

Application No.: A.21-
Exhibit No.: Liberty-11
Witnesses: Timothy Lyons



(U 933-E)

2022 General Rate Case

Before the California Public Utilities Commission

Chapter 11: Lead-Lag Study

Tahoe Vista, California

May 28, 2021

Liberty-11: Lead-Lag Study

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1 I. OVERVIEW OF TESTIMONY

2 Q. Please define the term “Working Capital” as a rate base component.

3 A. The term “working capital” refers to the net funds required by Liberty Utilities (CalPeco
4 Electric) LLC (“Liberty”) to finance goods and services used to provide service to
5 customers from the time those goods and services are paid for by Liberty to the time that
6 payment is received from customers. Goods and services considered in the lead-lag study
7 include operations and maintenance (“O&M”) expenses, including labor and non-labor
8 expenses; federal, state, and local taxes; and employment taxes.¹

9 Q. How was Liberty’s cash working capital requirement determined?

10 A. Liberty’s cash working capital requirement was determined by applying the results of the
11 lead-lag study to test year expenses. The lead-lag study compares differences between
12 Liberty’s revenue lag and expense leads. The revenue lag represents the number of days
13 from the time customers receive their service to the time customers pay for their service,
14 *i.e.*, when the funds are available to Liberty. The longer the revenue lag, the more cash
15 Liberty needs to finance its day-to-day operations. The expense lead represents the
16 number of days from the time Liberty receives goods and services used to provide service
17 to the time payments are made for those goods and services, *i.e.*, when the funds are no
18 longer available to Liberty. The longer the expense lead, the less cash Liberty needs to
19 fund its day-to-day operations. Together, the revenue lag and expense leads are used to
20 measure the lead-lag days. The lead-lag days are then applied to Liberty’s test year
21 expenses to determine the CWC requirement. To that amount, there are several working
22 capital adjustments to be included in rate base.

¹ See workpapers.

1 measured as the sum of three components: (1) the service lag; (2) the billing lag; and (3)
2 the collection lag.

3 **Q. What is the service lag?**

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

8 **Q. What is the billing lag?**

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

12 **Q. What is the collection lag?**

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

17 **B. Expense Lead Days**

18 **Q. How were lead days determined for expenses?**

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

22 **1. Operation and Maintenance Expenses**

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

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

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

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

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

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

13 **Q. How were lead days determined for uncollectible expenses?**

14 A. Lead days for uncollectible expenses were based on Liberty's approach to create an
15 allowance for doubtful accounts prior to write-off of uncollectible expenses. Lead days
16 were measured consistent with Liberty's policy as the number of days from billing to
17 write-off of the uncollectible expenses.

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

19 A. Lead days for Other O&M expenses were based on the sum of two components: (1) lead
20 days from the service period to the invoice date; and (2) lead days from the invoice date
21 to the payment date.

22 Lead days from the service period to the invoice date were based on a stratified
23 sample of invoices paid by Liberty during the base period. Lead days were measured for

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

4 Lead days from the invoice date to the payment date were based on invoices paid
5 by Liberty during the base period. Lead days were measured for each invoice as the
6 number of days from the invoice date to the payment date. Invoices were then dollar-
7 weighted by invoice amounts to determine the lead days.

8 **2. Depreciation and Amortization Expenses**

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

10 A. Lead days for depreciation and amortization expenses were based on zero lead days
11 because they are deducted from rate base when the expenses are recorded.

12 **3. Income Tax Expense**

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

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

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

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

23 **4. Taxes Other than Income Taxes**

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

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

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

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

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

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

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

15 **C. Working Capital Adjustments**

16 **Q. Please describe the working capital adjustments.**

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

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

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

3

4

III. CONCLUSION

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

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

7 **Q. Does this conclude your testimony?**

8 A. Yes, it does.

Appendix A
Witness Qualifications

LIBERTY UTILITIES (CALPECO ELECTRIC) LLC
QUALIFICATIONS AND PREPARED TESTIMONY
OF TIMOTHY S. LYONS

1 **Q. Please state your name and business address.**

2 A. My name is Timothy S. Lyons. My business address is 1900 West Park Drive, Suite 250,
3 Westborough, Massachusetts, 01581.

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

5 A. I am a Partner with ScottMadden, Inc. (“ScottMadden”).

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

7 A. I am testifying on behalf of Liberty Utilities (CalPeco Electric) (“Liberty”).

8 **Q. Please describe your professional and educational experience.**

9 A. I have more than 30 years of experience in the energy industry. I started my career in 1985
10 at Boston Gas Company, eventually becoming Director of Rates and Revenue Analysis. In
11 1993, I moved to Providence Gas Company, eventually becoming Vice President of
12 Marketing and Regulatory Affairs. Starting in 2001, I held a number of management
13 consulting positions in the energy industry, first at KEMA and then at Quantec, LLC. In
14 2005, I became Vice President of Sales and Marketing at Vermont Gas Systems, Inc. before
15 joining Sussex Economic Advisors, LLC (“Sussex”) in 2013. Sussex was acquired by
16 ScottMadden in 2016.

17 I hold a bachelor’s degree from St. Anselm College, a master’s degree in
18 Economics from The Pennsylvania State University, and a master’s degree in Business
19 Administration from Babson College.

20 **Q. Have you previously testified before the California Public Utilities Commission (the**

1 **“Commission”) or any other regulatory agency?**

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

3 **Q. What is the purpose of your testimony?**

4 A. The purpose of my testimony is to sponsor the results of the lead-lag study conducted on
5 behalf of Liberty. The lead-lad study was used to determine Liberty’s Cash Working
6 Capital (“CWC”) requirement, which is included in Liberty’s rate base.

7 **Q. Have you prepared exhibits supporting this testimony?**

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

Exhibit TSL-1: Resume and Testimony Listing of Timothy S. Lyons

Summary

Tim Lyons is a partner with ScottMadden with more than 30 years of experience in the energy industry. He has held senior positions at several gas utilities and energy consulting firms. Mr. Lyons experience includes rate and regulatory support, sales and marketing, customer service and strategy development. Prior to joining ScottMadden, he was Vice President of Sales and Marketing for Vermont Gas. Mr. Lyons has also served as Vice President of Marketing and Regulatory Affairs for Providence Gas Company (now, National Grid), Director of Rates at Boston Gas Company, and Project Director at Quantec, LLC, an energy consulting firm. Mr. Lyons has sponsored testimony before 20 state regulatory commissions. He holds a B.A. from St. Anselm College, an M.A. in Economics from The Pennsylvania State University, and an M.B.A. from Babson College.

Areas of Specialization

- Regulation and Rates
- Retail Energy
- Utilities
- Natural Gas

Capabilities

- Regulatory Strategy and Rate Case Support
- Strategic and Business Planning
- Capital Project Planning
- Process Improvements

Testimony Listing

Sponsor	Date	Docket No.	Subject
Regulatory Commission of Alaska			
ENSTAR Natural Gas Company	06/16	Docket No. U-16-066	Adopted testimony and sponsored Lead/Lag study for a general rate case proceeding.
Arkansas Public Service Commission			
Liberty Utilities (Pine Bluff Water)	10/18	Docket No. 18-027-U	Sponsored testimony supporting the cost of service, rate design and bill impact studies for a general rate case proceeding.
California Public Utilities Commission			
Southwest Gas Corporation (Southern California, Northern California and South Lake Tahoe jurisdictions)	8/19	Docket No. A.19-08-015	Sponsored 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.
Connecticut Public Utilities Regulatory Authority			
Yankee Gas Company	07/14	Docket No. 13-06-02	Sponsored report and testimony supporting the review and evaluation of gas expansion policies, procedures and analysis.
Illinois Commerce Commission			
Liberty Utilities (Midstates Natural Gas)	07/16	Docket No. 16-0401	Sponsored testimony supporting the cost of service, rate design and bill impact studies for a general rate case proceeding. The testimony includes proposal for new commercial classes and a decoupling mechanism.
Iowa Utilities Board			
Liberty Utilities (Midstates Natural Gas)	07/16	Docket No. RPU-2016-0003	Sponsored testimony supporting the cost of service, rate design and bill impact studies for a general rate case proceeding. The testimony includes proposal for new commercial classes.
Kansas Corporation Commission			
The Empire District Electric Company	12/18	Docket No. 19-EPDE-223-RTS	Sponsored testimony supporting cost of service, rate design, bill impact and lead-lag studies for a general rate case proceeding.
Maine Public Utilities Commission			
Maine Water Company	03/21	Docket No. 2021-00053	Sponsored testimony supporting a rate smoothing mechanism.

Sponsor	Date	Docket No.	Subject
Northern Utilities, Inc. d/b/a Unitil	06/19	Docket No. 2019-00092	Sponsored testimony supporting a proposed capital investment cost recovery mechanism.
Northern Utilities, Inc. d/b/a Unitil	06/15	Docket No. 2015-00146	Sponsored testimony supporting the proposed gas expansion program, including a zone area surcharge.
Maryland Public Service Commission			
Sandpiper Energy, a Chesapeake Utilities company	12/15	Case No. 9410	Sponsored testimony supporting the cost of service, rate design and bill impact studies for a general rate case proceeding. The testimony includes proposal for new residential and commercial classes.
Massachusetts Department of Public Utilities			
Liberty Utilities (New England Gas Company)	08/20	Docket No. DPU 20-92	Sponsored the Long-Range Forecast and Supply Plan filing for the five-year forecast period 2020/2021 through 2024/2025.
Liberty Utilities (New England Gas Company)	07/18	Docket No. DPU 18-68	Sponsored the Long-Range Forecast and Supply Plan filing for the five-year forecast period 2018/2019 through 2022/2023.
Liberty Utilities (New England Gas Company)	07/16	Docket No. DPU 16-109	Sponsored the Long-Range Forecast and Supply Plan filing for the five-year forecast period 2016/2017 through 2020/2021.
Boston Gas	10/93	Docket No. DPU 92-230	Sponsored testimony describing the Company's position regarding rate treatment of vehicular natural gas investments and expenses.
Boston Gas	03/90	Docket No. DPU 90-55	Sponsored testimony supporting the weather and other cost of service adjustments, rate design and customer bill impact studies for a general rate case proceeding.
Boston Gas	03/88	Docket No. DPU 88-67-II	Sponsored testimony supporting the rate reclassification of commercial and industrial customers for a rate design proceeding.
Michigan Public Service Commission			
Lansing Board of Water & Light and Michigan State University	04/20	Docket No. U-20650	Sponsored testimony evaluating Consumer Energy's cost of service and rate design proposals.
Lansing Board of Water & Light and Michigan State University	04/19	Docket No. U-20322	Sponsored testimony evaluating Consumer Energy's cost of service and rate design proposals.
Midland Cogeneration Ventures, LLC	09/18	Docket No. U-18010	Sponsored testimony evaluating Consumer Energy's cost of service and rate design proposals.
Missouri Public Service Commission			
Spire Missouri, Inc.	12/20	Docket No. GR-2021-0108	Sponsored testimony supporting the Lead/Lag study for a general rate case proceeding.
The Empire District Electric Company	08/19	Docket No. ER-2019-0374	Sponsored testimony supporting the 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)	09/17	Docket No. GR-2018-0013	Sponsored testimony supporting the 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.

Sponsor	Date	Docket No.	Subject
Missouri Gas Energy	04/17	Docket No. GR-2017-0216	Sponsored testimony supporting the 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	04/17	Docket No. GR-2017-0215	Sponsored testimony supporting the 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.
New Hampshire Public Utilities Commission			
Unitil Energy Systems, Inc.	04/21	Docket No. DE 21-030	Sponsored testimony supporting proposed revenue decoupling mechanism and associated tariff.
Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty Utilities	11/17	Docket No. DG 17-198	Sponsored testimony supporting a levelized cost analysis for approval of firm supply and transportation agreements.
Liberty Utilities d/b/a Granite State Electric Company	04/16	Docket No. DE 16-383	Adopted testimony and sponsored Lead/Lag study for a general rate case proceeding.
Nevada Public Utilities Commission			
Southwest Gas Corporation	02/20	Docket No. 20-02023	Sponsored 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			
South Jersey Gas Company	03/20	Docket No. GR20030243	Sponsored testimony supporting the Lead/Lag study for a general rate case proceeding.
Elizabethtown Gas Company	04/19	Docket No. GR19040486	Sponsored testimony supporting the Lead/Lag study for a general rate case proceeding.
Pivotal Utility Holdings, Inc. d/b/a Elizabethtown Gas Company	08/16	Docket No. GR16090826	Sponsored testimony supporting the Lead/Lag study for a general rate case proceeding.
Corporation Commission of Oklahoma			
The Empire District Electric Company	03/19	Cause No. PUD 201800133	Sponsored 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	04/17	Cause No. PUD 201600468	Adopted direct testimony and sponsored rebuttal testimony supporting the revenue requirements for a general rate case proceeding. The testimony included proposals for alternative ratemaking mechanisms.
Rhode Island Public Utilities Commission			
Providence Gas Company	08/01 09/00 08/96	Docket No. 1673	Sponsored testimony supporting the changes in cost of gas adjustment factor related to projected under-recovery of gas costs; Filed testimony and witness for pilot hedging program to mitigate price risks to customers; Filed testimony and witness for changes in cost of gas adjustment factor related to extension of rate plan.
Providence Gas Company	08/00	Docket No. 2581	Sponsored testimony supporting the extension of a rate plan that began in 1997 and included certain modifications, including a weather normalization clause.
Providence Gas Company	03/00	Docket No. 3100	Sponsored testimony supporting the de-tariff and deregulation of appliance repair service, enabling the Company to have needed pricing flexibility.
Providence Gas Company	06/97	Docket No. 2581	Sponsored testimony supporting a rate plan that fixed all billing rates for three-year period; included funding for critical infrastructure investments in accelerated replacement of mains and services, digitized records system, and economic development projects.

Sponsor	Date	Docket No.	Subject
Providence Gas Company	04/97	Docket No. 2552	Sponsored testimony supporting the rate design, customer bill impact studies and retail access tariffs for commercial and industrial customers, including redesign of cost of gas adjustment clause, for a rate design proceeding.
Providence Gas Company	02/96	Docket No. 2374	Sponsored testimony supporting the rate design, customer bill impact studies and retail access tariffs for largest commercial and industrial customers for a rate design proceeding.
Providence Gas Company	01/96	Docket No. 2076	Sponsored testimony supporting the rate reclassification of customers into new rate classes, rate design (including introduction of demand charges), and customer bill impact studies for a rate design proceeding.
Providence Gas Company	11/92	Docket No. 2025	Sponsored testimony supporting the Integrated Resource Plan filing, including a performance-based incentive mechanism.
Railroad Commission of Texas			
Texas Gas Service Company – Central Texas and Gulf Coast Service Areas	12/19	GUD No. 10928	Sponsored testimony supporting the Lead/Lag study for a general rate case proceeding.
CenterPoint Energy – Beaumont/ East Texas Division	11/19	GUD No. 10920	Sponsored testimony supporting the Lead/Lag study for a general rate case proceeding.
Texas Gas Service Company – Borger/ Skellytown Service Area	08/18	GUD No. 10766	Sponsored testimony supporting the Lead/Lag study for a general rate case proceeding.
Texas Gas Service Company – North Texas Service Area	06/18	GUD No. 10739	Sponsored testimony supporting the Lead/Lag study for a general rate case proceeding.
CenterPoint Energy – South Texas Division	11/17	GUD No. 10669	Sponsored testimony supporting the Lead/Lag study for a general rate case proceeding.
Texas Gas Service Company – Rio Grande Valley Service Area	06/17	GUD No. 10656	Sponsored testimony supporting the Lead/Lag study for a general rate case proceeding.
Atmos Pipeline – Texas	01/17	GUD No. 10580	Sponsored testimony supporting the Lead/Lag study for a general rate case proceeding.
CenterPoint Energy – Texas Gulf Division	11/16	GUD No. 10567	Sponsored testimony supporting the Lead/Lag study for a general rate case proceeding.
Public Utility Commission of Texas			
CenterPoint Energy Houston Electric, LLC	04/19	Docket No. 49421	Sponsored testimony supporting the Lead/Lag study for a general rate case proceeding.
Vermont Public Utilities Commission			
Vermont Gas Systems	12/12	Docket No. 7970	Sponsored testimony describing the market served by \$90 million natural gas expansion project to Addison County, VT. Also described the terms and economic benefits of a special contract with International Paper.
Vermont Gas Systems	02/11	Docket No. 7712	Sponsored testimony supporting the market evaluation and analysis for a system expansion and reliability regulatory fund.
Virginia State Corporation Commission			
American Electric Power - Appalachian Power Company	3/20	Case No. PUR-2020-00015	Sponsored testimony supporting the Lead/Lag study for the 2020 triennial review of base rates, terms and conditions.

Exhibit TSL-2: Liberty Utilities (CalPeco Electric) LLC
Lead-Lag Study for 12 Months Ended December 31, 2020
Cash Working Capital Requirement

Liberty Utilities (CalPeco Electric) LLC
Lead-Lag Study for 12 Months Ended December 31, 2020
Cash Working Capital Requirement (in Thousands)

Line	Description (a)	Test Year Amount (b)	Average Daily Amount (b)	Revenue Lag Days (c)	Ref.	Expense (Lead) Days (d)	Ref.	Net (Lead)/Lag Days (e)	Dollar Days (f)
1	<u>Operations and Maintenance Expenses</u>								
2	Purchased Power	24,986	68	41.44	A	(44.74)	B	(3.30)	\$ (226)
3	Regular Payroll	15,986	44	41.44	A	(13.78)	C	27.66	1,211
4	Uncollectible Expense	192	1	41.44	A	(107.21)	C	(65.77)	(35)
5	Other O&M Expenses	25,894	71	41.44	A	(40.01)	C	1.44	102
6	<u>Total O&M Expenses</u>	\$ 67,057	\$ 184						\$ 1,053
7	<u>Depreciation and Amortization</u>								
8	Depreciation and Amortization	\$ 17,369	48	41.44	A	0.00	D	41.44	\$ 1,972
9	<u>Income Taxes</u>								
10	Federal Income Taxes	(4,665)	(13)	41.44	A	(37.50)	D	3.94	\$ (50)
11	State Income Taxes	(2,337)	(6)	41.44	A	(37.50)	D	3.94	(25)
12	<u>Taxes Other Than Income Taxes</u>								
13	FICA	1,028	3	41.44	A	(15.96)	E	25.48	72
14	Federal and State Unemployment	27	0	41.44	A	(75.79)	E	(34.35)	(3)
15	Franchise Taxes	1,312	4	41.44	A	(306.26)	E	(264.82)	(952)
16	Property Taxes	4,249	12	41.44	A	(39.55)	E	1.89	22
17	<u>Total Other Operating Expenses</u>	\$ (385)	\$ (1)						\$ (936)
18	<u>Other Working Capital Required</u>								
19	Prepaid Expenses						F		\$ 7,281
20	Regulatory Assets						F		-
21	Accrued Expenses						F		(1,426)
22	Accrued Liabilities						F		-
23	<u>Other Working Capital Required</u>								\$ 5,855
24	<u>Total Working Capital Requirement</u>	\$ 84,042	\$ 230						\$ 7,943

Exhibit TSL-3: Liberty Utilities (CalPeco Electric) LLC
Lead-Lag Study for 12 Months Ended December 31, 2020

Liberty Utilities (CalPeco Electric) LLC
Lead-Lag Study for 12 Months Ended December 31, 2020
Revenue Lag

Line	Description (a)	Revenue Lag (b)	Reference (c)
1	Service Lag	15.21	365 / 12 / 2
2	Billing Lag	3.90	WP A-1
3	Collection Lag	22.34	WP A-2
4	<u>Composite Revenue Lag</u>	<u>41.44</u>	

Liberty Utilities (CalPeco Electric) LLC
Lead-Lag Study for 12 Months Ended December 31, 2020
Purchased Power Expenses

Line	Supplier	Service Period Start (a)	Service Period End (b)	Midpoint of Service (c)	Payment Date	Amount (c)	Total (Lead)/Lag Days (d)	Weighted Dollar Days (e)
1	Sierra Pacific Power Company dba NV Energy	12/1/2019	12/31/2019	(15.50)	1/30/2020	\$ 2,980,433	(45.50)	\$ (135,609,691)
2	Sierra Pacific Power Company dba NV Energy	1/1/2020	1/31/2020	(15.50)	2/28/2020	3,110,812	(43.50)	(135,320,322)
3	Sierra Pacific Power Company dba NV Energy	2/1/2020	2/29/2020	(14.50)	3/30/2020	2,460,928	(44.50)	(109,511,302)
4	Sierra Pacific Power Company dba NV Energy	3/1/2020	3/31/2020	(15.50)	4/30/2020	2,005,440	(45.50)	(91,247,525)
5	Sierra Pacific Power Company dba NV Energy	4/1/2020	4/30/2020	(15.00)	5/29/2020	1,263,331	(44.00)	(55,586,564)
6	Sierra Pacific Power Company dba NV Energy	5/1/2020	5/31/2020	(15.50)	6/30/2020	1,001,355	(45.50)	(45,561,645)
7	Sierra Pacific Power Company dba NV Energy	6/1/2020	6/30/2020	(15.00)	7/30/2020	1,127,200	(45.00)	(50,723,997)
8	Sierra Pacific Power Company dba NV Energy	7/1/2020	7/31/2020	(15.50)	8/28/2020	1,762,499	(43.50)	(76,668,725)
9	Sierra Pacific Power Company dba NV Energy	8/1/2020	8/31/2020	(15.50)	9/30/2020	1,572,679	(45.50)	(71,556,911)
10	Sierra Pacific Power Company dba NV Energy	9/1/2020	9/30/2020	(15.00)	10/30/2020	1,674,307	(45.00)	(75,343,832)
11	Sierra Pacific Power Company dba NV Energy	10/1/2020	10/31/2020	(15.50)	11/30/2020	1,122,350	(45.50)	(51,066,914)
12	Sierra Pacific Power Company dba NV Energy	11/1/2020	11/30/2020	(15.00)	12/30/2020	2,215,801	(45.00)	(99,711,066)
13	Truckee Donner Public Utility District	12/26/2019	1/28/2020	(17.00)	2/24/2020	12,054	(44.00)	(530,383)
14	Truckee Donner Public Utility District	1/28/2020	2/27/2020	(15.50)	3/23/2020	9,775	(40.50)	(395,880)
15	Truckee Donner Public Utility District	2/27/2020	3/26/2020	(14.50)	4/21/2020	9,298	(40.50)	(376,586)
16	Truckee Donner Public Utility District	3/26/2020	4/28/2020	(17.00)	5/25/2020	8,947	(44.00)	(393,678)
17	Truckee Donner Public Utility District	4/28/2020	5/28/2020	(15.50)	6/22/2020	8,042	(40.50)	(325,695)
18	Truckee Donner Public Utility District	5/28/2020	6/25/2020	(14.50)	7/21/2020	8,093	(40.50)	(327,756)
19	Truckee Donner Public Utility District	6/25/2020	7/28/2020	(17.00)	8/24/2020	9,106	(44.00)	(400,668)
20	Truckee Donner Public Utility District	7/28/2020	8/27/2020	(15.50)	9/21/2020	8,072	(40.50)	(326,917)
21	Truckee Donner Public Utility District	8/27/2020	9/29/2020	(17.00)	10/26/2020	8,566	(44.00)	(376,903)
22	Truckee Donner Public Utility District	9/29/2020	10/29/2020	(15.50)	11/23/2020	7,881	(40.50)	(319,197)
23	Truckee Donner Public Utility District	10/29/2020	11/28/2020	(15.50)	12/21/2020	10,658	(38.50)	(410,333)
24	Total Purchased Power					\$ 22,397,629	(44.74)	\$ (1,002,092,488)

Liberty Utilities (CalPeco Electric) LLC
Lead-Lag Study for 12 Months Ended December 31, 2020
O&M Expenses

Line	Description (a)	(Lead)/Lag Days (b)	Reference (c)
1	Regular Payroll	(13.78)	WP C-1
2	Other O&M Expenses	(40.01)	WP C-3
3	Uncollectible Expenses	(107.21)	WP C-4

Liberty Utilities (CalPeco Electric) LLC
Lead-Lag Study for 12 Months Ended December 31, 2020
Income Taxes

Line	Description	(Lead)/Lag Days	Reference
	(a)	(b)	(c)
1	Federal Income Tax	(37.50)	WP D-1
2	State Income Tax	(37.50)	WP D-2

Liberty Utilities (CalPeco Electric) LLC
 Lead-Lag Study for 12 Months Ended December 31, 2020
 Taxes Other Than Income Tax

Line	Description	(Lead)/Lag Days	Reference
	(a)	(b)	(c)
1	FICA	(15.96)	WP E-1
2	Federal Unemployment	(75.79)	WP E-2
3	State Unemployment	(75.79)	WP E-3
4	Franchise Taxes	(306.26)	WP E-4
5	Property Taxes	(39.55)	WP E-5

Liberty Utilities (CalPeco Electric) LLC
Lead-Lag Study for 12 Months Ended December 31, 2020
Other Working Capital Requirements

Line	Description	13-Months Average Balance
1	Prepaid Expenses	
2	10_1240_1650 - Prepaids	2,587,435
3	Wildfire Insurance Premium	4,693,167
4	<u>Prepaid Expenses</u>	<u>\$ 7,280,602</u>
5	Regulatory Assets	
6	<u>Regulatory Assets</u>	<u>\$ -</u>
7	Accrued Expenses	
8	20_2130_2424 - Accrued Vacation	\$ (909,302)
9	20_2130_2425 - Bonus Accrual	\$ (516,544)
10	<u>Accrued Expenses</u>	<u>\$ (1,425,846)</u>
11	Accrued Liabilities	
12	<u>Accrued Liabilities</u>	<u>\$ -</u>
13	<u>Other Working Capital Requirements</u>	<u>\$ 5,854,756</u>