



**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

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In the Matter of the Application of San Pablo Bay Pipeline Company LLC (PLC-29) and Crimson California Pipeline, L.P. (PLC-26) for Authority to Increase Rates for Crude Oil Pipeline Services. (NORTHERN CALIFORNIA)

Application No. _____

APPLICATION

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*Attorneys for San Pablo Bay Pipeline Company LLC
and Crimson California Pipeline, L.P.*

Dated: January 29, 2025

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

In the Matter of the Application of San Pablo Bay Pipeline Company LLC (PLC-29) and Crimson California Pipeline, L.P. (PLC-26) for Authority to Increase Rates for Crude Oil Pipeline Services. (NORTHERN CALIFORNIA)

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APPLICATION

Pursuant to Sections 454 and 455.3 of the California Public Utilities Code¹ and in accordance with Rules 2.1, 2.2, 3.2, and 7 of the Commission’s Rules of Practice and Procedure, San Pablo Bay Pipeline Company LLC (“SPBPC”) and Crimson California Pipeline, L.P. (“Crimson”) (together “Joint Applicants”) respectfully request that the California Public Utilities Commission (“Commission”) authorize Joint Applicants to increase the rates that are charged for transportation of crude petroleum on the SPBPC pipeline system by 10 percent effective March 1, 2025, subject to refund.²

Section 455.3 authorizes an oil pipeline to increase its rates by up to 10 percent upon providing 30 days’ notice and without the need for prior Commission approval, provided that the increase remains subject to retroactive Commission adjustment and refund with interest, as appropriate.

¹ All statutory references are to the California Public Utilities Code unless otherwise noted.

² The pipeline system that is the subject of the requested rate increases is an approximately 373 mile pipeline system from crude oil production fields in the San Joaquin Valley oil fields to the San Francisco-Bay Area. The 373 mile pipeline system includes SPBPC’s San Pablo Bay Pipeline System (“SPB”), consisting of 353 miles of pipeline, and Crimson’s Kettleman-Los Medanos pipeline segment (“KLM”), consisting of 20 miles of pipeline connected to the SPB.

Given required and proper notice to its shippers, Joint Applicants propose to increase each of the individual rates on its system by 10 percent effective March 1, 2025 thereby increasing its current average transportation rate from \$2.129/barrel. to \$2.342/barrel, resulting in an estimated increase in annual revenue of approximately \$4.8 million.

Pursuant to Section 454 and Section 455.3, Joint Applicants further request that the Commission authorize an increase in the rates charged for its intrastate crude petroleum transportation services by a weighted average total of 44.45 percent.³ Joint Applicants seek the subject rate increases in able to recover their Commission-jurisdictional cost of service based on current and projected expense and throughput levels. With respect to the weighted average rate increase of 44.45 percent, and subject to the below paragraph, Joint Applicants request that it become effective the first day of the month following the Commission's issuance of a decision approving any portion of the requested, weighted average rate increase of 44.45 percent that is in excess of the 10 percent rate increase implemented pursuant to Section 455.3.

Pursuant to the provisions of Section 455.3(b)(5), Joint Applicants also request that the Commission authorize their right to retroactively recover the difference between the rates in effect as of March 1, 2025 and the rates ultimately approved by the Commission in the subject proceeding. In conjunction with its request for Commission authorization of retroactive rate recovery pursuant to Section 455.3(b)(5), Joint Applicants ask that any retroactive relief authorized by the Commission include interest calculated at the 90-day commercial paper rate.

³ The requested aggregate rate increase of 44.45 percent is the weighted average of a requested 49.27 percent increase on the SPB and a requested 23.72 percent increase on KLM. *See* Exhibit D hereto; Declaration of Michael J. Webb.

I. BACKGROUND

1. Applicant Information Required by Rule 2.1(a)

Applicant SPBPC is a California limited liability company. Applicant Crimson has been formed as a limited partnership for the specific purpose of owning, operating, and managing smaller, marginal, or idle pipelines and providing pipeline transportation services to the public. Joint Applicants' principal place of business is 1900 Main St., Suite 600, Irvine, CA; its telephone number is (562) 285-4100. Joint Applicants are wholly owned by Crimson Midstream Operating, LLC. Crimson Midstream Operating, LLC is wholly owned by Crimson Midstream Holdings, LLC. Crimson Midstream Holdings, LLC is privately held.⁴

2. Correspondence and Communication Information Required by Rule 2.1(b)

Correspondence and communications concerning this Application should be directed to the following representatives of Joint Applicants:

Deborah R. Repman
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1800 West Loop South, Suite 1680
Houston, Texas 77027
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San Francisco, CA 94105
Telephone: (415) 848-4831
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3. Organization and Qualification to Transact Business Documents Required by Rule 2.2

Per Rule 2.2 of the Commission's Rules of Practice and Procedure, SPBPC's Certificate

⁴ D. 20-01-013 issued January 16, 2020 authorized the transfer of control of CPMI from John Grier to CGI Crimson Holdings, LLC.

of Status as a California Limited Liability Company in Good Standing and Crimson’s Certificate of Status as a California Limited Partnership in Good Standing are included in Exhibit A hereto.

4. Information Required by Rule 3.2

A. Balance Sheet and Income Statement:

Financial statements, including the most recently available balance sheet and income statement for SPBPC and Crimson , are attached as Exhibit B hereto.

B. Statement of Presently Effective and Proposed Rates:

Present and proposed rates for the SPB pipeline reflecting both the 10 percent increase in rates implemented pursuant to Section 455.3 and the weighted average 44.45 percent rate increase requested pursuant to Sections 455.3 and 454, are reflected in Exhibit C.

C. General Description of SPBPC’s Property and Equipment:

Joint Applicants have been formed as a limited liability company and a limited partnership for the specific purpose of owning, operating, and managing pipelines and providing pipeline transportation services to the public.

The SPB pipeline owned and operated by SPBPC and the connected KLM pipeline owned by Crimson, consist of a 373-mile-long oil pipeline transporting crude petroleum from oil production fields in the San Joaquin Valley (“SJV”) to San Francisco Bay-Area refineries.

II. JUSTIFICATION FOR REQUESTED RATE INCREASE

Exhibit D attached hereto includes the Declaration of Michael J. Webb, which sets forth the basis and justification for Joint Applicants’ weighted average rate increase request of 44.45 percent, which encompasses the 10 percent rate increased under Section 455.3. Dr. Webb’s affidavit demonstrates that the proposed aggregate rate increase is reasonable given declining throughput and rising expenses.

III. INFORMATION REQUIRED FOR RULE 2.1(C) AND RULE 7 COMPLIANCE

The subject application seeks authorization, pursuant to Sections 455.3 and 454 of the Public Utilities Code, for Joint Applicants to increase the rates it charges for intrastate public utility pipeline services by ten percent effective March 1, 2025 and by an average weighted increase of 44.45 percent upon issuance of a Commission decision.

Joint Applicants have provided all shippers affected by the proposed rate increases with copies of the subject application.

A. Proposed Category: Joint Applicants propose that the application be treated as a “ratesetting” proceeding.

B. Need for Hearing: Hearings will be needed on this application only to the extent a material issue of fact is raised by a timely protest. Accordingly, Joint Applicants do not know whether a hearing will be required. If no hearing is required, Joint Applicants would request that an ex parte decision approving the aggregate rate increase request be issued by the Commission by year end 2025. If a hearing is required, Joint Applicants propose a schedule as set forth below.

C. Issues Requiring Consideration:

The issue raised by this application is whether Joint Applicants’ proposal to increase rates by 44.45 percent, with 10% of that weighted average rate increase becoming effective on March 1, 2025 pursuant to Section 455.3, is just and reasonable.

D. Proposed Schedule: Joint Applicants propose the following schedule:

Application Filed	January 29, 2025
Notice in Daily Calendar	TBD by CPUC Docket Office
Protests Due	30 Days After Daily Calendar Notice
Prehearing Conference	March, 2025
Applicant’s Opening Testimony	April, 2025

Intervenor Testimony Due	May, 2025
Applicant’s Rebuttal Testimony	June, 2025
Hearings	July, 2025
Concurrent Opening Briefs	August, 2025
Concurrent Reply Briefs	September, 2025
ALJ Draft Decision	December, 2025
Commission Decision	January, 2026

IV. EXHIBITS

As required by Commission Rules 15, 16, and 23, Joint Applicants provide the following information and exhibits:

Exhibit A	Certificates of Status
Exhibit B	SPBPC and Crimson Financial Statements
Exhibit C	Current and Proposed Rates
Exhibit D	Declaration in Support of Rate Increase

WHEREFORE, Joint Applicants request:

1. That the Commission issue an opinion and order approving the requested increases in Joint Applicants’ crude oil pipeline tariff rates as quickly as is practicable; and
2. That the Commission grant such other and further relief as shall be just and proper. Joint Applicants are prepared to review the analysis and forecasts supporting this filing with Staff upon request.

Respectfully submitted January 29, 2025 at San Francisco, California.

CBL ENERGY LAW PLLC

DOWNEY BRAND, LLP

By: /s/ Deborah R. Repman

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By: /s/ James D. Squeri

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*Attorneys for San Pablo Bay Pipeline Company LLC
and Crimson California Pipeline, L.P.*

VERIFICATION OF COUNSEL

I, James D. Squeri, declare:

I am an attorney at law duly admitted and licensed to practice before all courts of this state and I have my professional office at Downey Brand LLP, 455 Market Street, Suite 1500, San Francisco, California 94105.

I am an attorney for Joint Applicants, San Pablo Bay Pipeline Company LLC and Crimson California Pipeline, L.P., in the above-entitled matter.

No officer of the Joint Applicants is present in the county in which I have my office and for that reason I am making this verification on behalf of San Pablo Bay Pipeline Company LLC and Crimson California Pipeline, L.P.

I have read the foregoing Application and know its contents thereof.

I am informed and believe that the matters stated therein are true and, on that ground, I allege that the matters stated therein are true.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed at San Francisco, California on this 29th day of January, 2025.

/s/ James D. Squeri

James D. Squeri

EXHIBIT A

CERTIFICATES OF STATUS



Secretary of State Certificate of Status

I, SHIRLEY N. WEBER, PH.D., California Secretary of State, hereby certify:

Entity Name: CRIMSON CALIFORNIA PIPELINE, L.P.
Entity No.: 200405400002
Registration Date: 02/20/2004
Entity Type: Limited Partnership - CA
Formed In: CALIFORNIA
Status: Active

The above referenced entity is active on the Secretary of State's records and is authorized to exercise all its powers, rights and privileges in California.

This certificate relates to the status of the entity on the Secretary of State's records as of the date of this certificate and does not reflect documents that are pending review or other events that may impact status.

No information is available from this office regarding the financial condition, status of licenses, if any, business activities or practices of the entity.



IN WITNESS WHEREOF, I execute this certificate and affix the Great Seal of the State of California this day of January 23, 2025.

SHIRLEY N. WEBER, PH.D.
Secretary of State

Certificate No.: 288247434

To verify the issuance of this Certificate, use the Certificate No. above with the Secretary of State Certification Verification Search available at bizfileOnline.sos.ca.gov.



Secretary of State Certificate of Status

I, SHIRLEY N. WEBER, PH.D., California Secretary of State, hereby certify:

Entity Name: SAN PABLO BAY PIPELINE COMPANY LLC
Entity No.: 200402410113
Registration Date: 01/21/2004
Entity Type: Limited Liability Company - Out of State
Formed In: DELAWARE
Status: Active

The above referenced entity is active on the Secretary of State's records and is qualified to transact intrastate business in California.

This certificate relates to the status of the entity on the Secretary of State's records as of the date of this certificate and does not reflect documents that are pending review or other events that may impact status.

No information is available from this office regarding the financial condition, status of licenses, if any, business activities or practices of the entity.



IN WITNESS WHEREOF, I execute this certificate and affix the Great Seal of the State of California this day of January 22, 2025.

SHIRLEY N. WEBER, PH.D.
Secretary of State

Certificate No.: 287476034

To verify the issuance of this Certificate, use the Certificate No. above with the Secretary of State Certification Verification Search available at bizfileOnline.sos.ca.gov.

EXHIBIT B

SPBPC AND CRIMSON FINANCIAL STATEMENTS

Consolidated CorEnergy
207-San Pablo Bay Pipeline
For the Twelve Months Ending Tuesday, December 31, 2024

	<u>207</u>
	<u>San Pablo Bay</u>
	<u>Pipeline Company, LLC</u>
ASSETS	
Current Assets	
Cash	(19,110)
Accounts Receivable - Trade	3,445,778
Accounts and other receivables	581,883
Inventory	46,190
Prepaid expenses and other Assets	475,398
Total Current Assets	<u>4,530,140</u>
Fixed Assets	
Property and Equipment	63,029,422
Property and Equipment (Accum. Dep.)	<u>(30,196,288)</u>
Total Fixed Assets	32,833,134
Other Assets	
Intercompany Receivables	<u>1,123,139</u>
Total Other Assets	<u>1,123,139</u>
TOTAL ASSETS	<u><u>38,486,414</u></u>
LIABILITIES & EQUITY	
Liabilities	
AP and other accrued liabilities	<u>(6,497,643)</u>
Total Accounts Payable	(6,497,643)
Other Current Liabilities	
Unearned Revenue	<u>(61,690)</u>
Total Other Current Liabilities	(61,690)
Long-Term Liabilities	
Intercompany Payables	<u>(2,725,046)</u>
Total Long-Term Liabilities	<u>(2,725,046)</u>
Total Liabilities	(9,284,379)
Equity	
Additional Paid-in Capital	(388,441,068)
Common Stock	(27)
Accumulated Retained Earnings	355,360,677
Net Income (Loss)	<u>3,878,383</u>
Total Equity	<u>(29,202,035)</u>
TOTAL LIABILITIES & EQUITY	<u><u>(38,486,414)</u></u>

Difference

Consolidated CorEnergy
207-San Pablo Bay Pipeline
For the Twelve Months Ending Tuesday, December 31, 2024

	<u>207</u>
	<u>San Pablo Bay</u>
	<u>Pipeline Company, LLC</u>
Revenue	
Transportation	(46,484,777)
Other	(5,821)
Total Revenue	<u>(46,490,598)</u>
Expenses	
Operating Expenses	
Salaries & Benefits Opex	6,748,557
Materials and Supplies	326,157
Field Office	127,426
Asset Maintenance	12,758,921
Outside Services	3,027,271
Utilities and Power	10,508,651
Right of Way	280,702
Regulatory, Environmental, and Safety	1,076,283
Insurance and Bonds	2,627,040
Taxes	1,454,013
Other Expenses	384,182
Total Operating Expenses	<u>39,319,202</u>
SG&A Expenses	
Salaries & Benefits - G&A	5,457,171
Professional Services	2,728,495
Asset Acquisition Expense	(6,500)
Director's Fees	255,965
Other expenses - G&A	1,029,696
Total SG&A Expenses	<u>9,464,826</u>
Total Expenses	<u>48,784,028</u>
Net Ordinary Income	2,293,430
Other Income/Expense	
Depreciation Expense	1,755,916
Other Income/Expense	(170,963)
Total Other Income/Expense	<u>1,584,953</u>
Net Income	<u><u>3,878,383</u></u>

Consolidated CorEnergy
204-Crimson California KLM
For the Twelve Months Ending Tuesday, December 31, 2024

	204
	Crimson California
	KLM
ASSETS	
Current Assets	
Cash	(8,892)
Accounts Receivable - Trade	712,647
Accounts and other receivables	39,602
Prepaid expenses and other Assets	304,256
Total Current Assets	1,047,613
Fixed Assets	
Property and Equipment	5,956,737
Property and Equipment (Accum. Dep.)	(357,760)
Total Fixed Assets	5,598,976
Other Assets	
Intercompany Receivables	16,482
Total Other Assets	16,482
TOTAL ASSETS	6,663,071
LIABILITIES & EQUITY	
Liabilities	
AP and other accrued liabilities	(1,009,664)
Total Accounts Payable	(1,009,664)
Long-Term Liabilities	
Intercompany Payables	(434,599)
Total Long-Term Liabilities	(434,599)
Total Liabilities	(1,444,263)
Equity	
Additional Paid-in Capital	(39,762,725)
Common Stock	(4)
Accumulated Retained Earnings	33,439,703
Net Income (Loss)	1,104,218
Total Equity	(5,218,808)
TOTAL LIABILITIES & EQUITY	(6,663,071)

Difference

Consolidated CorEnergy
204-Crimson California KLM
For the Twelve Months Ending Tuesday, December 31, 2024

	204
	Crimson California
	KLM
Revenue	
Transportation	(8,357,973)
Total Revenue	(8,357,973)
Expenses	
Operating Expenses	
Salaries & Benefits Opex	2,734,579
Materials and Supplies	28,192
Field Office	9,742
Asset Maintenance	1,218,134
Outside Services	418,967
Utilities and Power	843,637
Right of Way	18,790
Regulatory, Environmental, and Safety	553,907
Insurance and Bonds	536,317
Taxes	362,296
Other Expenses	297,947
Total Operating Expenses	7,022,508
SG&A Expenses	
Salaries & Benefits - G&A	1,018,522
Professional Services	1,161,512
Director's Fees	44,015
Other expenses - G&A	168,420
Total SG&A Expenses	2,392,469
Total Expenses	9,414,976
Net Ordinary Income	1,057,003
Other Income/Expense	
Depreciation Expense	159,648
Other Income/Expense	(112,433)
Total Other Income/Expense	47,215
Net Income	1,104,218

EXHIBIT C

CURRENT AND PROPOSED RATES

Table of Rates For San Pablo Bay and Crimson California (KLM)

San Pablo Bay Current Tariff	ORIGIN	DESTINATION	Current Rate (cpb)	Proposed Rate 10% (cpb)	Combined Proposed Rate 44.45% (cpb)	Increase %
CPUC 2.16.0	Coalinga Gathering (Includes Mainstate, Pennzler, National 13D, 25D, and Section 29), Fresno County					
	Coalinga Station (Truck Receipts), Fresno County					
	Station 36, Kern County	Valero Refinery Interconnect, Contra Costa County	214.29	235.72	319.87	49.27%
	Kern River Holdings (Kern River), Kern County					
	Bakersfield Tank Farm (Truck Receipts), Kern County					
	Macpherson (Round Mountain), Kern County					
	Kern Front, Kern County	Marathon Refinery Interconnect, Contra Costa County	214.29	235.72	319.87	49.27%
	North Shafter, Kern County					
	Station 31 (Midway Sunset), Kern County					
	Fairfield (Midway Sunset), Kern County					
	Section 15A (Midway Sunset), Kern County					
	Olig Station, Kern County	PBF Refinery Interconnect, Contra Costa County	214.29	235.72	319.87	49.27%
	Kernridge Station (Belridge), Kern County					
	Middle Station (Carneras), Kern County					
	Hopkins South (Belridge), Kern County					
	Gotland, Kern County	Valero Refinery Interconnect, Contra Costa County	214.29	235.72	319.87	49.27%
	Dehy 20 (Belridge), Kern County	Marathon Refinery Interconnect, Contra Costa County	214.29	235.72	319.87	49.27%
	Coalinga Station (Truck Receipts), Fresno County	PBF Refinery Interconnect, Contra Costa County	214.29	235.72	319.87	49.27%
	Section 18 (Lost Hills Gathering), Kern County	Valero Refinery Interconnect, Contra Costa County	214.29	235.72	319.87	49.27%
	Lost Hills 2 (Lost Hills Gathering), Kern County	Marathon Refinery Interconnect, Contra Costa County	214.29	235.72	319.87	49.27%
	PBF Refinery Interconnect, Contra Costa County	214.29	235.72	319.87	49.27%	
Station 36, Kern County	San Joaquin Refinery, Kern County	37.80	41.58	56.42	49.27%	
	Valero Refinery Interconnect, Contra Costa County	214.29	235.72	319.87	49.27%	
Olig Station, Kern County	Marathon Refinery Interconnect, Contra Costa County	214.29	235.72	319.87	49.27%	
	PBF Refinery Interconnect, Contra Costa County	214.29	235.72	319.87	49.27%	
Truck Rack Unloading Charge	Bakersfield and Coalinga	13.40	13.40	13.40	0.00%	
Crimson California (KLM) Current Tariff						
CPUC 204.5	Buena Vista Area (Kern County)	PBF Refinery, Contra Costa County	214.29	235.72	265.12	23.72%
	Signa Station	Valero Refinery, Contra Costa County	214.29	235.72	265.12	23.72%
	Midway Station	PBF Refinery; Valero Refinery, Contra Costa County	201.25	221.37	248.98	23.72%
	Derby Acres	PBF Refinery; Valero Refinery, Contra Costa County	194.47	213.92	240.60	23.72%
	Gymric Area [C]	PBF Refinery; Valero Refinery, Contra Costa County	187.90	206.69	232.47	23.72%
	Belridge Station [C]	PBF Refinery; Valero Refinery, Contra Costa County	174.39	191.82	215.75	23.72%
	Lost Hills/Cahn	PBF Refinery; Valero Refinery, Contra Costa County	161.06	177.17	199.27	23.72%

Table of Rates For San Pablo Bay and Crimson California (KLM)

San Pablo Bay Current Tariff	ORIGIN	DESTINATION	Current Rate (cpb)	Proposed Rate 10% (cpb)	Pending Rates	Combined Proposed Rate 44.45% (cpb)	Increase %
CPUC 2.16.0	Coalinga Gathering (Includes Mainstate, Pennzler, National 13D, 25D, and Section 29), Fresno County						
	Coalinga Station (Truck Receipts), Fresno County						
	Station 36, Kern County	Valero Refinery Interconnect, Contra Costa County	214.29	235.71	242.10	361.37	49.3%
	Kern River Holdings (Kern River), Kern County						
	Bakersfield Tank Farm (Truck Receipts), Kern County						
	Macpherson (Round Mountain), Kern County						
	Kern Front, Kern County	Marathon Refinery Interconnect, Contra Costa County	214.29	235.71	242.10	361.37	49.3%
	North Shafter, Kern County						
	Station 31 (Midway Sunset), Kern County						
	Fairfield (Midway Sunset), Kern County						
	Section 15A (Midway Sunset), Kern County						
	Olig Station, Kern County	PBF Refinery Interconnect, Contra Costa County	214.29	235.71	242.10	361.37	49.3%
	Kemridge Station (Belridge), Kern County						
	Middle Station (Cameras), Kern County						
	Hopkins South (Belridge), Kern County						
	Godand, Kern County	Valero Refinery Interconnect, Contra Costa County	214.29	235.71	242.10	361.37	49.3%
	Dehy 20 (Belridge), Kern County	Marathon Refinery Interconnect, Contra Costa County	214.29	235.71	242.10	361.37	49.3%
	Coalinga Station (Truck Receipts), Fresno County	PBF Refinery Interconnect, Contra Costa County	214.29	235.71	242.10	361.37	49.3%
		Valero Refinery Interconnect, Contra Costa County	214.29	235.71	242.10	361.37	49.3%
		Marathon Refinery Interconnect, Contra Costa County	214.29	235.71	242.10	361.37	49.3%
	PBF Refinery Interconnect, Contra Costa County	214.29	235.71	242.10	361.37	49.3%	
	Valero Refinery Interconnect, Contra Costa County	214.29	235.71	242.10	361.37	49.3%	
	Marathon Refinery Interconnect, Contra Costa County	214.29	235.71	242.10	361.37	49.3%	
	PBF Refinery Interconnect, Contra Costa County	214.29	235.71	242.10	361.37	49.3%	
	San Joaquin Refinery, Kern County	37.80	37.80	37.80	56.42	49.3%	
	Valero Refinery Interconnect, Contra Costa County	214.29	235.71	242.10	361.37	49.3%	
	Marathon Refinery Interconnect, Contra Costa County	214.29	235.71	242.10	361.37	49.3%	
	PBF Refinery Interconnect, Contra Costa County	214.29	235.71	242.10	361.37	49.3%	
	Bakersfield and Coalinga	13.40	13.40	13.40	13.40	0.00%	
Crimson California (KLM) Current Tariff							
CPUC 204.5	Buena Vista Area (Kern County)	PBF Refinery, Contra Costa County	214.29	235.71	292.10	361.37	23.7%
	Signa Station	Valero Refinery, Contra Costa County	214.29	235.71	292.10	361.37	23.7%
	Midway Station	PBF Refinery; Valero Refinery, Contra Costa County	201.25	221.37	292.10	361.37	23.7%
	Derby Acres	PBF Refinery; Valero Refinery, Contra Costa County	194.47	213.91	292.10	361.37	23.7%
	Cymric Area [C]	PBF Refinery; Valero Refinery, Contra Costa County	187.90	206.69	292.10	361.37	23.7%
	Belridge Station [C]	PBF Refinery; Valero Refinery, Contra Costa County	174.39	191.82	292.10	361.37	23.7%
	Lost Hills/Cahn	PBF Refinery; Valero Refinery, Contra Costa County	161.06	177.16	292.10	361.37	23.7%

EXHIBIT D

DECLARATION IN SUPPORT OF RATE INCREASE

DECLARATION OF MICHAEL J. WEBB

I. Introduction and Statement of Qualification

1. My name is Michael J. Webb. I am Vice President of Regulatory Economics Group, LLC (“REG”), a consulting firm located in Reston, Virginia. My business address is 11180 Sunrise Valley Drive, Reston, Virginia 20191. I hold a PhD and MA in Economics from George Mason University and a BA in Economics from American University. I have more than 25 years of experience in the oil pipeline industry. I have provided testimony before this Commission, the Federal Energy Regulatory Commission (“FERC”), the National Energy Board (Canada), the Canadian Energy Regulator, the Kansas Corporation Commission, the Regulatory Commission of Alaska, the Wyoming Public Service Commission, the Virginia State Corporation Commission, the Railroad Commission of Texas, the American Arbitration Association, the Pennsylvania Public Utilities Commission, the Louisiana Public Service Commission, the Court of Chancery of the State of Delaware, and the District Court for the 269th District of Texas. In these forums, my testimony has addressed a variety of issues relating to oil pipeline regulation. I have attached my curriculum vitae as Exhibit No. MJW-1.

2. I have been asked by San Pablo Bay Pipeline, L.P. (“SPBPC”) and Crimson California Pipeline, L.P. (“Crimson”) (collectively, the “Carriers”) to calculate a cost of service and an achieved return figure for both the San Pablo Bay Pipeline System (“SPB System”) owned by SPBPC and the Kettleman-Los Medanos Pipeline System (“KLM System”) that is owned by Crimson. I refer to these two pipeline systems—the KLM System and the SPB System—collectively as the “Combined System.” The purpose of my calculations is to demonstrate that the 10 percent rate increases, as well as the total aggregate rate increases

of 49.27 percent for the SPB System and 23.72 percent for the KLM System, as such rate increases are described in the accompanying Application, are reasonable. For clarity, the rate increases discussed herein have been applied to those rates that are currently the subject of the pending A.23-08-018 proceeding.¹ That application (A.23-08-018), which I refer to as the “Pending Case,” is a consolidation of A.22-07--015, A.23-01-015, and A.23-03-011.

3. An achieved return figure provides a way to calculate the return that a utility, such as both of the Carriers, would earn at a given rate level. In Section II of this declaration, I will present a summary of the elements used to calculate these achieved return figures. I will then present a single cost of service for the Combined System and four achieved return figures (Exhibit No. MJW-2). The first achieved return figure will present the achieved return resulting from the SPB System and KLM System rates that are currently in effect.² The second achieved return figure will present the achieved return that would result from a 10 percent increase from such currently effective rates. The third achieved return figure will present the achieved return that would result from the rates supported by the Pending Case. Finally, I will present the achieved return figure that would result from the 44.45 weighted average percent increase proposed in this analysis.³ In Section III of this declaration, I will present a calculation of my recommended cost of capital for the Carriers. Comparing this cost of capital to the achieved return resulting from the Carriers’ rate

¹ As I discuss in the next section, I make a similar assumption with regard to revenue.

² Effective March 1, 2024, for SPB and the routes to the San Joaquin Refinery (“SJR”), and October 1, 2023, for KLM.

³ This weighted average figure is based on the 49.27 percent rate increase requested for the SPB System and the 23.72 percent rate increase requested for the KLM System.

increases demonstrates that the Carriers' requested rate increases fall are at or below the zone of reasonableness.

4. I have relied on cost and volume data provided to me by the Carriers for purposes of developing my cost-of-service and achieved return calculations. I made appropriate base and test period adjustments to that data, as further explained in the relevant sections below.

II. Cost of Service and Achieved Return Calculation

5. An achieved return calculation (Exhibit No. MJW-2) begins with the revenue generated by a given set of rates, subtracts the costs of providing service, and divides the residual by the cost of the assets used to provide service. The figure, expressed as a percentage, is compared against various capital market metrics for comparable companies to determine if it is within the zone of reasonableness, presuming one is setting a cost-based rate.⁴ To the extent the achieved return generated by the current rates is significantly below the capital market metrics, it is appropriate to allow the utility to raise its rates to a level that will generate an achieved return that is aligned with these market metrics.
6. In preparing my achieved return calculations, I have relied upon a few basic principles. First, I began with actual data from the books and records of the Carriers for the 2024 calendar year, which I refer to as the "Base Period." Next, to the extent there was evidence that those Base Period figures would change with known and measurable accuracy in the Test Period (*i.e.*, calendar year 2025), I adjusted the Base Period figures to reflect this information. In addition, it is my understanding that this Commission, like most regulatory

⁴ Section III will discuss in detail the process of balancing investors' interests in ensuring the financial integrity of the enterprise with consumers' interest in not paying excessive rates, as described in the seminal U.S. Supreme Court Case *FPC v. Hope Natural Gas* 320 US, 591 (1944).

agencies, bases such calculations on original cost. Consequently, as I discuss in subsection II.B below, I have obtained the original cost figures from the Carriers related to the Combined System. In the subsections below, I will discuss the various cost elements of the achieved return calculation. I will then discuss the calculation of revenue from which these costs should be subtracted and measured against, as well as perform a cost-of-service calculation (Exhibit No. MJW-2).

7. The issue of revenue generates a degree of complexity not found in prior oil pipeline cases for which I have provided testimony at this Commission. Specifically, the Carriers are awaiting a decision in the Pending Case, in which they are requesting to raise the transportation rates for the SPB System to \$2.4210/bbl and the transportation rates for the KLM System to \$2.9210/bbl. In the Pending Case, the Carriers have also requested retroactive rate relief.⁵ If the Commission approves the Carriers' requests, they will issue invoices to their shippers to collect amounts owed based on the difference between the approved rates and the effective rates. As such, I made a normalizing adjustment to my Base Period revenues to reflect both the revenue actually collected in 2024 as well as revenue collected in the pending case. In this way, the revenue will be associated with service provided in 2024. For this reason, the revenue I include for the Base Period is significantly higher than the revenue that the Carriers actually received in 2024. This adjustment ensures that the Carriers do not collect revenue to which they are not entitled.

⁵ The Commission granted similar retroactive rate relief in the D.24-05-007, which approved Crimson's request to raise rates on its SoCal system.

A. Operating Expenses

8. I began my calculation of operating expenses by obtaining Base Period actual data, by account, for the Combined System from the Carriers. These accounts are categorized in the Uniform System of Accounts for oil pipelines that I understand to be the convention relied on by the Commission. As shown in Statement B of Exhibit No. MJW-2, the actual operating expense amount incurred for the Combined System during the Base Period was approximately \$58.2 million.⁶
9. Based on an analysis I conducted in collaboration with the Carriers, I determined that actual costs associated with oil releases of \$59,440 and actual rate case expenses of \$1,778,184 should be removed from the Base Period expenses and, in the case of latter, replaced with a normalized amount in the Test Period.
10. I also determined that the actual corporate overhead costs associated with the reorganization of the Carriers' minority owner, CorEnergy Infrastructure Trust ("CorEnergy"), should be removed. These costs, which were incurred only in the first half of the Base Period, are not representative of ongoing corporate costs that will be incurred by the Carriers. To calculate the appropriate level of these costs, I reviewed the corporate allocations incurred by the Carriers over the course of the Base Period. I observed that the costs in the first half of the Base Period, when the reorganization took place, were \$1,683,553 higher than those in the second half of the Base Period, when the Carriers incurred lower corporate overhead allocations due to improved efficiencies generated by

⁶ All references to operating expenses reflect a figure which excludes depreciation.

this reorganization. As such, I removed this amount from the Base Period expenses and replaced it with a normalized amount in the Test Period.

11. With these expense reductions, the Base Period operating expenses for the Combined System were approximately \$54.7 million. To this amount, I made eleven Test Period adjustments, as shown in Statement B of Exhibit No. MJW-2. I developed these Test Period adjustments by analyzing the internal 2025 forecasts that the Carriers prepare for budgetary purposes, which contain expected costs at the general ledger (“GL”) level. I compared the 2025 forecast amounts to my adjusted Base Period amounts and then focused on those GL accounts that had the greatest expected changes (either increasing or decreasing). Twelve GL accounts, each with an expected change greater than +/- \$210,000, made up the majority of the total cost changes between the Base Period and forecast 2025 expenses.⁷ In each case, I determined that these differences met the known and measurable standard.
12. Finally, I would note that I applied this framework in the recent Commission proceeding involving Crimson’s Southern California pipeline system, which the Commission accepted in D.24-05-007, stating, “we find that Crimson’s approach to the base and test period is reasonable and supported by the evidence.”
13. Below, I summarize each Test Period adjustment I include in my calculation. These adjustments are also summarized in Statement B of Exhibit No. MJW-2.
 - I increased Account No. 320, Outside Services, by \$1,793,837. This approximately 11 percent increase accounts for forecast increases in asset maintenance and integrity costs that are driven by general cost inflation and increased compliance orders. As

⁷ Including the 112 other GL accounts would result in an increase of expenses of less than \$273,000.

the Commission recognized in D.24-05-007, pipeline integrity costs have increased in recent years.⁸

- I increased Account No. 300, Salaries and Wages, by \$566,646 to reflect cost of living increases and an anticipated additional hire by the Carriers.
- I increased Account No. 330, Operating Fuel and Power, by \$554,659 to account for higher expected natural gas usage to maintain operational efficiency on the heat necessary to keep the pipeline flowing efficiently.
- I decreased Account No. 520, Outside Services, by \$490,567 to account for lower accounting and recording expense allocations due to CorEnergy no longer being a publicly traded company.
- I decreased Account No. 550, Employee Benefits, by \$417,568 to account for the cessation of a stock bonus program.
- I increased Account No. 330, Operating Fuel and Power, by \$410,495 to account for Carriers no longer receiving a utility rebate.
- I increased Account No. 550, Employee Benefits, by \$342,785 to reflect increases in health insurance premiums.
- I increased Account No. 550, Employee Benefits, by \$212,439 to account for additional vesting of the cash bonus program.
- I increased Account No. 520, Outside Services, by \$2,250,000 to account for rate case expenses. This includes the \$750,000 of rate case expense that the Commission approved in D.24-05-007 related to Crimson's Southern California pipeline system, as well as an additional \$1,500,000 to amortize the expected cost of contesting this rate application. As I discussed above, I have already removed approximately \$1.8 million associated with actual rate case expenses in the Base Period.
- I increased multiple GL accounts by an aggregate of \$561,184 to amortize the reorganization costs removed from the Base Period over a period of three years. The

⁸ D.22-05-007 at 13.

specific changes include: decreasing Account No. 510 Materials and Supplies by \$11,118; increasing Account No. 520 Outside Services by \$512,737; increasing Account No. 530 Rentals by \$18,149; increasing Account No. 560 Insurance by \$2,340; and increasing Account No. 590 Other Expenses by \$39,077.

14. The penultimate adjustment is appropriate because in D.24-05-007, the Commission concluded that “[r]ate case litigation expenses are necessary to establish reasonable rates.”⁹ The Commission also concluded that an amortized figure of \$750,000 was reasonable. In the pending rate case, the Carriers included \$750,000 associated with that case. It is also necessary to include both an amount to reflect the costs of that case and a further amount to reflect an amortized portion of the costs associated with this rate case.
15. Making the above-noted Test Period adjustments generates a Test Period operating expense amount of approximately \$60.5 million, excluding depreciation. While this figure does represent a substantial increase compared to the Base Period, the majority of this increase arises because of increases in pipeline integrity costs, utility costs, and health insurance costs. These costs are both critical to operating a safe pipeline and largely beyond the control of the Carriers.

B. Calculation of Original Cost Rate Base

16. Rate base enters the achieved return calculation in two ways. First, the depreciation of rate base (*i.e.*, recovering the economic cost of investing in assets over the expected life of the assets) is a cost that must be subtracted from revenue. In addition, dividing the residual revenue (after subtraction of operating expenses, depreciation, and other costs) by Rate Base generates the achieved return.

⁹ D.24-05-007 at 13.

17. It is my understanding, that this Commission employs the depreciated original cost approach (“DOC”) for calculating rate base. The original cost of the assets calculated under the DOC approach is typically defined as the cost to the first entity to place an asset in public service. As I discuss below, I have calculated rate base in a manner consistent with the Commission’s decisions in D.22-10-026 (the 2020 SPB decision), D.22-12-056 (the most recent KLM decision), and D.24-05-007 (the 2024 SoCal decision).
18. To calculate the appropriate rate base for the Combined System, I began with the same underlying electronic files upon which the Commission relied in the prior SPB and KLM decisions, which contained actual capital activity through December 2020, the end of the base period in those cases. Then, I reflected all additions, retirements, and transfers that have occurred from January 2021 (the start of the test period in the prior decisions) through December 2024 (the end of the current Base Period).¹⁰
19. I also included additions that are expected to occur with known and measurable accuracy by the end of the Test Period (*i.e.*, through December 2025). Specifically, I propose including an additional \$1.1 million in carrier property to reflect these additions. As a result, the Test Period carrier property is \$325.4 million. The average original cost rate base is \$120.5 million, as shown in Exhibit No. MJW-2 at Statement E.

C. Depreciation

20. In addition to earning a return on its rate base, the Carriers must recover the costs of the assets in rate base over the remaining service life during which these assets are expected to

¹⁰ I would note that since the Commission set rates based on Test Period projections, as is appropriate, the Commission approved numbers will not tie perfectly to the actual numbers for the Test Period, since actual figures do differ slightly from projections.

be in operation. The composite depreciation rate of 2.72 percent was used to calculate the depreciation expense (Exhibit MJW-2, WorkPaper 1). This rate is consistent with the Commission's prior decisions, as well as what I proposed in the Pending Case.

D. Income Taxes

21. Because the Carriers are not themselves tax-paying entities, and consistent with precedent at this Commission, I have not included an income tax allowance or any related items (*e.g.*, Accumulated Deferred Income Taxes) in the cost-of-service calculation.

E. Volume and Revenue

22. Having identified each of the cost elements comprising the achieved return calculation, it is necessary to calculate the revenue that the Carriers will earn. The Carriers derive revenue from three sources: collecting tariff rates filed with the Commission for pipeline transportation of oil, collecting tariff rates for using the SPB System truck racks, and selling any oil that it receives as part of the product loss allowance ("PLA").¹¹ Therefore, estimating Test Period revenue will be a function of several variables, including projected volumes, projected transportation rates, projected oil prices, and realized PLA sales price.
23. To develop Base Period volumes, I began with the actual volume that the Carriers transported on the Combined System in the Base Period of approximately 28.4 million barrels. I did not make any normalizing adjustments to these volumes. To estimate Test

¹¹ It is my understanding that management for the Carriers has determined that it is appropriate to include PLA revenue in its achieved return calculation. Since this case involves a change to transportation rates, I believe this choice is conservative, in that it results in lower rates. In my opinion, a theoretical argument exists that transportation revenue should not be offset with PLA revenue.

Period volumes, I utilized the Carriers' internal forecasts for 2025 of approximately 25.5 million barrels.¹²

F. Achieved Return

24. Exhibit No. MJW-2, Achieved Return, Column [a], Line 32 shows the achieved return if Carriers do not raise their rates at all and instead maintain the rates made effective on March 1, 2024 for the SPB System and October 1, 2023 for the KLM System. Under this scenario, the Carriers would achieve an overall return on rate base of approximately negative 15.06 percent and an achieved return on equity of negative 33.11 percent. In other words, the Carriers would be unable to cover their operating expenses, let alone attract capital.
25. Exhibit No. MJW-2, Achieved Return, Column [b], Line 32 shows the achieved return the if the Carriers raised their currently effective rates by 10 percent. Under this scenario, the Carriers would earn an overall return on rate base of approximately negative 11.05 percent and thus would still be unable to cover their operating expenses.
26. Exhibit No. MJW-2, Achieved Return, Column [c], Line 32 shows the achieved return if the Commission granted the rate increases Carriers sought in the Pending Case. Under this scenario, the Carriers would earn an overall return on rate base of approximately negative 7.69 percent and thus would still be unable to cover their operating expenses.
27. Exhibit No. MJW-2, Achieved Return, Column [d], Line 32 shows the achieved return if the Commission grants the current requested rate increase of 49.27 percent for the SPB System and 23.72 percent for the KLM System. In this scenario, the Carriers would earn

¹² These volumes do not include the barrels travelling on the Western San Joaquin system ("WSJ"), rate increases on which are not being sought.

an overall return on rate base of approximately 13.80 percent and a return on equity of 15.00 percent, which would allow them to both cover operating expenses and attract capital investment.

III. Cost of Capital

A. Cost of Capital Principles

28. *FPC vs. Hope Natural Gas* (hereinafter “*Hope*”)¹³ constitutes one of the seminal cases in setting just and reasonable cost-based rates. In relevant part, *Hope* teaches that a rate falls within the zone of reasonableness if it balances the interests of the investor and the consumer. *Hope* goes on to state that:

From the investor or company point of view it is important that there be enough revenue not only for operating expenses but also for capital costs of the business... By that standard the return to the equity owner should be commensurate with returns on investments 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 attract capital.¹⁴

From this quote, it should be immediately apparent that the Carriers’ current rates fall outside of the zone of reasonableness because they result in an achieved return on equity of approximately negative 33.11 percent. In other words, their rates do not generate a return sufficient for the Carriers to be able to attract capital. In the Base Period, the Carriers experienced a revenue deficiency of approximately \$25.9 million (Exhibit No. MJW-2, Statement A, Line 11).

¹³ *Federal Power Commission v. Hope Natural Gas Company*, 320 U.S. 591 (1944).

¹⁴ *Hope* at 603.

29. *Hope* also teaches that, in assessing whether a given rate (or rate increase) achieves the appropriate balance, one must compare the return generated by these rates to the return generated by other firms of similar risk. Typically, this means comparing the achieved return on equity to the return of other publicly traded oil pipeline companies.
30. Calculating the appropriate cost of capital involves three key variables: the capital structure (*i.e.*, the ratio of equity to equity plus long-term debt), the cost of debt, and the cost of equity. The combination of these three figures produces a weighted average cost of capital or “WACC.” Applying the WACC to the rate base produces the total return that the utility requires to provide service.

B. Capital Structure and Cost of Debt

31. In important ways, the Carriers differ from other utilities regulated by this Commission. Specifically, the Carriers do not issue long-term debt but rather relies on its owners. Consequently, one could argue that the WACC¹⁵ and the return on equity (“ROE”) should be equivalent. However, shippers may argue that such an approach generates an excessive return, and the Commission may have concerns that such a precedent would provide an incentive for other utilities to reduce their reliance on debt, even if the incurrence of debt is economically efficient. Therefore, I have calculated the Carriers’ achieved return as if they had 40 percent long-term debt (*i.e.*, a capital structure of 40% debt, 60% equity). While several of the major publicly traded oil pipeline companies have higher debt percentage capital structures, in my opinion, it is appropriate to use a lower debt percentage for the Carriers to account for their smaller size, their reliance on a small number of

¹⁵ WACC = Equity Ratio × ROE + (1 – Equity Ratio) × COD

producers with declining production, and the associated higher level of risk. Not only is this 60/40 capital structure economically sensible, it has also been approved by this Commission in several rate cases involving Crimson.¹⁶

32. In addition to a capital structure, it is also necessary to estimate a cost of debt (“COD”). For many utilities, this Commission would estimate the COD using some measure of the implicit interest rate associated with the long-term debt used to fund the construction of public utility infrastructure. However, the Carriers have no third-party debt; all debt on the books of the Carriers is intercompany debt with its minority owner CorEnergy.¹⁷ For this reason, in prior cases involving the Carriers, I have developed a COD based on the debt costs associated with other companies that had comparable risk to that of the Carriers.¹⁸

33. However, since those prior cases—including the Pending Case and the issuance of D.24-05-007—the nature of the debt that the Carriers (or their parent company) has issued has changed. First, the Carriers’ minority owner, CorEnergy, paid off the revolver and term loans that the Carriers had used in prior proceedings. Second, CorEnergy has provided a loan to the Carriers’ parent company, CMH, with an interest rate of 11 percent. Third, In January 2024, CorEnergy sold its wholly owned subsidiary MoGas and Omega pipelines which now makes Crimson the only material asset owned by CorEnergy. This effectively makes CorEnergy, from a credit risk perspective, equal to CMH or CMO within the Crimson organization since they all are effectively holding companies of the Crimson Utilities. In addition, CorEnergy restructured its finances through a bankruptcy process

¹⁶ D.20-11-026 at page 39, D.22-10-009 at page 7, D.24-05-007 at page 23.

¹⁷ Historically, Crimson had third party debt that the Commission determined was not appropriate for ratemaking purposes.

¹⁸ D.20-11-026 at page 36, D.24-05-007 at page 23.

and discharged its prior convertible notes by giving the holders cash, new equity in the company and a new loan with an interest rate of 12 percent. I understand that CorEnergy tried to refinance the convertible notes with funds from other sources and was not able to find a willing lender.

34. In my opinion, a COD of 12 percent is appropriate for the Carriers for several reasons. First, the Carriers' financial risk have increased significantly since the issuance of D.24-05-007 involving Crimson and its Southern California pipeline system. Indeed, the Carriers' minority shareholder has restructured its debt through the bankruptcy process. Based on conversations with Mr. Waldron, the CEO of Crimson and CorEnergy, as well as my own analysis, I conclude that the Carriers would have a bond rating no better than CCC (or Ca using the Moody's metrics). CCC bonds have been trading above 12 percent for most of the last three years, averaging 12.98 percent in 2022, 14.23 percent in 2023, and 12.94 percent in 2024.¹⁹ Therefore, using the same method upon which the Commission has relied previously would imply an interest rate well above 12 percent. Second, CorEnergy recently issued a secured note requiring 12 percent interest. Finally, in late 2023, another oil pipeline company, Summit Midstream Partners, in a similar subprime category as the Carriers issued a bond requiring a 12 percent interest rate.²⁰ Furthermore, interest rates have increased substantially since the 2022 case that resulted in D.24-05-007. For all of these reasons, I believe a 12 percent COD appropriately captures the substantial risk that the Carriers' and their investors face. Another important change to the CorEnergy/Carriers organization is that in January 2024, CorEnergy sold its only other

¹⁹ See fred.stlouisfed.org/graph/?g=1DaSc (last accessed January 24, 2025).

²⁰ summitmidstreampartnerslp.gcs-web.com/news-releases/news-release-details/summit-midstream-partners-lp-announces-opportunistic-refinancing

material assets that it owned, the MoGas/Omega pipeline systems. As a result, the only material assets now owned by CorEnergy are those of the Carriers, so CorEnergy and the Carriers now have basically the same risk profiles.

C. Calculating the Return on Equity

35. In D.24-05-007, the Commission relied upon my calculation of the ROE employing a combination of the Discounted Cash Flow (“DCF”) method and the Capital Asset Pricing Model (“CAPM”) method. To ensure a complete record, I provide these same calculations using updated data. However, for reasons I discuss below, the methodology that was appropriate in the D.24-05-007 decision no longer produces a result that properly reflects the risks of Crimson as required by *Hope*.
36. The two-stage DCF model begins with a group of publicly traded oil pipeline companies known as the proxy group and determines the return investors would earn for each company in the group. Investor return consists of two elements: the yield that they expect to earn through dividends or distributions, and the growth in those dividends or distributions and the impact of that growth on the value of the security.

D. Calculating the ROE Under the Historical Model (as accepted in D.24-05-007)

37. The first stage of the DCF calculation relies on dividends (or distributions) and average unit price. Dividing expected dividends by unit price determines the dividend yield. For example, if the investor purchased a share for \$10 and this share entitled the investor to \$1.00 of dividends per annum, the dividend yield would be 10 percent.
38. Analysts also forecast growth in the earnings and dividends and the impact of that growth on the price of shares. This growth represents the other element of the investors’ expected

return. If the investor expected the earnings and dividends to grow at 5 percent annually, the simple growth component of the expected equity rate of return would be 5 percent.

I applied the DCF formula:

$$k = D_1/P_0 + g$$

Where:

k = estimated equity rate of return

D_1 = expected dividend at year end

P_0 = company stock price, and

g = estimate of company's long-run future dividend and earnings growth

39. As shown in Exhibit No. MJW-3, for each company I calculated the yield by dividing the most recent distribution by the respective company's average unit price. Then, I made an adjustment by multiplying the yield by $(1 + g/2)$. This adjusted yield reflects average growth expected in the distribution during the period of the analysis.
40. Typically, the growth rate used in these proceedings consists of a two-stage weighted growth rate consisting of analysts' forecasts of earnings growth (given a 2/3 weight) and the projected growth in the gross domestic product ("GDP") (given a 1/3 weight). Consistent with this approach, I weighted by two-thirds the earnings per share median growth consensus estimate reported by Fidelity. For the GDP component, I averaged the forecasted long-term GDP growth reported by the following three sources: the U.S. Energy Information Administration's Annual Energy Outlook, the IHS Global Insight's U.S. Economy 30-Year Focus, and the Social Security Administration's OASDI Trustees Report. As stated above, I applied one-third weight to this GDP estimate.

41. Historically, in preparing my ROE calculations, I relied on a proxy group consisting of the oil pipeline companies similar to those shown Table 1 below.²¹ As I will discuss subsequently in my declaration, current market conditions are such that calculations using these proxy companies do not generate meaningful results.

Table 1
Historical Proxy Group
ONEOK, Inc.
MPLX, L.P.
Enterprise Products Partners, L.P.
Plains All American Pipeline, L.P.
Enbridge
Energy Transfer

42. This proxy group is similar to the proxy group approved by this Commission for Crimson in D.24-05-007, with adjustments for companies that are no longer publicly traded.²² Specifically, Magellan Midstream Partners, LP was acquired on ONEOK, and thus I have replaced it with ONEOK. Similarly, I replaced NuStar with Energy Transfer, as the latter acquired the former. I would note that all members of this proxy group are orders of magnitude larger than CorEnergy or the Carriers by any meaningful financial measure. Furthermore, because the members of the above proxy group are geographically diverse, diverse in terms of commodities transported, and carry an investment grade credit rating, they all have a significantly lower cost of equity.

²¹ For the purpose of this declaration, I will be referring to this proxy group as the “Historical Proxy Group.”

²² See FN 92.

43. Calculating the DCF ROE using the above proxy group generates a median nominal return on equity of approximately 10.82 percent, as shown in Exhibit No. MJW-3.
44. In addition to the DCF model employed above, I calculated an ROE under the CAPM approach using the same proxy group. The formula CAPM is:

$$ER_i = R_f + \beta_i \times (ER_m - R_f)$$

Where:

ER_i = expected return of investment,

R_f = risk-free rate,

β_i = beta of the investment, and

ER_m = expected market return.

45. While DCF uses historical growth rates among the selected proxy companies to calculate a projected ROE, CAPM looks at the risk valuation of a company. The size-adjusted CAPM ROE for the proxy group ranged from 10.49 percent to 15.23 percent and produced a median size-adjusted CAPM value of 11.95 percent. Given the present structure and situation that the Carriers have, if anything this CAPM value understates potential risk. Averaging this CAPM value with the previously calculated DCF value results in a ROE nominal composite average of 11.38 percent, as shown in Exhibit No. MJW-3.
46. This figure is not materially different from the ROE figure approved in D.24-05-007. However, since the period covered by that decision, the Carriers' financial situation has deteriorated materially. As discussed in the subsection above, the COD is now at least 12 percent. Since equity holders bear greater risk compared to lenders, it is axiomatic that the ROE must exceed the COD.

E. A Multi-Factor Approach

47. To generate an ROE result that is consistent with basic regulatory principles and requirements, I recommend that the Commission rely on a multi-factor approach that includes (1) assessing the ROE generated by a proxy group consisting of sub-investment-grade midstream companies, (2) considering the equity premium implied by past cases, and (3) adding the small company premium calculated by Kroll (formerly Duff & Phelps) to an ROE calculated for investment-grade companies using the CAPM methodology. As I will discuss below, each of these approaches implies an ROE above 15 percent. For this reason, and to be conservative, I recommend employing an ROE of 15 percent to calculate rates for the Combined System.
48. To conduct the first analysis, I began with a document published by the S&P entitled “Issuer Ranking: North and South American Midstream Energy Companies, Strongest to Weakest,” which is attached hereto as Exhibit No. MJW-4. I then eliminated: (1) any South American companies, (2) any companies with an investment-grade credit rating, (3) any companies that did not have at least some liquids pipeline operations, and (4) any companies that were not publicly traded, such as Buckeye Energy Partners, L.P. After those eliminations, I was left with a proxy group of nine sub-investment grade midstream companies, as shown in Exhibit No. MJW-5.
49. I used this proxy group to calculate an ROE using the same basic DCF and CAPM methodologies. As shown in Exhibit No. MJW-5, the result of this analysis generates an ROE of 12.83 percent. However, I did identify some issues associated with the results of the DCF calculation that caused me to conclude that the Commission should place limited weight on the results of the DCF portion of the analysis.

50. Specifically, there was a wide range in the results of the DCF calculation, which produced ROEs for the proxy group members ranging from 0.70 percent to 19.56 percent. By contrast, the CAPM calculation produced ROEs for the proxy group members ranging from 12.62 percent to 20.72 percent. While a wide range of outcomes is not *per se* problematic, it does suggest that one must pay particular attention to the inputs. Second, it is unclear how often the growth rates are updated.²³ Finally, several of the proxy group companies are either not currently paying dividends or are paying minimal dividends. A lack of dividends can create theoretical problems in applying the DCF model. While I provide the DCF calculation to ensure the Commission has a complete record, I recommend giving more weight to the results of the CAPM model.
51. Because of the limitations of the sub-investment ROE calculations, I analyzed the equity premia that both this Commission and the FERC have approved in all oil pipeline proceedings of which I am aware since 1985. As shown in Exhibit No. MJW-6, the median equity premium (*i.e.*, difference between the approved nominal ROE and the COD) has been 5.25 percent.²⁴ Adding that 5.25 percent figure to the COD of 12 percent, implies an ROE of 17.25 percent.
52. The last alternative calculation that I employed involves the Kroll size premium that is used to adjust the CAPM calculation I used to calculate the ROE based on the Historic Proxy Group. Academic literature supports the idea that the CAPM calculation tends to understate the ROE for smaller companies. To address this issue, one normally makes an

²³ In the past, I have sourced IBES growth rates from Yahoo! Finance. Yahoo! Finance no longer reports IBES growth rates, so I am now sourcing growth rates from Seeking Alpha for the sub-investment grade proxy group which reported S&P Capital IQ growth rates.

²⁴ Limiting the calculation to CPUC cases would result in a slightly higher figure.

adjustment to the CAPM based on figures published by Kroll. For example, as shown in Exhibit MJW-3 that includes my ROE calculation based on the Historic Proxy Group, Plains is a bit smaller than a typical company and thus a size premium of 0.61 percent is added to the raw ROE.

53. To incorporate this factor in my calculation, I began with the CAPM calculation for the Historic Proxy Group and then backed out the size premia associated with each proxy group member, to generate a CAPM calculation that is not adjusted for size. This calculation results in an ROE of 12.01 percent, as shown in Exhibit No. MJW-7. To this figure, I added a size adjustment of 4.70 percent from the Kroll reports for the smallest companies, which the Carriers would be, which results in an ROE of 16.71 percent.
54. From these three analyses, I conclude that an ROE of 15 percent would be a reasonable, if not conservative, allowed ROE for the Carriers. In fact, all three calculations imply an ROE above, and in some cases materially above, 15 percent. In my opinion, these three robust analyses support an allowed ROE for the Carriers of at least 15 percent.
55. I would also note that, in D.24-05-007, the Commission approved a cost of debt of 8.8 percent and an ROE of 11.45 percent, implying that it believed a 2.65 percent equity premium was appropriate for Crimson. Adding this same figure to the current COD of 12 percent implies an ROE of 14.65 percent. This fact further supports a 15 percent ROE.

IV. Conclusion

56. As shown in Exhibit No. MJW-2, Achieved Return, under their current rates, the Carriers would earn an overall return on rate base of negative 15.06 percent in the Test Period and their achieved return on equity would be negative 33.11 percent. This negative return

would only be partially mitigated by a 10 percent rate increase. Allowing the full 49.27 percent rate increase for the SPB System and 23.72 percent rate increase for the KLM System would allow the Carriers to recover their expenses and earn a reasonable return on capital. By contrast, without a rate increase, their expenses and debt costs associated with the Combined System would exceed revenue, violating the central premise of ratemaking.

The foregoing declaration is submitted under penalty of perjury in accordance with the laws of the State of California.

Dated: January 29, 2025

/s/ Michael J. Webb



MICHAEL J. WEBB

Vice President

Dr. Webb has more than twenty-five years of energy industry experience. Dr. Webb has extensive experience in all aspects of pipeline rate regulation at the Federal and State levels, as well as international levels. He has filed expert testimony in numerous cases 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 filed testimony addressing issues of natural gas pipeline ratemaking and has been qualified as an expert in principles of natural gas rate making. 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 for sixteen years.

Relevant Experience

Testimony

- | | |
|---------------|---|
| Dec. 20, 2024 | Submitted an Affidavit at FERC in Support of the Reply Comments of the Designated Carriers in RM25-2-000 discussing the impact of oil pipeline rates on consumer prices. |
| Nov. 26, 2024 | Submitted an Affidavit at FERC in Support of the Comments of the Designated Carriers in RM25-2-000 discussing issues related to the FERC's Income Tax Policy and statistical issues. |
| Oct. 23, 2024 | Submitted Supplemental Declaration on behalf of Crimson California Pipeline L. P. in support of a rate increase for its Southern California Pipeline at the California Public Utilities Commission. |
| Jul. 26, 2024 | Filed Cross-Answering Testimony on behalf of Colonial Pipeline at FERC responding to the testimony of FERC Trial Staff in Docket No. OR22-5-001 |
| June 28, 2024 | Submitted Verified Statement on behalf of Crimson California Pipeline L. P. in support of a rate increase for its Southern California Pipeline at the California Public Utilities Commission. |



- Feb 28, 2024 Oral Rebuttal Testimony and cross examination on behalf of the Board of Supervisors of Loudon County before the Virginia State Corporation Commission in Docket No. PUR-2023-00089 addressing regulatory issues associated with setting tolls for the privately owned Dulles Greenway.
- Feb 8, 12, 2024 Oral cross examination at the California Public Utilities Commission on behalf of KLM and San Pablo Bay Pipeline in Docket No. A.22-7-015 *et. al.* discussing principles of cost-based ratemaking, and supporting the pipeline's rate increase.
- Feb. 5, 2024 Submitted Rebuttal Testimony and Affidavit on behalf of Phillips 66 Pipeline LLC addressing issues related to cost-of-service calculations including return on equity, capital structure, and the application of the FERC's Opinion No. 154-B methodology in Docket Nos. IS21-747-000 and IS23-92-000 at the FERC.
- Jan 25, 2024 Filed a Verified Statement on behalf of San Pablo Bay in support of a 10 percent rate increase at the California Public Utilities Commission.
- Jan. 12, 2024 Filed Direct Testimony on behalf of the Board of Supervisors of Loudon County before the Virginia State Corporation Commission in Docket No. PUR-2023-00089 addressing regulatory issues associated with setting tolls for the privately owned Dulles Greenway.
- Dec. 29, 2023 Filed Rebuttal Testimony at the California Public Utilities Commission on behalf of KLM and San Pablo Bay Pipeline in Docket No. A.22-7-015 *et. al.* discussing principles of cost-based ratemaking, and supporting the pipeline's rate increase.
- Nov. 7, 2023 Filed a Verified Statement in support of emergency rate relief at the California Public Utilities Commission in Docket No. A.22-7-015 *et al.*
- Sept. 8, 2023 Filed Direct Testimony on behalf of KLM and San Pablo Bay Pipeline in Docket No. A.22-7-015 *et. al.* discussing principles of cost-based ratemaking, and supporting the pipeline's rate increase at the California Public Utilities Commission. .
- Jul. 19-20, 2023 Oral testimony and cross examination on behalf of Crimson California Pipeline L.P. in Docket Nos. A-22-06-017 and A-22-03-



- 013 discussing principles of cost-based ratemaking, and supporting the pipeline's rate increase.
- Jun. 29, 2023 Submitted Verified Statement on behalf of Crimson California Pipeline L. P. in support of a 10 percent rate increase for its Southern California Pipeline at the California Public Utilities Commission.
- May 15, 2023 Submitted Supplemental Rebuttal Testimony on behalf of Crimson California Pipeline L.P. in Docket Nos. A-22-06-017 and A-22-03-013 discussing principles of cost-based ratemaking, and supporting the pipeline's rate increase.
- Mar. 17, 2023 Submitted Direct Testimony on behalf of Crimson California Pipeline L.P. in Docket No. A22-07-015 discussing cost-based ratemaking principles and supporting the rate increase of the KLM pipeline.
- Mar. 10, 2023 Submitted Direct Testimony and Affidavit on behalf of Phillips 66 Pipeline LLC addressing issues related to cost-of-service calculations including return on equity, capital structure, and the application of the FERC's Opinion No. 154-B methodology in Docket Nos. IS21-747-000 and IS23-92-000 at the FERC.
- Mar. 3, 2023 Submitted Verified Statement on behalf of Crimson Company California Pipeline, L.P. regarding its KLM System before the California Public Utilities Commission in addressing the cost of service, cost of capital and achieved return supporting the applicant's rate increase.
- Jan. 27, 2023 Submitted Verified Statement on behalf of San Pablo Bay Pipeline Company before the California Public Utilities Commission in addressing the cost of service, cost of capital and achieved return supporting the applicant's rate increase.
- Jan. 3, 2023 Submitted and Affidavit on behalf of Phillips 66 Pipeline LLC addressing issues related to cost-of-service calculations including return on equity, capital structure, and the application of the FERC's Opinion No. 154-B methodology in Docket No. IS23-92-000.
- Dec. 23, 2022 Submitted Rebuttal Testimony on behalf of Crimson California Pipeline L.P. in Docket Nos. A-22-06-017 and A-22-03-013 discussing principles of cost-based ratemaking, and supporting the pipeline's rate increase.



- Sept. 13, 2022 Submitted Direct Testimony on behalf of Crimson California Pipeline L.P. in Docket No. A-22-06-017 discussing principles of cost-based ratemaking, and supporting the pipeline's rate increase.
- Aug. 24, 2022 Submitted Verified Statement on behalf of Crimson California Pipeline L.P. in Docket No. A-20-06-010 responding to questions raised by ALJ and supporting the pipeline's rate increase.
- Aug. 6, 2022 Submitted Testimony on behalf of Crimson California Pipeline L.P. in Docket No. A-22-03-013 regarding surcharge to implement AB-864 safety measures.
- Jul. 29, 2022 Submitted Declaration on behalf of San Pablo Bay Pipeline Company and KLM Pipeline Company before the California Public Utilities Commission in addressing the cost of service, cost of capital and achieved return supporting the applicant's rate increase.
- Jun. 30, 2022 Submitted Declaration on behalf of Southern California Pipeline System before the California Public Utilities Commission in addressing the cost of service, cost of capital and achieved return supporting the applicant's rate increase.
- Nov. 19, 2021 Submitted Rebuttal Testimony on behalf of SFPP, L.P. before the California Public Utilities Commission in Docket No. A.21-01-015 addressing issues related to risk, return on equity cost-of-debt and capital structure and cost-allocation.
- Oct. 1, 2021 Submitted Direct Testimony on behalf of SFPP, L.P. before the California Public Utilities Commission in Docket No. A.21-01-015 addressing issues related to risk, return on equity cost-of-debt and capital structure.
- Sep. 20, 2021 Submitted an Affidavit on behalf of Phillips 66 Pipeline LLC addressing issues related to cost-of-service calculations including return on equity, capital structure and the application of the FERC's Opinion No. 154-B methodology.
- Jun. 30, 2021 Submitted Declaration on behalf of KLM Pipeline System before the California Public Utilities Commission in addressing the cost of service, cost of capital and achieved return supporting the applicant's rate increase.
- Jun. 30, 2021 Submitted Declaration on behalf of Southern California Pipeline System before the California Public Utilities Commission in



- addressing the cost of service, cost of capital and achieved return supporting the applicant's rate increase.
- Jun. 10, 2021 Direct Testimony and Cross Examination on behalf of Cenovus Energy, Inc. before the Canada Energy Regulator ("CER") in Docket for S.C. 2019, c 28, s. 10 regarding the Application of Enbridge Inc. requesting approval of tolling structure involving contract tolls on its Mainline.
- May 28, 2021 Submitted Declaration on behalf of San Pablo Bay Pipeline Company before the California Public Utilities Commission in addressing the cost of service, cost of capital and achieved return supporting the applicant's rate increase.
- Feb. 21-22, 2021 Direct Testimony and Cross Examination on behalf of Bandera Master Fund LP et al in the Court of Chancery of the State of Delaware Docket No. 2018-0372-JTL addressing issues related to issues of FERC ratemaking.
- Dec. 7, 2020 Submitted Evidence at the request of Cenovus Energy, Inc. before the Canada Energy Regulator ("CER") in Docket for S.C. 2019, c 28, s. 10 regarding the Application of Enbridge Inc. requesting approval of tolling structure involving contract tolls on its Mainline. The Evidence recommended a methodology to employ to assess whether the tolls would be just and reasonable and consistent with the public interest.
- Nov. 10, 2020 Submitted Affidavit on behalf of SFPP, L.P. at the Federal Energy Regulatory Commission responding to issues rates by FERC Trial Staff and Complainants in Docket No. OR16-6-000 addressing issues related to adjustments to the calculation of the Return on Equity.
- Oct. 26, 2020 Oral Testimony on behalf of Colonial Pipeline Company in Docket No. OR18-7-002 addressing the proper methodology to employ in allocating cost between jurisdictional and non-jurisdictional services and issues related to depreciation.
- Oct. 19, 2020 Submitted Affidavit on behalf of SFPP, L.P. at the Federal Energy Regulatory Commission in Docket No. OR16-6-000 addressing issues related to adjustments to the calculation of the Return on Equity.
- Oct. 16, 2020 Submitted Rebuttal Expert Report on behalf of Bandera Master Fund LP et al in the Court of Chancery of the State of Delaware



- Docket No. 2018-0372-JTL addressing issues related to issues of FERC ratemaking.
- Sept. 11, 2020 Submitted Expert Report on behalf of Bandera Master Fund LP et al in the Court of Chancery of the State of Delaware Docket No. 2018-0372-JTL addressing issues related to issues of FERC ratemaking.
- Sept. 11, 2020 Submitted Affidavit on behalf of The Designated Carriers in Docket No. AD20-10-000 responding to issues raised by certain shipper comments regarding the appropriate factors to employ in calculating the Index the FERC applies to adjust oil pipeline rates.
- Aug. 17, 2020 Submitted Affidavit on behalf of The Designated Carriers in Docket No. AD20-10-000 regarding the appropriate factors to employ in calculating the Index the FERC applies to adjust oil pipeline rates.
- Aug. 13-14, 2020 Provided oral sur-rebuttal testimony and subject to cross examination on behalf of the Board of Supervisors of Loudon County in Docket No. PUR-2019-00218 addressing regulatory issues associated with setting tolls for the privately owned Dulles Greenway.
- Jul. 10, 2020 Submitted Direct Testimony on behalf of Williams MLP Operating LLC and Mockingbird Midstream Gas Services, LLC before the Railroad Commission of Texas in Docket No. GUD-10606 addressing regulatory economics issues associated with price discrimination.
- Jun. 26, 2020 Submitted Direct Testimony on behalf of the Board of Supervisors of Loudon County before the State Corporation Commission in Docket No. PUR-2019-00218 addressing regulatory issues associated with setting tolls for the privately owned Dulles Greenway.
- May 12-18, 2020 Oral testimony and cross examination on behalf of MPLX Ozark Pipe Line, LLC in Docket No. OR19-14-000 addressing issues related to product and destination markets and HHI calculations.



- Apr. 8, 2020 Filed Rebuttal Testimony on behalf of MPLX Ozark Pipe Line, LLC in Docket No. OR19-14-000 addressing issues related to product and destination markets and HHI calculations.
- Feb. 20, 2020 Filed Cross-Answering Testimony on behalf of Colonial Pipeline Company in Docket No. OR18-7-002 addressing the proper methodology to employ in allocating cost between jurisdictional and non-jurisdictional services and the economic life to use in depreciation calculations.
- Nov. 20, 2019 Filed Answering Testimony on behalf of Colonial Pipeline Company in Docket No. OR18-7-002 addressing the proper methodology to employ in allocating cost between jurisdictional and non-jurisdictional services.
- Sep 13, 2019 Filed Supplemental Direct Testimony 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.
- Aug. 13, 2019 Filed an affidavit on behalf of Buckeye Pipeline Company, L.P. regarding the calculation of a substantial change in economic circumstances under the Energy Policy Act of 1992, in Docket No. OR19-26-000.
- Jul. 5, 2019 Filed an affidavit on behalf of Buckeye Pipeline Company, L.P. regarding the justness and reasonableness of rates it charges to transport jet fuel to the New York City Airports, in Docket No. OR19-26-000.
- Jun. 26, 2019 Filed an affidavit on behalf of the Association of Oil Pipe Lines discussing issues related to the calculation of the cost of capital in Docket No. PL19-4-000.
- 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.



- Jan. 22, 2019 Filed Rebuttal testimony 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.
- Dec. 21, 2018 Filed Direct testimony 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.
- 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 *et al.*
- 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 *et al.*
- 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 *et al.*
- 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.
- Jun. 1, 2017 Filed a Verified Statement at the CPUC on behalf of Crimson California Pipeline L.P. supporting its request for a rate increase for its KLM Pipeline System.
- 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 2nd 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.
- 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 269th 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
- 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.



Contract and Investor Disputes

- Provided expert testimony on behalf of an investor class before the Court of Chancery of the State of Delaware that was favorably cited by the Court in finding liability and damages to the investor class in excess of \$800 million.
- Developed complex economic models to demonstrate that a lease between a joint venture operator and an affiliate had been conducted at arms-length and did not represent self-dealing, resulting in a favorable settlement for the client.
- Led a multi-witness project team opposing a claim of damages in a liquids terminal dispute, resulting in a finding of no damages for the client.

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	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

PUR-2019-00218 Application of Toll Road Investors Partnership II, L.P. for Authorization for an Increase in the Maximum Level of Tolls at the Commonwealth of Virginia State Corporation Commission

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 CO₂ 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



“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 2019 and 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

“Allocating Pipeline Capacity: Navigating Shipper Issues in Priority Service and Proration Policies” Presented at the 2018 Annual Business Conference of the Association of Oil Pipelines

“Introduction to FERC Ratemaking” Presented at the 2022-2011 Annual Business Conference of the Association of Oil Pipe Lines

“Cost of Service Concepts” Presented at the 2022, 2021, 2019 2016, 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 2015, 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, Economics and International Studies (<i>Magna Cum Laude</i>)

SPB + KLM Pipeline Company
2025 COS Rate Filing
Exhibit MJW-2

Exhibit MJW-2 Schedules and Workpapers

	<u>Tab</u>
Achieved Return	Achieved Return for Combined System
Proposed Rates	Proposed Rates per Route
Rate Design	Rate Design for SPB, KLM, and SIR Systems
Statement A	Total Cost of Service
Statement B	Operating Expenses
Statement C	Overall Return on Rate Base
Statement E	Rate Base
Statement F1	AFUDC
Statement F2	Amortization of AFUDC
Statement G	Operating Revenues
WorkPaper 1	Total Company Input Data
WorkPaper 2	Carrier Property and Depreciation Expenses
WorkPaper 3	Volumes and Revenues for the Base and Test Period
	Achieved Return
	Proposed Rates
	Rate Design
	A
	B
	C
	E1
	F1
	F2
	G
	WP1
	WP2
	WP3

Achieved Return for the Test Period

Achieved Return

Line No.	Description	Source	@ Current Effective Rates [a]	@ 10% Increased Rates [b]	@ Pending Rates [c]	@ Cost-Based Rates [d]
<u>Pipeline Transportation Rates</u>						
1	Route 1 Deliveries from SPB - 20" to Shell and Valero Refineries	Proposed Rates, Route 1	\$2,1429	\$2,3571	\$2,4210	\$3,6137
2	Route 2 Deliveries from Station 36 to San Joaquin Refinery	Proposed Rates, Route 2	\$0,3780	\$0,3780	\$0,3780	\$0,5642
3	Route 4 Deliveries on KLM (Buena Vista Hills)	Proposed Rates, Route 4	\$2,1329	\$2,3461	\$2,9210	\$3,6137
4	Route 8 Deliveries on KLM (Cymric)	Proposed Rates, Route 8	\$1,8790	\$2,0669	\$2,9210	\$3,6137
5	Route 9 Deliveries on KLM (Belridge Station)	Proposed Rates, Route 9	\$1,7439	\$1,9182	\$2,9210	\$3,6137
6	Route 10 Deliveries on KLM (Lost Hills/Cahn Area)	Proposed Rates, Route 10	\$1,6106	\$1,7716	\$2,9210	\$3,6137
7	Route 12 Deliveries on Western San Joaquin	Proposed Rates, Route 12	\$0,1667	\$0,1667	\$0,1667	\$0,1667
<u>Pipeline Deliveries in Bbls</u>						
8	Route 1 Deliveries from SPB - 20" to Shell and Valero Refineries	WorkPaper 3, Line 1, Column [f]	19,124,922	19,124,922	19,124,922	19,124,922
9	Route 2 Deliveries from Station 36 to San Joaquin Refinery	WorkPaper 3, Line 2, Column [f]	2,576,590	2,576,590	2,576,590	2,576,590
10	Route 4 Deliveries on KLM (Buena Vista Hills)	WorkPaper 3, Line 4, Column [f]	2,602,021	2,602,021	2,602,021	2,602,021
11	Route 8 Deliveries on KLM (Cymric)	WorkPaper 3, Line 5, Column [f]	-	-	-	-
12	Route 9 Deliveries on KLM (Belridge Station)	WorkPaper 3, Line 6, Column [f]	-	-	-	-
13	Route 10 Deliveries on KLM (Lost Hills/Cahn Area)	WorkPaper 3, Line 7, Column [f]	1,157,960	1,157,960	1,157,960	1,157,960
14	Route 12 Deliveries on Western San Joaquin	WorkPaper 3, Line 8, Column [f]	1,784,127	1,784,127	1,784,127	1,784,127

Achieved Return

Achieved Return for the Test Period

Line No.	Line Description	Source	Achieved Return			
			@ Current Effective Rates [a]	@ 10% Increased Rates [b]	@ Pending Rates [c]	@ Cost-Based Rates [d]
Pipeline Transportation Revenues						
15	Route 1 Deliveries from SPB - 20" to Shell and Valero Refineries	Lines (1 * 8)	\$40,982,796	\$45,079,354	\$46,301,437	\$69,111,731
16	Route 2 Deliveries from Station 36 to San Joaquin Refinery	Lines (2 * 9)	\$973,951	\$973,951	\$973,951	\$1,453,712
17	Route 4 Deliveries on KLM (Buena Vista Hills)	Lines (3 * 10)	\$5,549,851	\$6,104,602	\$7,600,505	\$9,402,925
18	Route 8 Deliveries on KLM (Cymric)	Lines (4 * 11)	\$0	\$0	\$0	\$0
19	Route 9 Deliveries on KLM (Belridge Station)	Lines (5 * 12)	\$0	\$0	\$0	\$0
20	Route 10 Deliveries on KLM (Lost Hills/Cahn Area)	Lines (6 * 13)	\$1,865,010	\$2,051,441	\$3,382,400	\$4,184,519
21	Route 12 Deliveries on Western San Joaquin	Lines (7 * 14)	\$297,414	\$297,414	\$297,414	\$297,414
22	Pipeline Transportation Revenues Total	Sum Lns (15 to 21)	\$49,669,022	\$54,506,763	\$58,555,706	\$84,450,301
23	Allowance Oil Revenues	WorkPaper 3, Line 14, Column [h]	\$1,724,270	\$1,724,270	\$1,724,270	\$1,724,270
24	Truck Rack Revenues	WorkPaper 3, Line 13, Column [h]	\$162,737	\$162,737	\$162,737	\$162,737
25	Total Revenues	Sum Lines (22 to 24)	\$51,556,029	\$56,393,770	\$60,442,713	\$86,337,308
26	Operating Expenses Excluding Depreciation	Statement A, Line 2	\$60,468,237	\$60,468,237	\$60,468,237	\$60,468,237
27	Depreciation Expense	Statement A, Line 3	\$8,802,143	\$8,802,143	\$8,802,143	\$8,802,143
28	Amortization of AFUDC	Statement A, Line 4	\$437,884	\$437,884	\$437,884	\$437,884
29	Total Expenses	Sum Lines (26 to 28)	\$69,708,264	\$69,708,264	\$69,708,264	\$69,708,264
30	Operating Income	Lines (25 - 29)	(\$18,152,235)	(\$13,314,494)	(\$9,265,551)	\$16,629,044
31	Average Original Cost Rate Base	Statement C, Line 1	\$120,505,742	\$120,505,742	\$120,505,742	\$120,505,742
32	Achieved Overall Return on Rate Base	Lines (30 / 31)	-15.06%	-11.05%	-7.69%	13.80%
33	Weighted Cost of Debt	Statement C, Line 9	4.80%	4.80%	4.80%	4.80%
34	Weighted Rate of Return on Equity	Lines (32 - 33)	-19.86%	-15.85%	-12.49%	9.00%
35	Equity Ratio	WorkPaper 1, Line 20	60.00%	60.00%	60.00%	60.00%
36	Achieved Rate of Return on Equity	Lines (34 / 35)	-33.11%	-26.41%	-20.81%	15.00%

Proposed Rates per Route

Proposed Rates

Route	Line	Receipt Location	Delivery Location	Current Effective Pipeline Rates in \$/Bbl [a]	10% Increase Pipeline Rates in \$/Bbl [b]	Pending Pipeline Rates in \$/Bbl [c]	Cost-Based Pipeline Rates in \$/Bbl [d]	Cost-Based Pipeline Rate Increase [e]
1	Deliveries from SPB - 20" to Shell and Valero Refineries							
	1	Coalinga Gathering		\$2.1429	\$2.3571	\$2.4210	\$3.6137	49.3%
	2	Coalinga Station		\$2.1429	\$2.3571	\$2.4210	\$3.6137	49.3%
	3	Station 36		\$2.1429	\$2.3571	\$2.4210	\$3.6137	49.3%
	4	Kern River		\$2.1429	\$2.3571	\$2.4210	\$3.6137	49.3%
	5	Poso Creek		\$2.1429	\$2.3571	\$2.4210	\$3.6137	49.3%
	6	Bakersfield Tank Farm		\$2.1429	\$2.3571	\$2.4210	\$3.6137	49.3%
	7	Macpherson		\$2.1429	\$2.3571	\$2.4210	\$3.6137	49.3%
	8	Kern Front		\$2.1429	\$2.3571	\$2.4210	\$3.6137	49.3%
	9	North Shafter		\$2.1429	\$2.3571	\$2.4210	\$3.6137	49.3%
	10	Station 31		\$2.1429	\$2.3571	\$2.4210	\$3.6137	49.3%
	11	Fairfield		\$2.1429	\$2.3571	\$2.4210	\$3.6137	49.3%
12	Kernridge Station		\$2.1429	\$2.3571	\$2.4210	\$3.6137	49.3%	
2	Deliveries from Station 36 to San Joaquin Refinery			\$0.3780	\$0.3780	\$0.3780	\$0.5642	49.3%
	13	Station 36	San Joaquin Refinery	\$0.3780	\$0.3780	\$0.3780	\$0.5642	49.3%

Proposed Rates

Proposed Rates per Route

Route	Line	Receipt Location	Delivery Location	Current Effective Pipeline Rates in \$/Bbl [a]	10% Increase Pipeline Rates in \$/Bbl [b]	Pending Pipeline Rates in \$/Bbl [c]	Cost-Based Pipeline Rates in \$/Bbl [d]	Cost-Based Pipeline Rate Increase [e]
Deliveries on KLM (CPUC No. 204)								
3	14	Buena Vista Hills (18G, 27G, Big 6/Little 6)	San Francisco Refineries	\$2.1329	\$2.3461	\$2.9210	\$3.6137	23.7%
4	15	Cymric (15Z, 23Z, Orchard)		\$1.8790	\$2.0669	\$2.9210	\$3.6137	23.7%
5	16	Belridge Station (31X)		\$1.7439	\$1.9182	\$2.9210	\$3.6137	23.7%
6	17	Lost Hill/Cahn Area (Lost Hills, Cahn 3)		\$1.6106	\$1.7716	\$2.9210	\$3.6137	23.7%
Deliveries on WSJ (CPUC No. 202)								
7	18	California Star Oil Lease in Sec. 26, T.31S, R.22E	UNOCAP Line 156 Junction, Fellows	\$0.1667	\$0.1667	\$0.1667	\$0.1667	0.0%
	19	Chevron U.S.A.'s Coalinga 13D and Coalinga 25D Production Facilities	Junction with Private Carrier's Westside Coalinga Gathering System in Sec. 19, T. 20S, R. 14E	\$0.1667	\$0.1667	\$0.1667	\$0.1667	0.0%
	20	Santa Fe Energy Production's Main State Lease and Penn Zier Lease		\$0.1667	\$0.1667	\$0.1667	\$0.1667	0.0%

[a] Effective March 1, 2024 (SPB, SJR) and October 1, 2023 (KLM, WSJ)

[b] 10% increase over Current Effective Rates

[c] Pending Decision in A.23-08-018

[d] Based on Rate Design

[e] Increase from Pending Rates

Rate Design for SPB, KLM, and SJR Systems			Rate Design
Line	Source	Test Period	
1	Total Cost of Service After Revenue Credits	Statement A, Line 9	\$84,153,636
2	KLM Volume (-WSJ), bbl	WorkPaper 3, Column [f], Sum Lines (4 to 7)	3,759,981
3	SPB (-SJR) Pending Rate, bbl	WorkPaper 3, Column [f], Line 1	\$2,4210
4	KLM (-WSJ) Pending Rate, /bbl	WorkPaper 3, Column [f], Line 4	\$2,9210
5	KLM (-WSJ) Pending Rate Premium, /bbl	Lines (4 - 3)	\$0.5000
6	Transportation Revenue at Pending Rates (-WSJ)	WorkPaper 3, Column [h], Line 11	\$58,258,292
7	Premium Revenue at Pending Rates	Lines (2 x 5)	\$1,879,991
8	Non-Premium Revenue at Pending Rates	Lines (6 - 7)	\$56,378,302
9	Non-Premium Revenue Excess (Deficiency)	Lines (8 - 1)	(\$27,775,334)
10	Non-Premium Revenue Excess (Deficiency) in Percent	Lines (9 / 8)	-49.27%
11	SPB, SJR Rate Increase	- Line 10	49.27%
12	KLM Rate Increase	(1 + Line 11) x (1 - Lines(5 / 4)) - 1	23.72%
13	SPB, SJR Revenues at Pending Rates	WorkPaper 3, Column [h], Sum Lines (1 to 2)	\$47,275,388
14	KLM (-WSJ) Revenues at Pending Rates	WorkPaper 3, Column [h], Sum Lines (4 to 7)	\$10,982,905
15	SPB, SJR Revenues at Proposed Rates	Line 13 x (1 + Line 11)	\$70,566,080
16	KLM (-WSJ) Revenues at Proposed Rates	Line 14 x (1 + Line 12)	\$13,587,556
17	Transportation Revenues (-WSJ) at Proposed Rates	Lines (15 + 16)	\$84,153,636

Total Cost of Service		Statement A	
Line	Description	Source	Test Period
1	Overall Return on Rate Base	Statement C, Line 7	\$16,629,792
2	Operating Expenses Excluding Depreciation	Statement B, Lines (20 - 13)	\$54,684,327
3	Depreciation Expense	Statement B, Line 13	\$8,802,143
4	Amortization of AFUDC	Statement F2, Lines (4 + 10)	\$428,031
5	Total Cost of Service before Non-Transportation Revenue Credit	Sum Lines 1 through 4	\$81,526,633
6	Allowance Oil Revenue Credit	WorkPaper 1, - Ln 43	(\$891,491)
7	Truck Rack Revenue Credit	WorkPaper 1, - Line 44	(\$179,543)
8	SJR + WSJ Transportation Revenue Credit	WorkPaper 1, - Line 42	(\$362,786)
8	Total Revenue Credits	Sum Lines (6 to 8)	(\$1,433,820)
9	Total Cost of Service After Revenue Credits	Lines (5 + 8)	\$80,092,813
10	Transportation Revenues	WorkPaper 1, Line 41	\$64,380,450
11	Revenue Excess (Deficiency)	Lines (10 - 9)	(\$15,712,363)
12	Revenue Excess (Deficiency) in Percent	Lines (11 / 10)	-24.41%
			-44.45%

Statement B
Page 1 of 2

Operating Expenses

Line No.	Description	2024 Actuals	Adjustment 1	Adjustment 2	Adjustment 3	Base Period
	OPERATIONS AND MAINTENANCE					
1	300 Salaries and Wages	\$ 7,667,139	-	-	-	\$ 7,667,139
2	310 Materials and Supplies	\$ 659,801	-	-	-	\$ 659,801
3	320 Outside Services	\$ 18,845,695	-	-	-	\$ 18,845,695
4	330 Operating Fuel and Power	\$ 11,352,288	-	-	-	\$ 11,352,288
5	340 Oil Losses and Shortages	\$ 59,440	(59,440)	-	-	\$ -
6	350 Rentals	\$ 342,662	-	-	-	\$ 342,662
7	390 Other Expenses	\$ 622,197	-	-	-	\$ 622,197
8	Total Operations Expense	\$ 39,549,222	\$ (59,440)	\$ -	\$ -	\$ 39,489,782
	GENERAL					
9	500 Salaries and Wages	\$ 3,544,509	-	-	-	\$ 3,544,509
10	510 Materials and Supplies	\$ 215,466	-	-	33,354	\$ 248,819
11	520 Outside Services	\$ 5,689,641	-	(1,778,184)	(1,538,210)	\$ 2,373,247
12	530 Rentals	\$ 80,559	-	-	(54,446)	\$ 26,113
13	540 Depreciation and Amortization	\$ 8,745,974	-	-	-	\$ 8,745,974
14	550 Employee Benefits	\$ 2,546,831	-	-	-	\$ 2,546,831
15	560 Insurance	\$ 3,371,782	-	-	(7,020)	\$ 3,364,762
16	570 Casualty and Other Losses	\$ -	-	-	-	\$ -
17	580 Pipeline Taxes	\$ 2,684,040	-	-	-	\$ 2,684,040
18	590 Other Expenses	\$ 523,454	-	-	(117,230)	\$ 406,224
19	Total General Expense	\$ 27,402,256	\$ -	\$ (1,778,184)	\$ (1,683,553)	\$ 23,940,520
20	Total Operating Expenses	\$ 66,951,478	\$ (59,440)	\$ (1,778,184)	\$ (1,683,553)	\$ 63,430,302
21	Non-Depreciation Operating Expenses	\$ 58,205,504				\$ 54,684,327

Normalizing Adjustments

1. To remove release expenses
2. To remove rate case expenses
3. To remove reorganization expenses

Operating Expenses

Statement B
Page 2 of 2

Line No.	Description	Test Period Adjustments										Test Period				
		Adjustment 1	Adjustment 2	Adjustment 3	Adjustment 4	Adjustment 5	Adjustment 6	Adjustment 7	Adjustment 8	Adjustment 9	Adjustment 10		Adjustment 11			
	OPERATIONS AND MAINTENANCE															
1	300 Salaries and Wages	-	566,646	-	-	-	-	-	-	-	-	-	-	-	-	\$ 8,233,785
2	310 Materials and Supplies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	\$ 659,801
3	320 Outside Services	1,793,837	-	-	-	-	-	-	-	-	-	-	-	-	-	\$ 20,639,532
4	330 Operating Fuel and Power	-	-	554,659	-	410,495	-	-	-	-	-	-	-	-	-	\$ 12,317,442
5	340 Oil Losses and Shortages	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	350 Rentals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	\$ 342,662
7	390 Other Expenses	-	-	-	-	-	-	-	-	-	-	-	-	-	-	\$ 622,197
8	Total Operations Expense	\$ 1,793,837	\$ 566,646	\$ 554,659	\$ -	\$ 410,495	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 42,815,419
	GENERAL															
9	500 Salaries and Wages	-	-	-	-	-	-	-	-	-	-	-	-	-	-	\$ 3,544,509
10	510 Materials and Supplies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	\$ 237,701
11	520 Outside Services	-	-	-	(490,567)	-	-	-	-	2,250,000	-	-	-	-	-	\$ 4,645,417
12	530 Rentals	-	-	-	-	-	-	-	-	-	-	18,149	-	-	-	\$ 44,262
13	540 Depreciation and Amortization	-	-	-	-	-	-	-	-	-	-	-	-	-	56,168	\$ 8,802,143
14	550 Employee Benefits	-	-	-	-	(417,568)	-	342,785	212,439	-	-	-	-	-	-	\$ 2,684,487
15	560 Insurance	-	-	-	-	-	-	-	-	-	-	2,340	-	-	-	\$ 3,367,102
16	570 Casualty and Other Losses	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	580 Pipeline Taxes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	\$ 2,684,040
18	590 Other Expenses	-	-	-	-	-	-	-	-	-	-	-	-	39,077	-	\$ 445,301
19	Total General Expense	\$ -	\$ -	\$ -	\$ (490,567)	\$ (417,568)	\$ -	\$ 342,785	\$ 212,439	\$ 2,250,000	\$ 561,184	\$ 56,168	\$ -	\$ -	\$ -	\$ 26,454,961
20	Total Operating Expenses	\$ 1,793,837	\$ 566,646	\$ 554,659	\$ (490,567)	\$ (417,568)	\$ (417,568)	\$ 410,495	\$ 342,785	\$ 2,250,000	\$ 561,184	\$ 56,168	\$ -	\$ -	\$ -	\$ 69,270,380
21	Non-Depreciation Operating Expenses															\$ 60,468,237

Test Period Adjustments 1-8 (GL Accounts)

1. Asset Maintenance/Engineering and Consulting Services/
Mechanical Maintenance/Weed Abatement/I&E
2. Salaries and Wages
3. Gas Utilities
4. Professional Fees
5. Stock Comp Expense
6. Utility Rebate
7. Health Insurance
8. LTIP Expense

Additional Test Period Adjustments

9. To amortize expected rate case expenses.
10. To amortize reorganization costs over three years.
11. To account for increased depreciation expenses due to rate base.

Overall Return on Rate Base		Statement C	
Line	Description	Source	Test Period
		Base Period	Test Period
1	Average Original Cost Rate Base	\$128,031,162	\$120,505,742
2	Equity Ratio	60.00%	60.00%
3	Debt Ratio	40.00%	40.00%
4	Rate of Return on Equity	15.00%	15.00%
5	Cost of Debt	12.00%	12.00%
6	Weighted Cost of Capital	13.80%	13.80%
7	Overall Return on Rate Base	\$17,668,300	\$16,629,792
8	Weighted Rate of Return on Equity	9.00%	9.00%
9	Weighted Cost of Debt	4.80%	4.80%
10	Return on Equity	\$11,522,805	\$10,845,517
11	Interest Expense	\$6,145,496	\$5,784,276

Rate Base		1983	1984	1985	1986	1987	1988	1989
Line	Description	Source						
<u>Total Carrier Property in Service</u>								
1	Carrier Property in Service	WorkPaper 1, Line 8	\$9,360,045	\$10,563,534	\$10,804,907	\$10,813,020	\$10,819,855	\$13,563,251
2	Accumulated AFUDC	Statement F2, Lns (2 + 8)	\$19,043	\$88,313	\$102,272	\$102,784	\$103,206	\$280,771
3	Total Carrier Property in Service	Lines (1 + 2)	\$9,379,087	\$10,651,847	\$10,907,179	\$10,915,804	\$10,923,060	\$13,844,021
<u>Total Accumulated Depreciation</u>								
4	Accumulated Depreciation of Carrier Property	WorkPaper 1, Line 12	\$4,731,837	\$4,955,373	\$5,198,753	\$5,445,741	\$5,692,994	\$5,970,266
5	Accumulated Amortization of AFUDC	Statement F2, Lns (5 + 11)	\$216	\$1,429	\$3,615	\$5,974	\$8,344	\$12,737
6	Total Accumulated Depreciation	Lines (4 + 5)	\$4,732,053	\$4,956,803	\$5,202,368	\$5,451,715	\$5,701,338	\$5,983,003
7	Net Carrier Property In Service	Lines (3 - 6)	\$4,440,327	\$5,695,044	\$5,704,810	\$5,464,089	\$5,221,722	\$7,861,018
8	Working Capital	WorkPaper 1, Ln. 19	\$0	\$0	\$0	\$0	\$0	\$0
9	Original Cost Rate Base	Lines (7 + 8)	\$4,440,327	\$5,695,044	\$5,704,810	\$5,464,089	\$5,221,722	\$7,861,018
10	Average Original Cost Rate Base	Average Line 9	\$4,543,681	\$5,171,039	\$5,699,927	\$5,584,450	\$5,342,905	\$6,541,370

Rate Base		1990	1991	1992	1993	1994	1995	1996
Line Description	Source	1990	1991	1992	1993	1994	1995	1996
<u>Total Carrier Property in Service</u>								
1	Carrier Property in Service	\$17,450,252	\$19,672,922	\$19,840,281	\$20,905,410	\$20,987,682	\$22,309,612	\$24,702,609
2	Accumulated AFUDC	\$552,261	\$703,234	\$713,182	\$778,820	\$783,519	\$860,851	\$1,003,559
3	Total Carrier Property in Service	\$18,002,513	\$20,376,157	\$20,553,463	\$21,684,230	\$21,771,201	\$23,170,463	\$25,706,168
<u>Total Accumulated Depreciation</u>								
4	Accumulated Depreciation of Carrier Property	\$6,373,966	\$6,817,694	\$7,294,479	\$7,785,201	\$8,293,728	\$8,811,535	\$9,385,018
5	Accumulated Amortization of AFUDC	\$23,632	\$38,698	\$55,853	\$73,886	\$92,918	\$112,650	\$135,464
6	Total Accumulated Depreciation	\$6,397,598	\$6,856,392	\$7,350,332	\$7,859,087	\$8,386,646	\$8,924,185	\$9,520,483
7	Net Carrier Property In Service	\$11,604,915	\$13,519,765	\$13,203,131	\$13,825,142	\$13,384,555	\$14,246,278	\$16,185,685
8	Working Capital	\$0	\$0	\$0	\$0	\$0	\$0	\$0
9	Original Cost Rate Base	\$11,604,915	\$13,519,765	\$13,203,131	\$13,825,142	\$13,384,555	\$14,246,278	\$16,185,685
10	Average Original Cost Rate Base	\$9,732,966	\$12,562,340	\$13,361,448	\$13,514,137	\$13,604,848	\$13,815,416	\$15,215,982

Rate Base		Statement E						
		Page 3 of 7						
Line Description	Source	1997	1998	1999	2000	2001	2002	2003
<u>Total Carrier Property in Service</u>								
1	Carrier Property in Service							
2	Accumulated AFUDC	\$24,852,130	\$25,151,991	\$26,906,571	\$27,670,967	\$27,930,315	\$31,419,393	\$32,432,155
3	Total Carrier Property in Service	\$1,011,770	\$1,027,542	\$1,131,717	\$1,178,451	\$1,192,751	\$1,403,026	\$1,461,155
		\$25,863,901	\$26,179,533	\$28,038,288	\$28,849,418	\$29,123,066	\$32,822,419	\$33,893,310
<u>Total Accumulated Depreciation</u>								
4	Accumulated Depreciation of Carrier Property	\$9,974,560	\$10,567,502	\$11,186,101	\$11,827,723	\$12,476,692	\$13,139,947	\$13,953,646
5	Accumulated Amortization of AFUDC	\$159,511	\$183,764	\$209,494	\$236,726	\$264,475	\$293,555	\$330,139
6	Total Accumulated Depreciation	\$10,134,071	\$10,751,265	\$11,395,595	\$12,064,449	\$12,741,167	\$13,433,502	\$14,283,785
7	Net Carrier Property In Service	\$15,729,830	\$15,428,268	\$16,642,694	\$16,784,969	\$16,381,899	\$19,388,917	\$19,609,525
8	Working Capital	\$0	\$0	\$0	\$0	\$0	\$0	\$0
9	Original Cost Rate Base	\$15,729,830	\$15,428,268	\$16,642,694	\$16,784,969	\$16,381,899	\$19,388,917	\$19,609,525
10	Average Original Cost Rate Base	\$15,957,757	\$15,579,049	\$16,035,481	\$16,713,831	\$16,583,434	\$17,885,408	\$19,499,221

Rate Base		Statement E							
		Page 4 of 7							
Line	Description	Source	2004	2005	2006	2007	2008	2009	2010
<u>Total Carrier Property in Service</u>									
1	Carrier Property in Service	WorkPaper 1, Line 8	\$218,094,517	\$221,298,649	\$225,729,106	\$242,911,957	\$251,179,065	\$260,145,111	\$265,075,885
2	Accumulated AFUDC	Statement F2, Lns (2 + 8)	\$1,472,042	\$1,748,553	\$2,105,674	\$3,462,995	\$4,198,054	\$5,154,976	\$5,747,070
3	Total Carrier Property in Service	Lines (1 + 2)	\$219,566,559	\$223,047,201	\$227,834,780	\$246,374,952	\$255,377,119	\$265,300,087	\$270,822,956
<u>Total Accumulated Depreciation</u>									
4	Accumulated Depreciation of Carrier Property	WorkPaper 1, Line 12	\$82,971,093	\$88,786,204	\$94,693,554	\$100,864,313	\$107,211,107	\$113,106,053	\$119,435,167
5	Accumulated Amortization of AFUDC	Statement F2, Lns (5 + 11)	\$339,903	\$382,680	\$433,793	\$507,366	\$608,441	\$732,388	\$876,093
6	Total Accumulated Depreciation	Lines (4 + 5)	\$83,310,996	\$89,168,884	\$95,127,347	\$101,371,679	\$107,819,548	\$113,838,440	\$120,311,260
7	Net Carrier Property In Service	Lines (3 - 6)	\$136,255,563	\$133,878,318	\$132,707,433	\$145,003,273	\$147,557,570	\$151,461,647	\$150,511,696
8	Working Capital	WorkPaper 1, Ln. 19	\$0	\$86,000	\$86,000	\$86,000	\$86,000	\$86,000	\$86,000
9	Original Cost Rate Base	Lines (7 + 8)	\$136,255,563	\$133,964,318	\$132,793,433	\$145,089,273	\$147,643,570	\$151,547,647	\$150,597,696
10	Average Original Cost Rate Base	Average Line 9	\$77,932,544	\$135,109,940	\$133,378,876	\$138,941,353	\$146,366,421	\$149,595,608	\$151,072,671

Rate Base		Statement E									
		Page 5 of 7									
Line Description	Source	2011	2012	2013	2014	2015	2016	2017			
<u>Total Carrier Property in Service</u>											
1	Carrier Property in Service										
2	Accumulated AFUDC	\$266,965,935	\$277,210,355	\$279,627,418	\$287,185,324	\$294,180,444	\$301,587,832	\$298,296,616			
3	Total Carrier Property in Service	\$6,041,867	\$7,010,401	\$7,361,813	\$8,106,960	\$8,760,036	\$9,594,257	\$9,695,861			
		\$273,007,802	\$284,220,755	\$286,989,231	\$295,292,284	\$302,940,480	\$311,182,089	\$307,992,478			
<u>Total Accumulated Depreciation</u>											
4	Accumulated Depreciation of Carrier Property	\$126,494,507	\$133,692,397	\$140,897,299	\$148,466,756	\$156,227,544	\$164,945,491	\$172,950,932			
5	Accumulated Amortization of AFUDC	\$1,034,086	\$1,208,927	\$1,401,265	\$1,608,418	\$1,834,192	\$2,103,485	\$2,361,589			
6	Total Accumulated Depreciation	\$127,528,593	\$134,901,325	\$142,298,563	\$150,075,174	\$158,061,736	\$167,048,977	\$175,312,521			
7	Net Carrier Property In Service	\$145,479,209	\$149,319,431	\$144,690,668	\$145,217,110	\$144,878,744	\$144,133,112	\$132,679,957			
8	Working Capital	\$86,000	\$83,807	\$83,807	\$83,807	\$83,807	\$83,807	\$83,807			
9	Original Cost Rate Base	\$145,565,209	\$149,403,238	\$144,774,475	\$145,300,917	\$144,962,551	\$144,216,919	\$132,763,764			
10	Average Original Cost Rate Base	\$148,081,452	\$147,484,223	\$147,088,856	\$145,037,696	\$145,131,734	\$144,589,735	\$138,490,341			

Rate Base		Statement E							
		Page 6 of 7							
Line	Description	Source	2018	2019	2020	2021	2022	2023	
<u>Total Carrier Property in Service</u>									
1	Carrier Property in Service	WorkPaper 1, Line 8	\$322,448,653	\$327,633,853	\$339,630,530	\$344,623,531	\$354,143,691	\$322,734,377	
2	Accumulated AFUDC	Statement F2, Lns (2 + 8)	\$11,846,330	\$12,262,098	\$13,406,404	\$13,982,129	\$15,012,312	\$15,566,492	
3	Total Carrier Property in Service	Lines (1 + 2)	\$334,294,983	\$339,895,951	\$353,036,934	\$358,605,660	\$369,156,003	\$338,300,869	
<u>Total Accumulated Depreciation</u>									
4	Accumulated Depreciation of Carrier Property	WorkPaper 1, Line 12	\$181,230,024	\$189,875,220	\$198,790,970	\$207,801,334	\$217,204,015	\$202,959,058	
5	Accumulated Amortization of AFUDC	Statement F2, Lns (5 + 11)	\$2,649,636	\$2,971,960	\$3,316,670	\$3,686,180	\$4,078,548	\$4,493,452	
6	Total Accumulated Depreciation	Lines (4 + 5)	\$183,879,660	\$192,847,180	\$202,107,640	\$211,487,514	\$221,282,563	\$207,452,510	
7	Net Carrier Property In Service	Lines (3 - 6)	\$150,415,323	\$147,048,771	\$150,929,294	\$147,118,146	\$147,873,440	\$130,848,359	
8	Working Capital	WorkPaper 1, Ln. 19	\$83,807	\$83,807	\$83,807	\$2,345,491	\$759,696	\$797,681	
9	Original Cost Rate Base	Lines (7 + 8)	\$150,499,130	\$147,132,578	\$151,013,101	\$149,463,638	\$148,633,135	\$131,646,039	
10	Average Original Cost Rate Base	Average Line 9	\$141,631,447	\$148,815,854	\$149,072,840	\$150,238,369	\$149,048,387	\$140,139,587	

Rate Base		Statement E Page 7 of 7	
Line Description	Source	2024	2025
<u>Total Carrier Property in Service</u>			
1 Carrier Property in Service	WorkPaper 1, Line 8	\$324,310,087	\$325,416,881
2 Accumulated AFUDC	Statement F2, Lns (2 + 8)	\$15,906,868	\$16,219,018
3 Total Carrier Property in Service	Lines (1 + 2)	\$340,216,955	\$341,635,898
<u>Total Accumulated Depreciation</u>			
4 Accumulated Depreciation of Carrier Property	WorkPaper 1, Line 12	\$211,705,032	\$220,507,175
5 Accumulated Amortization of AFUDC	Statement F2, Lns (5 + 11)	\$4,921,483	\$5,359,367
6 Total Accumulated Depreciation	Lines (4 + 5)	\$216,626,515	\$225,866,542
7 Net Carrier Property In Service	Lines (3 - 6)	\$123,590,439	\$115,769,356
8 Working Capital	WorkPaper 1, Ln. 19	\$825,844	\$825,844
9 Original Cost Rate Base	Lines (7 + 8)	\$124,416,284	\$116,595,201
10 Average Original Cost Rate Base	Average Line 9	\$128,031,162	\$120,505,742

AFUDC		Statement F1 Page 1 of 7						
Line Description	Source	1983	1984	1985	1986	1987	1988	1989
1 Equity Ratio	WorkPaper 1, Line 20		60.00%	60.00%	60.00%	60.00%	60.00%	60.00%
2 Debt Ratio	1.0 - Line 1		40.00%	40.00%	40.00%	40.00%	40.00%	40.00%
3 Rate of Return on Equity	WorkPaper 1, Line 22		15.68%	15.53%	12.83%	16.16%	16.15%	16.38%
4 Cost of Debt	WorkPaper 1, Line 21		6.60%	6.60%	6.60%	6.60%	6.60%	6.60%
5 Depreciable Property in Service Additions	WorkPaper 1, Lines (5 - 1)		\$394,093	\$1,203,489	\$241,373	\$8,113	\$6,835	\$2,743,396
6 CWIP Additions	WorkPaper 1, Line 15		\$798,791	\$722,431	\$124,743	\$7,474	\$1,375,116	\$3,315,199
7 CWIP Balance	WorkPaper 1, Line 18	\$197,046	\$601,745	\$120,687	\$4,056	\$3,417	\$1,371,698	\$1,943,501
8 Average CWIP Balance	Average Line 7		\$399,395	\$361,216	\$62,372	\$3,737	\$687,558	\$1,657,599
9 CWIP In Service Ratio	Lines (5 / (6 + Prior 7))		39.57%	90.89%	98.35%	70.36%	0.50%	58.53%
10 Equity AFUDC BOY	Prior Line 13		\$0	\$22,705	\$5,458	\$181	\$170	\$66,490
11 Equity AFUDC Additions	Lines ((8 * 1 + 10) * 3)		\$37,575	\$37,184	\$5,502	\$392	\$66,652	\$173,800
12 Equity AFUDC Transfers to Rate Base	Lines (9 * (10 + 11))		\$14,870	\$54,431	\$10,779	\$403	\$331	\$140,650
13 Equity AFUDC EOY	Lines (10 + 11 - 12)		\$22,705	\$5,458	\$181	\$170	\$66,490	\$99,640
14 Debt AFUDC BOY	Prior Line 17		\$0	\$6,371	\$1,488	\$53	\$46	\$18,110
15 Debt AFUDC Additions	Lines ((8 * 2 + 14) * 4)		\$10,544	\$9,957	\$1,745	\$102	\$18,155	\$44,956
16 Debt AFUDC Transfers to Rate Base	Lines (9 * (14 + 15))		\$4,173	\$14,840	\$3,180	\$109	\$90	\$36,915
17 Debt AFUDC EOY	Lines (14 + 15 - 16)		\$6,371	\$1,488	\$53	\$46	\$18,110	\$26,152

AFUDC		Statement F1 Page 2 of 7						
Line Description	Source	1990	1991	1992	1993	1994	1995	1996
1 Equity Ratio	WorkPaper 1, Line 20	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%
2 Debt Ratio	1.0 - Line 1	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%
3 Rate of Return on Equity	WorkPaper 1, Line 22	17.84%	14.79%	14.63%	14.48%	14.40%	14.41%	13.63%
4 Cost of Debt	WorkPaper 1, Line 21	6.60%	6.60%	6.60%	6.60%	6.60%	6.60%	6.60%
5 Depreciable Property in Service Additions	WorkPaper 1, Lines (5 - 1)	\$3,887,001	\$2,222,670	\$167,359	\$1,065,129	\$82,271	\$1,321,930	\$2,392,997
6 CWIP Additions	WorkPaper 1, Line 15	\$3,054,836	\$1,195,015	\$616,244	\$573,700	\$702,101	\$1,857,464	\$1,271,259
7 CWIP Balance	WorkPaper 1, Line 18	\$1,111,335	\$83,679	\$532,565	\$41,136	\$660,965	\$1,196,499	\$74,761
8 Average CWIP Balance	Average Line 7	\$1,527,418	\$597,507	\$308,122	\$286,850	\$351,050	\$928,732	\$635,630
9 CWIP In Service Ratio	Lines (5 / (6 + Prior 7))	77.77%	96.37%	23.91%	96.28%	11.07%	52.49%	96.97%
10 Equity AFUDC BOY	Prior Line 13	\$99,640	\$62,458	\$4,525	\$24,527	\$1,971	\$28,978	\$53,901
11 Equity AFUDC Additions	Lines ((8 * 1 + 10) * 3)	\$181,271	\$62,260	\$27,709	\$28,473	\$30,615	\$84,474	\$59,328
12 Equity AFUDC Transfers to Rate Base	Lines (9 * (10 + 11))	\$218,453	\$120,193	\$7,707	\$51,029	\$3,607	\$59,551	\$109,799
13 Equity AFUDC EOY	Lines (10 + 11 - 12)	\$62,458	\$4,525	\$24,527	\$1,971	\$28,978	\$53,901	\$3,430
14 Debt AFUDC BOY	Prior Line 17	\$26,152	\$15,164	\$1,159	\$7,129	\$564	\$8,777	\$16,094
15 Debt AFUDC Additions	Lines ((8 * 2 + 14) * 4)	\$42,050	\$16,775	\$8,211	\$8,043	\$9,305	\$25,098	\$17,843
16 Debt AFUDC Transfers to Rate Base	Lines (9 * (14 + 15))	\$53,037	\$30,780	\$2,240	\$14,609	\$1,092	\$17,781	\$32,908
17 Debt AFUDC EOY	Lines (14 + 15 - 16)	\$15,164	\$1,159	\$7,129	\$564	\$8,777	\$16,094	\$1,028

AFUDC		Statement F1 Page 3 of 7						
Line Description	Source	1997	1998	1999	2000	2001	2002	2003
1 Equity Ratio	WorkPaper 1, Line 20	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%
2 Debt Ratio	1.0 - Line 1	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%
3 Rate of Return on Equity	WorkPaper 1, Line 22	12.64%	12.72%	15.36%	14.54%	13.67%	15.15%	11.87%
4 Cost of Debt	WorkPaper 1, Line 21	6.60%	6.60%	6.60%	6.60%	6.60%	6.60%	6.60%
5 Depreciable Property in Service Additions	WorkPaper 1, Lines (5 - 1)	\$149,521	\$299,861	\$1,754,581	\$764,395	\$259,349	\$3,489,078	\$1,012,762
6 CWIP Additions	WorkPaper 1, Line 15	\$224,691	\$1,027,221	\$1,259,488	\$511,872	\$1,874,213	\$2,250,920	\$548,773
7 CWIP Balance	WorkPaper 1, Line 18	\$149,930	\$877,290	\$382,198	\$129,674	\$1,744,539	\$506,381	\$42,392
8 Average CWIP Balance	Average Line 7	\$112,345	\$513,610	\$629,744	\$255,936	\$937,107	\$1,125,460	\$274,387
9 CWIP In Service Ratio	Lines (5 / (6 + Prior 7))	49.93%	25.47%	82.11%	85.50%	12.94%	87.33%	95.98%
10 Equity AFUDC BOY	Prior Line 13	\$3,430	\$6,201	\$34,422	\$17,484	\$6,143	\$72,993	\$23,619
11 Equity AFUDC Additions	Lines ((8 * 1 + 10) * 3)	\$8,954	\$39,987	\$63,324	\$24,870	\$77,701	\$113,363	\$22,345
12 Equity AFUDC Transfers to Rate Base	Lines (9 * (10 + 11))	\$6,184	\$11,766	\$80,263	\$36,211	\$10,851	\$162,737	\$44,117
13 Equity AFUDC EOY	Lines (10 + 11 - 12)	\$6,201	\$34,422	\$17,484	\$6,143	\$72,993	\$23,619	\$1,847
14 Debt AFUDC BOY	Prior Line 17	\$1,028	\$2,034	\$11,721	\$5,209	\$1,785	\$23,195	\$6,899
15 Debt AFUDC Additions	Lines ((8 * 2 + 14) * 4)	\$3,034	\$13,694	\$17,399	\$7,100	\$24,857	\$31,243	\$7,699
16 Debt AFUDC Transfers to Rate Base	Lines (9 * (14 + 15))	\$2,028	\$4,006	\$23,911	\$10,524	\$3,448	\$47,538	\$14,012
17 Debt AFUDC EOY	Lines (14 + 15 - 16)	\$2,034	\$11,721	\$5,209	\$1,785	\$23,195	\$6,899	\$587

AFUDC		Statement F1 Page 4 of 7									
Line Description	Source	2004	2005	2006	2007	2008	2009	2010			
1 Equity Ratio	WorkPaper 1, Line 20	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	
2 Debt Ratio	1.0 - Line 1	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	
3 Rate of Return on Equity	WorkPaper 1, Line 22	12.82%	12.79%	12.48%	12.27%	15.23%	12.68%	10.71%	12.68%	10.71%	
4 Cost of Debt	WorkPaper 1, Line 21	6.60%	6.60%	6.60%	6.60%	6.60%	6.50%	6.50%	6.50%	6.50%	
5 Depreciable Property in Service Additions	WorkPaper 1, Lines (5 - 1)	\$84,784	\$3,204,132	\$4,430,457	\$17,216,350	\$8,189,412	\$10,587,584	\$6,126,246	\$10,587,584	\$6,126,246	
6 CWIP Additions	WorkPaper 1, Line 15	\$1,644,458	\$3,817,295	\$10,823,403	\$12,702,881	\$9,388,498	\$8,356,915	\$4,644,265	\$8,356,915	\$4,644,265	
7 CWIP Balance	WorkPaper 1, Line 18	\$4,098,152	\$4,711,315	\$11,104,261	\$6,590,792	\$7,789,878	\$5,559,209	\$4,077,228	\$5,559,209	\$4,077,228	
8 Average CWIP Balance	Average Line 7	\$2,070,272	\$4,404,733	\$7,907,788	\$8,847,526	\$7,190,335	\$6,674,544	\$4,818,219	\$6,674,544	\$4,818,219	
9 CWIP In Service Ratio	Lines (5 / (6 + Prior 7))	5.03%	40.48%	28.52%	72.32%	51.25%	65.57%	60.04%	65.57%	60.04%	
10 Equity AFUDC BOY	Prior Line 13	\$1,847	\$153,220	\$304,052	\$667,721	\$387,856	\$538,188	\$383,664	\$538,188	\$383,664	
11 Equity AFUDC Additions	Lines ((8 * 1 + 10) * 3)	\$159,482	\$357,616	\$630,081	\$733,284	\$716,123	\$576,170	\$350,709	\$576,170	\$350,709	
12 Equity AFUDC Transfers to Rate Base	Lines (9 * (10 + 11))	\$8,109	\$206,784	\$266,412	\$1,013,150	\$565,791	\$730,694	\$440,924	\$730,694	\$440,924	
13 Equity AFUDC EOY	Lines (10 + 11 - 12)	\$153,220	\$304,052	\$667,721	\$387,856	\$538,188	\$383,664	\$293,450	\$383,664	\$293,450	
14 Debt AFUDC BOY	Prior Line 17	\$587	\$52,502	\$102,525	\$227,348	\$131,756	\$161,010	\$118,785	\$161,010	\$118,785	
15 Debt AFUDC Additions	Lines ((8 * 2 + 14) * 4)	\$54,694	\$119,750	\$215,532	\$248,580	\$198,521	\$184,004	\$132,995	\$184,004	\$132,995	
16 Debt AFUDC Transfers to Rate Base	Lines (9 * (14 + 15))	\$2,778	\$69,727	\$90,709	\$344,172	\$169,268	\$226,228	\$151,171	\$226,228	\$151,171	
17 Debt AFUDC EOY	Lines (14 + 15 - 16)	\$52,502	\$102,525	\$227,348	\$131,756	\$161,010	\$118,785	\$100,609	\$118,785	\$100,609	

AFUDC		Statement F1 Page 5 of 7						
Line Description	Source	2011	2012	2013	2014	2015	2016	2017
1 Equity Ratio	WorkPaper 1, Line 20	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%
2 Debt Ratio	1.0 - Line 1	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%
3 Rate of Return on Equity	WorkPaper 1, Line 22	11.94%	11.75%	14.29%	12.05%	11.45%	14.65%	13.23%
4 Cost of Debt	WorkPaper 1, Line 21	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%
5 Depreciable Property in Service Additions	WorkPaper 1, Lines (5 - 1)	\$3,162,284	\$10,321,408	\$3,297,688	\$7,512,855	\$6,992,400	\$7,422,049	\$1,214,445
6 CWIP Additions	WorkPaper 1, Line 15	\$6,741,846	\$6,809,548	\$5,405,271	\$7,252,628	\$7,207,225	\$4,318,247	\$12,683,241
7 CWIP Balance	WorkPaper 1, Line 18	\$7,656,790	\$4,144,930	\$6,252,513	\$5,992,286	\$6,207,110	\$3,103,309	\$14,572,104
8 Average CWIP Balance	Average Line 7	\$5,867,009	\$5,900,860	\$5,198,722	\$6,122,400	\$6,099,698	\$4,655,210	\$8,837,707
9 CWIP In Service Ratio	Lines (5 / (6 + Prior 7))	29.23%	71.35%	34.53%	55.63%	52.97%	70.52%	7.69%
10 Equity AFUDC BOY	Prior Line 13	\$293,450	\$530,000	\$288,908	\$508,041	\$448,923	\$432,329	\$266,833
11 Equity AFUDC Additions	Lines ((8 * 1 + 10) * 3)	\$455,443	\$478,327	\$487,083	\$503,722	\$470,431	\$472,678	\$736,839
12 Equity AFUDC Transfers to Rate Base	Lines (9 * (10 + 11))	\$218,892	\$719,419	\$267,950	\$562,840	\$487,025	\$638,174	\$77,212
13 Equity AFUDC EOY	Lines (10 + 11 - 12)	\$530,000	\$288,908	\$508,041	\$448,923	\$432,329	\$266,833	\$926,461
14 Debt AFUDC BOY	Prior Line 17	\$100,609	\$183,787	\$100,041	\$158,248	\$145,409	\$147,402	\$81,971
15 Debt AFUDC Additions	Lines ((8 * 2 + 14) * 4)	\$159,082	\$165,368	\$141,669	\$169,468	\$168,044	\$130,617	\$235,109
16 Debt AFUDC Transfers to Rate Base	Lines (9 * (14 + 15))	\$75,905	\$249,114	\$83,463	\$182,307	\$166,051	\$196,047	\$24,993
17 Debt AFUDC EOY	Lines (14 + 15 - 16)	\$183,787	\$100,041	\$158,248	\$145,409	\$147,402	\$81,971	\$292,687

AFUDC		Statement FI					
		Page 6 of 7					
Line Description	Source	2018	2019	2020	2021	2022	2023
1 Equity Ratio	WorkPaper 1, Line 20	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%
2 Debt Ratio	1.0 - Line 1	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%
3 Rate of Return on Equity	WorkPaper 1, Line 22	16.25%	13.98%	14.59%	15.66%	11.45%	15.00%
4 Cost of Debt	WorkPaper 1, Line 21	6.50%	6.50%	6.50%	6.50%	8.80%	11.00%
5 Depreciable Property in Service Additions	WorkPaper 1, Lines (5 - 1)	\$24,152,037	\$4,527,863	\$11,410,644	\$5,160,916	\$9,520,159	\$3,695,151
6 CWIP Additions	WorkPaper 1, Line 15	\$14,639,950	\$8,562,270	\$8,578,796	\$7,340,538	\$6,607,655	\$2,635,431
7 CWIP Balance	WorkPaper 1, Line 18	\$5,060,018	\$8,494,424	\$5,076,544	\$7,256,166	\$4,343,661	\$3,283,941
8 Average CWIP Balance	Average Line 7	\$9,816,061	\$6,777,221	\$6,785,484	\$6,166,355	\$5,799,914	\$3,813,801
9 CWIP In Service Ratio	Lines (5 / (6 + Prior 7))	82.68%	33.24%	66.83%	41.56%	68.67%	52.95%
10 Equity AFUDC BOY	Prior Line 13	\$926,461	\$352,336	\$647,629	\$443,138	\$638,145	\$347,669
11 Equity AFUDC Additions	Lines ((8 * 1 + 10) * 3)	\$1,107,616	\$617,730	\$688,474	\$648,885	\$471,522	\$395,392
12 Equity AFUDC Transfers to Rate Base	Lines (9 * (10 + 11))	\$1,681,741	\$322,437	\$892,966	\$453,878	\$761,998	\$393,421
13 Equity AFUDC EOY	Lines (10 + 11 - 12)	\$352,336	\$647,629	\$443,138	\$638,145	\$347,669	\$349,640
14 Debt AFUDC BOY	Prior Line 17	\$292,687	\$98,202	\$187,461	\$124,728	\$171,314	\$122,362
15 Debt AFUDC Additions	Lines ((8 * 2 + 14) * 4)	\$274,242	\$182,591	\$188,608	\$168,433	\$219,233	\$181,267
16 Debt AFUDC Transfers to Rate Base	Lines (9 * (14 + 15))	\$468,728	\$93,332	\$251,340	\$121,847	\$268,185	\$160,759
17 Debt AFUDC EOY	Lines (14 + 15 - 16)	\$98,202	\$187,461	\$124,728	\$171,314	\$122,362	\$142,870

AFUDC		Statement FI	
		Page 7 of 7	
Line Description	Source	Base Period	Tcst Period
1 Equity Ratio	WorkPaper 1, Line 20	60.00%	60.00%
2 Debt Ratio	1.0 - Line 1	40.00%	40.00%
3 Rate of Return on Equity	WorkPaper 1, Line 22	15.00%	15.00%
4 Cost of Debt	WorkPaper 1, Line 21	12.00%	12.00%
5 Depreciable Property in Service Additions	WorkPaper 1, Lines (5 - 1)	\$1,575,710	\$1,106,794
6 CWIP Additions	WorkPaper 1, Line 15	\$1,341,252	\$1,106,794
7 CWIP Balance	WorkPaper 1, Line 18	\$3,049,483	\$3,049,483
8 Average CWIP Balance	Average Line 7	\$3,166,712	\$3,049,483
9 CWIP In Service Ratio	Lines (5 / (6 + Prior 7))	34.07%	26.63%
10 Equity AFUDC BOY	Prior Line 13	\$349,640	\$453,012
11 Equity AFUDC Additions	Lines ((8 * 1 + 10) * 3)	\$337,450	\$342,405
12 Equity AFUDC Transfers to Rate Base	Lines (9 * (10 + 11))	\$234,078	\$211,815
13 Equity AFUDC EOY	Lines (10 + 11 - 12)	\$453,012	\$583,602
14 Debt AFUDC BOY	Prior Line 17	\$142,870	\$205,718
15 Debt AFUDC Additions	Lines ((8 * 2 + 14) * 4)	\$169,147	\$171,061
16 Debt AFUDC Transfers to Rate Base	Lines (9 * (14 + 15))	\$106,298	\$100,334
17 Debt AFUDC EOY	Lines (14 + 15 - 16)	\$205,718	\$276,445

Amortization of AFUDC		Statement F2 Page 1 of 7						
Line Description	Source	1983	1984	1985	1986	1987	1988	1989
1 Equity AFUDC Transfers to Rate Base	Statement F1, Line 12		\$14,870	\$54,431	\$10,779	\$403	\$331	\$140,650
2 Accumulated Equity AFUDC	Cumulative Line 1		\$14,870	\$69,301	\$80,080	\$80,483	\$80,814	\$221,464
3 Depreciation Rates	WorkPaper 1, Line 14		2.27%	2.26%	2.29%	2.30%	2.30%	2.29%
4 Amortization of Equity AFUDC	Lines ((Prior 2 + 1/2.0) * 3)		\$169	\$951	\$1,713	\$1,847	\$1,856	\$3,458
5 Accumulated Amortization of Equity AFUDC	Cumulative Line 4		\$169	\$1,120	\$2,833	\$4,680	\$6,536	\$9,994
6 Net Equity AFUDC	Line (2 - 5)		\$14,701	\$68,181	\$77,247	\$75,803	\$74,278	\$211,470
7 Debt AFUDC Transfers to Rate Base	Statement F1, Line 16		\$4,173	\$14,840	\$3,180	\$109	\$90	\$36,915
8 Accumulated Debt AFUDC	Cumulative Line 7		\$4,173	\$19,012	\$22,192	\$22,302	\$22,392	\$59,307
9 Depreciation Rates	WorkPaper 1, Line 14		2.27%	2.26%	2.29%	2.30%	2.30%	2.29%
10 Amortization of Debt AFUDC	Lines ((Prior 8 + 7/2.0) * 9)		\$47	\$262	\$473	\$512	\$514	\$935
11 Accumulated Amortization of Debt AFUDC	Cumulative Line 10		\$47	\$309	\$782	\$1,294	\$1,808	\$2,743
12 Net Debt AFUDC	Line (8 - 11)		\$4,125	\$18,703	\$21,410	\$21,008	\$20,584	\$56,564

Amortization of AFUDC		Statement F2 Page 2 of 7						
Line Description	Source	1990	1991	1992	1993	1994	1995	1996
1 Equity AFUDC Transfers to Rate Base	Statement F1, Line 12	\$218,453	\$120,193	\$7,707	\$51,029	\$3,607	\$59,551	\$109,799
2 Accumulated Equity AFUDC	Cumulative Line 1	\$439,917	\$560,110	\$567,818	\$618,846	\$622,453	\$682,005	\$791,804
3 Depreciation Rates	WorkPaper 1, Line 14	2.62%	2.40%	2.42%	2.42%	2.44%	2.40%	2.45%
4 Amortization of Equity AFUDC	Lines ((Prior 2 + 1/2.0) * 3)	\$8,650	\$12,000	\$13,661	\$14,343	\$15,121	\$15,653	\$18,035
5 Accumulated Amortization of Equity AFUDC	Cumulative Line 4	\$18,644	\$30,645	\$44,305	\$58,649	\$73,769	\$89,422	\$107,457
6 Net Equity AFUDC	Line (2 - 5)	\$421,273	\$529,466	\$523,512	\$560,198	\$548,684	\$592,582	\$684,347
7 Debt AFUDC Transfers to Rate Base	Statement F1, Line 16	\$53,037	\$30,780	\$2,240	\$14,609	\$1,092	\$17,781	\$32,908
8 Accumulated Debt AFUDC	Cumulative Line 7	\$112,344	\$143,124	\$145,365	\$159,973	\$161,066	\$178,846	\$211,755
9 Depreciation Rates	WorkPaper 1, Line 14	2.62%	2.40%	2.42%	2.42%	2.44%	2.40%	2.45%
10 Amortization of Debt AFUDC	Lines ((Prior 8 + 7/2.0) * 9)	\$2,245	\$3,066	\$3,494	\$3,691	\$3,911	\$4,079	\$4,780
11 Accumulated Amortization of Debt AFUDC	Cumulative Line 10	\$4,988	\$8,053	\$11,547	\$15,238	\$19,148	\$23,227	\$28,007
12 Net Debt AFUDC	Line (8 - 11)	\$107,356	\$135,071	\$133,817	\$144,735	\$141,917	\$155,619	\$183,748

Amortization of AFUDC		Statement F2 Page 3 of 7						
Line Description	Source	1997	1998	1999	2000	2001	2002	2003
1	Equity AFUDC Transfers to Rate Base	\$6,184	\$11,766	\$80,263	\$36,211	\$10,851	\$162,737	\$44,117
2	Accumulated Equity AFUDC	\$797,988	\$809,753	\$890,016	\$926,227	\$937,078	\$1,099,815	\$1,143,933
3	Depreciation Rates	2.39%	2.38%	2.38%	2.36%	2.34%	2.24%	2.55%
4	Amortization of Equity AFUDC	\$18,969	\$19,120	\$20,255	\$21,409	\$21,806	\$22,819	\$28,659
5	Accumulated Amortization of Equity AFUDC	\$126,426	\$145,547	\$165,802	\$187,211	\$209,017	\$231,836	\$260,495
6	Net Equity AFUDC	\$671,561	\$664,207	\$724,215	\$739,016	\$728,062	\$867,980	\$883,438
7	Debt AFUDC Transfers to Rate Base	\$2,028	\$4,006	\$23,911	\$10,524	\$3,448	\$47,538	\$14,012
8	Accumulated Debt AFUDC	\$213,783	\$217,789	\$241,700	\$252,224	\$255,672	\$303,210	\$317,223
9	Depreciation Rates	2.39%	2.38%	2.38%	2.36%	2.34%	2.24%	2.55%
10	Amortization of Debt AFUDC	\$5,078	\$5,133	\$5,475	\$5,822	\$5,944	\$6,261	\$7,925
11	Accumulated Amortization of Debt AFUDC	\$33,085	\$38,217	\$43,692	\$49,515	\$55,458	\$61,720	\$69,644
12	Net Debt AFUDC	\$180,698	\$179,572	\$198,008	\$202,709	\$200,214	\$241,491	\$247,578

Amortization of AFUDC		Statement F2 Page 4 of 7							
Line Description	Source	2004	2005	2006	2007	2008	2009	2010	
1 Equity AFUDC Transfers to Rate Base	Statement F1, Line 12	\$8,109	\$206,784	\$266,412	\$1,013,150	\$565,791	\$730,694	\$440,924	
2 Accumulated Equity AFUDC	Cumulative Line 1	\$1,152,041	\$1,358,825	\$1,625,237	\$2,638,387	\$3,204,178	\$3,934,872	\$4,375,795	
3 Depreciation Rates	WorkPaper 1, Line 14	0.67%	2.66%	2.65%	2.64%	2.64%	2.65%	2.64%	
4 Amortization of Equity AFUDC	Lines ((Prior 2 + 1/2.0) * 3)	\$7,643	\$33,350	\$39,574	\$56,331	\$77,084	\$94,607	\$109,547	
5 Accumulated Amortization of Equity AFUDC	Cumulative Line 4	\$268,138	\$301,487	\$341,061	\$397,392	\$474,475	\$569,082	\$678,629	
6 Net Equity AFUDC	Line (2 - 5)	\$883,904	\$1,057,338	\$1,284,176	\$2,240,995	\$2,729,703	\$3,365,790	\$3,697,167	
7 Debt AFUDC Transfers to Rate Base	Statement F1, Line 16	\$2,778	\$69,727	\$90,709	\$344,172	\$169,268	\$226,228	\$151,171	
8 Accumulated Debt AFUDC	Cumulative Line 7	\$320,001	\$389,728	\$480,437	\$824,609	\$993,876	\$1,220,104	\$1,371,275	
9 Depreciation Rates	WorkPaper 1, Line 14	0.67%	2.66%	2.65%	2.64%	2.64%	2.65%	2.64%	
10 Amortization of Debt AFUDC	Lines ((Prior 8 + 7/2.0) * 9)	\$2,121	\$9,427	\$11,540	\$17,242	\$23,992	\$29,340	\$34,158	
11 Accumulated Amortization of Debt AFUDC	Cumulative Line 10	\$71,765	\$81,192	\$92,732	\$109,974	\$133,966	\$163,306	\$197,464	
12 Net Debt AFUDC	Line (8 - 11)	\$248,236	\$308,535	\$387,705	\$714,634	\$859,910	\$1,056,798	\$1,173,811	

Amortization of AFUDC		Statement F2 Page 5 of 7						
Line Description	Source	2011	2012	2013	2014	2015	2016	2017
1	Equity AFUDC Transfers to Rate Base	\$218,892	\$719,419	\$267,950	\$562,840	\$487,025	\$638,174	\$77,212
2	Accumulated Equity AFUDC	\$4,594,688	\$5,314,107	\$5,582,057	\$6,144,896	\$6,631,922	\$7,270,096	\$7,347,307
3	Depreciation Rates	2.68%	2.68%	2.68%	2.68%	2.68%	2.93%	2.68%
4	Amortization of Equity AFUDC	\$120,221	\$132,733	\$145,819	\$157,044	\$171,025	\$203,970	\$195,583
5	Accumulated Amortization of Equity AFUDC	\$798,849	\$931,582	\$1,077,401	\$1,234,445	\$1,405,470	\$1,609,440	\$1,805,022
6	Net Equity AFUDC	\$3,795,838	\$4,382,524	\$4,504,656	\$4,910,451	\$5,226,452	\$5,660,656	\$5,542,285
7	Debt AFUDC Transfers to Rate Base	\$75,905	\$249,114	\$83,463	\$182,307	\$166,051	\$196,047	\$24,393
8	Accumulated Debt AFUDC	\$1,447,179	\$1,696,294	\$1,779,756	\$1,962,063	\$2,128,114	\$2,324,161	\$2,348,554
9	Depreciation Rates	2.68%	2.68%	2.68%	2.68%	2.68%	2.93%	2.68%
10	Amortization of Debt AFUDC	\$37,772	\$42,108	\$46,519	\$50,109	\$54,749	\$65,324	\$62,521
11	Accumulated Amortization of Debt AFUDC	\$235,236	\$277,345	\$323,863	\$373,973	\$428,722	\$494,046	\$556,567
12	Net Debt AFUDC	\$1,211,943	\$1,418,949	\$1,455,893	\$1,588,091	\$1,699,392	\$1,830,116	\$1,791,987

Amortization of AFUDC		Statement F2 Page 6 of 7					
Line Description	Source	2018	2019	2020	2021	Base Period	Tcst Period
1 Equity AFUDC Transfers to Rate Base	Statement F1, Line 12	\$1,681,741	\$322,437	\$892,966	\$453,878	\$761,998	\$393,421
2 Accumulated Equity AFUDC	Cumulative Line 1	\$9,029,048	\$9,351,485	\$10,244,451	\$10,698,329	\$11,460,327	\$11,853,748
3 Depreciation Rates	WorkPaper 1, Line 14	2.67%	2.67%	2.69%	2.70%	2.71%	2.71%
4 Amortization of Equity AFUDC	Lines ((Prior 2 + 1/2.0) * 3)	\$218,973	\$245,744	\$263,160	\$282,547	\$299,863	\$316,334
5 Accumulated Amortization of Equity AFUDC	Cumulative Line 4	\$2,023,995	\$2,269,739	\$2,532,898	\$2,815,445	\$3,115,309	\$3,431,642
6 Net Equity AFUDC	Line (2 - 5)	\$7,005,053	\$7,081,746	\$7,711,552	\$7,882,883	\$8,345,018	\$8,422,106
7 Debt AFUDC Transfers to Rate Base	Statement F1, Line 16	\$468,728	\$93,332	\$251,340	\$121,847	\$268,185	\$160,759
8 Accumulated Debt AFUDC	Cumulative Line 7	\$2,817,282	\$2,910,613	\$3,161,953	\$3,283,800	\$3,551,985	\$3,712,745
9 Depreciation Rates	WorkPaper 1, Line 14	2.67%	2.67%	2.69%	2.70%	2.71%	2.71%
10 Amortization of Debt AFUDC	Lines ((Prior 8 + 7/2.0) * 9)	\$69,074	\$76,581	\$81,550	\$86,962	\$92,506	\$98,570
11 Accumulated Amortization of Debt AFUDC	Cumulative Line 10	\$625,641	\$702,222	\$783,772	\$870,734	\$963,240	\$1,061,810
12 Net Debt AFUDC	Line (8 - 11)	\$2,191,641	\$2,208,392	\$2,378,182	\$2,413,066	\$2,588,745	\$2,650,955

Amortization of AFUDC		Statement F2 Page 7 of 7	
Line Description	Source	Base Period	Test Period
1 Equity AFUDC Transfers to Rate Base	Statement F1, Line 12	\$234,078	\$211,815
2 Accumulated Equity AFUDC	Cumulative Line 1	\$12,087,826	\$12,299,641
3 Depreciation Rates	WorkPaper 1, Line 14	2.72%	2.73%
4 Amortization of Equity AFUDC	Lines ((Prior 2 + 1/2.0) * 3)	\$325,600	\$332,408
5 Accumulated Amortization of Equity AFUDC	Cumulative Line 4	\$3,757,242	\$4,089,650
6 Net Equity AFUDC	Line (2 - 5)	\$8,330,583	\$8,209,991
7 Debt AFUDC Transfers to Rate Base	Statement F1, Line 16	\$106,298	\$100,334
8 Accumulated Debt AFUDC	Cumulative Line 7	\$3,819,042	\$3,919,377
9 Depreciation Rates	WorkPaper 1, Line 14	2.72%	2.73%
10 Amortization of Debt AFUDC	Lines ((Prior 8 + 7/2.0) * 9)	\$102,431	\$105,477
11 Accumulated Amortization of Debt AFUDC	Cumulative Line 10	\$1,164,241	\$1,269,717
12 Net Debt AFUDC	Line (8 - 11)	\$2,654,801	\$2,649,659

Operating Revenues		Statement G	
No.	Description	Source	Test Period
1	Total Revenues Under Pending Rates	Achieved Return, Column [d], Line 25	\$86,337,308
2	Total Revenues Under Pending Rates	Achieved Return, Column [c], Line 25	\$60,442,713
3	Total Revenues Under 10% Increased Rates	Achieved Return, Column [b], Line 25	\$56,393,770
4	Total Revenues Under Effective Rates	Achieved Return, Column [a], Line 25	\$51,556,029

Total Company Input Data

Line No.	Description	Source	1983	1984	1985	1986	1987	1988	1989
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Carrier Property in Service ("CPIS")

1	Land Additions	Company Records		\$0	\$0	\$0	\$0	\$0	\$0
2	Land Retirements	Company Records		\$0	\$0	\$0	\$0	\$0	\$0
3	Land Adjustments and Transfers	Company Records		\$0	\$0	\$0	\$0	\$0	\$0
4	Land EOY	Sum Lns (1 to 3 + Prior 4) 1/	\$73,149	\$73,149	\$73,149	\$73,149	\$73,149	\$73,149	\$73,149
5	CPIS Additions	Company Records		\$394,093	\$1,203,489	\$241,373	\$8,113	\$6,835	\$2,743,396
6	CPIS Retirements	Company Records		\$0	\$0	\$0	\$0	\$0	\$0
7	CPIS Adjustments and Transfers	Company Records		\$0	\$0	\$0	\$0	\$0	\$0
8	CPIS EOY	Sum Lns (5 to 7 + Prior 8) 1/	\$8,965,952	\$9,360,045	\$10,563,534	\$10,804,907	\$10,813,020	\$10,819,855	\$13,563,251
9	Depreciation Expense	Company Records 2/		\$206,212	\$223,537	\$243,380	\$246,988	\$247,253	\$277,272
10	Depreciation Retirements	Company Records		\$0	\$0	\$0	\$0	\$0	\$0
11	Depreciation Adjustments and Transfers	Company Records		\$0	\$0	\$0	\$0	\$0	\$0
12	Accumulated Depreciation EOY	Sum Lns (9 to 11 + Prior 12) 1/	\$4,525,624	\$4,731,837	\$4,955,373	\$5,198,753	\$5,445,741	\$5,692,994	\$5,970,266
13	Depreciable Carrier Property in Service EOY	Lines (8 - 4)	\$8,892,803	\$9,286,896	\$10,490,385	\$10,731,758	\$10,739,871	\$10,746,706	\$13,490,102
14	Depreciation Rates	Ln (9 / Avg 13)		2.27%	2.26%	2.29%	2.30%	2.30%	2.29%

Construction Work in Progress ("CWIP")

15	CWIP Additions	- Line 16 Avg		\$798,791	\$722,431	\$124,743	\$7,474	\$1,375,116	\$3,315,199
16	CWIP Retirements	- Line 5		(\$394,093)	(\$1,203,489)	(\$241,373)	(\$8,113)	(\$6,835)	(\$2,743,396)
17	CWIP Adjustments and Transfers	Company Records		\$0	\$0	\$0	\$0	\$0	\$0
18	CWIP EOY	Sum Lns (15 to 17 + Prior 18) 1/	\$197,046	\$601,745	\$120,687	\$4,056	\$3,417	\$1,371,698	\$1,943,501
19	Working Capital	Company Records	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Cost of Capital									
20	Equity Ratio	CPUC Decision 20-11-026, Issued 11.23.20, Section 7.3		60.00%	60.00%	60.00%	60.00%	60.00%	60.00%
21	Cost of Debt	Company Records		6.60%	6.60%	6.60%	6.60%	6.60%	6.60%
22	Rate of Return on Equity	MJW-007		15.68%	15.53%	12.83%	16.16%	16.15%	16.38%

1/ 2004 and 2005 EOY Balances from Company Records
2/ Depreciation Expense for years 2017 forward from Worksheet 2

Total Company Input Data

WorkPaper 1
Page 3 of 8

Line No.	Description	Source	1997	1998	1999	2000	2001	2002	2003	
Carrier Property in Service ("CPIS")										
1	Land Additions	Company Records	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
2	Land Retirements	Company Records	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
3	Land Adjustments and Transfers	Company Records	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
4	Land EOY	Sum Lns (1 to 3 + Prior 4) 1/	\$73,149	\$73,149	\$73,149	\$73,149	\$73,149	\$73,149	\$73,149	
5	CPIS Additions	Company Records	\$149,521	\$299,861	\$1,754,581	\$764,395	\$259,349	\$3,489,078	\$1,012,762	
6	CPIS Retirements	Company Records	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
7	CPIS Adjustments and Transfers	Company Records	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
8	CPIS EOY	Sum Lns (5 to 7 + Prior 8) 1/	\$24,852,130	\$25,151,991	\$26,906,571	\$27,670,967	\$27,930,315	\$31,419,393	\$32,432,155	
9	Depreciation Expense	Company Records 2/	\$589,542	\$592,942	\$618,599	\$641,623	\$648,969	\$663,255	\$813,699	
10	Depreciation Retirements	Company Records	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
11	Depreciation Adjustments and Transfers	Company Records	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
12	Accumulated Depreciation EOY	Sum Lns (9 to 11 + Prior 12) 1/	\$9,974,560	\$10,567,502	\$11,186,101	\$11,827,723	\$12,476,692	\$13,139,947	\$13,953,646	
13	Depreciable Carrier Property in Service EOY	Lines (8 - 4)	\$24,778,981	\$25,078,842	\$26,833,422	\$27,597,818	\$27,857,166	\$31,346,244	\$32,359,006	
14	Depreciation Rates	Lns (9 / Avg 13)	2.39%	2.38%	2.38%	2.36%	2.34%	2.24%	2.55%	
Construction Work in Progress ("CWIP")										
15	CWIP Additions	- Line 16 Avg	\$224,691	\$1,027,221	\$1,259,488	\$511,872	\$1,874,213	\$2,250,920	\$548,773	
16	CWIP Retirements	- Line 5	(\$149,521)	(\$299,861)	(\$1,754,581)	(\$764,395)	(\$259,349)	(\$3,489,078)	(\$1,012,762)	
17	CWIP Adjustments and Transfers	Company Records	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
18	CWIP EOY	Sum Lns (15 to 17 + Prior 18) 1/	\$149,930	\$877,290	\$382,198	\$129,674	\$1,744,539	\$506,381	\$42,392	
19	Working Capital	Company Records	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Cost of Capital										
20	Equity Ratio	CPUC Decision 20-11-026, Issued 11.23.20, Section 7.3	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	
21	Cost of Debt	Company Records	6.60%	6.60%	6.60%	6.60%	6.60%	6.60%	6.60%	
22	Rate of Return on Equity	MJW-007	12.64%	12.72%	15.36%	14.54%	13.67%	15.15%	11.87%	
1/	2004 and 2005 EOY Balances from Company Records									
2/	Depreciation Expense for years 2017 forward from WorkPaper 2									

Total Company Input Data

WorkPaper 1
Page 4 of 8

Line No.	Description	Source	2004	2005	2006	2007	2008	2009	2010
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Carrier Property in Service ("CPIS")

1	Land Additions	Company Records	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2	Land Retirements	Company Records	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3	Land Adjustments and Transfers	Company Records	\$717,349	\$0	\$0	\$0	\$0	(\$1,585)	\$0
4	Land EOY	Sum Lns (1 to 3 + Prior 4) 1/	\$790,498	\$790,498	\$790,498	\$790,498	\$790,498	\$788,913	\$788,913
5	CPIS Additions	Company Records	\$84,784	\$3,204,132	\$4,430,457	\$17,216,350	\$8,189,412	\$10,587,584	\$6,126,246
6	CPIS Retirements	Company Records	\$0	\$0	\$0	\$0	(\$151,112)	(\$860,184)	(\$573,273)
7	CPIS Adjustments and Transfers	Company Records	\$185,577,577	\$0	\$0	(\$33,499)	\$228,809	(\$761,354)	(\$622,199)
8	CPIS EOY	Sum Lns (5 to 7 + Prior 8) 1/	\$218,094,517	\$221,298,649	\$225,729,106	\$242,911,957	\$251,179,065	\$260,145,111	\$265,075,885
9	Depreciation Expense	Company Records 2/	\$831,061	\$5,815,111	\$5,907,350	\$6,170,760	\$6,497,906	\$6,755,130	\$6,902,387
10	Depreciation Retirements	Company Records	\$0	\$0	\$0	\$0	(\$151,112)	(\$860,184)	(\$573,273)
11	Depreciation Adjustments and Transfers	Company Records	\$68,186,386	\$0	\$0	\$0	\$0	\$0	\$0
12	Accumulated Depreciation EOY	Sum Lns (9 to 11 + Prior 12) 1/	\$82,971,093	\$88,786,204	\$94,693,554	\$100,864,313	\$107,211,107	\$113,106,053	\$119,435,167
13	Depreciable Carrier Property in Service EOY	Lines (8 - 4)	\$217,304,019	\$220,508,151	\$224,938,608	\$242,121,459	\$250,388,567	\$259,356,199	\$264,286,973
14	Depreciation Rates	Lns (9 / Avg 13)	0.67%	2.66%	2.65%	2.64%	2.64%	2.65%	2.64%

Construction Work in Progress ("CWIP")

15	CWIP Additions	- Line 16 Avg	\$1,644,458	\$3,817,295	\$10,823,403	\$12,702,881	\$9,388,498	\$8,356,915	\$4,644,265
16	CWIP Retirements	- Line 5	(\$84,784)	(\$3,204,132)	(\$4,430,457)	(\$17,216,350)	(\$8,189,412)	(\$10,587,584)	(\$6,126,246)
17	CWIP Adjustments and Transfers	Company Records	\$2,496,086	\$0	\$0	\$0	\$0	\$0	\$0
18	CWIP EOY	Sum Lns (15 to 17 + Prior 18) 1/	\$4,098,152	\$4,711,315	\$11,104,261	\$6,590,792	\$7,789,878	\$5,559,209	\$4,077,228
19	Working Capital	Company Records	\$0	\$86,000	\$86,000	\$86,000	\$86,000	\$86,000	\$86,000
Cost of Capital									
20	Equity Ratio	CPUC Decision 20-11-026, Issued 11.23.20, Section 7.3	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%
21	Cost of Debt	Company Records	6.60%	6.60%	6.60%	6.60%	6.60%	6.50%	6.50%
22	Rate of Return on Equity	MJW-007	12.82%	12.79%	12.48%	12.27%	15.23%	12.68%	10.71%

1/ 2004 and 2005 EOY Balances from Company Records

2/ Depreciation Expense for years 2017 forward from WorkPaper 2

Total Company Input Data

Line No.	Description	Source	2011	2012	2013	2014	2015	2016	2017
Carrier Property in Service ("CPIS")									
1	Land Additions	Company Records	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2	Land Retirements	Company Records	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3	Land Adjustments and Transfers	Company Records	\$0	\$0	\$0	\$0	\$0	(\$1,087)	\$0
4	Land EOY	Sum Lns (1 to 3 + Prior 4) 1/	\$788,913	\$788,913	\$788,913	\$788,913	\$788,913	\$787,826	\$787,826
5	CPIS Additions	Company Records	\$3,162,284	\$10,321,408	\$3,297,688	\$7,512,855	\$6,992,400	\$7,422,049	\$1,214,445
6	CPIS Retirements	Company Records	(\$49,829)	(\$70,486)	(\$225,911)	\$0	\$0	\$0	\$0
7	CPIS Adjustments and Transfers	Company Records	(\$1,222,406)	(\$6,502)	(\$654,714)	\$45,051	\$2,720	(\$14,661)	(\$4,505,660)
8	CPIS EOY	Sum Lns (5 to 7 + Prior 8) 1/	\$266,965,935	\$277,210,355	\$279,627,418	\$287,185,324	\$294,180,444	\$301,587,832	\$298,296,616
9	Depreciation Expense	Company Records 2/	\$7,109,169	\$7,268,376	\$7,430,812	\$7,569,457	\$7,760,788	\$8,717,947	\$8,005,440
10	Depreciation Retirements	Company Records	(\$49,829)	(\$70,486)	(\$225,911)	\$0	\$0	\$0	\$0
11	Depreciation Adjustments and Transfers	Company Records	\$0	\$0	\$0	\$0	\$0	\$0	\$0
12	Accumulated Depreciation EOY	Sum Lns (9 to 11 + Prior 12) 1/	\$126,494,507	\$133,692,397	\$140,897,299	\$148,466,756	\$156,227,544	\$164,945,491	\$172,950,932
13	Depreciable Carrier Property in Service EOY	Lines (8 - 4)	\$266,177,022	\$276,421,442	\$278,838,505	\$286,396,411	\$293,391,531	\$300,800,006	\$297,508,791
14	Depreciation Rates	Ln (9 / Avg 13)	2.68%	2.68%	2.68%	2.68%	2.68%	2.93%	2.68%
Construction Work in Progress ("CWIP")									
15	CWIP Additions	- Line 16 Avg	\$6,741,846	\$6,809,548	\$5,405,271	\$7,252,628	\$7,207,225	\$4,318,247	\$12,683,241
16	CWIP Retirements	- Line 5	(\$3,162,284)	(\$10,321,408)	(\$3,297,688)	(\$7,512,855)	(\$6,992,400)	(\$7,422,049)	(\$1,214,445)
17	CWIP Adjustments and Transfers	Company Records	\$0	\$0	\$0	\$0	\$0	\$0	\$0
18	CWIP EOY	Sum Lns (15 to 17 + Prior 18) 1/	\$7,656,790	\$4,144,930	\$6,252,513	\$5,992,286	\$6,207,110	\$3,103,309	\$14,572,104
19	Working Capital	Company Records	\$86,000	\$83,807	\$83,807	\$83,807	\$83,807	\$83,807	\$83,807
Cost of Capital									
20	Equity Ratio	CPUC Decision 20-11-026, Issued 11.23.20, Section 7.3	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%
21	Cost of Debt	Company Records	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%
22	Rate of Return on Equity	MJW-007	11.94%	11.75%	14.29%	12.05%	11.45%	14.65%	13.23%
1/	2004 and 2005 EOY Balances from Company Records								
2/	Depreciation Expense for years 2017 forward from WorkPaper 2								

Total Company Input Data		WorkPaper 1 Page 6 of 8					
Line No.	Description	2018	2019	2020	2021	2022	2023
	Source						

Carrier Property in Service ("CPIS")

1	Land Additions		\$600,000	\$586,033	\$0	\$0	\$0
2	Land Retirements		\$0	\$0	\$0	\$0	\$0
3	Land Adjustments and Transfers		\$0	\$0	\$0	\$0	\$0
4	Land EOY	\$787,826	\$1,387,826	\$1,973,859	\$1,973,859	\$1,973,859	\$1,973,859
	Sum Lns (1 to 3 + Prior 4) 1/						
5	CPIS Additions	\$24,152,037	\$5,127,863	\$11,996,677	\$5,160,916	\$9,520,159	\$3,695,151
6	CPIS Retirements	\$0	(\$17,170)	\$0	(\$167,914)	\$0	\$0
7	CPIS Adjustments and Transfers	\$0	\$74,507	\$0	\$0	\$0	(\$35,104,465)
8	CPIS EOY	\$322,448,653	\$327,633,853	\$339,630,530	\$344,623,531	\$354,143,691	\$322,734,377
	Sum Lns (5 to 7 + Prior 8) 1/						
9	Depreciation Expense	\$8,279,093	\$8,662,366	\$8,915,750	\$9,178,279	\$9,402,681	\$9,130,554
10	Depreciation Retirements	\$0	(\$17,170)	\$0	(\$167,914)	\$0	\$0
11	Depreciation Adjustments and Transfers	\$0	\$0	\$0	\$0	\$0	(\$23,375,511)
12	Accumulated Depreciation EOY	\$181,230,024	\$189,875,220	\$198,790,970	\$207,801,334	\$217,204,015	\$202,959,058
	Sum Lns (9 to 11 + Prior 12) 1/						
13	Depreciable Carrier Property in Service EOY	\$321,660,828	\$326,246,027	\$337,656,671	\$342,649,672	\$352,169,832	\$320,760,518
14	Depreciation Rates	2.67%	2.67%	2.69%	2.70%	2.71%	2.71%

Construction Work in Progress ("CWIP")

15	CWIP Additions	\$14,639,950	\$8,562,270	\$8,578,796	\$7,340,538	\$6,607,655	\$2,635,431
16	CWIP Retirements	(\$24,152,037)	(\$5,127,863)	(\$11,996,677)	(\$5,160,916)	(\$9,520,159)	(\$3,695,151)
17	CWIP Adjustments and Transfers	\$0	\$0	\$0	\$0	\$0	\$0
18	CWIP EOY	\$5,060,018	\$8,494,424	\$5,076,544	\$7,256,166	\$4,343,661	\$3,283,941
	Sum Lns (15 to 17 + Prior 18) 1/						
19	Working Capital	\$83,807	\$83,807	\$83,807	\$2,345,491	\$759,696	\$797,681
	Company Records						
Cost of Capital							
20	Equity Ratio	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%
	CPUC Decision 20-11-026, Issued 11.23.20, Section 7.3						
21	Cost of Debt	6.50%	6.50%	6.50%	6.50%	8.80%	11.00%
22	Rate of Return on Equity	16.25%	13.98%	14.59%	15.66%	11.45%	15.00%
	Company Records MTW-007						

1/ 2004 and 2005 EOY Balances from Company Records
2/ Depreciation Expense for years 2017 forward from WorkPaper 2

Total Company Input Data		WorkPaper 1 Page 7 of 8	
Line No.	Description	Source	Base Period Test Period
Carrier Property in Service ("CPIS")			
1	Land Additions	Company Records	\$0 \$0
2	Land Retirements	Company Records	\$0 \$0
3	Land Adjustments and Transfers	Company Records	\$0 \$0
4	Land EOY	Sum Lns (1 to 3 + Prior 4) 1/	\$1,973,859 \$1,973,859
5	CPIS Additions	Company Records	\$1,575,710 \$1,106,794
6	CPIS Retirements	Company Records	\$0 \$0
7	CPIS Adjustments and Transfers	Company Records	\$0 \$0
8	CPIS EOY	Sum Lns (5 to 7 + Prior 8) 1/	\$324,310,087 \$325,416,881
9	Depreciation Expense	Company Records 2/	\$8,745,974 \$8,802,143
10	Depreciation Retirements	Company Records	\$0 \$0
11	Depreciation Adjustments and Transfers	Company Records	\$0 \$0
12	Accumulated Depreciation EOY	Sum Lns (9 to 11 + Prior 12) 1/	\$211,705,032 \$220,507,175
13	Depreciable Carrier Property in Service EOY	Lines (8 - 4)	\$322,336,228 \$323,443,022
14	Depreciation Rates	Lns (9 / Avg 13)	2.72% 2.73%
Construction Work in Progress ("CWIP")			
15	CWIP Additions	- Line 16 Avg	\$1,341,252 \$1,106,794
16	CWIP Retirements	- Line 5	(\$1,575,710) (\$1,106,794)
17	CWIP Adjustments and Transfers	Company Records	\$0 \$0
18	CWIP EOY	Sum Lns (15 to 17 + Prior 18) 1/	\$3,049,483 \$3,049,483
19	Working Capital	Company Records	\$825,844 \$825,844
Cost of Capital			
20	Equity Ratio	CPUC Decision 20-11-026, Issued 11.23.20, Section 7.3	60.00% 60.00%
21	Cost of Debt	Company Records	12.00% 12.00%
22	Rate of Return on Equity	MJW-007	15.00% 15.00%
1/	2004 and 2005 EOY Balances from Company Records		
2/	Depreciation Expense for years 2017 forward from WorkPaper 2		

Total Company Input Data		WorkPaper 1 Page 8 of 8	
Line Description No.	Source	Base Period	Test Period
Operating Expenses			
OPERATIONS AND MAINTENANCE			
22 300 Salaries and Wages	Statement B, Line 1	\$7,667,139	\$8,233,785
23 310 Materials and Supplies	Statement B, Line 2	\$659,801	\$659,801
24 320 Outside Services	Statement B, Line 3	\$18,845,695	\$20,639,532
25 330 Operating Fuel and Power	Statement B, Line 4	\$11,352,288	\$12,317,442
26 340 Oil Losses and Shortages	Statement B, Line 5	\$59,440	\$0
27 350 Rentals	Statement B, Line 6	\$342,662	\$342,662
28 390 Other Expenses	Statement B, Line 7	\$622,197	\$622,197
29 Total Operations Expense	Sum Lns (22 to 28)	\$39,549,222	\$42,815,419
GENERAL			
30 500 Salaries and Wages	Statement B, Line 9	\$3,544,509	\$3,544,509
31 510 Materials and Supplies	Statement B, Line 10	\$215,466	\$237,701
32 520 Outside Services	Statement B, Line 11	\$5,689,641	\$4,645,417
33 530 Rentals	Statement B, Line 12	\$80,559	\$44,262
34 550 Employee Benefits	Statement B, Line 13	\$2,546,831	\$2,684,487
35 560 Insurance	Statement B, Line 14	\$3,371,782	\$3,367,102
36 570 Casualty and Other Losses	Statement B, Line 15	\$0	\$0
37 580 Pipeline Taxes	Statement B, Line 16	\$2,684,040	\$2,684,040
38 590 Other Expenses	Statement B, Line 17	\$523,454	\$445,301
39 Total General Expense	Sum Lns (30 to 38)	\$18,656,282	\$17,652,818
40 Total Operating Expenses excl. Depreciation	Line (29 + 39)	\$58,205,504	\$60,468,237
Revenues			
41 210 Transportation Revenues (-WSJ)	WorkPaper 3, Line 11	\$64,380,450	\$58,258,292
42 210 Transportation Revenues (WSJ)	WorkPaper 3, Line 10	\$362,786	\$297,414
43 230 Allowance Oil Revenues	WorkPaper 3, Line 14	\$891,491	\$1,724,270
44 260 Other Revenues - Truck Rack	WorkPaper 3, Line 13	\$179,543	\$162,737
Volumes			
45 Deliveries in Bbls (-WSJ)	WorkPaper 3, Line 11	64,380,450	58,258,292

Carrier Property and Depreciation Expenses

Worksheet 2
Page 1 of 2

Carrier Property Account	Depreciation Rate	Carrier Property in Service EOY					Test Period
		2020	2021	2022	2023	Base Period	
GATHERING LINES							
101 Land	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
102 Right of Way	2.81%	\$ 287,240	\$ 287,240	\$ 287,240	\$ 287,240	\$ 287,240	\$ 287,240
103 Line Pipe	3.12%	\$ 2,563,098	\$ 2,563,098	\$ 2,563,098	\$ 2,563,098	\$ 2,563,098	\$ 2,563,098
104 Line Pipe Fittings	3.14%	\$ 564,256	\$ 564,256	\$ 564,256	\$ 564,256	\$ 564,256	\$ 564,256
105 Pipeline Construction	2.84%	\$ 4,125,481	\$ 4,125,481	\$ 4,125,481	\$ 4,125,481	\$ 4,125,481	\$ 4,125,481
106 Buildings	2.77%	\$ 73,255	\$ 73,255	\$ 73,255	\$ 73,255	\$ 73,255	\$ 73,255
107 Boilers	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
108 Pumping Equipments	3.09%	\$ 1,069,510	\$ 1,069,510	\$ 1,069,510	\$ 1,069,510	\$ 1,069,510	\$ 1,069,510
109 Machine Tools and Machinery	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
110 Other Station Equipment	2.95%	\$ 797,521	\$ 797,521	\$ 797,521	\$ 797,521	\$ 797,521	\$ 797,521
111 Oil Tanks	2.59%	\$ 550,397	\$ 550,397	\$ 550,397	\$ 550,397	\$ 550,397	\$ 550,397
112 Delivery Facilities	3.43%	\$ 96,754	\$ 96,754	\$ 96,754	\$ 96,754	\$ 96,754	\$ 96,754
113 Communication Systems	3.86%	\$ 271,611	\$ 271,611	\$ 271,611	\$ 271,611	\$ 271,611	\$ 271,611
114 Office Furniture and Fixtures	5.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
115 Vehicles & Other Work Equipment	6.67%	\$ 4,155	\$ 4,155	\$ 4,155	\$ 4,155	\$ 4,155	\$ 4,155
116 Other Property	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
GATHERING LINES Subtotal		\$ 10,403,278	\$ 10,403,278	\$ 10,403,278	\$ 10,403,278	\$ 10,403,278	\$ 10,403,278
TRUNK LINES							
151 Land	0.00%	\$ 1,973,859	\$ 1,973,859	\$ 1,973,859	\$ 1,973,859	\$ 1,973,859	\$ 1,973,859
152 Right of Way	1.97%	\$ 6,386,436	\$ 6,386,436	\$ 6,386,436	\$ 6,386,436	\$ 6,386,436	\$ 6,386,436
153 Line Pipe	3.00%	\$ 34,519,500	\$ 38,011,551	\$ 41,806,192	\$ 34,873,955	\$ 35,648,313	\$ 35,648,313
154 Line Pipe Fittings	2.65%	\$ 22,551,633	\$ 22,687,408	\$ 22,687,408	\$ 21,599,249	\$ 21,599,249	\$ 21,599,249
155 Pipeline Construction	2.58%	\$ 149,471,947	\$ 149,471,947	\$ 149,471,947	\$ 126,897,706	\$ 126,897,706	\$ 126,897,706
156 Buildings	2.53%	\$ 7,822,834	\$ 7,822,834	\$ 7,822,834	\$ 7,822,834	\$ 7,822,834	\$ 7,822,834
157 Boilers	3.00%	\$ 426,673	\$ 426,673	\$ 426,673	\$ 426,673	\$ 426,673	\$ 426,673
158 Pumping Equipments	2.70%	\$ 10,454,302	\$ 10,493,433	\$ 11,021,161	\$ 9,744,484	\$ 9,744,484	\$ 10,144,484
159 Machine Tools and Machinery	4.28%	\$ 118,836	\$ 118,836	\$ 118,836	\$ 118,836	\$ 118,836	\$ 118,836
160 Other Station Equipment	2.66%	\$ 49,886,932	\$ 50,073,926	\$ 50,162,635	\$ 50,536,950	\$ 50,616,862	\$ 51,074,812
161 Oil Tanks	2.67%	\$ 33,090,322	\$ 33,494,986	\$ 37,121,292	\$ 37,427,947	\$ 37,427,947	\$ 37,427,947
162 Delivery Facilities	2.58%	\$ 1,524,443	\$ 1,524,443	\$ 1,524,443	\$ 1,524,443	\$ 1,524,443	\$ 1,524,443
163 Communication Systems	3.74%	\$ 3,238,538	\$ 3,559,273	\$ 3,559,273	\$ 3,505,812	\$ 3,505,812	\$ 3,505,812
164 Office Furniture and Fixtures	5.00%	\$ 329,952	\$ 329,952	\$ 329,952	\$ 329,952	\$ 329,952	\$ 329,952
165 Vehicles & Other Work Equipment	6.67%	\$ 1,331,710	\$ 1,336,903	\$ 1,966,226	\$ 2,000,278	\$ 2,678,673	\$ 2,927,517
166 Other Property	3.33%	\$ 6,099,335	\$ 6,507,793	\$ 7,361,246	\$ 7,161,684	\$ 7,161,684	\$ 7,161,684
TRUNK LINES Subtotal		\$ 329,227,252	\$ 334,220,253	\$ 343,740,413	\$ 312,331,099	\$ 313,906,809	\$ 315,013,603
TOTAL		\$ 339,630,530	\$ 344,623,531	\$ 354,143,691	\$ 322,734,377	\$ 324,310,087	\$ 325,416,881

Composite Depreciation Rate

1/ 2020 CPIS Balances approved in D.22-10-026 & D.22-12-035)

2/ Depreciation Expense = Avg. CPIS Balance × Depreciation Rate

Carrier Property and Depreciation Expenses

WorkPaper 2
Page 2 of 2

Carrier Property Account	Depreciation Rate	Depreciation Expense				Test Period
		2021	2022	2023	Base Period	
GATHERING LINES						
101 Land	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
102 Right of Way	2.81%	\$ 8,071	\$ 8,071	\$ 8,071	\$ 8,071	\$ 8,071
103 Line Pipe	3.12%	\$ 79,969	\$ 79,969	\$ 79,969	\$ 79,969	\$ 79,969
104 Line Pipe Fittings	3.14%	\$ 17,718	\$ 17,718	\$ 17,718	\$ 17,718	\$ 17,718
105 Pipeline Construction	2.84%	\$ 117,164	\$ 117,164	\$ 117,164	\$ 117,164	\$ 117,164
106 Buildings	2.77%	\$ 2,029	\$ 2,029	\$ 2,029	\$ 2,029	\$ 2,029
107 Boilers	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
108 Pumping Equipments	3.09%	\$ 33,048	\$ 33,048	\$ 33,048	\$ 33,048	\$ 33,048
109 Machine Tools and Machinery	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
110 Other Station Equipment	2.95%	\$ 23,527	\$ 23,527	\$ 23,527	\$ 23,527	\$ 23,527
111 Oil Tanks	2.59%	\$ 14,255	\$ 14,255	\$ 14,255	\$ 14,255	\$ 14,255
112 Delivery Facilities	3.43%	\$ 3,319	\$ 3,319	\$ 3,319	\$ 3,319	\$ 3,319
113 Communication Systems	3.86%	\$ 10,484	\$ 10,484	\$ 10,484	\$ 10,484	\$ 10,484
114 Office Furniture and Fixtures	5.00%	\$ -	\$ -	\$ -	\$ -	\$ -
115 Vehicles & Other Work Equipment	6.67%	\$ 277	\$ 277	\$ 277	\$ 277	\$ 277
116 Other Property	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
GATHERING LINES Subtotal		\$ 309,861	\$ 309,861	\$ 309,861	\$ 309,861	\$ 309,861
TRUNK LINES						
151 Land	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -
152 Right of Way	1.97%	\$ 125,813	\$ 125,813	\$ 125,813	\$ 125,813	\$ 125,813
153 Line Pipe	3.00%	\$ 1,087,966	\$ 1,197,266	\$ 1,150,202	\$ 1,057,834	\$ 1,069,449
154 Line Pipe Fittings	2.65%	\$ 599,417	\$ 601,216	\$ 586,798	\$ 572,380	\$ 572,380
155 Pipeline Construction	2.58%	\$ 3,856,376	\$ 3,856,376	\$ 3,565,169	\$ 3,273,961	\$ 3,273,961
156 Buildings	2.53%	\$ 197,918	\$ 197,918	\$ 197,918	\$ 197,918	\$ 197,918
157 Boilers	3.00%	\$ 12,800	\$ 12,800	\$ 12,800	\$ 12,800	\$ 12,800
158 Pumping Equipments	2.70%	\$ 282,794	\$ 290,447	\$ 280,336	\$ 263,101	\$ 268,501
159 Machine Tools and Machinery	4.28%	\$ 5,086	\$ 5,086	\$ 5,086	\$ 5,086	\$ 5,086
160 Other Station Equipment	2.66%	\$ 1,329,479	\$ 1,333,146	\$ 1,339,304	\$ 1,345,346	\$ 1,352,499
161 Oil Tanks	2.67%	\$ 888,914	\$ 942,727	\$ 995,232	\$ 999,326	\$ 999,326
162 Delivery Facilities	2.58%	\$ 39,331	\$ 39,331	\$ 39,331	\$ 39,331	\$ 39,331
163 Communication Systems	3.74%	\$ 127,119	\$ 133,117	\$ 132,117	\$ 131,117	\$ 131,117
164 Office Furniture and Fixtures	5.00%	\$ 16,498	\$ 16,498	\$ 16,498	\$ 17,574	\$ 18,650
165 Vehicles & Other Work Equipment	6.67%	\$ 88,998	\$ 110,159	\$ 132,283	\$ 156,043	\$ 186,966
166 Other Property	3.33%	\$ 209,909	\$ 230,920	\$ 241,807	\$ 238,484	\$ 238,484
TRUNK LINES Subtotal		\$ 8,868,418	\$ 9,092,820	\$ 8,820,694	\$ 8,436,114	\$ 8,492,282
TOTAL		\$ 9,178,279	\$ 9,402,681	\$ 9,130,554	\$ 8,745,974	\$ 8,802,143

Composite Depreciation Rate

1/ 2020 CPIS Balances approved in D.22-10-026 & D.22-12-1

2/ Depreciation Expense = Avg. CPIS Balance × Depreciation Rate

WorkPaper 3

Volumes and Revenues for the Base and Test Period

Line	Receipt Location Exhibit MW-001	Delivery Location	Pending Tariff Rate 1/ \$/Bbl	[b]		[c]		[d]		[e]		[f]		[g]		[h]		
				2024 Actuals		Normalizing Adjustments		Base Period		Test Period		Test Period		Base Period		Pending Rates		
				Bbls	Bbls	Bbls	Bbls	Bbls	Bbls	Bbls	Bbls	Bbls	Bbls	Bbls	Bbls	Bbls	\$	\$
1	Coalinga Station 2/	San Francisco Refineries	\$2.4210	21,099,903	-	21,099,903	(1,974,981)	19,124,922	19,124,922	\$51,082,866	\$46,301,437							
2	Station 36	San Joaquin Refinery	\$0.3780	3,118,011	-	3,118,011	(541,420)	2,576,590	2,576,590	\$1,178,608	\$973,951							
3	San Pablo Bay Subtotal			24,217,914	-	24,217,914	(2,516,401)	21,701,513	21,701,513	\$52,261,474	\$47,275,388							
4	Buena Vista Hills	Contra Costa Co. 3/	\$2.9210	2,594,206	-	2,594,206	7,816	2,602,021	2,602,021	\$7,577,675	\$7,600,505							
5	Cymric	Contra Costa Co. 3/	\$2.9210	30,939	-	30,939	(30,939)	-	-	\$90,373	\$0							
6	Bedford Station	Contra Costa Co. 3/	\$2.9210	248,973	-	248,973	(248,973)	-	-	\$727,250	\$0							
7	Lost Hill/Cahn Area	Contra Costa Co. 3/	\$2.9210	1,274,796	-	1,274,796	(116,836)	1,157,960	1,157,960	\$3,723,678	\$3,382,400							
8	Western San Joaquin	Connecting Lines 4/	\$0.1667	2,176,281	-	2,176,281	(392,154)	1,784,127	1,784,127	\$362,786	\$297,414							
9	KLM Subtotal			6,325,194	-	6,325,194	(781,086)	5,544,108	5,544,108	\$12,481,761	\$11,280,319							
10	WSJ Subtotal			2,176,281	-	2,176,281	(392,154)	1,784,127	1,784,127	\$362,786	\$297,414							
11	Pipeline Transportation (-WSJ) Subtotal			28,366,827	-	28,366,827	(2,905,334)	25,461,494	25,461,494	\$64,380,450	\$58,258,292							
12	Pipeline Transportation Total			30,543,108	-	30,543,108	(3,297,487)	27,245,621	27,245,621	\$64,743,236	\$58,555,706							
13	Truck Rack		\$0.134	1,339,871	-	1,339,871	(125,414)	1,214,458	1,214,458	\$179,543	\$162,737							
14	Allowance Oil Revenue									\$891,491	\$1,724,270							
15	Total Revenues									\$65,814,270	\$60,442,713							

- 1/ Pending decision in A.23-08-018
- 2/ Actual volumes delivered from various receipt locations on SPB - 20" to Refineries.
- 3/ Shell Oil Refinery, Martinez; Tesoro Refinery, Avon; Valero Refinery, Pacheco (all in Contra Costa County)
- 4/ UNOCAP Line 156 Junction, Fellows (Kern County) and Junction with Private Carrier's Westside Coalinga Gathering System in Sec. 19, T. 20S, R. 14E (Fresno County)

DCF Results
Market Data for the Six-Month Period through December 31, 2024
Crimson CPUC Historical Proxy Group

Ln. Company	Yield	Growth	GDP	Wtd. Avg. Growth	Growth-Adjusted Yield	Adj. Yield plus Avg. Growth
1 ONEOK, Inc.	4.24%	5.90%	4.20%	5.33%	4.36%	9.69%
2 MPLX LP	7.92%	4.70%	2.10%	3.83%	8.10%	11.94%
3 Enterprise Products Partners, L.P.	7.06%	6.40%	2.10%	4.97%	7.29%	12.25%
4 Plains All American Pipeline, L.P.	7.28%	-1.70%	2.10%	-0.43%	7.22%	6.79%
5 Enbridge	6.67%	1.20%	4.20%	2.20%	6.71%	8.91%
6 Energy Transfer	7.61%	8.50%	2.10%	6.37%	7.94%	14.30%
7 Median						10.82%

CAPM Method
Market Data through December 31, 2024

Ln. Company	Beta	Risk-free Rate	S&P 500	IBES	S&P 500	VL	Average	S&P 500	Market Risk Premium	Market Risk	Beta x Market Risk	CAPM Cost of Equity	Market Cap (Mil)	Size Premium	Size-Adjusted CAPM
8 ONEOK, Inc.	1.500	4.36%	12.20%	11.08%	11.64%	11.64%	11.64%	11.64%	7.29%	10.93%	15.29%	15.29%	58,660	-0.06%	15.23%
9 MPLX LP	0.950	4.36%	12.20%	11.08%	11.64%	11.64%	11.64%	11.64%	7.29%	6.92%	7.29%	11.28%	48,760	-0.06%	11.22%
10 Enterprise Products Partners, L.P.	1.000	4.36%	12.20%	11.08%	11.64%	11.64%	11.64%	11.64%	7.29%	7.29%	7.29%	11.64%	67,980	-0.06%	11.58%
11 Plains All American Pipeline, L.P.	1.400	4.36%	12.20%	11.08%	11.64%	11.64%	11.64%	11.64%	7.29%	10.20%	14.56%	14.56%	12,020	0.61%	15.17%
12 Enbridge	0.850	4.36%	12.20%	11.08%	11.64%	11.64%	11.64%	11.64%	7.29%	6.19%	6.19%	10.55%	92,420	-0.06%	10.49%
13 Energy Transfer	1.100	4.36%	12.20%	11.08%	11.64%	11.64%	11.64%	11.64%	7.29%	8.01%	12.37%	12.37%	67,070	-0.06%	12.31%
14 Median															11.95%

ROE Nominal - Composite

Ln. Model	Nominal
15 I/B/E/S Growth, 6-Month Average Distribution Yield DCF	10.82%
16 CAPM - Bloomberg Betas and IBES + VL Average MRP	11.95%
17 Composite	11.38%

COMMENTS — 31 Mar, 2023 | 16:20 — United States of America, Latin America, Canada, EMEA

Issuer Ranking: North And South American Midstream Energy Companies, Strongest To Weakest



Primary Credit	Michael V Grande
Analyst:	
Secondary Contacts:	Jacqueline R Banks, Cameron Bybee, Daniel Castineyra, Stephen R Goltz, Mike Llanos, Stephen Scovotti, Alexander Shvetsov, Julyana Yokota
Additional Contact:	Divya Singh
Sector	<u>Utilities & Power, Oil & Gas, Oil Refining, Corporates, Infrastructure & Utilities, Utilities & Power, Midstream</u>
Tags	<u>Americas, Latin America, EMEA</u>

[View Analyst Contact Information](#)

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Credit quality for North and South American (the Americas) midstream energy companies continued to improve in 2022, as the sector benefited from strong demand, boosted by concerns about global energy security, and robust economic activity. S&P Global Ratings' industry outlook is stable and somewhat more constructive in 2023 because we believe most companies have significant financial flexibility, strong balance sheets, and limited reliance on capital markets for a significant portion of their funding needs. Macroeconomic factors, such as stronger demand for refined products, crude oil, and natural gas, as well as supportive commodity prices, also contributed to our view. Our stable ratings outlooks within the sector are unchanged at 80% in 2022. Currently, negative outlooks constitute 13% of the rated portfolio from about 9% a year ago. Midstream energy companies continue to generate discretionary cash flow despite a modest uptick in growth capital spending, and companies are continuing to use this excess cash flow to strengthen balance sheets by paying off debt and returning money to shareholders. We expect these trends to continue and to boost credit quality in the next few years. Our ratings are underpinned by our base-case assumptions but also factor in some headroom for short-term volatility related to volumes and longer-term cyclicalities of commodity prices.

Our Rankings

The following list ranks the midstream energy companies based in the Americas that S&P Global Ratings rates from strongest to weakest. We rank companies, in turn, by the rating, outlook, stand-alone credit profile (SACP), business and financial risk profiles, and liquidity assessment. We rank investment-grade companies by business risk profile (BRP), then financial risk profile (FRP). We rank speculative-grade companies by FRP, then BRP. We then list companies in alphabetical order, if not distinguished by these factors.

In line with our rating methodology, the final rating may differ from the SACP, where government, group, or rating above the sovereign considerations apply. When the SACP differs from the anchor, we've applied one or more modifiers, which may include that for liquidity. We've noted the anchor and active modifiers of each company for informational purposes only. The list also includes general partners and sponsor-backed holding companies that we rate under our Master Limited Partnerships And General Partnerships and Companies With Noncontrolling Equity Interests methodologies. We have also included midstream and liquified natural gas companies that we rate under our Project Finance Rating methodology. For detailed analysis, please refer to the company-specific pages on RatingsDirect via the hyperlinks in the table below.

Given our intermediate industry risk assessment for the midstream energy sector, country risk has no material impact on the corporate industry and country risk assessment (CICRA) because most of the rated companies are based in jurisdictions where we assess country risk as very low. Group ownership is an explicit rating factor for 21 companies in the portfolio (about 18%). Our analysis of the ownership effect on issuer credit ratings is that it is a constraint on the SACP for about 2% of the companies, raises the SACP for 10%, and lowers the rating for the remaining affiliates.

Table 1

Issuer Ranking: North And South American Midstream Energy Companies

Company	Foreign Currency LT	Outlook	Stand Alone Credit Profile	Business Risk Profile	Cash Flow Adequacy & Leverage	Liquidity	Anchor	Modifiers
Colonial Enterprises Inc.	A	Stable	a	Excellent	Intermediate	Strong	a	
Northern Natural Gas Co. *	A	Stable	a-	Strong	Intermediate	Adequate	a-	
Eastern Energy Gas Holdings LLC *	A	Stable	bbb	Strong	Significant	Adequate	bbb	

Cameron LNG LLC §	A	Stable	N/A	N/A	N/A	Neutral	N/A	
Northern Border Pipeline Co.	A-	Stable	a-	Strong	Modest	Adequate	a	CRA: Negative (-1 notch)
Enterprise Products Partners L.P.	A-	Stable	a-	Strong	Intermediate	Adequate	a-	
Midwest Connector Capital Co. LLC	A-	Stable	a-	Satisfactory	Minimal	Adequate	a	CRA: Negative (-1 notch)
Trans Quebec & Maritimes Pipeline Inc. *	A-	Stable	bbb+	Strong	Intermediate	Adequate	bbb+	
Enbridge Inc.	BBB+	Stable	bbb+	Excellent	Significant	Adequate	a-	CRA: Negative (-1 notch)
Florida Gas Transmission Co. LLC	BBB+	Stable	bbb+	Strong	Intermediate	Adequate	bbb+	
Iroquois Gas Transmission System L.P.	BBB+	Stable	bbb+	Strong	Intermediate	Adequate	bbb+	
Pipeline Funding Co. LLC	BBB+	Stable	bbb+	Strong	Intermediate	Adequate	bbb+	
Southern Natural Gas Co. LLC	BBB+	Stable	bbb+	Strong	Intermediate	Adequate	bbb+	
Magellan Midstream Partners L.P.	BBB+	Stable	bbb+	Strong	Significant	Adequate	bbb	CRA: Positive (+1 notch)

Great Lakes Gas Transmission L.P. *	BBB+	Stable	bbb+	Satisfactory	Minimal	Adequate	a-	CRA: Negative (-1 notch)
Sabine Pass Liquefaction LLC	BBB+	Stable	N/A	N/A	N/A	Neutral	N/A	
DCP Midstream L.P. *	BBB+	Stable	bb+	Satisfactory	Significant	Strong	bb+	
LOOP LLC *	BBB+	Stable	bb+	Fair	Significant	Adequate	bb	CRA: Positive (+1 notch)
TC Energy Corp.	BBB+	Negative	bbb+	Excellent	Significant	Adequate	a-	CRA: Negative (-1 notch)
Kinder Morgan Inc.	BBB	Stable	bbb	Excellent	Aggressive	Adequate	bbb	
GNL Quintero S.A.	BBB	Stable	bbb	Strong	Intermediate	Exceptional	bbb+	CRA: Negative (-1 notch)
Cheniere Energy Inc.	BBB	Stable	bbb	Strong	Significant	Strong	bbb	
ONEOK Inc.	BBB	Stable	bbb	Strong	Significant	Strong	bbb	
Williams Cos. Inc. (The)	BBB	Stable	bbb	Strong	Significant	Strong	bbb	
Cheniere Energy Partners L.P. *	BBB	Stable	bbb	Strong	Significant	Adequate	bbb	
Gray Oak Pipeline LLC	BBB	Stable	bbb	Strong	Significant	Adequate	bbb	
Gulfstream Natural Gas System LLC	BBB	Stable	bbb	Strong	Significant	Adequate	bbb	
MPLX L.P. *	BBB	Stable	bbb	Strong	Significant	Adequate	bbb	

Pembina Pipeline Corp.	BBB	Stable	bbb	Strong	Significant	Adequate	bbb	
MountainWest Pipeline LLC *	BBB	Stable	bbb-	Satisfactory	Intermediate	Adequate	bbb-	
Infraestructura Energetica Nova S.A.P.I de C.V.	BBB	Stable	bbb-	Satisfactory	Significant	Adequate	bbb-	
Sempra Infrastructure Partners L.P. *	BBB	Stable	bbb-	Satisfactory	Significant	Adequate	bbb-	
Transportadora de Gas del Peru S.A.	BBB	Negative	bbb+	Strong	Intermediate	Strong	bbb+	
FLNG Liquefaction 2 LLC	BBB	Negative	N/A	N/A	N/A	Neutral	N/A	
FLNG Liquefaction 3 LLC	BBB	Negative	N/A	N/A	N/A	Neutral	N/A	
Plains All American Pipeline L.P.	BBB-	Positive	bbb-	Strong	Significant	Strong	bbb	CRA: Negative (-1 notch)
Energy Transfer L.P.	BBB-	Positive	bbb-	Strong	Significant	Adequate	bbb	CRA: Negative (-1 notch)
Texas Gas Transmission LLC *	BBB-	Stable	a-	Satisfactory	Minimal	Adequate	a-	
NGPL PipeCo LLC *	BBB-	Stable	bbb	Strong	Significant	Adequate	bbb	

Western Midstream Operating L.P.	BBB-	Stable	bbb-	Satisfactory	Significant	Strong	bbb-	
Gibson Energy Inc.	BBB-	Stable	bbb-	Satisfactory	Significant	Adequate	bbb-	
Inter Pipeline (Corridor) Inc.	BBB-	Stable	bbb-	Satisfactory	Significant	Adequate	bbb-	
Keyera Corp.	BBB-	Stable	bbb-	Satisfactory	Significant	Adequate	bbb-	
Targa Resources Corp.	BBB-	Stable	bbb-	Satisfactory	Significant	Adequate	bbb-	
Cheniere Corpus Christi Holdings LLC	BBB-	Stable	N/A	N/A	N/A	Neutral	N/A	
Boardwalk Pipeline Partners L.P. *	BBB-	Stable	bb+	Satisfactory	Significant	Strong	bb+	
Inter Pipeline Ltd. *	BBB-	Negative	bb+	Strong	Highly Leveraged	Adequate	bb	CRA: Positive (+1 notch)
Enlink Midstream LLC	BB+	Positive	bb+	Satisfactory	Aggressive	Adequate	bb	CRA: Positive (+1 notch)
Venture Global Calcasieu Pass LLC	BB+	Positive	N/A	N/A	N/A	Neutral	N/A	
Oleoducto Central, S.A. (OCENSA)	BB+	Stable	bbb+	Satisfactory	Modest	Adequate	bbb+	
Hess Midstream Operations L.P. *	BB+	Stable	bb+	Fair	Intermediate	Adequate	bb+	

DT Midstream Inc.	BB+	Stable	bb+	Satisfactory	Significant	Adequate	bb+	
Rockies Express Pipeline LLC *	BB+	Stable	bb+	Satisfactory	Significant	Adequate	bb+	
Kinetik Holdings Inc.	BB+	Stable	bb+	Satisfactory	Aggressive	Adequate	bb	CRA: Positive (+1 notch)
WhiteWater Whistler Holdings, LLC	BB+	Stable	bb+	Satisfactory	Aggressive	Adequate	bb	CRA: Positive (+1 notch)
Holly Energy Partners L.P. *	BB+	Stable	bb	Fair	Significant	Adequate	bb	
CNX Midstream Partners L.P. *	BB	Stable	bb	Weak	Modest	Strong	bb+	CRA: Negative (-1 notch)
Crestwood Equity Partners L.P.	BB	Stable	bb	Fair	Significant	Strong	bb	
Sunoco L.P.	BB	Stable	bb	Fair	Significant	Strong	bb	
Antero Midstream Partners L.P. *	BB	Stable	bb	Fair	Significant	Adequate	bb	
Buckeye Partners L.P.	BB	Stable	bb	Satisfactory	Aggressive	Adequate	bb	
CQP Holdco L.P.	BB	Stable	N/A	N/A	N/A	Adequate	N/A	
NorthRiver Midstream Finance L.P. *	BB	Stable	bb-	Satisfactory	Aggressive	Adequate	bb	CRA: Negative (-1 notch)
FLEX Intermediate HoldCo LLC	BB	Negative	bb	Strong	Highly Leveraged	Adequate	bb	

Centurion Pipeline Co. LLC	BB-	WatchPos	bb-	Fair	Significant	Adequate	bb	CRA: Negative (-1 notch)
EBT -Empresa Brasileira de Terminais e Armazéns Gerais Ltda.†	BB-	Stable	-	Fair	Intermediate	Adequate	N/A	
Natgasoline LLC	BB-	Stable	N/A	N/A	N/A	Neutral	N/A	
Howard Midstream Energy Partners LLC	BB-	Stable	bb-	Fair	Significant	Adequate	bb	CRA: Negative (-1 notch)
Enerflex Ltd.	BB-	Stable	bb-	Weak	Significant	Adequate	bb-	
Harvest Midstream I L.P.	BB-	Stable	bb-	Weak	Significant	Adequate	bb-	
Delek Logistics Partners L.P. *	BB-	Stable	bb-	Fair	Aggressive	Adequate	bb-	
New Fortress Energy Inc.	BB-	Stable	bb-	Fair	Aggressive	Adequate	bb-	
Suburban Propane Partners L.P.	BB-	Stable	bb-	Weak	Aggressive	Adequate	b+	CRA: Positive (+1 notch)
Superior Plus Corp.	BB-	Stable	bb-	Weak	Aggressive	Adequate	b+	CRA: Positive (+1 notch)
NuStar Energy L.P.	BB-	Stable	bb-	Satisfactory	Highly Leveraged	Adequate	b+	CRA: Positive (+1 notch)
GIP II Blue Holding L.P.	BB-	Stable	N/A	N/A	N/A	Adequate	N/A	

Oryx Midstream Services Permian Basin LLC	BB-	Stable	N/A	N/A	N/A	Adequate	N/A	
Enviva Inc.	BB-	Negative	bb-	Fair	Aggressive	Adequate	bb-	
Equitrans Midstream	BB-	Negative	bb-	Fair	Aggressive	Adequate	bb-	
Brazos Permian II LLC	B+	Stable	b+	Weak	Significant	Adequate	bb-	CRA: Negative (-1 notch)
Archrock Inc.	B+	Stable	b+	Weak	Aggressive	Adequate	b+	
Aris Water Solutions Inc.	B+	Stable	b+	Weak	Aggressive	Adequate	b+	
Blue Racer Midstream LLC	B+	Stable	b+	Weak	Aggressive	Adequate	b+	
Global Partners L.P.	B+	Stable	b+	Weak	Aggressive	Adequate	b+	
M6 ETX Holdings II MidCo LLC	B+	Stable	b+	Weak	Aggressive	Adequate	b+	
Prairie ECI Acquiror L.P.	B+	Stable	b+	Satisfactory	Highly Leveraged	Adequate	b+	
USA Compression Partners L.P.	B+	Stable	b+	Weak	Highly Leveraged	Adequate	b	CRA: Positive (+1 notch)
AL GCX Holdings LLC	B+	Stable	N/A	N/A	N/A	Adequate	N/A	
AL NGPL	B+	Stable	N/A	N/A	N/A	Adequate	N/A	
BCP Renaissance Parent LLC	B+	Stable	N/A	N/A	N/A	Adequate	N/A	

Traverse Midstream Partners LLC	B+	Stable	N/A	N/A	N/A	Adequate	N/A	
ITT Holdings LLC *	B+	Negative	b+	Satisfactory	Highly Leveraged	Adequate	b+	
Medallion Gathering & Processing LLC	B	Positive	b	Weak	Aggressive	Adequate	b+	CRA: Negative (-1 notch)
Tidewater Midstream and Infrastructure Ltd.	B	Stable	b	Weak	Significant	Adequate	bb-	Capital Structure: Negative (-1 notch); CRA: Negative (-1 notch)
Paradigm Midstream LLC	B	Stable	b	Weak	Aggressive	Adequate	b+	Capital Structure: Negative (-1 notch)
TransMontaigne Partners LLC	B	Stable	b	Satisfactory	Highly Leveraged	Adequate	b+	CRA: Negative (-1 notch)
Genesis Energy L.P.	B	Stable	b	Fair	Highly Leveraged	Adequate	b	
Ferrellgas Partners L.P.	B	Stable	b	Weak	Highly Leveraged	Adequate	b	
Summit Midstream Partners L.P.	B	Stable	b	Weak	Highly Leveraged	Adequate	b	
GIP III Stetson I L.P.	B-	Positive	N/A	N/A	N/A	Adequate	N/A	
Associated Asphalt Partners LLC	B-	Stable	b-	Weak	Highly Leveraged	Adequate	b-	

CSI Compressco L.P.	B-	Stable	b-	Weak	Highly Leveraged	Adequate	b	CRA: Negative (-1 notch)
FTAI Infrastructure Inc.	B-	Stable	b-	Weak	Highly Leveraged	Adequate	b-	
Gulf Finance LLC	B-	Stable	b-	Weak	Highly Leveraged	Adequate	b-	
Martin Midstream Partners L.P. *	B-	Stable	b-	Weak	Highly Leveraged	Adequate	b	CRA: Negative (-1 notch)
WaterBridge Operating LLC	B-	Stable	b-	Weak	Highly Leveraged	Adequate	b-	
Zenith Energy U.S. Logistics Holdings LLC	B-	Stable	b-	Weak	Highly Leveraged	Adequate	b-	
GMP Borrower LLC	B-	Stable	b-	Vulnerable	Highly Leveraged	Adequate	b-	
Southeast Supply Header LLC	B-	Negative	b-	Fair	Highly Leveraged	Adequate	b	Capital Structure: Negative (-1 notch)
Freeport LNG Investments, LP	B-	Negative	N/A	N/A	N/A	Weak	N/A	
Epic Y Grade Services L.P.	CCC+	Stable	N/A	N/A	N/A	Adequate	N/A	
NGL Energy Partners L.P.	CCC+	Negative	N/A	N/A	N/A	Less than adequate	N/A	Capital Structure: Negative (-1 notch)
Epic Crude Services L.P.	CCC+	Negative	N/A	N/A	N/A	Less than adequate	N/A	

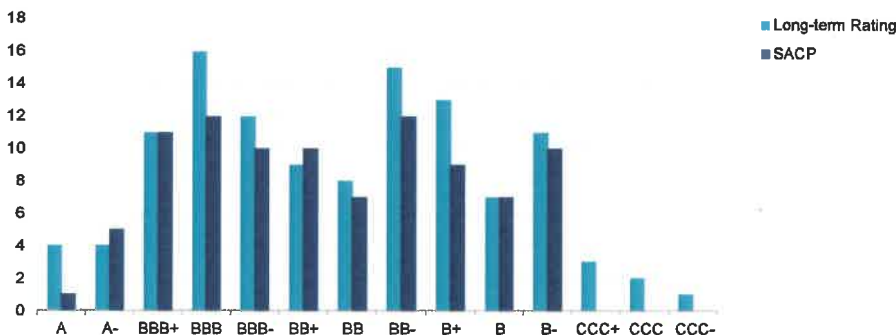
FR BR Holdings LLC	CCC	WatchDev	N/A	N/A	N/A	Weak	N/A	
Limetree Bay Terminals LLC	CCC	Negative	N/A	N/A	N/A	Neutral	N/A	
Transportadora de Gas del Sur S.A. (TGS)	CCC-	Negative	b-	Vulnerable	Aggressive	Adequate	b	CRA: Negative (-1 notch)

N/A--Not applicable. CRA--Comparable ratings analysis. *Group-related entity or insulated subsidiary. §Credit substitution. †Foreign currency rating equivalent for the Brazilian local currency rating of brAAA. Scores as of March 31, 2023. Source: S&P Global Ratings.

Across the midstream universe, 41% of our ratings are investment grade. Ratings below 'BB+' in midstream energy account for approximately 59% of the portfolio. Out of all 115 entities, only two of the 47 investment-grade companies--Boardwalk Pipeline Partners L.P. and LOOP LLC--receive uplift from stand-alone speculative-grade ratings due to group support.

Chart 1

The Americas: Midstream Energy Companies Ratings As Of March 31, 2023

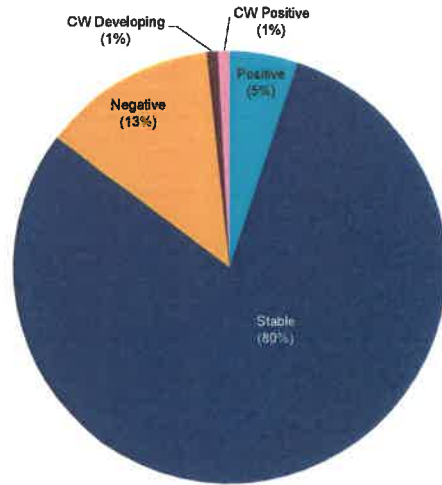


SACP--Stand-alone credit profile. Source: S&P Global Ratings. Copyright © 2023 by Standard & Poor's Financial Services LLC. All rights reserved.

Outlook And CreditWatch Distribution

Chart 2

The Americas: Midstream Energy Companies Outlook And CreditWatch Distribution



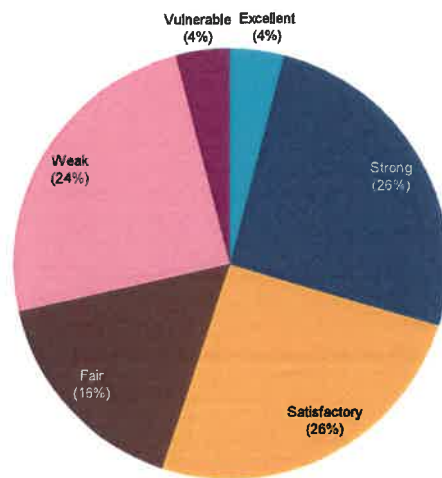
CW--CreditWatch. Source: S&P Global Ratings.
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Business Risk Profile Distribution

About 56% of our BRP assessments are satisfactory or better, which typically reflects significant size and scale, and a strong competitive position or contractual foundation. Lower BRP assessments typically reflect weaker competitive positions due to limited geographic footprint, significant commodity or volume risk, or less favorable contracts supporting cash flow.

Chart 3

The Americas: Midstream Energy Companies Business Risk Profile Distribution



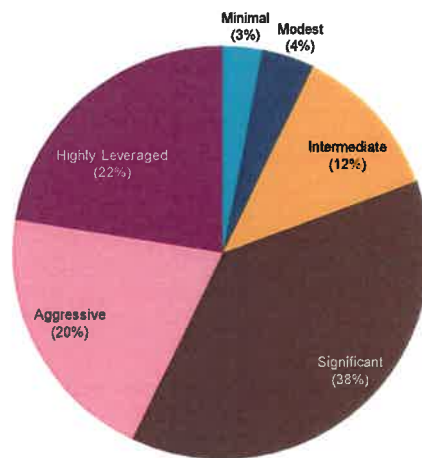
Source: S&P Global Ratings.
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Cash Flow And Leverage Distribution

The midstream energy sector's FRP assessments are skewed to the higher-risk categories and tend to be weaker as ratings transition from investment-to-speculative-grade, as one would expect. Highly leveraged, aggressive, and significant FRPs account for 80% of the rated universe, with the stronger intermediate financial risk category making up most of the rest. The highly leveraged assessment accounts for 22% of rated issuers and typically reflects companies with stretched balanced sheets or sponsor-backed holding company loans. Intermediate and stronger assessments mostly reflect companies that have much lower stand-alone leverage than their owners and have SACPs that are generally constrained by the group credit profile.

Chart 4

The Americas: Midstream Energy Companies Cash Flow And Leverage Distribution



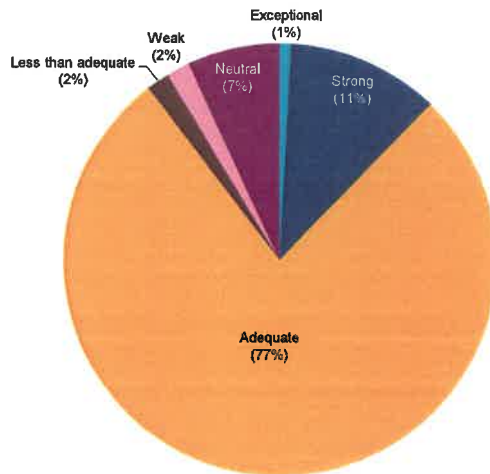
Source: S&P Global Ratings.
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Liquidity Distribution

We consider most issuers to have liquidity that is adequate or better. This is important because companies generally are self-funding their capital requirements, and don't have a need to issue equity as a major source of funding. Typically, the amount of cash flow that companies generate, combined with liquidity resources, will cover the uses of cash to which they have committed over the next 12 months by 1.2x or more.

Chart 5

The Americas: Midstream Energy Companies Liquidity Distribution



Source: S&P Global Ratings.
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Related Criteria

- [General Project Finance Rating Methodology](#), Dec. 14, 2022
- [Methodology For Companies With Noncontrolling Equity Interests](#), Jan. 5, 2016
- [Methodology: Master Limited Partnerships And General Partnerships](#), Sept. 22, 2014
- [Criteria | Corporates | General: Corporate Methodology](#), Nov. 19, 2013
- [General Criteria: Group Rating Methodology](#), Nov. 19, 2013
- [General Criteria: Ratings Above The Sovereign--Corporate And Government Ratings: Methodology And Assumptions](#), Nov. 19, 2013

This report does not constitute a rating action.

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DCF Results
Market Data for the Six-Month Period through December 31, 2024
Sub-Investment Proxy Group

Ln. Company	Yield	Growth	GDP	Wtd. Avg. Growth	Growth-Adjusted Yield	Adj. Yield plus Avg. Growth
1 Kinetik Holdings Inc.	6.47%	15.00%	4.20%	11.40%	6.95%	18.36%
2 Global Partners LP	0.00%	0.00%	2.10%	0.70%	0.00%	0.70%
3 Summit Midstream Partners LP	0.00%	0.00%	4.20%	1.40%	0.00%	1.40%
4 Hess Midstream, L.P.	7.42%	10.00%	2.10%	7.37%	7.80%	15.16%
5 Targa Resources Corp.	1.93%	14.00%	4.20%	10.73%	2.07%	12.80%
6 EnLink Midstream LLC	3.59%	1.00%	2.10%	1.37%	3.61%	4.97%
7 NGL Energy Partners	0.00%	4.00%	2.10%	3.37%	0.00%	3.37%
8 Genesis Energy, L.P.	5.10%	6.00%	2.10%	4.70%	5.25%	9.96%
9 Delek Logistics Partners, L.P.	10.72%	11.31%	2.10%	8.24%	11.32%	19.56%
10 Median						9.96%

CAPM Method
Market Data through December 31, 2024

Ln. Company	Beta	Risk-Free Rate	S&P 500 IBES	S&P 500 VL	S&P 500 Average	Market Risk Premium	Market Risk Beta × Market Risk	CAPM Cost of Equity	Market Cap (Mil)	Size Premium	Size-Adjusted CAPM
11 Kinetik Holdings Inc.	1.050	4.36%	12.20%	11.08%	11.64%	7.29%	7.65%	12.01%	8,930	0.61%	12.62%
12 Global Partners LP	1.150	4.36%	12.20%	11.08%	11.64%	7.29%	8.38%	12.74%	1,580	1.39%	14.13%
13 Summit Midstream Partners LP	1.600	4.36%	12.20%	11.08%	11.64%	7.29%	11.66%	16.02%	-	4.70%	20.72%
14 Hess Midstream, L.P.	1.050	4.36%	12.20%	11.08%	11.64%	7.29%	7.65%	12.01%	8,070	0.61%	12.62%
15 Targa Resources Corp.	1.550	4.36%	12.20%	11.08%	11.64%	7.29%	11.29%	15.65%	38,920	-0.06%	15.59%
16 EnLink Midstream LLC	1.500	4.36%	12.20%	11.08%	11.64%	7.29%	10.93%	15.29%	6,470	0.64%	15.93%
17 NGL Energy Partners	1.400	4.36%	12.20%	11.08%	11.64%	7.29%	10.20%	14.56%	659	1.14%	15.70%
18 Genesis Energy, L.P.	1.500	4.36%	12.20%	11.08%	11.64%	7.29%	10.93%	15.29%	1,240	1.39%	16.68%
19 Delek Logistics Partners, L.P.	1.400	4.36%	12.20%	11.08%	11.64%	7.29%	10.20%	14.56%	2,170	1.21%	15.77%
20 Median											15.70%

ROE Nominal - Composite

Ln. Model	Nominal
21 S&P Capital IQ Growth, 6-Month Average Distribution Yield DCF	9.96%
22 CAPM - Bloomberg Betas and IBES + VL Average MRP	15.70%
23 Composite	12.83%

Average Equity Premium for Relevent Rate Cases

Time Period	Jurisdiction	Case	Approved COD	Approved ROE	Equity Premium
1984-1991	FERC	55 FERC 61,122 Kuparuk	7.99%	13.50%	5.51%
1980-1990	FERC	52 FERC 61,055 ARCO	10.00%	14.10%	4.10%
1993	FERC	69 FERC 61,006 Lakehead	9.04%	11.81%	2.77%
1991-1993	FERC	Opinion No. 435	10.00%	14.39%	4.39%
	FERC	OR96-2-000 SFPP	9.97%	15.36%	5.39%
1995	FERC	SFPP - Sepuveda 1995	10.51%	14.18%	3.67%
2005	FERC	Opinion No. 502 - 2005	7.20%	12.16%	4.96%
2006	FERC	Opinion No. 502 - 2006	7.16%	12.31%	5.15%
2007-2008	FERC	Opinion 511-C	6.32%	12.63%	6.31%
2012-2016	FERC	Opinion No. 546 (Seaway)	5.40%	10.75%	5.35%
2023	FERC	Opinion No. 586	5.58%	11.76%	6.18%
1991	CPUC	D.92-05-018	10.54%	13.54%	3.00%
2004-2005	CPUC	D.04-12-040	6.95%	14.50%	7.55%
2008	CPUC	D.08-06-042 Chevron	3.21%	12.09%	8.88%
2002-2003	CPUC	D.11-05-045 SFPP	6.41%	12.61%	6.20%
2016	CPUC	D.20-11-026 Crimson	8.80%	11.20%	2.40%
2019	CPUC	D.20-12-037 P66 Pipeline	5.15%	11.50%	6.35%
2024	CPUC	D.24-05-007 Crimson	8.80%	11.45%	2.65%
				Mean	5.05%
				Median	5.25%

