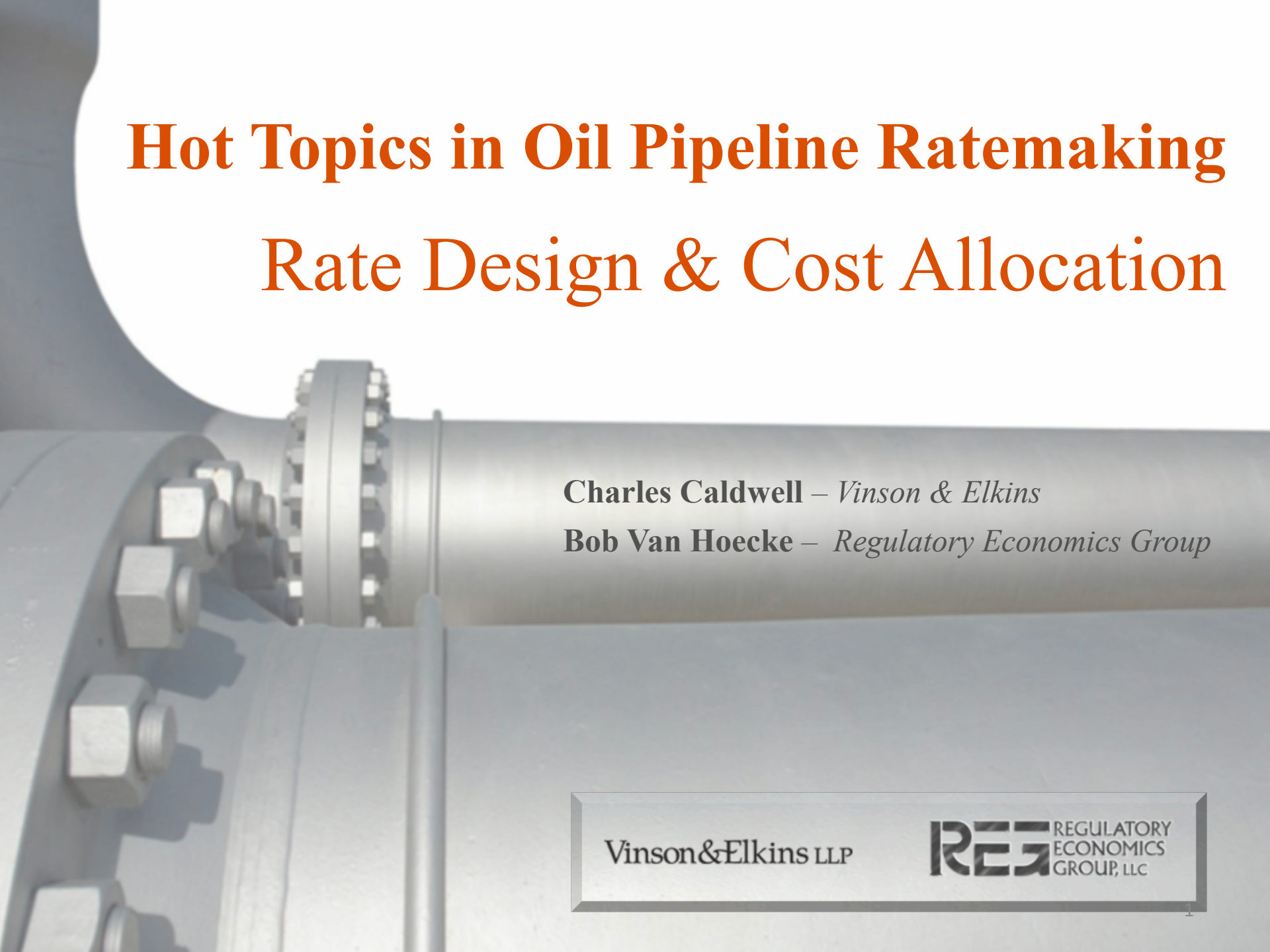
Hot Topics in Oil Pipeline Ratemaking

Rate Design & Cost Allocation



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Overview

- Topics to address
  - Cost Allocation in Complex Organizations
  - Cost Recovery through Rate Design
- This presentation is directed at Interstate rates and may not apply to rate setting in Intrastate markets.
- These slides should not be relied upon independent of the statements and explanations presented herewith.

Cost Allocation in Complex Organizations

Cost Allocation:

Basics

- Common for pipelines to be held in wider corporate company structures and receive services from within that structure – e.g., accounting, treasury, benefits, and insurance
- Costs of these "overhead" or "general and administrative" ("G&A") services have to be allocated to the subsidiaries that caused them to be incurred
- Under FERC policy, cost allocation is to match cost causation as closely as possible
  - Northwest Pipeline Corp., 71 FERC ¶ 61,253, at 61,984 (1995)

Cost Allocation:

Basics

- A common approach to this task is to:

  1. Directly assign G&A costs to the fullest extent feasible to the individual subsidiaries that caused the costs to be incurred

  2. Allocate "residual" costs—those that cannot be directly assigned—among all subsidiaries that receive services using the Massachusetts Formula ("Mass Formula")

Cost Allocation:

What is the Mass Formula?

- Three factors

  - Gross property, plant and equipment (PPE)

  - Direct labor expenses, and

  - Gross revenues

- Derive the ratio between the pipeline subsidiary and the total company for each factor and then average into a combined ratio

- Combined ratio is applied to parent G&A to determine how much to allocate to the pipeline subsidiary

Cost Allocation:

Mass Formula – Simple Example

- Assumptions

  - Kinbridge Corp. owns Calhead, a FERC-regulated oil pipeline
  - Kinbridge incurs $30 million in G&A
  - $5 million can be directly assigned

Cost Allocation:

Mass Formula – Simple Example

Factors		**Kinbridge (Parent)** (a)		**Calhead (Subsidiary)** (b)	**Ratio** (b) / (a)
PPE	$	200,000,000	$	90,000,000	0.45
Labor	$	50,000,000	$	5,000,000	0.10
Revenue	$	100,000,000	$	35,000,000	0.35
				Average:	**0.30**

- Mass Formula Allocation:

  - *$30,000,000 x 0.30 = $9,000,000* allocated to Calhead

Cost Allocation:

Time to Evolve

- In a simple parent structure, direct assignments to individual subsidiaries and Mass Formula make sense
- But complex structures are more prevalent
- Within those structures, there can be

  - Business segments (involving multiple subsidiaries) that cause separate (and separable) cost incurrence

  - Intercompany service agreements where the pipeline company has no employees

  - Joint ventures that cause little or no G&A cost incurrence

Cost Allocation:

Overview of Opinion 511

- **Opinion 511** (*SFPP, L.P.,* 134 FERC ¶61,121 (2011)) reflects FERC's evolution of its cost allocation model to address that complexity
- Opinion 511 largely affirmed a 2009 Initial Decision (Judge Cianci) that upheld Kinder Morgan Energy Partners (KMEP) cost allocation to SFPP
- Recognized inherent complexity of a large corporate entity such as Kinder Morgan, Inc. ("KMI"), owner of general partner of KMEP
- 511 upheld on rehearing in Opinion 511-A , 137 FERC ¶61,220 (Dec. 2011)

Cost Allocation:

Overview of Opinion 511

- Endorsed:
  - Use of multi-tiered "shared cost assignments" to KMEP business segments/groups
  - Exclusion of joint ventures and KMI-owned or KMI-operated subsidiaries that did not generate any costs in the KMEP G&A cost pool (or did not meet a materiality standard for inclusion)
  - Recognition that perfection is unattainable and simplistic "all-in" approach would yield unreasonable results

Cost Allocation:

Overview of Opinion 511, in depth

- Shared cost assignments
  - In accepting this evolution of direct assignments, FERC recognized that complex business structures with horizontal and vertical relationships require a balanced approach that considers whether particular entities benefit from particular costs (P 109)
  - Ignoring these complexities "would be the antithesis of matching cost allocation to cost causation and would violate fundamental Commission cost allocation policies" (P 96)

Cost Allocation:

Overview of Opinion 511, in depth

- Shared cost assignments
  - KMEP's cost allocation method was found consistent with goal of directly assigning costs at the lowest possible level, and allocating only residual costs through the Mass Formula (P 94)
  - Aligned with *Williams Natural Gas* case, where FERC found that subsidiaries that "do[ ] not benefit at all from a particular cost center" are not included in an allocation, endorsing allocation of costs among a subset of the WNG subsidiaries because only the subset incurred the costs (*Williams Natural Gas Co.*, 85 FERC ¶ 61,285, at n.31 (1998))

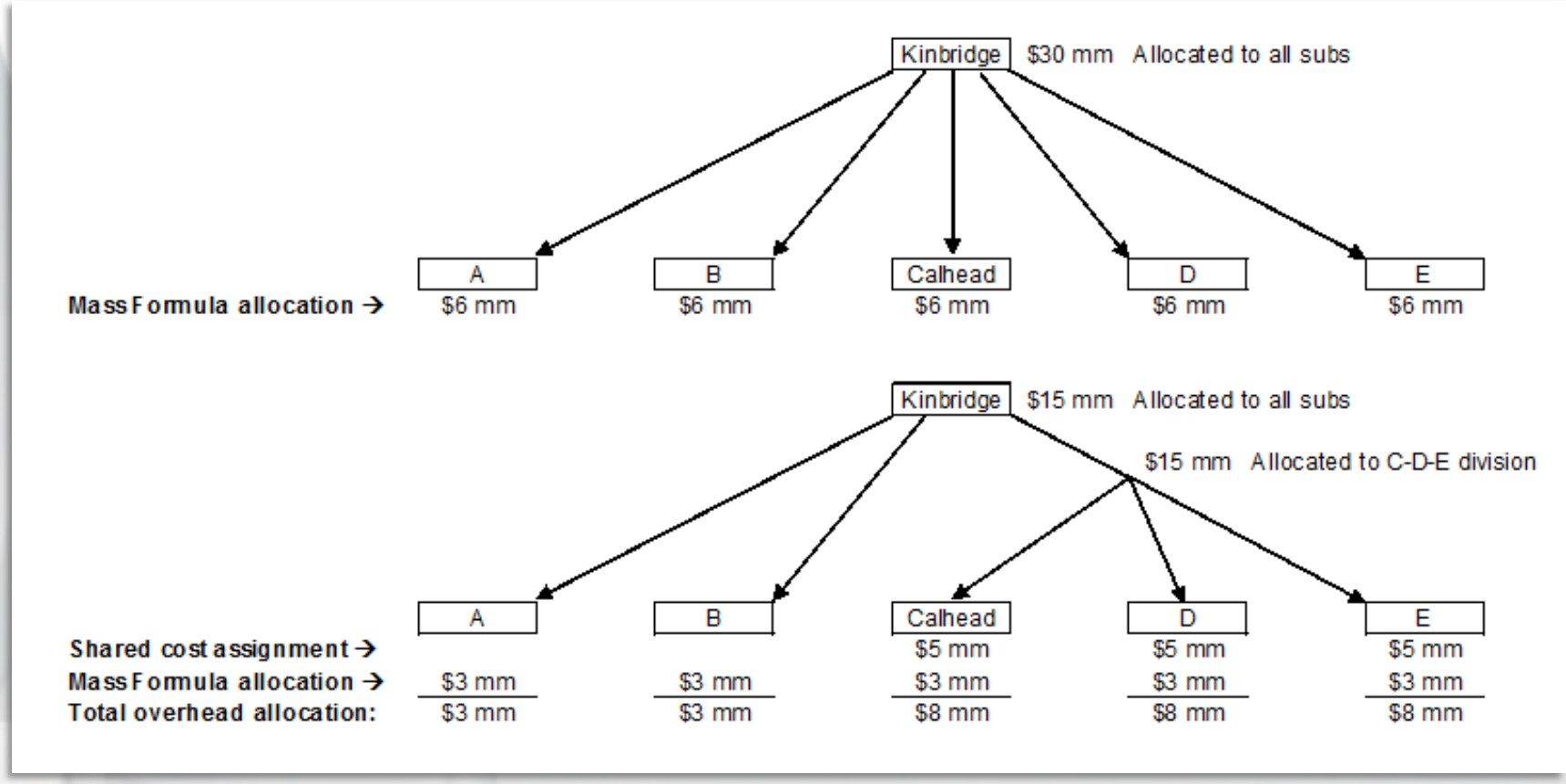
Cost Allocation:

An elaboration of previous example:

- Kinbridge has $35 million in corporate overhead
- $5 million can be directly assigned to three subsidiaries
- Assume, for simplicity, that all factor values are uniform
- Handling of remaining $30 million with and without shared cost assignments?

Cost Allocation:

An elaboration of previous example:



- Shared cost assignment avoids cross-subsidization

Cost Allocation:

Exclusions

- KMEP excluded a number of entities from the cost allocation on various grounds:
  - Joint ventures where a third party actually incurred G&A costs
  - Entities (such as certain gas pipes) that were operated outside of KMEP

Cost Allocation:

Exclusions

- Though these entities caused little or no G&A cost incurrence, SFPP's shippers had sought successfully in the past to include these entities
- Opinion 511 recognized that allocation of costs to an entity must be commensurate with the benefit received (P 109) and that exclusion is appropriate if it does not materially benefit from the costs

  - "the statement in [Williams] that a subsidiary must be included if it receives any benefit from a cost center should not be applied when the result would be a serious misallocation of costs among related subsidiaries" (P 109)

Cost Allocation:

Common Sense Approach

- Opinion 511 recognized that perfection in cost allocation is not possible
  - "issue is whether the methodology is sufficiently reliable to be used for the Commission's regulatory purposes…" (PP102-03)
  - "inevitable human error involved in the use of any accounting methodology does not in itself render an otherwise reasonable methodology arbitrary and subjective" (PP102-03)
- FERC found that Kinder Morgan had corporate policies and administrative protocols in place that allowed it to effectively capture and assign and allocate costs (P104)

Cost Allocation:

Modified Mass Formula (Distrigas)

- A variant on Mass Formula that uses net revenues
- *Mid-America Pipeline Company, LLC, 124 FERC ¶ 63,016, at PP 775-784 (2008)*
- Also endorsed for use for one KMEP entity in Opinion 511 where commodity sales would skew revenue factor

From Cost Allocation to Cost Recovery

- Company cost-of-service is comprised of allocated G&A costs from parent company, if applicable, and other capital and operational costs.
  - Presentations at this conference have covered cost of service basics and they will not be repeated here

Cost Recovery through Rate Design

Cost Recovery:

Introduction to Rate Design

- Purpose of rate design is to translate cost of providing service into individual rates for point to point transportation
- Designing rates is the process of distributing costs over different services and individual movements
- There are many ways to design a pipeline's rates to account for economic and operational circumstances, while conforming to commercial and regulatory goals
  - There is no "one size fits all" rate design

Cost Recovery:

Goals of Rate Design

- Regulatory Goal is to develop just and reasonable rates while affording the pipeline an opportunity to recover its costs, including an allowed return on investments (i.e., revenue requirement)
- Commercial Goal is consistent with the regulatory goal; to develop an optimal rate design—one which will most likely generate the pipeline's revenue requirement while remaining sensitive to commercial issues

Cost Recovery:
Coexisting Goals

- Unique regulatory situation facing pipelines
  - Rate regulation does not guarantee the pipeline its revenue requirement, but must afford an opportunity for recovery
  - Interstate oil pipelines do not need certificates of public necessity or convenience before construction, and for that reason FERC cannot limit competition from other pipelines, or limit intermodal competition
- Consequently, the Commission has relatively limited ability to *ensure* oil pipelines, especially those that operate in competitive markets, will recover their costs
- Thus, the pipeline seeks to design a rate structure that both attracts shippers and generates sufficient revenue within the bounds of FERC regulation

Cost Recovery:

Economic Circumstances

- Pipelines' operations can be characterized as operating along a continuum of competition
  - Monopoly on one end, highly competitive on the other
- If in all markets a pipeline faces zero competition, or at the other end of the continuum, if it faces a large amount of competition, then rate design and cost recovery have relatively simple solutions
  - Monopoly: Carrier less concerned with rate design, fully allocated cost rates will likely lead to full cost recovery
  - Competition: When the Commission approves market based rates, it is less concerned with rate design and permits Carrier to set rates responsive to varying market conditions in order to maximize cost recovery

Cost Recovery:

Monopoly

- Fully Allocated Cost Rates - Cost of service is allocated to individual movements
  - Non-Distance costs: volumetric basis
    - G&A costs, such as Salaries, Materials & Supplies, Outside Services, etc which do not vary with length of movements
  - Distance costs: distance basis
    - Distance based costs generally include operating expenses, return on rate base, income tax allowance, depreciation expense, amortization of AFUDC and of deferred return

**The characterization of a particular set of cost as distance or non-distance may change depending on the particular carrier's operation.*

Cost Recovery:

Monopoly

- A straightforward solution for cost recovery if pipeline faces no competition in all the markets served
- The proper method for allocating costs may vary due to operational or policy reasons
- Examples of the use of Fully Allocated Cost Rates include SFPP, L.P. and Platte

Cost Recovery:

Competition

- Market Based Rates – set by Carrier without reference to cost. (i.e., the rate is determined by what the market will bear)
- Requires authorization by Commission and a determination that Carrier lacks significant market power
- Examples of the use of Market Based Rates in select markets include Colonial, TEPPCO, Marathon, Sunoco, Magellan, and Longhorn
- Straightforward solutions apply when all markets served by pipeline are competitive and authorized for Market Based Rates.

Cost Recovery:

What makes these instances straightforward?

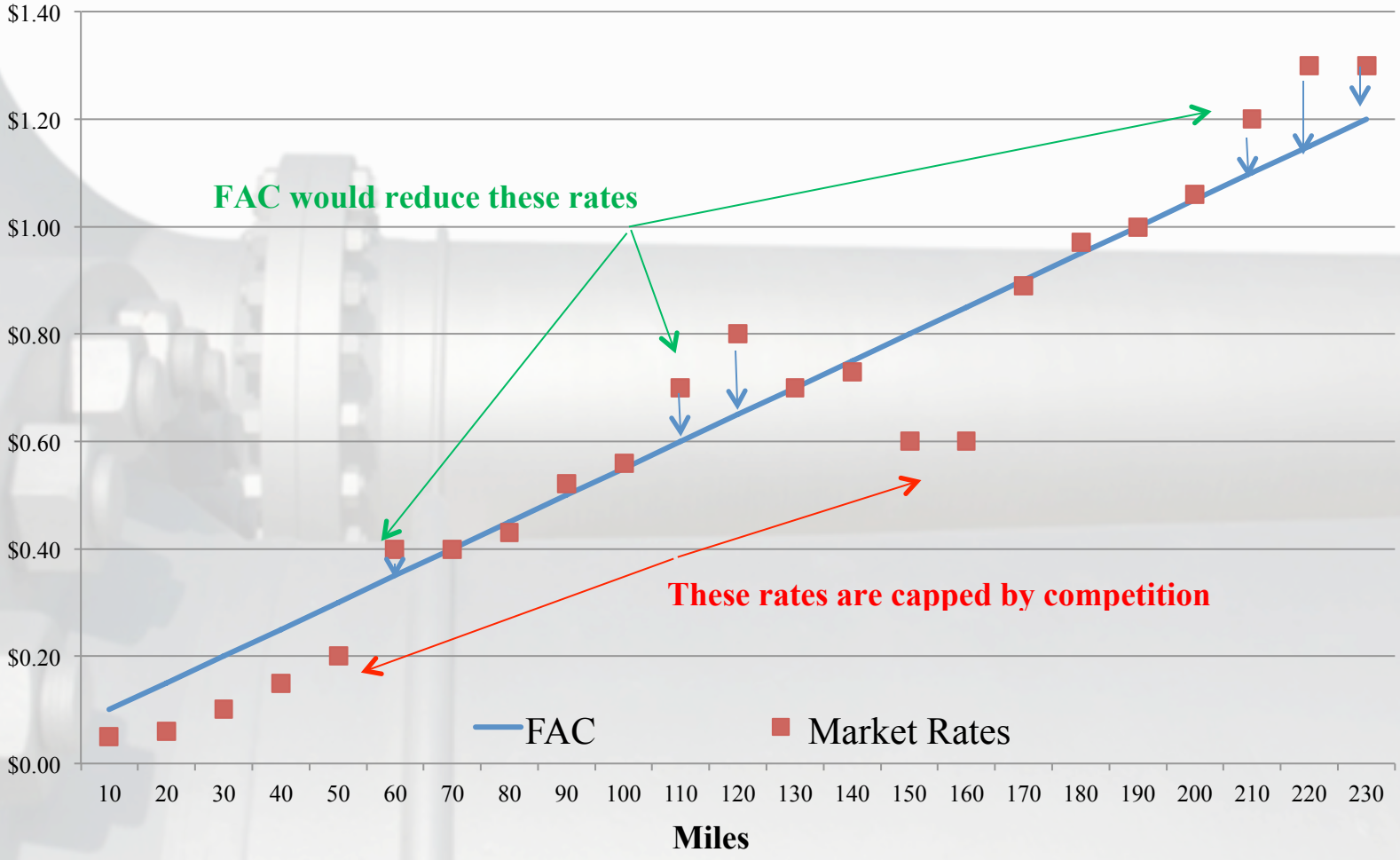
- The relevant consideration at all points along continuum of competition is the shippers' elasticity of demand
- In monopoly circumstances the pipeline has a reasonable expectation to recover its Revenue Requirement because shippers do not face alternatives.
  - The pipeline is less concerned with rate design as Fully Allocated Cost Rates nicely satisfy both commercial and regulatory goals.
- In competitive circumstances the pipeline may be more concerned with rate design as Fully Allocated Cost Rates may not be competitive and attract volume to the system. Shippers may have more elastic demands (more responsive to price due to available alternatives)
  - Through Market Based Rates the Commission leaves the rate design to the pipeline so it may pursue its commercial objectives within the bounds of regulatory goals.

Cost Recovery:

Departing from extremes

- When a pipeline is not characterized by either monopoly or competition in all markets in which it operates rate design becomes much more important.
  - Consider where pipelines move away from the extremes to face competition in some markets, and none in other markets.
  - What if shippers are more sensitive to price at some origins and/ or destinations than others?
  - Cost Recovery Death Spiral
  - How have Carriers and the Commission sought to address unique challenges to balance commercial and regulatory objectives?

Cost Recovery Death Spiral



Cost Recovery:

What has been done?

- In addition to Fully Allocated Cost Rates and Market Based Rates, various approaches taken by pipelines to capture business, maintain volume or target cost recovery include:
  - Seasonal rates
  - Volume incentive rates
  - FAC rates based on Segmented COS
  - Formula rates
  - Surcharges

Cost Recovery:

What has been done?

- Seasonal Rates
  - Offered to incentivize shipments during periods in which pipeline experiences weak demand

- Examples
  - TEPPCO
  - Explorer
  - Mid-America

Cost Recovery:

What has been done?

- Volume incentive rates have been structured in different ways with a common goal of incentivizing incremental movements of product or to maintain existing volumes
  - Volume Commitments: Discounts on aggregate volume commitment based on certain thresholds
  - Excess Volume Incentive Rates: Discounts on barrels in excess of specified shipment volume
  - Term Commitments: Discounts on barrels when shipper commits to ship production over a term

Cost Recovery:

What has been done?

- FAC Rates on Segmented Cost-of-Service
- Cost based rate design where pipeline system is separated into segments
- Costs associated with a particular segment are recovered from users of that segment
- Ability to segment the cost-of-service may vary based on operations

Cost Recovery:

What has been done?

- Additionally, separating pipeline assets into discrete systems for rate design may fit within commercial and regulatory goals
- What identifies a system and why is this important for rate design?
- Examples
  - SFPP: North Line, Oregon Line, East Line and West Line
  - Mid-America: Rocky Mountain, Central and Northern
  - Issue is currently presented in a TEPPCO rate filing

Cost Recovery:

What has been done?

- Formula Rates
- In certain circumstances the pipeline may be able to develop a formula which could adjust rates in response to market forces
- Ethane rejection
- Location differentials (e.g., Gulf to Group III or Chicago)
- Examples
  - Mid-America Rocky Mountain NGL tariff

Cost Recovery:

What has been done?

- Surcharges
  - Allow the pipeline to recover costs specific to certain activities or cost drivers
  - Shippers charged based on level of activity thus the use of surcharges may more accurately match cost recovery to cost causation, where feasible. This is consistent with regulatory aims
  - May also align with commercial goals
- Examples
  - ULSD Surcharge (SFPP)
  - Hurricane Surcharge (Chevron)

Cost Recovery:

What is inbound & on the frontier?

- The prior examples have relatively firm footing with the Commission. So, what is on the horizon for rate design?
  - Postage Stamp and Zone Rates
  - Priority Service Rates
  - Iterative Discounting

Cost Recovery:

What is inbound & on the frontier?

- Postage Stamp Rates
  - Cost-of-service is divided by the total throughput and generates one uniform price for all individual movements along the system or segment
  - Unlike Fully Allocated Cost Rates, Postage Stamp Rates are set without regard to distance or cost causation
    - Essentially a volume average
- Rationale from commercial and regulatory perspective

Cost Recovery:

What is inbound & on the frontier?

- Zone Rates
  - Zones are large geographic areas encompassing multiple origins/ destinations on the pipeline
  - Costs are allocated to zones and then shared among all shippers. Consequently, the rate in each zone is uniform.
- What is the basis for drawing zones?
- What is the rationale for using zone rates?
- Common on gas systems and crude oil gathering systems.
- Issue is currently presented in a TEPPCO rate filing

Cost Recovery:

What is inbound & on the frontier?

- Iterative Discounting
  - A cost based rate design that accounts for commercial realities faced by pipelines which operate in both competitive and uncompetitive markets
  - Rationale: If a pipeline is able to attract additional volume at a rate less than Fully Allocated Cost, using that higher level of throughput to calculate maximum pipeline rates can result in under-recovery for the cost-of-service
- Iterative discounting finds its basis in gas pipelines but has been used in oil pipelines recently
  - Laclede Pipeline Company, *114 FERC 61,335 (2006)*
  - Keystone Pipe Line
- How does the rate design work?

Cost Recovery:

What is inbound & on the frontier?

- Iterative Discounting: Simple example from Laclede (n.4)

- "Laclede states that its total cost of service is $1,139,991 and total throughput is 882,000 barrels, so a true per barrel initial rate for the system would be $1.29 per barrel."

Ln.	Item		Amount	Note
1	COS	$	1,139,991	
2	Throughput		882,000	
3	True per-barrel rate	$	1.29	(1) / (2)

Cost Recovery:

What is inbound & on the frontier?

- Iterative Discounting: Simple example from Laclede (n.4)

- "Laclede says that it cannot charge that to third party shippers, and can only get $0.15 per barrel from them because of competition. That results in revenue of $102,300 (682,000 barrels at $0.15 per barrel) from third party shippers, leaving a remaining cost of service to be recovered from Laclede Gas of $1,037,691."

Ln.	Item	Amount	Note
1	COS	$ 1,139,991	
2	Throughput	882,000	
3	True per-barrel rate	$ 1.29	(1) / (2)
4	3rd Party Rate	$ 0.15	
5	3rd Party Throughput	682,000	
6	3rd Party Revenue	$ 102,300	(4) * (5)
7	Remaining COS	$ 1,037,691	(1) - (6)

Cost Recovery:

What is inbound & on the frontier?

- Iterative Discounting: Simple example from Laclede (n.4)
- "Spreading that over the remaining 200,000 barrels results in a $5.19 per barrel rate to be charged to Laclede Gas. "

Ln.	Item	Amount	Note
1	COS	$ 1,139,991	
2	Throughput	882,000	
3	True per-barrel rate	$ 1.29	(1) / (2)
4	3rd Party Rate	0.15	
5	3rd Party Throughput	682,000	
6	3rd Party Revenue	$ 102,300	(4) * (5)
7	Remaining COS	$ 1,037,691	(1) - (6)
8	Remaining Bbls	200,000	(2) - (5)
9	Rate for remaining Bbls	$ 5.19	(7) / (8)

Cost Recovery:

What is inbound & on the frontier?

- Iterative Discounting: Simple example from Laclede (n.4)
- "Of course, if there were no third party shippers, then Laclede Gas would have to cover the whole cost of service, and assuming that its throughput would still be only 200,000 barrels, that would result in a rate of $5.70 per barrel."

Ln.	Item	Amount	Note
1	COS	$ 1,139,991	
2	Throughput	882,000	
3	True per-barrel rate	$ 1.29	(1) / (2)
4	3rd Party Rate	0.15	
5	3rd Party Throughput	682,000	
6	3rd Party Revenue	$ 102,300	(4) * (5)
7	Remaining COS	$ 1,037,691	(1) - (6)
8	Remaining Bbls	200,000	(2) - (5)
9	Rate for remaining Bbls	$ 5.19	(7) / (8)
10	Rate absent 3rd Party Bbls	$ 5.70	(1) / (8)

Cost Recovery:

What is inbound & on the frontier?

- Iterative Discounting
- Why would a pipeline want to use an iterative discounting method?
- What is the economic logic behind this rate design?
- Balance between commercial and regulatory goals
- Other considerations?

Cost Recovery:

What is inbound & on the frontier?

- Iterative Discounting: slightly more complex example
- Assumptions

  - System

    Pipeline originates at Point A and delivers to Points B and C

    Point B is 50 miles from Point A and has throughput of 100 barrels

    Point C is 100 miles from Point A and has throughput of 150 barrels

  - Costs

    Total Cost of Service $60

    Distance Costs (90%) $54 Non Distance Costs (10%) $6

  - Market based ratemaking authority at Point B

Cost Recovery:

What is inbound & on the frontier?

- Iterative Discounting:

Begins with Fully Allocated Cost Rates

Ln.	Item	Note	Figures
1	A-B Throughput	Assumption	100
2	A-B Mileage	Assumption	50
3	A-B Barrel-Mile	Ln. 1 * Ln. 2	5,000
4	A-C Throughput	Assumption	150
5	A-C Mileage	Assumption	100
6	A-C Barrel-Mile	Ln. 4 * Ln. 5	15,000
7	Total Throughput	Ln. 1 + Ln. 4	250
8	Total Barrel-Miles	Ln. 3 + Ln. 6	20,000
9	Non Distance Cost /Bbl	$6 / Ln. 7	$ 0.0240
10	Distance Cost/Bbl	$54 / Ln. 8	$ 0.0027
11	A-B Rate	Ln. 9 + (Ln. 10 * Ln. 2)	$ 0.1590
12	A-C Rate	Ln. 9 + (Ln. 10 * Ln. 5)	$ 0.2940
13	Revenue Check	(Ln. 11 * Ln. 1) + (Ln. 12 * Ln. 4)	$ 60.00

Cost Recovery:

What is inbound & on the frontier?

- Iterative Discounting:

What happens if the competitive market will only permit $0.10 A-B rate?

Ln.	Item	Note	Iteration 1
1	A-B Throughput	Assumption or Prior Ln. 1*Ln. 15	100
2	A-B Mileage	Assumption	50
3	A-B Barrel-Mile	Ln. 1 * Ln. 2	5,000
4	A-C Throughput	Assumption	150
5	A-C Mileage	Assumption	100
6	A-C Barrel-Mile	Ln. 4 * Ln. 5	15,000
7	Total Throughput	Ln. 1 + Ln. 4	250
8	Total Barrel-Miles	Ln. 3 + Ln. 6	20,000
9	Non Distance Cost /Bbl	$6 / Ln. 7	$ 0.0240
10	Distance Cost/Bbl	$54 / Ln. 8	$ 0.0027
11	Initial FAC A-B Rate	Ln. 9 + (Ln. 10 * Ln. 2)	$ 0.1590
12	Initial FAC A-C Rate	Ln. 9 + (Ln. 10 * Ln. 5)	$ 0.2940
13	Max A-B Rate	Assumption	$ 0.1000
14	Max A-C Rate	Assumption	$ 3.0000

Cost Recovery:

What is inbound & on the frontier?

- Iterative Discounting:

  Reducing A-B rate to $0.10 resulting in under-recovery of costs.

Ln.	Item	Note	Iteration 1
1	A-B Throughput	Assumption or Prior Ln. 1*Ln. 15	100
2	A-B Mileage	Assumption	50
3	A-B Barrel-Mile	Ln. 1 * Ln. 2	5,000
4	A-C Throughput	Assumption	150
5	A-C Mileage	Assumption	100
6	A-C Barrel-Mile	Ln. 4 * Ln. 5	15,000
7	Total Throughput	Ln. 1 + Ln. 4	250
8	Total Barrel-Miles	Ln. 3 + Ln. 6	20,000
9	Non Distance Cost /Bbl	$6 / Ln. 7	$ 0.0240
10	Distance Cost/Bbl	$54 / Ln. 8	$ 0.0027
11	Initial FAC A-B Rate	Ln. 9 + (Ln. 10 * Ln. 2)	$ 0.1590
12	Initial FAC A-C Rate	Ln. 9 + (Ln. 10 * Ln. 5)	$ 0.2940
13	Max A-B Rate	Assumption	$ 0.1000
14	Max A-C Rate	Assumption	$ 3.0000
15	Ratio of Max to FAC	Ln. 13/ Ln. 11	62.89%
16	Revenue Check	(Ln. 13 * Ln. 1) + (Ln. 12 * Ln. 4)	$ 54.10

Cost Recovery:

What is inbound & on the frontier?

- Iterative Discounting:

  Volume determinants of constrained rates are adjusted.

Ln.	Item	Note	Iteration 1	Iteration 2
1	A-B Throughput	Assumption or Prior Ln. 1*Ln. 15	100	62.89
2	A-B Mileage	Assumption	50	50
3	A-B Barrel-Mile	Ln. 1 * Ln. 2	5,000	3,145
4	A-C Throughput	Assumption	150	150
5	A-C Mileage	Assumption	100	100
6	A-C Barrel-Mile	Ln. 4 * Ln. 5	15,000	15,000
7	Total Throughput	Ln. 1 + Ln. 4	250	213
8	Total Barrel-Miles	Ln. 3 + Ln. 6	20,000	18,145
9	Non Distance Cost /Bbl	$6 / Ln. 7	$ 0.0240	$ 0.0282
10	Distance Cost/Bbl	$54 / Ln. 8	$ 0.0027	$ 0.0030
11	Initial FAC A-B Rate	Ln. 9 + (Ln. 10 * Ln. 2)	$ 0.1590	$ 0.1770
12	Initial FAC A-C Rate	Ln. 9 + (Ln. 10 * Ln. 5)	$ 0.2940	$ 0.3258
13	Max A-B Rate	Assumption	$ 0.1000	$ 0.1000
14	Max A-C Rate	Assumption	$ 3.0000	$ 3.0000
15	Ratio of Max to FAC	Ln. 13/ Ln. 11	62.89%	56.50%
16	Revenue Check	(Ln. 13 * Ln. 1) + (Ln. 12 * Ln. 4)	$ 54.10	$ 58.87

Cost Recovery:

What is inbound & on the frontier?

- Iterative Discounting:

  Iteration process continues until there is full cost recovery.

Ln.	Item	Note	Iteration 1	Iteration 2	Iteration 3
1	A-B Throughput	Assumption or Prior Ln. 1*Ln. 15	100	62.89	56.50
2	A-B Mileage	Assumption	50	50	50
3	A-B Barrel-Mile	Ln. 1 * Ln. 2	5,000	3,145	2,825
4	A-C Throughput	Assumption	150	150	150
5	A-C Mileage	Assumption	100	100	100
6	A-C Barrel-Mile	Ln. 4 * Ln. 5	15,000	15,000	15,000
7	Total Throughput	Ln. 1 + Ln. 4	250	213	207
8	Total Barrel-Miles	Ln. 3 + Ln. 6	20,000	18,145	17,825
9	Non Distance Cost /Bbl	$6 / Ln. 7	$ 0.0240	$ 0.0282	$ 0.0291
10	Distance Cost/Bbl	$54 / Ln. 8	$ 0.0027	$ 0.0030	$ 0.0030
11	Initial FAC A-B Rate	Ln. 9 + (Ln. 10 * Ln. 2)	$ 0.1590	$ 0.1770	$ 0.1805
12	Initial FAC A-C Rate	Ln. 9 + (Ln. 10 * Ln. 5)	$ 0.2940	$ 0.3258	$ 0.3320
13	Max A-B Rate	Assumption	$ 0.1000	$ 0.1000	$ 0.1000
14	Max A-C Rate	Assumption	$ 3.0000	$ 3.0000	$ 3.0000
15	Ratio of Max to FAC	Ln. 13/ Ln. 11	62.89%	56.50%	55.39%
16	Revenue Check	(Ln. 13 * Ln. 1) + (Ln. 12 * Ln. 4)	$ 54.10	$ 58.87	$ 59.80

Cost Recovery:

What is inbound & on the frontier?

- Iterative Discounting:

Ln.	Item	Note	Iteration 1	Iteration 2	Iteration 3	Iteration 4
1	A-B Throughput	Assumption or Prior Ln. 1*Ln. 15	100	62.89	56.50	55.39
2	A-B Mileage	Assumption	50	50	50	50
3	A-B Barrel-Mile	Ln. 1 * Ln. 2	5,000	3,145	2,825	2,770
4	A-C Throughput	Assumption	150	150	150	150
5	A-C Mileage	Assumption	100	100	100	100
6	A-C Barrel-Mile	Ln. 4 * Ln. 5	15,000	15,000	15,000	15,000
7	Total Throughput	Ln. 1 + Ln. 4	250	213	207	205
8	Total Barrel-Miles	Ln. 3 + Ln. 6	20,000	18,145	17,825	17,770
9	Non Distance Cost /Bbl	$6 / Ln. 7	$ 0.0240	$ 0.0282	$ 0.0291	$ 0.0292
10	Distance Cost/Bbl	$54 / Ln. 8	$ 0.0027	$ 0.0030	$ 0.0030	$ 0.0030
11	Initial FAC A-B Rate	Ln. 9 + (Ln. 10 * Ln. 2)	$ 0.1590	$ 0.1770	$ 0.1805	$ 0.1812
12	Initial FAC A-C Rate	Ln. 9 + (Ln. 10 * Ln. 5)	$ 0.2940	$ 0.3258	$ 0.3320	$ 0.3331
13	Max A-B Rate	Assumption	$ 0.1000	$ 0.1000	$ 0.1000	$ 0.1000
14	Max A-C Rate	Assumption	$ 3.0000	$ 3.0000	$ 3.0000	$ 3.0000
15	Ratio of Max to FAC	Ln. 13/ Ln. 11	62.89%	56.50%	55.39%	55.20%
16	Revenue Check	(Ln. 13 * Ln. 1) + (Ln. 12 * Ln. 4)	$ 54.10	$ 58.87	$ 59.80	$ 59.97

Cost Recovery:

What is inbound & on the frontier?

- Iterative Discounting:

Ln.	Item	Note	Iteration 1	Iteration 2	Iteration 3	Iteration 4	Iteration 5
1	A-B Throughput	Assumption or Prior Ln. 1*Ln. 15	100	62.89	56.50	55.39	55.20
2	A-B Mileage	Assumption	50	50	50	50	50
3	A-B Barrel-Mile	Ln. 1 * Ln. 2	5,000	3,145	2,825	2,770	2,760
4	A-C Throughput	Assumption	150	150	150	150	150
5	A-C Mileage	Assumption	100	100	100	100	100
6	A-C Barrel-Mile	Ln. 4 * Ln. 5	15,000	15,000	15,000	15,000	15,000
7	Total Throughput	Ln. 1 + Ln. 4	250	213	207	205	205
8	Total Barrel-Miles	Ln. 3 + Ln. 6	20,000	18,145	17,825	17,770	17,760
9	Non Distance Cost /Bbl	$6 / Ln. 7	$ 0.0240	$ 0.0282	$ 0.0291	$ 0.0292	$ 0.0292
10	Distance Cost/Bbl	$54 / Ln. 8	$ 0.0027	$ 0.0030	$ 0.0030	$ 0.0030	$ 0.0030
11	Initial FAC A-B Rate	Ln. 9 + (Ln. 10 * Ln. 2)	$ 0.1590	$ 0.1770	$ 0.1805	$ 0.1812	$ 0.1813
12	Initial FAC A-C Rate	Ln. 9 + (Ln. 10 * Ln. 5)	$ 0.2940	$ 0.3258	$ 0.3320	$ 0.3331	$ 0.3333
13	Max A-B Rate	Assumption	$ 0.1000	$ 0.1000	$ 0.1000	$ 0.1000	$ 0.1000
14	Max A-C Rate	Assumption	$ 3.0000	$ 3.0000	$ 3.0000	$ 3.0000	$ 3.0000
15	Ratio of Max to FAC	Ln. 13/ Ln. 11	62.89%	56.50%	55.39%	55.20%	55.17%
16	Revenue Check	(Ln. 13 * Ln. 1) + (Ln. 12 * Ln. 4)	$ 54.10	$ 58.87	$ 59.80	$ 59.97	$ 59.9939

Cost Recovery:

What is inbound & on the frontier?

- Iterative Discounting:

Ln.	Item	Note	Iteration 1	Iteration 2	Iteration 3	Iteration 4	Iteration 5	(…)	Final Iteration
1	A-B Throughput	Assumption or Prior Ln. 1*Ln. 15	100	62.89	56.50	55.39	55.20		55.16
2	A-B Mileage	Assumption	50	50	50	50	50		50
3	A-B Barrel-Mile	Ln. 1 * Ln. 2	5,000	3,145	2,825	2,770	2,760		2,758
4	A-C Throughput	Assumption	150	150	150	150	150		150
5	A-C Mileage	Assumption	100	100	100	100	100		100
6	A-C Barrel-Mile	Ln. 4 * Ln. 5	15,000	15,000	15,000	15,000	15,000		15,000
7	Total Throughput	Ln. 1 + Ln. 4	250	213	207	205	205		205
8	Total Barrel-Miles	Ln. 3 + Ln. 6	20,000	18,145	17,825	17,770	17,760		17,758
9	Non Distance Cost /Bbl	$6 / Ln. 7	$ 0.0240	$ 0.0282	$ 0.0291	$ 0.0292	$ 0.0292		$ 0.0292
10	Distance Cost/Bbl	$54 / Ln. 8	$ 0.0027	$ 0.0030	$ 0.0030	$ 0.0030	$ 0.0030		$ 0.0030
11	Initial FAC A-B Rate	Ln. 9 + (Ln. 10 * Ln. 2)	$ 0.1590	$ 0.1770	$ 0.1805	$ 0.1812	$ 0.1813		$ 0.1813
12	Initial FAC A-C Rate	Ln. 9 + (Ln. 10 * Ln. 5)	$ 0.2940	$ 0.3258	$ 0.3320	$ 0.3331	$ 0.3333		$ 0.3333
13	Max A-B Rate	Assumption	$ 0.1000	$ 0.1000	$ 0.1000	$ 0.1000	$ 0.1000		$ 0.1000
14	Max A-C Rate	Assumption	$ 3.0000	$ 3.0000	$ 3.0000	$ 3.0000	$ 3.0000		$ 3.0000
15	Ratio of Max to FAC	Ln. 13/ Ln. 11	62.89%	56.50%	55.39%	55.20%	55.17%		55.16%
16	Revenue Check	(Ln. 13 * Ln. 1) + (Ln. 12 * Ln. 4)	$ 54.10	$ 58.87	$ 59.80	$ 59.97	$ 59.9939		$ 60.00

Cost Recovery:

What is inbound & on the frontier?

- Iterative Discounting
- Well established rate design approach in natural gas pipeline industry
- Fewer instances in oil pipeline context although it has been used in aforementioned instances
- Currently before the Commission in TEPPCO rate filing

Cost Recovery:

What is inbound & on the frontier?

- Priority Service
- Currently applied to new projects
- Shippers that commit to paying a premium rate maintain a specified capacity available for their use even when the pipeline reaches capacity under normal operations
- Priority service prevents the committed shipper's capacity from being prorated
- Equal terms of service available during open season to all interested shippers

Cost Recovery:

What is inbound & on the frontier?

- Priority Service
- What are the commercial goals underlying the use of priority service rate structure?
- What are the regulatory goals?

Cost Recovery:

What is inbound & on the frontier?

- Priority Service
- The Commission has approved a petition for priority service rate structure with a premium committed rate one cent above the uncommitted rate. *Sunoco Pipeline L.P.,* 137 FERC ¶ 61,107 (2011)

Cost Recovery:

What is inbound & on the frontier?

- Priority Service
- More recently the Commission approved a similar petition made by Explorer. *Explorer Pipeline Co.*,140 FERC ¶ 61,098 (2012)
- Commission approval in this instance is notable; the petition sought a blend of two separate rate structures individually accepted by the Commission in the past

Cost Recovery:

What is inbound & on the frontier?

- Priority Service
- Elements of rate structure approved include
  - Discounted rate structure for Committed Shippers, and
  - Premium rate structure for priority capacity during times of pro-rationing
- Move in the right direction for balance of regulatory and commercial goals

Cost Allocation and Cost Recovery: *Conclusions*

- There are myriad regulatory and commercial factors associated with identifying the right ratemaking methodology for your pipeline system
- We've addressed a variety of those methods and considerations here. Depending on your pipeline's unique circumstances, the ratemaking process and associated issues can be quite complex. Consequently, proper review of such circumstances by qualified professionals is necessary before making a determination.

Cost Allocation and Cost Recovery:

Conclusions

Questions?