Application No.: A.24-09-XXX
Exhibit No.: Liberty-08
Witness: T. Sheikh

(U 933-E)

Liberty Utilities (CalPeco Electric) LLC

2025 General Rate Case

Before the California Public Utilities Commission

Chapter 8: Lead Lag Study

Tahoe Vista, California

September 20, 2024

TABLE OF CONTENTS
FOR THE DIRECT TESTIMONY OF TALHA SHEIKH
LIBERTY UTILITIES (CALPECO ELECTRIC) LLC

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Talha Sheikh. My business address is 1900 West Park Drive, Suite 250, Westborough, Massachusetts, 01581.

Q. By whom are you employed and in what capacity?

A. I am a Director with ScottMadden, Inc. ("ScottMadden").

Q. On whose behalf are you testifying in this proceeding?

A. I am testifying on behalf of Liberty Utilities (CalPeco Electric) LLC ("CalPeco" or the "Company").

Q. Please describe your professional and educational experience.

A. I have nine years of consulting experience in the energy industry. I joined ScottMadden in 2015 as an Associate Consultant and was eventually promoted to Director in 2022. I have supported development of more than numerous studies related to revenue requirements, rate design, class cost of service, and cash working capital / lead-lag. These studies have been filed as part of rate case filings across several jurisdictions in the United States.

I hold a bachelor's degree in Business Administration from Institute of Business Administration, Karachi, and a master's degree in Business Administration from University of South Carolina.

Q. Have you previously testified before the California Public Utilities Commission (the "Commission") or any other regulatory agency?

A. Yes. My testimony experience is included in Exhibit TS-1.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to sponsor the results of the lead-lag study conducted on behalf of the Company. The lead-lad study was used to determine the Company's Cash Working Capital ("CWC") requirement, which is included in the Company's rate base.

Q. Have you prepared exhibits supporting this testimony?

A. Yes. Exhibits TS-2 and TS-3 summarize the results of the lead-lag study and CWC requirement. These Exhibits were prepared by me or under my direction.

II. OVERVIEW OF TESTIMONY

Q. Please define the term "Working Capital" as a rate base component.

A. The term "working capital" refers to the net funds required by the Company to finance goods and services used to provide service to customers from the time those goods and services are paid for by the Company to the time that payment is received from customers. Goods and services considered in the lead-lag study include operations and maintenance ("O&M") expenses, including labor and non-labor expenses; federal, state, and local taxes; and employment taxes.

Q. How was the Company's cash working capital requirement determined?

A. The Company's cash working capital requirement was determined by applying the results of the lead-lag study to test year expenses. The lead-lag study compares differences between the Company's revenue lag and expense leads. The revenue lag represents the number of days from the time customers receive their service to the time customers pay for their service, *i.e.*, when the funds are available to the Company. The longer the revenue lag, the more cash the Company needs to finance its day-to-day operations. The expense lead represents the number of days from the time the Company receives goods and services used to provide service to the time payments are made for those goods and services, *i.e.*,

when the funds are no longer available to the Company. The longer the expense leads, the less cash the Company needs to fund its day-to-day operations. Together, the revenue lag and expense leads are used to measure the lead-lag days. The lead-lag days are then applied to the Company's test year expenses to determine the CWC requirement. To that amount, there are several working capital adjustments to be included in rate base.

Unless otherwise indicated, the approach to calculate the CWC requirement in this rate case filing is generally consistent with the approach used in the Company's most recent General Rate Case ("GRC") filing[1] and the Detailed Basis set out in the CPUC Standard Practice U-16-W.

III. LEAD-LAG STUDY APPROACH

Q. Please describe the approach used to develop the lead-lag study.

A. The lead-lag study compares differences between the Company's revenue lag and expense leads. The revenue lag measures the number of days from the time service is provided to customers to the time payment is received from customers. The expense leads measure the number of days from the time goods and services used to provide service are provided to the Company to the time payments are made by the Company for those goods and services. The expense leads are measured in days for individual expenses, converted to "dollar-days" that reflect a weighting by expense amount, and then summed across all expenses.

Q. Please describe the financial data used in the lead-lag study.

A. The lead-lag study was based on data from January 1, 2022, through December 31, 2022 (the "base" period). The data included: customer meter reading and billing schedules; O&M expenses; and federal, state, local, and employment taxes.

[1] Docket No. A.21-05-017.

A. Revenue Lag

Q. Please describe development of the revenue lag.

A. The revenue lag measures the number of days from the time service is provided to customers to the time payment is received from customers. The revenue lag was measured as the sum of three components: (1) the service lag; (2) the billing lag; and (3) the collection lag.

Q. What is the service lag?

A. The service lag measures the average number of days in the service period; *i.e.*, the time between the start and end of the billing month. Meters are read at the end of the service period. The service lag was based on the midpoint of the service period, which reflects an assumption that electricity is delivered evenly over the service period.

Q. What is the billing lag?

A. The billing lag measures the number of days from the time meters are read to the time bills are recorded and sent to customers. The billing lag in this lead-lag study was based on the Company's meter reading schedule.

Q. What is the collection lag?

A. The collection lag measures the number of days from the time bills are recorded and sent to customers to the time customer payments are received. The collection lag in this lead-lag study was based on monthly accounts receivable balances and billed revenue data. This information was used to calculate the average time to receive customer payments.

B. Expense Lead Days

Q. How were lead days determined for expenses?

A. Lead days for expenses were measured separately for the following expense categories: (1) Operations and Maintenance ("O&M") expenses; (2) Income Taxes; and (3) Taxes Other than Income Taxes.

1. Operation and Maintenance Expenses

Q. How were lead days determined for O&M expenses?

A. Lead days for O&M expenses were measured separately for the following categories: (1) purchased power; (2) regular payroll; (3) uncollectible expenses; and (4) other O&M expenses.

Q. How were lead days determined for purchased power expenses?

A. Lead days for purchased power expenses were based on a review of the Company's purchased power payments. Lead days were measured as the number of days from the midpoint of the service period to the payment date, converted to "dollar-days" to reflect a weighting of the expense amounts, and then summed across purchased power expenses.

Q. How were lead days determined for regular payroll expenses?

A. Lead days for regular payroll expenses were based on the Company's payroll process, which pays employees on a bi-weekly basis. Lead days were measured as the number of days from the midpoint of each pay period to the payment date.

Q. How were lead days determined for uncollectible expenses?

A. Lead days for uncollectible expenses were measured consistent with the Company's write-off policy as the number of days from billing to write-off of the uncollectible expenses.

Q. How were lead days determined for Other O&M expenses?

A. Lead days for Other O&M expenses were based on a stratified sample of invoices paid by the Company during the base period. Lead days were measured for each invoice in the

sample as the number of days from the midpoint of the service period to the payment date. Invoices were then dollar-weighted by invoice amounts to determine the lead days.

2. Depreciation and Amortization Expenses

Q. How were lead days determined for depreciation and amortization expenses?

A. Lead days for depreciation and amortization expenses were based on zero lead days as these are deducted from rate base when the expenses are recorded.

3. Income Tax Expense

Q. How were lead days determined for federal income taxes?

A. Lead days for federal income taxes were based on due dates for tax payments: April 15, June 15, September 15, and December 15. Lead days for federal income taxes were measured as the number of days from the midpoint of the taxing period (*i.e.*, the calendar year) to the due dates. The study assumes the tax payments reflect equal installments.

Q. How were lead days determined for state income taxes?

A. Lead days for state income taxes were based on due dates for tax payments: April 15, June 15, September 15, and December 15. Lead days for state income taxes were measured as the number of days from the midpoint of the taxing period (*i.e.*, the calendar year) to the due dates. The study assumes the tax payments reflect equal installments.

4. Taxes Other than Income Taxes

Q. How were lead days determined for taxes other than income taxes?

A. Lead days for Taxes Other Than Income Taxes were measured separately for the following categories: (1) payroll-related taxes (FICA, federal unemployment, and state unemployment); (2) franchise taxes; and (3) property taxes.

Q. How were lead days determined for each of the taxes?

A. Lead days for FICA taxes were measured as the number of days from the midpoint of the applicable pay period to the payment date.

Lead days for state unemployment taxes were measured as the number of days from liability date at the end of each quarter to the due date. Lead days for federal unemployment taxes were assumed to be consistent with the lead days for state unemployment taxes since the Company made no payments in the base period.

Lead days for franchise taxes were measured as the number of days from the midpoint of the taxing period to the payment date.

Lead days for property taxes were measured as the number of days from the midpoint of the taxing period to the payment date.

C. Working Capital Adjustments

Q. Please describe the working capital adjustments.

A. There were several working capital adjustments to be included in rate base. The amounts are discussed below.

- Prepaid expenses – this item represents payments in advance of when they are charged to expenses. The amount reflects a thirteen-month average of prepaid account balances. This item also includes Wildfire Insurance Premiums, reflecting insurance payments in advance of recoveries.

- Accrued expenses – this item reflects a thirteen-month average of accrued vacation and accrued bonuses.

IV. CONCLUSION

Q. What were the results of the lead-lag study?

A. The results of the lead-lag study are included in Exhibit TS-2.

Q. Does this conclude your testimony?

A. Yes, it does.

Exhibit TS-1
Resume and Testimony of Talha Sheikh

Summary

Mr. Sheikh has eight years of consulting experience in the energy industry, assisting on numerous regulatory initiatives with leading U.S. electric, gas, and water utilities. These include regulatory policy and strategy support, project management support in rate proceedings, business planning models, market assessments, energy pricing models (particularly related to renewable generation resources), benchmarking studies, class cost of service and rate design studies, revenue requirement development, alternative rates, and cash working capital analyses.

Mr. Sheikh earned an M.B.A from University of South Carolina, Moore School of Business and a B.B.A from Institute of Business Administration, Karachi.

Areas of Specialization

- Class Cost of Service and Rate Design
- Revenue Requirements
- Cash Working Capital
- Alternative Ratemaking
- Business Planning Studies
- Rate Case Planning, Management, and Support
- Regulatory Policy and Strategy

scottmadden
MANAGEMENT CONSULTANTS

Exhibit TS-1
Resume and Testimony Listing of:
Talha Sheikh

EXPERT WITNESS TESTIMONY LISTING

Sponsor Company	Date Filed	Docket No.	Subject Matter
California Public Utilities Commission			
Liberty Utilities (Apple Valley Water)	01/2024	Application No. 24-01-0003	Sponsored testimony supporting cash working capital requirement / lead-lag study.
Liberty Utilities (Park Water)	01/2024	Application No. 24-01-0002	Sponsored testimony supporting cash working capital requirement / lead-lag study.
Liberty Utilities (Calpeco Electric)	05/2021	Docket No. A.21-05-017	Sponsored testimony supporting marginal cost and rate design.

REPRESENTATIVE EXPERT WITNESS TESTIMONY SUPPORT EXPERIENCE

Sponsor Company	Date Filed	Docket No.	Subject Matter
Regulatory Commission of Alaska			
Cook Inlet Natural Gas Storage Alaska, LLC	07/2021	Docket No. U-21-058	Testimony supporting the lead-lag study/cash working capital requirement for a general rate case proceeding.
Arizona Corporation Commission			
Southwest Gas Corporation	02/2024	Docket No. G-01551A-23-0341	Testimony supporting class cost of service, rate design and bill impact analysis for a general rate case proceeding.
Southwest Gas Corporation	12/2021	Docket No. G-01551A-21-0368	Testimony supporting class cost of service, rate design and bill impact analysis for a general rate case proceeding.
Arkansas Public Service Commission			
Summit Utilities, Inc.	01/2024	Docket No. 23-079-U	Testimony supporting class cost of service, rate design and bill impact analysis for a general rate case proceeding.
Liberty Utilities (The Empire District Electric Company)	02/2023	Docket No. 22-085-U	Testimony supporting the class cost of service, rate design, bill impact studies, and revenue decoupling for a general rate case proceeding.
Liberty Utilities (Pine Bluff Water)	10/2018	Docket No. 18-027-U	Testimony supporting the class cost of service, rate design and bill impact studies for a general rate case proceeding.
California Public Utilities Commission			
Liberty Utilities (Apple Valley Water)	01/2024	Application No. 24-01-0003	Testimony supporting rate design studies for a general rate case proceeding.
Liberty Utilities (Park Water)	01/2024	Application No. 24-01-0002	Testimony supporting rate design studies for a general rate case proceeding.
Bear Valley Electric Service, Inc.	10/2022	Application No. 22-08-010	Testimony supporting marginal cost study, rate design and bill impact analysis for a general rate case proceeding.
Liberty Utilities (CalPeco Electric)	05/2021	Application No. 21-05-017	Testimony supporting the lead-lag study/cash working capital, marginal cost study, rate design and bill impact analysis for a general rate case proceeding.
Southwest Gas Corporation (Southern California, Northern California, and South Lake Tahoe jurisdictions)	08/2019	Docket No. A.19-08-015	Testimony on behalf of three separate rate jurisdictions related to: revenue requirements, lead-lag/ cash working capital, and class cost of service, rate design and bill impact analysis for a general rate case proceeding.
Colorado Public Utilities Commission			
Colorado Natural Gas (Summit Utilities)	01/2024	Proceeding No. 23A-0570G	Fully Distributed Cost (FDC) study in support of a Cost Assignment and Allocation Manual (CAAM) application.

scottmadden
MANAGEMENT CONSULTANTS

Exhibit TS-1
Resume and Testimony Listing of:
Talha Sheikh

Sponsor Company	Date Filed	Docket No.	Subject Matter
Delaware Public Service Commission			
Artesian Water Company	04/2023	Docket No. 23-0601	Testimony supporting the cost of service, rate design and bill impact studies for a general rate case proceeding.
Illinois Commerce Commission			
Ameren Illinois Company d/b/a Ameren Illinois	06/2024	Docket 22-0487/ 23-0082/ 24-0238 (cons.)	Rebuttal testimony supporting a marginal cost study for a Multi-Year Integrated Grid Plan (Grid Plan) proceeding.
Liberty Utilities (Midstates Natural Gas)	12/2023	Docket No. 23-0380	Testimony supporting cost of service, rate design, bill impact and lead-lag studies for a general rate case proceeding.
Ameren Illinois Company d/b/a Ameren Illinois	01/2023	Docket No. 22-0487	Testimony supporting a Multi-Year Integrated Grid Plan (Grid Plan). Prepared research and analysis evaluating the reasonableness of the Grid Plan through comparison to how other electric utilities have responded to the changing energy landscape.
Kansas Corporation Commission			
The Empire District Electric Company	12/2018	Docket No. 19-EPDE-223-RTS	Testimony supporting cost of service, rate design, bill impact and lead-lag studies for a general rate case proceeding.
Kentucky Public Service Commission			
Bluegrass Water Utility (Central States Water Company)	02/2023	Case No. 2022-00432	Testimony supporting the rate design and bill impact studies for a general rate case proceeding.
Maine Public Utilities Commission			
Northern Utilities, Inc. d/b/a Unitil	05/2023	Docket No. 2023-00051	Testimony supporting the cost of service, rate design and bill impact studies for a general rate case proceeding.
Maine Water Company	03/2021	Docket No. 2021-00053	Testimony supporting a proposed rate smoothing mechanism.
Northern Utilities, Inc. d/b/a Unitil	06/2019	Docket No. 2019-00092	Testimony supporting a proposed capital investment cost recovery mechanism.
Maryland Public Service Commission			
The Potomac Edison Company (FirstEnergy)	03/2023	Case No. 9695	Testimony supporting the class cost of service, rate design, bill impact and lead-lag studies for a general rate case proceeding.
Massachusetts Department of Public Utilities			
Berkshire Gas Company, Eversource Energy, Liberty Utilities, National Grid, and Unitil	03/2022	Docket No. DPU 20-80	Developed report that summarizes research, findings, and recommendations for regulatory mechanisms, methodologies, and policies that support Massachusetts's achievement of its net zero climate goal by 2050.
Michigan Public Service Commission			
Lansing Board of Water & Light and Michigan State University	04/23	Docket No. U-21308	Testimony evaluating Consumer Energy's class cost of service and rate design proposals.
Lansing Board of Water & Light and Michigan State University	04/2022	Docket No. U-21148	Testimony evaluating Consumer Energy's cost of service and rate design proposals.
Lansing Board of Water & Light and Michigan State University	04/2020	Docket No. U-20650	Testimony evaluating Consumer Energy's class cost of service and rate design proposals.

Sponsor Company	Date Filed	Docket No.	Subject Matter
Lansing Board of Water & Light and Michigan State University	04/2019	Docket No. U-20322	Testimony evaluating Consumer Energy's class cost of service and rate design proposals.
Midland Cogeneration Ventures, LLC	09/2018	Docket No. U-18010	Testimony evaluating Consumer Energy's class cost of service and rate design proposals.
Minnesota Public Utilities Commission			
Northern States Power Company (XcelEnergy)	10/2021	Docket No. E002/GR-21-630	Testimony supporting a Return on Equity (ROE) adjustment mechanism that would allow the Company to symmetrically adjust its ROE to reflect significant changes in financial market conditions.
Missouri Public Service Commission			
Confluence Rivers Utility Operating Company	12/2022	Case No. WR-2023-0006/ SR-2023-0007	Testimony supporting the rate design and bill impact studies for a general rate case proceeding.
The Empire District Gas Company	08/2021	Docket No. GR-2021-0320	Testimony supporting the cost of service, rate design, bill impact and lead-lag studies for a general rate case proceeding.
The Empire District Electric Company	05/2021	Docket No. ER-2021-0312	Testimony supporting the cost of service, rate design, bill impact and lead-lag studies for a general rate case proceeding.
Spire Missouri, Inc.	12/2020	Docket No. GR-2021-0108	Testimony supporting class cost of service, rate design, and lead-lag study proposals for a general rate case proceeding. The testimony also included support for a proposed revenue adjustment mechanism.
The Empire District Electric Company	08/2019	Docket No. ER-2019-0374	Testimony supporting the class cost of service, rate design, bill impact and lead-lag studies for a general rate case proceeding. The testimony also included proposals for a weather normalization mechanism.
Liberty Utilities (Midstates Natural Gas)	09/2017	Docket No. GR-2018-0013	Testimony supporting the class cost of service, rate design, bill impact and lead-lag studies for a general rate case proceeding. The testimony also included proposals for a revenue decoupling/ weather normalization mechanism as well as tracker accounts for certain O&M expenses and capital costs.
Missouri Gas Energy	04/2017	Docket No. GR-2017-0216	Testimony supporting the class cost of service, rate design, bill impact and Lead/Lag studies for a general rate case proceeding. The testimony included support for a decoupling mechanism.
Laclede Gas Company	04/2017	Docket No. GR-2017-0215	Testimony supporting the class cost of service, rate design, bill impact and Lead/Lag studies for a general rate case proceeding. The testimony included support for a decoupling mechanism.
Nevada Public Utilities Commission			
Southwest Gas Corporation	09/2023	Docket No. 23-09012	Testimony supporting the class cost of service, rate design, bill impact and Lead/Lag studies for a general rate case proceeding.
Southwest Gas Corporation	09/2021	Docket No. 21-09001	Testimony supporting the class cost of service, rate design, bill impact and Lead/Lag studies for a general rate case proceeding.

Sponsor Company	Date Filed	Docket No.	Subject Matter
Southwest Gas Corporation	02/2020	Docket No. 20-02023	Testimony supporting the class cost of service, rate design, bill impact and Lead/Lag studies for a general rate case proceeding.
New Jersey Board of Public Utilities			
Jersey Central Power and Light Company (FirstEnergy)	03/2023	Docket No. ER23030144	Testimony supporting the class cost of service and Lead/Lag studies for a general rate case proceeding.
South Jersey Gas Company	04/2022	Docket No. GR22040253	Testimony supporting the Lead/Lag study for a general rate case proceeding.
Elizabethtown Gas Company	12/2021	Docket No. GR21121254	Testimony supporting the Lead/Lag study for a general rate case proceeding.
South Jersey Gas Company	03/2020	Docket No. GR20030243	Testimony supporting the Lead/Lag study for a general rate case proceeding.
Elizabethtown Gas Company	04/2019	Docket No. GR19040486	Testimony supporting the Lead/Lag study for a general rate case proceeding.
New Mexico Public Regulation Commission			
New Mexico Gas Company, Inc.	09/2023	Case No. 23-00255-UT	Testimony supporting the class cost of service, rate design, bill impact and weather normalization adjustment mechanisms for a general rate case proceeding.
Corporation Commission of Oklahoma			
The Empire District Electric Company	02/2021	Cause No. PUD 202100163	Testimony supporting the cost of service, rate design, bill impact and Lead/Lag studies for a general rate case proceeding.
The Empire District Electric Company	03/2019	Cause No. PUD 201800133	Testimony supporting the class cost of service, rate design, bill impact and Lead/Lag studies for a general rate case proceeding.
Ohio Public Utilities Commission			
Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company	06/2024	Case Nos. 24-0468-EL-AIR, 24-0469-EL-ATA, 24-0470-EL-AAM, 24-0471-EL-UNC	Testimony supporting the class cost of service, rate design, bill impact and Lead/Lag studies for a general rate case proceeding.
Railroad Commission of Texas			
Texas Gas Service Company – West Texas, North Texas, Borger/ Skellytown Service Areas	06/2022	Case No. 00009896	Testimony supporting the Lead/Lag study for a general rate case proceeding.
Texas Gas Service Company – Central Texas and Gulf Coast Service Areas	12/2019	GUD No. 10928	Testimony supporting the Lead/Lag study for a general rate case proceeding.
CenterPoint Energy – Beaumont/ East Texas Division	11/2019	GUD No. 10920	Testimony supporting the Lead/Lag study for a general rate case proceeding.
Texas Gas Service Company – Borger/ Skellytown Service Area	08/2018	GUD No. 10766	Testimony supporting the Lead/Lag study for a general rate case proceeding.
Texas Gas Service Company – North Texas Service Area	06/2018	GUD No. 10739	Testimony supporting the Lead/Lag study for a general rate case proceeding.
CenterPoint Energy – South Texas Division	11/2017	GUD No. 10669	Testimony supporting the Lead/Lag study for a general rate case proceeding.
Public Utility Commission of Texas			
CenterPoint Energy Houston Electric, LLC	04/2019	Docket No. 49421	Testimony supporting the Lead/Lag study for a general rate case proceeding.
Virginia State Corporation Commission			
Shenandoah Valley Electric Cooperative	01/2024	Case No. PUR-2023-00207	Report and studies related to revenue requirements, class cost of service, rate design, and bill impact analysis for a streamlined application to increase base rates.
Rappahannock Electric Cooperative	10/2022	Case No. PUR-2022-00160	Report and studies related to revenue requirements, class cost of service, rate design,

Sponsor Company	Date Filed	Docket No.	Subject Matter
			and bill impact analysis for a streamlined application to increase base rates.
American Electric Power - Appalachian Power Company	03/2020	Case No. PUR-2020-00015	Testimony supporting the Lead/Lag study for the 2020 triennial review of base rates, terms and conditions.
West Virginia Public Service Commission			
Monongahela Power Company and The Potomac Edison Company (FirstEnergy)	06/2023	Case No. 23-0460-E-42T	Testimony supporting the class cost of service, rate design, bill impact and lead-lag studies for a general rate case proceeding.
Nova Scotia Utility and Review Board			
Nova Scotia Power	01/2022	Matter No. M10431	Evidence supporting the cash working capital requirement and lead/Lag study for a general rate case proceeding.
Ontario Energy Board			
Toronto Hydro-Electric System Limited	11/2023	Docket No. EB-2023-0195	Evidence supporting Toronto Hydro's Custom Rate Framework. Prepared research and analysis evaluating the appropriateness of the Rate Framework in the context of how other electric utility ratemaking practices have responded to developments in the energy industry.
Ontario Energy Association	01/2021	Docket No. EB-2020-0133	Evidence regarding policies and ratemaking treatment related to COVID-19 costs in U.S. and Canadian regulatory jurisdictions.

Exhibit TS-2
Lead-Lag Study for 12 Months Ended December 31, 2022
Cash Working Capital Requirement (in Thousands)

Liberty Utilities (CalPeco Electric) LLC
Lead-Lag Study for 12 Months Ended December 31, 2022
Cash Working Capital Requirement (in Thousands)

Line	Description	Test Year Amount	Average Daily Amount	Revenue Lag Days	Ref.	Expense (Lead) Days	Ref.	Net (Lead)/Lag Days	Dollar Days
	(a)	(b)	(b)	(c)		(d)		(e)	(f)
1	Operations and Maintenance Expenses								
2	Purchased Power		$ -	54.83	A	(39.97)	B	14.86	$ -
3	Regular Payroll		-	54.83	A	(13.83)	C	41.00	-
4	Uncollectible Expense		-	54.83	A	(137.21)	C	(82.38)	-
5	Other O&M Expenses		-	54.83	A	(66.45)	C	(11.62)	-
6	Total O&M Expenses	$ -	$ -						$ -
7	Depreciation and Amortization								
8	Depreciation and Amortization		$ -	54.83	A	0.00	D	54.83	$ -
9	Income Taxes								
10	Federal Income Taxes		$ -	54.83	A	(37.00)	D	17.83	$ -
11	State Income Taxes		-	54.83	A	(37.00)	D	17.83	-
12	Taxes Other Than Income Taxes								
13	FICA		$ -	54.83	A	(15.96)	E	38.87	$ -
14	Federal and State Unemployment		-	54.83	A	(75.27)	E	(20.44)	-
15	Franchise Taxes		-	54.83	A	(302.50)	E	(247.67)	-
16	Property Taxes		-	54.83	A	30.55	E	85.38	-
17	Total Other Operating Expenses	$ -	$ -						$ -
18	Other Working Capital Required								
19	Prepaid Expenses						F		$ 11,651
20	Regulatory Assets						F		-
21	Accrued Expenses						F		(1,894)
22	Accrued Liabilities						F		-
23	Other Working Capital Required								$ 9,757
24	Total Working Capital Requirement	$ -	$ -						$ 9,757

Exhibit TS-3
Lead-Lag Study for 12 Months Ended December 31, 2022
Revenue Lag

Liberty Utilities (CalPeco Electric) LLC
Lead-Lag Study for 12 Months Ended December 31, 2022
Revenue Lag

Line	Description	Revenue Lag	Reference
	(a)	(b)	(c)
1	Service Lag	15.21	365 / 12 / 2
2	Billing Lag	3.90	WP A-1
3	Collection Lag	35.72	WP A-2
4	Composite Revenue Lag	54.83	

Liberty Utilities (CalPeco Electric) LLC
Lead-Lag Study for 12 Months Ended December 31, 2022
Purchased Power Expenses

Line	Supplier	Service Period Start	Service Period End	Midpoint of Service	Payment Date	Amount	Total (Lead)/Lag Days	Weighted Dollar Days
		(a)	(b)			(c)	(d)	(e)
1	Biomass One LP	4/1/2022	4/30/2022	(15.00)	6/3/2022	$ 12,500	(49.50)	$ (618,750)
2	GO2-Markets, Inc	6/1/2022	6/30/2022	(15.00)	5/17/2022	3,685	28.50	105,017
3	Sierra Pacific Power Company dba NV Energy	12/1/2021	12/31/2021	(15.50)	1/18/2022	4,099,319	(34.00)	(139,376,857)
4	Sierra Pacific Power Company dba NV Energy	10/1/2021	12/31/2021	(46.00)	2/7/2022	24,155	(84.50)	(2,041,070)
5	Sierra Pacific Power Company dba NV Energy	1/1/2022	1/31/2022	(15.50)	2/22/2022	4,590,412	(38.00)	(174,435,648)
6	Sierra Pacific Power Company dba NV Energy	2/1/2022	2/28/2022	(14.00)	3/23/2022	3,325,846	(37.50)	(124,719,216)
7	Sierra Pacific Power Company dba NV Energy	3/1/2022	3/31/2022	(15.50)	4/24/2022	3,204,954	(40.00)	(128,198,161)
8	Sierra Pacific Power Company dba NV Energy	1/1/2022	3/31/2022	(45.00)	5/9/2022	52,758	(84.50)	(4,458,045)
9	Sierra Pacific Power Company dba NV Energy	4/1/2022	4/30/2022	(15.00)	5/16/2022	2,669,649	(31.50)	(84,093,949)
10	Sierra Pacific Power Company dba NV Energy	5/1/2022	5/31/2022	(15.50)	6/19/2022	2,061,374	(35.00)	(72,148,092)
11	Sierra Pacific Power Company dba NV Energy	6/1/2022	6/30/2022	(15.00)	7/27/2022	2,190,736	(42.50)	(93,106,291)
12	Sierra Pacific Power Company dba NV Energy	7/1/2022	7/31/2022	(15.50)	8/9/2022	40,191	(25.00)	(1,004,779)
13	Sierra Pacific Power Company dba NV Energy	7/1/2022	7/31/2022	(15.50)	8/17/2022	3,922,080	(33.00)	(129,428,637)
14	Sierra Pacific Power Company dba NV Energy	8/1/2022	8/31/2022	(15.50)	9/13/2022	2,007,461	(29.00)	(58,216,361)
15	Sierra Pacific Power Company dba NV Energy	9/1/2022	9/30/2022	(15.00)	10/23/2022	843,732	(38.50)	(32,483,694)
16	Sierra Pacific Power Company dba NV Energy	9/1/2022	9/30/2022	(15.00)	10/23/2022	1,854,745	(38.50)	(71,407,671)
17	Sierra Pacific Power Company dba NV Energy	9/1/2022	9/30/2022	(15.00)	10/23/2022	3,315,492	(38.50)	(127,646,452)
18	Sierra Pacific Power Company dba NV Energy	10/1/2022	10/31/2022	(15.50)	11/1/2022	21,569	(17.00)	(366,671)
19	Sierra Pacific Power Company dba NV Energy	10/1/2022	10/31/2022	(15.50)	11/16/2022	2,809,756	(32.00)	(89,912,191)
20	Sierra Pacific Power Company dba NV Energy	10/1/2022	10/31/2022	(15.50)	12/28/2022	4,330,583	(74.00)	(320,463,126)
21	Truckee Donner Public Utility District	12/1/2021	12/31/2021	(15.50)	1/26/2022	13,695	(42.00)	(575,211)
22	Truckee Donner Public Utility District	1/1/2022	1/31/2022	(15.50)	2/28/2022	13,403	(44.00)	(589,713)
23	Truckee Donner Public Utility District	1/1/2022	1/31/2022	(15.50)	2/28/2022	9,948	(44.00)	(437,723)
24	Truckee Donner Public Utility District	3/1/2022	3/31/2022	(15.50)	3/24/2022	12,014	(9.00)	(108,123)
25	Truckee Donner Public Utility District	5/1/2022	5/31/2022	(15.50)	6/21/2022	8,135	(37.00)	(301,013)
26	Truckee Donner Public Utility District	6/1/2022	6/30/2022	(15.00)	7/19/2022	11,633	(34.50)	(401,322)
27	Truckee Donner Public Utility District	6/1/2022	6/30/2022	(15.00)	7/19/2022	7,827	(34.50)	(270,020)
28	Truckee Donner Public Utility District	7/1/2022	7/31/2022	(15.50)	8/14/2022	7,924	(30.00)	(237,716)
29	Truckee Donner Public Utility District	8/1/2022	8/31/2022	(15.50)	9/29/2022	7,807	(45.00)	(351,303)
30	Truckee Donner Public Utility District	8/1/2022	8/31/2022	(15.50)	9/29/2022	7,347	(45.00)	(330,600)
31	Truckee Donner Public Utility District	9/1/2022	9/30/2022	(15.00)	11/30/2022	6,930	(76.50)	(530,131)
32	Total Purchased Power					$ 41,487,658	(39.97)	$ (1,658,153,517)

Liberty Utilities (CalPeco Electric) LLC
Lead-Lag Study for 12 Months Ended December 31, 2022
O&M Expenses

Line	Description	(Lead)/Lag Days	Reference
	(a)	(b)	(c)
1	Regular Payroll	(13.83)	WP C-1
2	Other O&M Expenses	(66.45)	WP C-3
3	Uncollectible Expenses	(137.21)	WP C-4

Liberty Utilities (CalPeco Electric) LLC
Lead-Lag Study for 12 Months Ended December 31, 2022
Income Taxes

Line	Description	(Lead)/Lag Days	Reference
	(a)	(b)	(c)
1	Federal Income Tax	(37.00)	WP D-1
2	State Income Tax	(37.00)	WP D-2

Liberty Utilities (CalPeco Electric) LLC
Lead-Lag Study for 12 Months Ended December 31, 2022
Taxes Other Than Income Tax

Line	Description	(Lead)/Lag Days	Reference
	(a)	(b)	(c)
1	FICA	(15.96)	WP E-1
2	Federal Unemployment	(75.27)	WP E-2
3	State Unemployment	(75.27)	WP E-3
4	Franchise Taxes	(302.50)	WP E-4
5	Property Taxes	30.55	WP E-5

Liberty Utilities (CalPeco Electric) LLC
Lead-Lag Study for 12 Months Ended December 31, 2022
Other Working Capital Requirements

Line	Description		13-Months Average Balance
1	Prepaid Expenses		
2	10_1240_1650 - Prepaids	$	1,476,252
3	Wildfire Insurance Premium		10,175,000
4	Prepaid Expenses	$	11,651,252
5	Regulatory Assets		
6	Regulatory Assets	$	-
7	Accrued Expenses		
8	20_2130_2424 - Accrued Vacation	$	(890,588)
9	20_2130_2425 - Bonus Accrual		(1,003,624)
10	Accrued Expenses	$	(1,894,213)
11	Accrued Liabilities		
12	Accrued Liabilities	$	-
13	Other Working Capital Requirements	$	9,757,040