oil inventory, materials & supplies, and prepayments.

Deferred Return (or Deferred Earnings)

- Represents the inflationary trending component included in a 154-B rate base and amortized over the useful life of the pipeline.
- Amortization of deferred return is included in cost of service.
- Deferred return is calculated by multiplying the inflation factor times the equity rate base.

Key Elements

Rate Base

- Return on Rate Base
- Income Tax Allowance

Return on Rate Base WACC

- To calculate a pipeline's (after-tax) return on rate base, you multiply the rate base by the WACC
- WACC = weighted average cost of capital
- Reflects a weighted average of equity and debt return components:

(Debt % x COD) + (Equity % x ROE) = WACC (40.0% x 7.0%) + (60.0% x 12.0%) = 10.0%

Capital Structure (3-pronged test)

- In evaluating the appropriate capital structure, the FERC will:
 - □ First look at the pipeline's actual capital structure
 - Unless it's anomalous or the pipeline does not provide it's own financing
 - Then the FERC will look at the parent company's capital structure
 - Unless it's anomalous
 - Finally, the FERC will look at the average capital structure of a proxy group composed of publicly traded pipelines

Equity v. Debt

- Equity: intended to compensate investors for the use of their capital to finance carrier investment, on an after-tax basis.
 - Deferred return is 100% equity, so the capital structure needs to be adjusted when calculating the WACC for a TOC rate base
- Debt: calculated as an allowance for interest incurred on long-term debt.

Equity Rates of Return: Nominal v. Real

- <u>Nominal</u>: Real rate of return + inflation.
 - Nominal rate of return is calculated using the DCF and CAPM approaches using comparable companies (proxy group) and stock market and projected growth data.
- Real: Excludes inflationary component of return. Used for 154-B return on rate base calculation.
Key Elements

Rate Base

Return on Rate Base

Income Tax Allowance

Income Tax Allowance: Conceptual Overview

- Return on rate base is an after-tax return.
- The income tax allowance grosses up the aftertax return on equity rate base to compensate investors for their estimated tax liability.

Net-To-Tax Multiplier Hypothetical Example

1	Income Tax Rate	Tax Cuts and Jobs Act	21.00%
2	Net-to-Tax Multiplier	Line 1 / (100% - Line 1)	26.58%
3	Taxable Allowed Return	Hypothetical	\$10,000
4	Income Tax Allowance	Lines (2 * 3)	\$2,658
5	Total Taxable Return	Lines (3 + 4)	\$12,658
6	Taxable Income	Line 5	\$12,658
7	Income Tax Expense	Lines (1 * 6)	\$2,658
8	Net Income	Lines (6 - 7)	\$10,000

Income Tax Allowance: Recent Developments

- July 2016 United Airlines Inc., et al. v. FERC, 827 F.3d (D.C. Cir. 2016)
 - The Court held that the Commission failed to demonstrate that there is no double recovery of taxes for a partnership pipeline that recovers both an income tax allowance and a pre-investortax ROE pursuant to the DCF methodology.
 - The Court remanded the issue to the Commission to develop a mechanism for demonstrating that there is no double recovery of partnership income tax costs.
 - □ The Court also directed the Commission to ensure parity between equity owners in partnership and corporate pipelines.

- March 2018 Revised ITA Policy Statement, 162 FERC ¶ 61,227 (2018)
 - The Commission revised its prior ITA policy and will no longer permit MLPs to recover an ITA in their cost of service to prevent the double recovery of income tax costs.
 - □ Consistent with the revised policy, the Commission denied SFPP an ITA in Opinion No. 511-C, 162 FERC ¶ 61,228 (2018).
 - No findings were made for non-MLP pass through entities, but they must address the double recovery concern if they seek to recover an ITA.
 - Rehearing was requested regarding the ITA findings in the Revised ITA Policy Statement and in Opinion No. 511-C.
 - Also addressed the impact of reduced income tax rates in the Tax Cuts and Jobs Act.

- July 2018 Order on Rehearing of Revised ITA Policy Statement, 164 FERC ¶ 61,030 (2018)
 - The Commission dismissed the requests for rehearing of the Revised ITA Policy Statement.
 - The Commission also provided further guidance that if an MLP or other pass through entity eliminates the ITA from the cost of service, ADIT should no longer be deducted from rate base and it does not need to be flowed through to ratepayers.
 - The Commission applied its ADIT policy in two cases involving individual pipeline rates, See SFPP, L.P., 166 FERC ¶ 61,142, at PP 89-91 (2019) ("Opinion No. 511-D"); Enbridge Energy, Limited Partnership, 169 FERC ¶ 61,109, at PP 21-31 (2019).

- The D.C. Circuit recently upheld the Commission's application of its ITA and ADIT rulings in the SFPP case; SFPP, L.P. v FERC, Case No. 19-1067 (D.C. Cir., July 31, 2020).
- The D.C. Circuit also dismissed as moot certain facial challenges brought against the ITA policy; *Enable Mississippi River Transmission, LLC v FERC*, Case No. 18-1252 (D.C. Cir., August 14, 2020).

Where does this leave us?

- A pipeline organized as a corporation, or as a pass through entity that is wholly-owned by a corporation, may include an ITA in its cost of service.
- A pipeline that is organized as an MLP, or that is a wholly-owned subsidiary of an MLP, may not include an ITA in its cost of service.
- □ What factor might causes the ITA to be eliminated?
 - Ownership by natural individuals.
 - Ownership by corporations and natural individuals.

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Return on Equity

- Historically, the calculation based on FERC's discounted cash flow ("DCF") methodology applied to the proxy group. See Composition of Proxy Groups for Determining Gas and Oil Pipeline Return on Equity, 123 FERC ¶ 61,048 (2008).
- The Commission recently changed its policy to use both the DCF and the Capital Asset Pricing Model ("CAPM"), *Inquiry Regarding the Commission's Policy for Determining Return on Equity*, 171 FERC ¶ 61,155 (2020).
- For a pipeline with a TOC rate base, a nominal and real (inflation adjusted) ROE are computed.
- Calculations typically based on a 6 month historical period, using most recent available data

Return on Equity: Principles

- FPC v. Hope establishes the fundamental cost of capital principle, namely "[T]he return to the equity owner should be commensurate with returns on investment in other enterprises having corresponding risk. 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."
 - The Corresponding Risk standard and the Capital Attraction standard represent the two key elements that a regulator must meet to satisfy the Hope standard.
 - □ The court has reiterated this numerous times, (*e.g.* in *Petal, Coakley, and United v. FERC*).
 - In these cases, the Court found that the Commission had employed a modification to its standard way of calculating ROE in a manner that appeared to violate *Hope*.

Return on Equity: DCF Mechanics

- The DCF begins with the proposition that the Price of a Security equals the Discounted Cash flow of the security where cash flow equals Yield plus growth: P=∑R(Dividend+Growth), where R is the "discount rate"
- In slightly simplified terms, solving for R implies R=Dividend/Price + Growth
- The FERC applies this calculation to a proxy group of publicly traded companies in the same industry (*e.g.* MLPs deriving at least 50% of their revenue from oil pipeline activity).
- In this way the FERC believes it employs a method that reflects the market-based return that investors demand of enterprises with similar risk.

Return on Equity: DCF Mechanics (Continued)

- The DCF calculation relies on the most recent six months of prices and expected dividends to calculate the yield.
- Technically, the growth factor should be based on an infinite growth estimate.
- To address this fact, the Commission calculates a "two stage" DCF based on a short term growth forecast and a long term growth forecast.
 - The short-term growth forecast is given 2/3rds weight and is based on analysts estimates of EPS.
 - The long term growth forecast is given 1/3d weight and is based on GDP estimates.
 - For MLPs the long term growth forecast is reduced by half to account for the perception that they have little retained earnings.

Return on Equity: CAPM Mechanics

- CAPM begins with the proposition that there are two types of risk: diversifiable and non-diversifiable risk, a proposition that lies at the heart of modern finance theory.
- In simple terms, Return=Risk Free Rate + Market Return +/-Nondiversifiable Risk.
- Non-Diversifiable Risk is typically captured by β .
 - \square β represents the amount of additional volatility that a given security would add to a perfect diversified portfolio.
 - In technical terms the COV of a Security's Cash Flows and that of the market as a whole.

Return on Equity: CAPM Mechanics (Continued)

- In simple terms CAPM is calculated as R=Rf+ β(Mp), where Rf is the risk-free rate and Mp is the market premium (*e.g.* S&P Return-Rf Return).
 - Firms whose addition to the portfolio reduce COV (*i.e.* β less than one) will receive a return below the market level.
 - Firms whose addition to the portfolio increase COV (*i.e.* β greater than one) will receive a return above the market level.

Return on Equity: CAPM Mechanics (Continued)

- Risk Free Rate is the 30-year U.S. Treasury average historical bond yield over a recent six-month period
- The Commission relies on the betas calculated by Bloomberg
- The Market-Risk Premium should reflect the premium the market as a whole requires relative to a risk-free asset. The Commission indicated it will use a forwardlooking market risk premium based on a single-stage DCF of all of the dividend paying companies in the S&P 500 (but excluding companies with growth rates that are negative or that exceed 20 percent)

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Impact of Acquisitions

- Financial value
- Regulatory value
- Cost of service implications
- Substantial benefits test

Impact of Acquisitions

Financial value

- Regulatory value
- Cost of service implications
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Financial Value : Purchase Accounting Adjustments ("PAAs")

- A PAA may arise if the acquisition cost of property exceeds the pre-acquisition value on the books of the seller
- A PAA also may arise if equity is acquired and the buyer uses push-down accounting to write-up the value of property
- PAAs may present ratemaking implications

Impact of Acquisitions

- Financial value
- Regulatory value
- Cost of service implications
- Substantial benefits test

Regulatory Value: General Approach

- From a ratemaking perspective, the buyer is purchasing the rate base
- Regulatory value, generally, is determined using original cost of assets acquired
- Regulatory value may differ from the financial value of assets acquired

Regulatory Value: Rate Base Illustration

- + Carrier property in service
- Accrued depreciation
- = Net book value
- + Working capital allowance
- = DOC Rate Base (ADIT is offset)
- + SRB, AFUDC, Deferred Return





Regulatory Value: Original Cost

- Original cost means the actual cost of construction or acquisition of property to the first person (or corporation) dedicating it to public use
- Rate base, generally, may not be written-up to reflect a higher acquisition cost (i.e., a PAA) unless the buyer can demonstrate the acquisition results in substantial benefits to ratepayers (such as converting the pipeline to a new service)

Regulatory Value : Illustrative Examples

- 1. Where carrier property is acquired by a common carrier oil pipeline from another common carrier oil pipeline, the regulatory value to the buyer, generally, is the same as the regulatory value to the seller
- 2. Where property which has not previously been dedicated to public use is acquired, the regulatory value to the buyer, generally, is the cost of acquisition

Impact of Acquisitions

- Financial value
- Regulatory value
- Cost of service implications
- Substantial benefits test

Cost of Service Implications

- **Rate Base** No change, generally
- Accumulated Deferred Income Taxes ("ADIT") May require further evaluation
- Allowed Return Depends on buyer's capital structure and costs of capital
- Income Tax Allowance ("ITA") Depends on buyer's entity-type
- Operating Expenses May impact direct costs, indirect and overhead costs, overhead cost allocations, depreciation, etc.
- Rate Design May change distance and non-distance amounts

ADIT/ITA Implications

- Generally, ADIT follows the underlying property
- If the transaction is taxable, ADIT is generally extinguished (except for excess tax reserves arising from tax rate changes for post-2017 sales)
- ITA, and future ADIT balances, may require adjustment if the buyer is a tax pass-through entity

Regulatory Value: Substantial Benefits

- In order to reflect a higher acquisition cost in rate base, the seller must not retain an interest, and the buyer must pass a two-prong test:
 - 1. The buyer must show that it is converting assets to a new public use, and
 - 2. The buyer must show by clear and convincing evidence that the acquisition will confer substantial benefits on ratepayers

Seaway Crude Pipeline Company LLC Regulatory Value Determinations in Opinion No. 546 (154 FERC ¶ 61,070 (2016) at PP 68-113)

Background

- □ Previously owned 50% by ConocoPhillips and 50% by Enterprise
- Net book value was approximately \$118 million
- Had been providing south-to-north service between the Gulf Coast and Cushing, OK

February 2011 Transaction

- Enbridge acquired the 50% interest held by ConocoPhillips for \$1.15 billion
- □ \$1.095 billion was attributed to Gulf Coast to Cushing line
- Flow was reversed to provide north-to-south service between Cushing and the Gulf Coast

Seaway Crude Pipeline Company LLC Regulatory Value Determinations in Opinion No. 546 (154 FERC ¶ 61,070 (2016) at PP 68-113)

Standards Applied

"The Commission allows an acquisition premium to be included in a pipeline's rate base when the purchase price is less than the cost of constructing comparable facilities, the facility is converted to a new use, and the transacting parties are unaffiliated." P 92.

Regulatory Value Findings

- Estimated cost to construct new pipeline was \$1.3 billion, \$150 million more than the Seaway's proposed rate base
- □ Reversal of flow constitutes a new use
- Negotiations between ConocoPhillips and Enbridge were conducted at arm's length

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Simplified Cost of Service Rate Formula

Cost of Service

Rate =

Volume

Rate Design: Common Approaches

- Fully allocated cost rates
- Segmented rates
- Postage stamp rates

Rate Design: Common Approaches

Fully allocated cost rates

- Segmented rates
- Postage stamp rates

Fully Allocated Cost Rates

- Costs are apportioned into distance and non-distance cost pools
- Non-distance costs are allocated equally to all barrels (\$/bbl)
- Distance costs are allocated based on mileage (\$/bblmile)
- Individual rates are calculated by adding non-distance cost per bbl to the sum distance cost per barrel-mile times the distance for a particular movement
Rate Design: Common Approaches

- Fully allocated cost rates
- Segmented rates
- Postage stamp rates

Segmented Rates

- The pipeline is split into separate segments, typically defined by changes in receipts or deliveries
- Cost of service and cost per barrel are calculated for each segment
- Rates for individual movements are determined by adding cost per barrel components for each segment that they transit

Rate Design: Common Approaches

- Fully allocated cost rates
- Segmented rates
- Postage stamp rates

Postage Stamp Rates

- Costs are assigned uniformly across all barrels
- Results in a single system wide rate
- FERC may not accept postage-stamp rates for a new pipeline, absent a strong rationale

- Discounted rates
- Revenue credits
- Firm capacity premium
- Viscosity differentials

Discounted rates

- Revenue credits
- Firm capacity premium
- Viscosity differentials

Discounted Rates

- Carriers are free to offer discounts, but cannot be compelled to offer them (*i.e.*, are free to cancel discounts)
- May be offered for various reasons:
 - \Box commitment to ship for a specified term (*e.g.*, 5 years)
 - \Box shipping above a minimum volume (*e.g.*, 10,000 bpd)
 - "proportional rate" discounts based on transportation occurring before or after the offering pipeline's service (*e.g.*, a discount for refined products being trucked more than 150 miles after delivery to a terminal)

Discounted rates

Revenue credits

Firm capacity premium

Viscosity differentials

Revenue Credits

- Applicable in cases where discounted tariffs are offered (*e.g.*, term volume commitments)
- Revenues attributable to the discounted tariffs are calculated and deducted from total system cost of service
- Net cost of service is recovered over remaining (undiscounted) volumes
- Approach approved by FERC in Laclede (2006) and Keystone (2008) and later cases

- Discounted rates
- Revenue credits

Firm capacity premium

Viscosity differentials

Firm Capacity Premium

 FERC requires charging a premium for firm capacity relative to equivalent uncommitted service

> "The Commission concludes that a contract rate need not be less than a rate for uncommitted shippers. It can be appropriate to charge a premium rate to those shippers willing to meet the contract's terms and pay more for the guarantee of capacity without proration ...The Commission finds that the rate structure proposed by CCPS does not violate the provisions of the ICA"

> > [CCPS Transportation, LLC,121 FERC ¶ 61,253 (2007)]

- Discounted rates
- Revenue credits
- Firm capacity premium

Viscosity differentials

Viscosity Differentials

- Different rates may be charged to different crude types:
 - Medium crudes may be charged 10% premium, heavy crude 20% premium, etc.
- Rates are developed based on light crude equivalents, then converted to relevant crude type
- May be based on power costs and/or capacity impact of different crude types

Questions?

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