

**BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

WASHINGTON UTILITIES AND
TRANSPORTATION
COMMISSION,

Complainant,

v.

PACIFICORP d/b/a/ PACIFIC
POWER & LIGHT COMPANY,

Respondent.

DOCKET UE-210829

CROSS ANSWERING TESTIMONY OF DR. LANCE D. KAUFMAN

ON BEHALF OF

ALLIANCE OF WESTERN ENERGY CONSUMERS

September 13, 2024

1 **I. INTRODUCTION AND SUMMARY**

2 **Q. PLEASE STATE YOUR NAME AND OCCUPATION.**

3 A. My name is Lance D. Kaufman. I am a consultant representing utility customers before state
4 public utility commissions in the Northwest and Intermountain West. My witness qualification
5 statement can be found at Exhibit LDK-2.

6 **Q. PLEASE IDENTIFY THE PARTY ON WHOSE BEHALF YOU ARE TESTIFYING.**

7 A. I am testifying on behalf of the Alliance of Western Energy Consumers (“AWEC”). AWEC is
8 a non-profit trade association whose members are large energy users in the Western United
9 States, including customers receiving electric services from PacifiCorp d/b/a Pacific Power &
10 Light (“PacifiCorp” or “Company”).

11 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

12 A. I provide testimony addressing the response testimony of Washington Utilities and
13 Transportation Commission Staff (“Staff”), Renewable Northwest (“RNW”), and NW Energy
14 Coalition (“NWECC”). AWEC also reviewed the Response Testimony filed by Columbia River
15 Inter-Tribal Fish Commission (“CRITFC”).

16 **Q. WHAT ARE YOUR CONCERNS WITH THE GENERAL POSITIONS TAKEN BY**
17 **STAFF, PUBLIC COUNSEL AND INTERVENORS IN THIS CASE?**

18 A. AWEC is concerned about the practical implications that some positions and conditions
19 proposed by Staff, Public Counsel and Intervenors will have on customers. By the time that the
20 Commission issues an order in this proceeding, we will be into the last year of the time period
21 covered by PacifiCorp’s 2021 Clean Energy Implementation Plan (“2021 CEIP”). At this

1 point, the reality is that it is likely impossible for PacifiCorp to acquire resources to meet the
2 interim targets in its 2021 CEIP.¹

3 If the Commission rejects PacifiCorp’s 2023 Clean Energy Implementation Plan
4 (“CEIP”) Biennial Update (“CEIP Biennial Update”) in whole or in part related to the
5 Company’s proposed reductions to interim targets, as Staff, Public Counsel, and RNW
6 advocate, it means that the interim targets from its 2021 Clean Energy Implementation Plan
7 (“2021 CEIP”) will remain in place. This action puts the Company in a position of either trying
8 to acquire resources in a very short timeline (which again, is likely not even possible, or if
9 possible, could entail the acquisition of short-term resources that do not provide long-term
10 CETA compliance benefits), or face falling short of its currently approved interim targets and
11 thereby take on the regulatory risk of doing so. While AWEC understands the desire of Staff,
12 Public Counsel, RNW and other organizations to see PacifiCorp make progress towards
13 meeting CETA requirements, AWEC is also aware of the likely reality for customers if
14 PacifiCorp is faced with meeting its 2021 CEIP interim targets at this late stage. Last minute
15 procurement of resources would likely come at a premium for customers, if it is even possible,
16 and as described below, may not even be necessary in the long-run depending on the next cost
17 allocation methodology approved by the Commission.²

18 If the Commission accepts PacifiCorp’s 2023 CEIP Biennial Update, subject to certain
19 conditions proposed by Staff, RNW and NWEAC, as discussed more fully below that would

¹ Exh. MDM-1T at 23:5-19..

² See e.g. Public Utility Commission of Oregon, Docket No. UM 1050, PacifiCorp’s Notice of Termination of the Framework Issues Workgroup Under the 2020 Protocol (July 11, 2024) (PacifiCorp provided notice “that it is unlikely that a Post-Interim Period Method agreement will be reached before...December 31, 2025, and is terminating negotiations in the Framework Issues Workgroup...The Company will propose an allocation method for the Post-Interim Period for consideration and approval by the Commissions.”).

1 effectively predetermine analysis and/or outcomes in future proceedings. Moreover, the timing
2 of a new allocation methodology may not align with the required analysis, but would
3 ultimately impact PacifiCorp’s CETA compliance obligations. Predetermining analysis and
4 outcomes in future proceedings shifts risk to customers, and likely, increased costs. In addition,
5 such actions may not be lawful. AWEC will address all legal concerns in briefing.

6 **Q. ARE THERE OTHER CONCERNS WITH THE RECOMMENDATIONS YOU**
7 **ADDRESS IN THIS TESTIMONY?**

8 A. Yes. Each of these recommendations, to one degree or another, would require imposing
9 conditions that substitute the Commission’s business judgment for PacifiCorp’s. The
10 Commission has historically been resistant to taking such actions, noting that “[t]here is a
11 distinction ... between the Commission’s responsibility for rate-setting and a company’s
12 responsibility for its own management decisions. The Commission has declined to mandate
13 the management decisions of regulated companies Rate-setting principles seek to
14 encourage prudent decisions rather than dictate them.”³ This is true even in areas where safety,
15 not just resource acquisition, is the predominate concern. In reviewing Puget Sound Energy’s
16 proposal to establish a pipeline integrity program (“PIP”), the Commission noted that it was
17 PSE’s “obligation to ensure safe and reliable service, which includes the responsibility to
18 construct its gas distribution network according to explicit safety standards. The Commission
19 establishes and enforces standards within which [PSE] must operate, but PSE alone shoulders
20 the obligation to apply those standards to specific projects and determine which ones should be

³ *WUTC v. Puget Sound Pilots*, Docket No. TP-190976, Order 09 ¶ 38 (Nov. 25, 2020).

1 constructed and when The PIP would impermissibly expand ... the involvement of the
2 Commission in Company infrastructure management decisions.”⁴

3 Similarly here, the conditions Staff, RNW, and NWEA propose would require the
4 Commission to “mandate the management decisions of” PacifiCorp and would “impermissibly
5 expand ... the involvement of the Commission” in PacifiCorp’s resource procurement
6 management decisions.

7 **Q. WHAT IS YOUR RECOMMENDATION?**

8 A. Contrary to the recommendations of Staff, NWEA and RNW, AWEA recommends that the
9 Commission approve PacifiCorp’s CEIP and in particular, its proposal to reduce interim targets
10 for the current CEIP planning period given where PacifiCorp is in the planning term and the
11 lack of resource options that would allow PacifiCorp to meet its 2021 CEIP interim targets.
12 Unless specifically addressed below, AWEA does not oppose the conditions proposed by Staff,
13 RNW, NWEA and CRITFC. While there is no perfect path forward at this time, and AWEA
14 again is understanding of the parties’ desires to see PacifiCorp make progress towards meeting
15 CETA requirements, acceptance of PacifiCorp’s reduced interim targets provides the best
16 outcome for customers because doing so removes a short-term incentive for PacifiCorp to
17 acquire resources at what would likely be a premium for its Washington customers. The
18 Commission should address substantive issues around PacifiCorp’s progress in meeting CETA
19 as part of the Company’s 2025 CEIP.

⁴ *WUTC v. Puget Sound Energy, Inc.*, Docket No. UG-110723, Order 07 ¶ 36 (May 18, 2012).

1 **II. RESPONSE TO STAFF**

2 **Q. PLEASE SUMMARIZE STAFF’S RECOMMENDATIONS.**

3 A. Staff’s primary recommendation is that the Commission should reject PacifiCorp’s CEIP
4 Biennial Update.⁵ In the alternative, if the Commission is inclined to approve PacifiCorp’s
5 CEIP Biennial Update, Staff recommends the Commission do so subject to eight conditions.
6 Of specific relevance to my testimony are Staff conditions 2, 5, 6 and 7.⁶ According to Staff,
7 the purpose of these conditions is to “recognize and remedy the root causes of the Company's
8 reduced interim targets and chart a path to CETA compliance.”⁷

9 **Q. PLEASE DESCRIBE STAFF CONDITION 2.**

10 A. Staff condition 2 addresses allocation methodology and would require PacifiCorp to use an
11 approved allocation methodology in all future CEIP filings starting with its 2025 CEIP, with
12 the added requirement that “in its upcoming general rate case (GRC), PacifiCorp will submit
13 several new allocation methodology options. Each option will include an increase in the
14 proportion (from what the WIJAM currently allocates) of renewable and non-emitting
15 resources to Washington.”⁸

16 **Q. WHAT IS YOUR CONCERN WITH STAFF CONDITION 2?**

17 A. AWEC does not necessarily oppose the portion of Staff’s Condition 2 that requires the
18 Company to use an approved allocation methodology in future CEIP filings. Given that one of

⁵ Exh. JNS-1HCT at 2:13-3:2.

⁶ AWEC notes that Staff’s Response Testimony at Exh. JNS-1HCT at 3:13-7:2 includes a summary of its alternative recommendation, which includes a total of eight conditions. Staff Exhibit JNS-19 also includes a list of conditions, but appears to be misnumbered. AWEC’s discussion of conditions numbers corresponds to the list provided in Exh. JNS-1HCT, beginning at pg. 3.

⁷ Exh. JNS-1HCT at 3:15-17.

⁸ Exh. JNS-1HCT at 4:7-10.

1 the drivers of the reduced interim targets in PacifiCorp's 2023 CEIP Update is an assumption
2 that a particular allocation methodology would be adopted,⁹ avoiding this pitfall in the future is
3 attractive. However, it may not be ideal for the Commission to be unnecessarily prescriptive
4 such that flexibility in the future is removed, causing inefficiencies to the potential detriment of
5 Washington customers. For example, under Staff's condition, the allocation methodology that
6 PacifiCorp would use in the 2025 CEIP is the WIJAM. While it is reasonable to use this
7 allocation methodology because it is approved, if the timing works such that PacifiCorp can
8 include in its 2025 CEIP analysis that also demonstrates what the results would be under its
9 newly proposed allocation methodology, assuming PacifiCorp files a 2025 rate case, that
10 would allow the Commission and interested persons the benefit of understanding how
11 PacifiCorp's resource needs may change depending on the allocation methodology used.

12 AWEC opposes the second requirement of Staff's Condition 2 insofar as it effectively
13 requires the Commission to predetermine outcomes in this proceeding for that would be subject
14 to a Commission decision in a future docket by requiring the Company to include an increase
15 in allocation of renewable and non-emitting resources for Washington compared to the
16 WIJAM. While AWEC could ultimately support such an outcome if it is based on robust
17 analysis demonstrating the benefits to customers, AWEC cannot support this condition in a
18 vacuum, as it will require the Company to predetermine an allocation method. PacifiCorp
19 should propose an allocation methodology supported by evidence and analysis on what is
20 reasonable for its Washington customers, and then each party should have the opportunity to
21 respond to that proposal in due course through the proceeding. Only then should the

⁹ Exh. MDM-1T at 15:11-18:10.

1 Commission make a determination, based on the record in that proceeding, on whether an
2 allocation methodology that increases the allocation of renewable and non-emitting resources
3 to Washington customers is supported by the evidence on the record. To do otherwise is
4 unreasonable from a customer risk perspective and unnecessary under CETA regulations.

5 **Q. PLEASE DESCRIBE STAFF CONDITION 5.**

6 A. Staff condition 5 mandates that PacifiCorp “shall not cancel, suspend, or terminate any RFP
7 that originates from resource needs identified in the 2025 IRP,” and clarifies that “[a]ll
8 prudency decisions will be determined by the Commission in a general rate case or other
9 appropriate filing such as annual power cost adjustment filings.”¹⁰

10 **Q. WHAT IS YOUR CONCERN WITH STAFF CONDITION 5?**

11 A. My concern with Staff Condition 5 is similar to Staff Condition 2 in that it again seeks to
12 constrain future outcomes, which unreasonably shifts risk to PacifiCorp’s customers. AWEC
13 understands the desire to avoid a repeat of the current situation in which PacifiCorp does not
14 have a clear pathway for resource procurement in the short-term, which has in part driven the
15 Company to propose its reduced interim targets in this case. However, circumstances may
16 come to pass in the future that nevertheless warrant cancelation, suspension or termination of a
17 future RFP stemming from the Company’s 2025 IRP. Aside from whether the Commission
18 retains the legal authority to impose and enforce this condition, it should not do so as a matter
19 of policy. Staff’s condition would shift the risk of CETA compliance away from PacifiCorp
20 and its shareholders onto customers, which could in turn result in uneconomic resource
21 acquisitions. Mandating resource procurement processes – and potentially resources

¹⁰ Exh. JNS-1HCT at 5:1-3.

1 themselves – is not necessary. The Commission retains the ability, in future proceedings, to
2 both determine appropriate interim targets and then to determine whether PacifiCorp’s actions
3 to meet approved interim targets are prudent.

4 Additionally, it is unclear whether under this condition PacifiCorp is required to select
5 resources upon conclusions of the mandated RFP. If the answer is yes, then it is unclear how a
6 prudency determination would work given that under such a reading of condition 5, the
7 Company would be mandated to procure the resources to meet Staff’s conditions, thereby
8 negating customers’ ability to challenge the prudence of the resources in a future ratemaking
9 proceeding. Alternatively, if the condition is limited only to the RFP itself and leaves actual
10 resource procurement to PacifiCorp’s discretion, then it is difficult to understand the purpose
11 of this condition, since an RFP alone does not achieve CETA compliance, only resource
12 procurements will do that.

13 **Q. PLEASE DESCRIBE STAFF CONDITION 6.**

14 A. Staff Condition 6 addresses interim targets and requires that “PacifiCorp’s 2025 CEIP will
15 include a 2029 interim target of at least 73 percent of retail sales supplied by non-emitting and
16 renewable resources, as modeled in its Revised 2021 CEIP.”¹¹

17 **Q. WHAT IS YOUR CONCERN WITH STAFF CONDITION 6?**

18 A. Like Staff Conditions 2 and 5, my concern with Staff Condition 6 is that it predetermines the
19 outcome of PacifiCorp’s 2025 CEIP, or in the very least, asks the Company to file with a
20 particular outcome regardless of what its analysis demonstrates are reasonable interim targets
21 in order to meet CETA requirements. As described in my response to Staff’s Condition 2,

¹¹ Exh. JNS-1HCT at 6:6-8.

1 AWEC questions the Commission’s legal authority to order this condition, and will address
2 those concerns in briefing. As a matter of policy, the Company should undertake the process of
3 analyzing and considering – based on the information that is known at the time – all relevant
4 evidence prior to developing interim targets for its 2025 CEIP. While a 73 percent interim
5 target may be an outcome of that process, mandating that outcome in this case comes at a risk
6 to customers. At this time, we do not know key information that would support appropriate
7 interim targets in the 2025 CEIP, including an allocation methodology. The Commission’s
8 approval of this condition would also effectively predetermine the outcome of its decision on
9 PacifiCorp’s 2025 CEIP, because the Company’s filing will simply have been following a
10 Commission mandate from this proceeding. At best, this will lead to an inefficient process in
11 reviewing PacifiCorp’s 2025 CEIP and again, with no demonstrated benefit to customers or
12 concrete progress for PacifiCorp meeting CETA requirements.

13 **Q. PLEASE DESCRIBE STAFF CONDITION 7.**

14 A. Staff’s condition 7 requires the Company to “work with Advisory groups to designate at
15 minimum 27% of benefits measured across each component of distributed energy resources to
16 flow to named communities during the 2026-2029 compliance period.”¹²

17 **Q. DO YOU HAVE CONCERNS WITH STAFF CONDITION 7?**

18 A. Yes. It is unclear from Staff’s testimony how benefits are defined and will be determined to
19 “flow” to named communities during the next compliance period. Without understanding this,
20 it is not possible to know whether a minimum designation of 27 percent is reasonable. Rather
21 than taking this prescriptive approach at this time, the Commission could direct PacifiCorp to

¹² Exh. JNS-1HCT at 6:10-13.

1 come with a proposal on this issue in its 2025 CEIP, which can be developed, with input from
2 its Advisory groups, on both the level of minimum designated benefits and how those benefits
3 will be determined to “flow” to named communities.

4 **III. RESPONSE TO RENEWABLE NORTHWEST**

5 **Q. PLEASE SUMMARIZE RNW’S RECOMMENDATIONS.**

6 A. RNW recommends that the Commission reject the CEIP Biennial Update, uphold the targets
7 proposed by the Company’s Revised 2021 CEIP, and order PacifiCorp to initiate a near-term
8 resource procurement process.¹³

9 **Q. DO YOU AGREE WITH RNW’S RECOMMENDATIONS?**

10 A. No. As discussed above, rejecting the 2023 CEIP Biennial Update and upholding the 2021
11 CEIP targets comes at substantial risk to customers without a clear, corresponding benefit
12 including a clear path forward to meeting CETA requirements. Further, AWEC questions the
13 Commission’s authority to order PacifiCorp to initiate a resource procurement process and as
14 discussed in AWEC’s response to Staff Condition 5, this is bad policy.

15 **IV. RESPONSE TO NVEC**

16 **Q. PLEASE SUMMARIZE NVEC’S RECOMMENDATIONS.**

17 A. NVEC recommends that PacifiCorp “commit to achieving a minimum of 30% of energy
18 benefits flowing to named communities by the 2027 Biennial CEIP Update for each of its DR
19 and EE programs.”¹⁴

¹³ Exhibit No. KW-1T at 3:10-13.

¹⁴ Exh. No. CT-1T at 9:9-11.

1 **Q. DO YOU AGREE WITH NVEC'S RECOMMENDATIONS?**

2 A. No. For the same reasons as set forth above in response to Staff's Condition 7, AWEC does
3 not support this condition and recommends as an alternative that this issue be more fully
4 explored in the Company's 2025 CEIP.

5 **Q. DOES THIS CONCLUDE YOUR OPENING TESTIMONY?**

6 A. Yes.

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PACIFICORP dba
PACIFIC POWER & LIGHT
COMPANY

Respondent

DOCKET UE-210829

**EXHIBIT LDK-2
WITNESS QUALIFICATION
STATEMENT OF LANCE D.
KAUFMAN**

CURRICULUM VITAE

LANCE KAUFMAN
Western Economics, LLC
2623 NW Bluebell Place
Corvallis OR, 97330
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lance@westernecon.com

EDUCATION:

University of Oregon	Ph.D.	Economics	2008 – 2013
University of Oregon	M.S.	Economics	2006 – 2008
University of Anchorage Alaska	B.B.A.	Economics	2001 – 2004

CERTIFICATIONS:

Certified Depreciation Professional	Society of Depreciation Professionals	2018
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PROFESSIONAL EXPERIENCE:

Consultant	Lance Kaufman Consulting	2014 – Present
Senior Economist	Oregon Public Utility Commission	2015 – 2018
Public Utility Advocate	Alaska Department of Law	2014 – 2015
Senior Economist	Oregon Public Utility Commission	2013 – 2014
Instructor	University of Oregon	2008 – 2012
Research Assistant	University of Alaska Anchorage	2003 – 2008

PROFESSIONAL MEMBERSHIPS:

Society of Depreciation Professionals	2015 – Present
American Economics Association	2017 – Present

PUBLICATIONS:

Kaufman, Lance (2013) Three Essays on Governance Structure in the Hospital Industry.
University of Oregon

Laura R. Sangaré, Lance Kaufman, Robert A. Bardwell, Deborah Nichols, and Mersine Bryan
(forthcoming) The risk of sleep-related death in an inclined sleep environment. *BMC Public Health*.

RESEARCH, CONSULTING, AND ECONOMETRIC ANALYSIS:

- Hughes Socol Piers Resnick & Dym, Ltd. Martinez v TCC Wireless 2024

- Deposed** as an expert witness for plaintiffs re calculation of economic harm due to breach of contract in Martinez et al. v. TCC Wireless Circuit Court of Cook County, Illinois, County Department, Chancery Division.
- The Municipality of Cedar Falls, Iowa, Cedar Falls, IA 2023
Retained as a consultant for Cedar Falls Utilities to conduct a depreciation study of their electric, gas, water, and telecommunications utilities.
 - Davison Van Cleve, PC, Portland, OR 2023
Retained as an expert witness for Alliance of Western Energy Consumers regarding revenue requirement, rate spread, and rate design in Portland General Electric Company, Request for a General Rate Revision, Public Utility Commission of Oregon, Docket No. UE 416.
 - Davison Van Cleve, PC, Portland, OR 2023
Retained as an expert witness for Alliance of Western Energy Consumers regarding cost of capital, rate spread, and rate design in PacifiCorp Request for a General Rate Revision, Washington Utilities and Transportation Commission, Docket No. UE-230172.
 - Alliance for Retail Energy Markets, La Jolla, CA 2023
Retained as an expert witness for Alliance for Retail Energy Markets regarding resource adequacy of generation service providers in Arizona Public Service Company, Request for a General Rate Revision, Arizona Public Utilities Commission, Docket No. E-01345A-22-0144.
 - North Carolina Sustainable Energy Association, Raleigh, NC 2023
Retained as an expert witness for North Carolina Sustainable Energy Association regarding depreciation rates and coal plant securitization in Duke Energy Carolinas, Request for a General Rate Revision, North Carolina Utility Commission Docket No. E-7 Sub 1276.
 - Deep Blue Pacific Wind, Portland, OR 2023
Retained as an expert witness for Deep Blue Pacific Wind regarding least cost planning in Portland General Electric Company, 2023 Integrated Resource Plan, Public Utility Commission of Oregon, Docket No. LC 80.
 - Duane Morris LLP Boston, MA 2022
Deposed as an expert witness for plaintiffs re calculation of economic harm due to breach of contract in Harold Parsons v. The Commerce Insurance Company Suffolk Superior Court Commonwealth of Massachusetts.
 - Davison Van Cleve, PC, Portland, OR 2022
Retained as an expert witness for Alliance of Western Energy Consumers regarding revenue requirement, rate spread, and rate design in Portland General Electric Company, Request for a General Rate Revision, Public Utility Commission of Oregon, Docket No. UE 394.
 - Davison Van Cleve, PC, Portland, OR 2022
Retained as an expert witness for Alliance of Western Energy Consumers regarding depreciation rates in Portland General Electric Company Detailed Depreciation Study of Electric Utility Properties, Public Utility Commission of Oregon, Docket No. UM 2152.
 - Davison Van Cleve, PC, Portland, OR 2022

- Retained as an expert witness for Alliance of Western Energy Consumers regarding revenue requirement, rate spread, and rate design in Pacific Power Request for a General Rate Revision, Public Utility Commission of Oregon, Docket No. UE 399.
- Davison Van Cleve, PC, Portland, OR 2022
Retained as an expert witness for Alliance of Western Energy Consumers regarding revenue requirement, rate spread, and rate design in Puget Sound Energy General Rate Case to Update Base Rates, Washington Utility and Transportation Commission, Docket No. UE-220066, UG-220067, UE-210918.
 - Davison Van Cleve, PC, Portland, OR 2022
Retained as an expert witness for Alliance of Western Energy Consumers competitive energy service in AWEC's Investigation into Long-Term Direct Access Programs, Public Utility Commission of Oregon, Docket No. UM 2024.
 - Davison Van Cleve, PC, Portland, OR 2021
Retained as an expert witness for Alliance of Western Energy Consumers competitive energy service in Direct Access Rulemaking, Public Utility Commission of Oregon, Docket No. AR 651.
 - Davison Van Cleve, PC, Portland, OR 2022
Retained as an expert witness for Smart Energy Alliance regarding revenue requirement, rate spread, and rate design in Sierra Pacific General Rate Case to Update Base Rates, Public Utility Commission of Nevada, Docket No. 22-06014.
 - Davison Van Cleve, PC, Portland, OR 2022
Retained as an expert witness for Alliance of Western Energy Consumers regarding revenue requirement, rate spread, and rate design in Avista Corp General Rate Case to Update Base Rates, Washington Utility and Transportation Commission, Docket No. UE-220053 & UG-220054.
 - Georgia Public Service Commission, OR 2022
Retained as an expert witness for Georgia Public Service Commission depreciation rates and decommissioning costs in Georgia Power Company's 2022 General Rate Case, Georgia Public Service Commission, Docket No. 44280.
 - Nichols Kaster, PLLP, Minneapolis, Minnesota, 2013 –
Deposed as expert witness for the plaintiffs re analysis of termination of older employees in re Raymond, et al. v. Spirit Aerosystems, Inc., Case No. 16-1282-JTM-GEB, United States District Court, District of Kansas.
 - Jester, Gibson & Moore, Denver, CO 2022
Deposed as an expert witness for defendants and countersuit plaintiffs regarding lost earnings in Franklin D. Azar & Associates, P.C., v. Ivy Ngo v. Franklin D. Azar.
 - Georgia Public Service Commission Public Interest Advocacy Staff, Atlanta, GA (2022)
Provided **Testimony** as an expert witness in Docket No. 44280 Georgia Power Company's 2022 Rate Case Depreciation Study.
 - Inland Empire Paper Co., Spokane, WA (2020)
Provided **Testimony** as an expert witness in WUTC Docket No. UE-200900, Avista Corp's 2020 Rate Case regarding avoided cost pricing for a special contract.
 - Davison Van Cleve, PC, Portland, OR 2021
Provided **Testimony** as an expert witness for Alliance of Western Energy Consumers regarding depreciation, cost of service, rate design, and revenue requirement in Portland

General Electric Company 2021 General Rate Case, Public Utility Commission of Oregon, Docket No. UE 394.

- Davison Van Cleve, PC, Portland, OR 2021
Provided comments as an expert witness for Alliance of Western Energy Consumers in Puget Sound Energy's 2022 General Rate Case, Washington Utilities and Transportation Commission.
- Davison Van Cleve, PC, Portland, OR 2022
Provided comments as an expert witness for Alliance of Western Energy Consumers in Puget Sound Energy's 2022 General Rate Case, Washington Utilities and Transportation Commission.
- Davison Van Cleve, PC, Portland, OR 2021
Provided comments as an expert witness for Alliance of Western Energy Consumers in Avista Corp's Clean Energy Implementation Plan, Washington Utilities and Transportation Commission.
- Davison Van Cleve, PC, Portland, OR 2021
Provided comments as an expert witness for Alliance of Western Energy Consumers in PacifiCorp's General Rate Case, Public Utility Commission of Oregon, Docket No. UE 399.
- Davison Van Cleve, PC, Portland, OR 2021
Provided comments as an expert witness for Alliance of Western Energy Consumers in Puget Sound Energy's Clean Energy Implementation Plan, Washington Utilities and Transportation Commission.
- Hagens Berman Sobol Shapiro LLP, Phoenix, Arizona, 2021
Deposed as an expert witness for plaintiffs re calculation of economic harm due to breach of contract in Kronenberg, et al. vs. Allstate Insurance Company, et al. United States District Court Eastern District of New York Case No.: 18-cv-06899 (NGG) (JO).
- Baumgartner Law, LLC, Denver, CO, 2021
Deposed as an expert witness for plaintiffs re calculation of economic harm due to injury in re In Re: Bernadette Romero and Leonard Martinez v. City of Westminster
- Killmer, Lane, and Newman, LLP, Denver, Colorado, 2020
Retained as expert witness for plaintiff re racial disparities in police use of force re Estate of Elijah J. McClain V. City Of Aurora, Colorado, Case No. 1:19-cv-01160-RM-MEH, United States District Court, District of Colorado.
- Hagens Berman Sobol Shapiro LLP, Phoenix, Arizona, 2020
Deposed as an expert witness for plaintiffs re calculation of economic harm due to breach of contract in Fortson, et al. v. Garrison Property and Casualty Insurance Co. United States District Court Middle District of North Carolina Civil Action No. 1:19-cv-294.
- Hagens Berman Sobol Shapiro LLP, Phoenix, Arizona, 2020
Deposed as an expert witness for plaintiffs re calculation of economic harm due to breach of contract in Lewis and Lewis, et al. v. Government Employees Insurance Co. United States District Court For the District of New Jersey Civil Action No. 1:18-CV-05111-RBK-AMD.
- Cable Huston, LLP, Portland, OR 2020
Retained as an expert witness for Alliance of Western Energy Consumers regarding revenue requirement, rate spread and rate design in Cascade Natural Gas Corporation

Request for General Rate Revision, Public Utility Commission of Oregon, Docket No. UG 390.

- Davison Van Cleve, PC, Portland, OR 2020
Retained as an expert witness for Alliance of Western Energy Consumers regarding net power costs in Portland General Electric Company 2021 Annual Power Cost Update Tariff, Public Utility Commission of Oregon, Docket No. UE 377.
- Davison Van Cleve, PC, Portland, OR 2020
Retained as an expert witness for Alliance of Western Energy Consumers regarding net power costs in Portland General Electric Company 2021 Annual Update Tariff, Public Utility Commission of Oregon, Docket No. UE 381.
- Davison Van Cleve, PC, Portland, OR 2020
Retained as an expert witness for Alliance of Western Energy Consumers regarding revenue requirement, rate spread and rate design in Nevada Power Company 2021 General Rate Case, Public Utility Commission of Nevada, Docket No. 20-06003
- Frank & Salahuddin LLC, Denver, Colorado, 2020
Retained as an expert witness for plaintiffs regarding calculation of lost earnings.
- Level Development Group, LLC, Denver, Colorado, 2020
Develop real estate valuation model for establishing sale price of newly constructed residential housing.
- Hagens Berman Sobol Shapiro LLP, Phoenix, Arizona, 2020
Deposed as an expert witness for plaintiffs re calculation of economic harm due to breach of contract in Jeff Olberg v. Allstate Insurance Company, Case No. C18-0573-JCC, United States District Court, Western District of Washington at Seattle.
- Hagens Berman Sobol Shapiro LLP, Phoenix, Arizona, 2020
Deposed as an expert witness for plaintiffs re calculation of economic harm due to breach of contract in re Cameron Lundquist v. First National Insurance Company of America, Case No. 18-cv-05301-RJB, United States District Court, Western District of Washington at Tacoma.
- Killmer, Lane, and Newman, LLP, Denver, Colorado, 2020
Deposed as expert witness for plaintiff re racial disparities in police use of force re Brandon Washington V. City Of Aurora, Colorado, Case No. 1:19-cv-01160-RM-MEH, United States District Court, District of Colorado.
- Davison Van Cleve, PC, Portland, OR 2020
Retained as an expert witness for Alliance of Western Energy Consumers regarding coal plant pollution control investments, coal plant decommissioning costs, rate spread and rate design re PacifiCorp 2020 Request for a General Rate Revision, Public Utility Commission of Oregon Docket No. UE 374.
- Davison Van Cleve, PC, Portland, OR and Washington Attorney General, 2020
Retained as an expert witness for Packaging Company of America and Washington Public Council regarding decommissioning costs and rate design re PacifiCorp 2020 Request for a General Rate Revision, Washington Utility and Transportation Commission.
- Sanger Law, PC, Portland, OR, 2019
Retained as a consultant for Renewable Energy Coalition and for Northwest & Intermountain Power Producers Coalition to provide analysis of PacifiCorp avoided costs

- in a Utility PURPA Compliance Filing at the Washington Utility and Transportation Commission Docket, No. UE-190666.
- Sanger Law, PC, Portland, OR, 2019
Retained as a consultant for Northwest & Intermountain Power Producers Coalition to provide analysis of Portland General Electric avoided costs in support of testimony to the Oregon Legislature.
 - Powder River Basin Resource Council, Laramie, Wyoming, 2019.
Testified as an expert witness for Powder River Basin Resource Council regarding coal plant closures re PacifiCorp 2019 Integrated Resource Plan, Wyoming Public Service Commission Docket No. 90000-147-XI-19.
 - The Law Office of Ralph Lamar, Arvada, CO 2019
Deposed as an expert witness for plaintiffs regarding lost profits of a Farmers insurance agency
 - Jester, Gibson & Moore, Denver, CO 2019
Retained as an expert witness for plaintiffs regarding lost earnings in an ADEA wrongful termination matter.
 - Albrechta & Coble, Ltd. Fremont, OH 2019
Retained as an expert witness for plaintiff regarding lost earnings in a race related wrongful termination matter.
 - Conrad Law, PC, Salt Lake City, UT 2019
Retained as an expert witness for Ellis-Hall Consultants, LLC. regarding economic damages in Ellis-Hall Consultants, LLC. et. al. v. George B. Hofmann IV, United States District Court, District of Utah, Central Division.
 - Davison Van Cleve, PC, Portland, OR 2019
Retained as an expert witness for Alliance of Western Energy Consumers regarding net variable power cost calculations in PORTLAND GENERAL ELECTRIC COMPANY, 2020 Annual Power Cost Update Tariff Public Utility Commission of Oregon Docket No. UE 359.
 - Sanger Law, PC, Portland, OR, 2019
Testified as an expert witness for Renewable Energy Coalition and Rocky Mountain Coalition for Renewable Energy regarding Qualified Facility avoided costs in Application of Rocky Mountain Power for a Modification of Avoided Cost Methodology and Reduced Term of PURPA Power Purchase Agreements Public Service Commission of Wyoming Docket No. 20000-545-ET-18
 - Sanger Law, PC, Portland, OR, 2019
Retained as an expert witness for Cafeto Coffee Company regarding the necessity, design, and location of transmission lines in SPRINGFIELD UTILITY BOARD Petition for Certificate of Public Convenience and Necessity Public Utility Commission of Oregon Docket No. PCN 3.
 - Baumgartner Law, LLC, Denver, CO, 2018
Retained as an expert witness for plaintiffs re calculation of economic harm due to injury in re Eric Bowman, v. Top Tier Colorado, LLC., Case No. 18CV31359, United States District Court, District of Colorado.
 - Cohen Milstein Sellers & Toll PLLC, Washington DC, 2018

- Retained as an expert witness for plaintiffs re calculation of economic harm due to breach of contract in re Isaac Harris et al. v. Medical Transportation Management, Inc., Civil Action No. 17-1371, United States District Court, District of Columbia.
- Davison Van Cleve, PC, Portland, OR 2020
Retained as an expert witness for Alliance of Western Energy Consumers regarding depreciation rates in re PacifiCorp Application for Authority to Implement Revised Depreciation Rates, Public Utility Commission of Oregon Docket No. UM 1968.
 - Davison Van Cleve, PC, Salem, OR and Washington Attorney General, OR 2020
Retained as an expert witness for Packaging Company of America and Washington Public Council regarding depreciation rates in re Pacific Power 2018 Depreciation Study, Washington Utility and Transportation Commission, Docket No. UE-180778.
 - Hagens Berman Sobol Shapiro LLP, Phoenix, Arizona, 2018
Deposed as an expert witness for plaintiffs re calculation of economic harm due to breach of contract in re Vicky Maldonado and Carter v. Apple Inc., AppleCare Services Company, Inc., and Apple CSC, Inc., Case No. 3:16-cv-04067-WHO, United States District Court, District of California.
 - Hagens Berman Sobol Shapiro, LLP, Phoenix, Arizona, 2018
Deposed and testified as an expert witness for plaintiffs re calculation of unpaid mileage for truck drivers in re Swift Transportation Co., Inc., Civil Action No. CV2004-001777, Superior Court of the State of Arizona, County of Maricopa.
 - Killmer, Lane, and Newman, LLP, Denver, Colorado, 2018
Retained as expert witness for plaintiffs re reasonable attorney fees in re Jeanne Stroup and Ruben Lee, v. United Airlines, Inc., Case No. 15-cv-01389-WYD-STV, United States District Court, District of Colorado.
 - Klein and Frank, PC, Denver, Colorado, 2018
Retained as expert witness for plaintiffs re potential jury bias in re Gail Goehrig and Chris Goehrig v. Core Mountain Enterprises, LLC, Case No. 2016CV030004, San Juan County District Court.
 - Robert Belluso, Pennsylvania, 2017
Retained as expert witness for plaintiff re lost profit in re Robert Belluso D.O. v Trustees of Charleroi Community Park, PHRC Case No. 201505365, Pennsylvania Human Relations Commission.
 - Lowery Parady, LLC, Denver, Colorado, 2017
Analyzed payroll data and calculated unpaid overtime and unpaid hours for plaintiff class action in re Violeta Solis, et al. v. The Circle Group, LLC, et al., Case No. 1:16-cv-01329-RBJ, United States District Court, District of Colorado.
 - Sawaya & Miller Law Firm, Denver, Colorado, 2017
Provided data processing and analysis of employment records.
 - Financial Scholars Group, Orinda, California, 2017
Provided analysis of risk profile in bundled real estate and personal loans in re Old Republic Insurance Company v. Countrywide Bank et al., Circuit Court of Cook County, Illinois, Chancery Division.
 - Financial Scholars Group, Orinda, California, 2017

Provided consultation and analysis of financial market transactions in preparation of settlement claims filings in re Laydon v. Mizuho Bank, Ltd., et al. and Sonterra Capital Master Fund Ltd., et al v. UBS AG et al.

- Clean Energy Action, Boulder, Colorado, 2016 – 2017
Provided consultation on the appropriate discounting methodology used in energy resource planning in the Public Service Company of Colorado application for approval of the 2016 Electric Resource Plan, Proceeding No. 16A-0396E, Public Utilities Commission of the State of Colorado.
- Confidential Client, 2016
Provided analysis and report on the probability that distinct crimes are independent events based on geographical analysis of crime rates.
- Christine Lamb and Kevin James Burns, Denver, Colorado, 2016
Provided data analysis for defendant of the impact of ethnicity on termination decisions in re Aragon et al v. Home Depot USA, Inc., Case No. 1:15-cv- 00466-MCA-KK, United States District Court, District of New Mexico.
- Steptoe & Johnson LLP, Washington, DC, 2015 – 2016
Programmed analysis of internet traffic data for plaintiffs applying a proprietary probability model developed to identify and verify accounts responsible for repeated infringements of asserted copyrights by defendants’ internet subscribers in re BMG Rights Management (US) LLC, and Round Hill Music LP v. Cox Enterprises, Inc., et al., Case No. 1:14-cv-1611(LOG/JFA), United States District Court Eastern District of Virginia, Alexandria Division.
- Padilla & Padilla, PLLC, Denver, Colorado, 2014 – 2016
Provided research and analysis for plaintiffs re the impact on minority applicants from use of the AccuPlacer Test by the City and County of Denver, and estimated damages in re Marian G. Kerner et al. v. City and County of Denver, Civil Action No. 11-cv-00256-MSK-KMT, United States District Court, District of Colorado.
- U.S. Equal Employment Opportunity Commission, 2013
Provided statistical analysis of EEOC filings.

OTHER REGULATORY PROCEEDINGS:

- Portland General Electric 2018 AUT UE 335
- Portland General Electric 2016 Annual Power Cost Variance Docket No. UE 329.
- PacifiCorp 2016 Power Cost Adjustment Mechanism Docket No. UE 327.
- Public Utility Commission of Oregon Staff Investigation into the Treatment of New Facility Direct Access Charges Docket No. UM 1837
- PacifiCorp Oregon Specific Cost Allocation Investigation Docket No. UM 1824.
- PacifiCorp 2018 Transition Adjustment Mechanism Docket No. UE 323.
- Portland General Electric 2018 General Rate Case Docket No. UE 319.
- Avista Corp. 2017 General Rate Case Docket No. UG 325.
- Portland General Electric Affiliated Interest Agreement with Portland General Gas Supply Docket No. UI 376.
- Portland General Electric 2017 Automated Update Tariff Docket No. UE 308
- PacifiCorp 2017 Transition Adjustment Mechanism Docket No. UE 307

- Portland General Electric 2017 Reauthorization of Decoupling Adjustment Docket No. UE 306
- Northwest Natural Gas Investigation of WARM Program Docket No. UM 1750.
- PacifiCorp Investigation into Multi-Jurisdictional Allocation Issues Docket No. UM 1050.
- Idaho Power Company 2015 Power Supply Expense True Up Docket No. UE 305
- Homer Electric Association 2015 Depreciation Study U-15-094
- Submitted prefiled testimony regarding the depreciation study.
- Chugach Electric Association 2015 Rate Case U-15-081
- Developed staff position regarding margin calculations.
- ENSTAR 2014 Rate Case U-14-111
- Submitted prefiled testimony regarding sales forecast.
- Alaska Pacific Environmental Services 2014 Rate Case U-14-114/115/116/117/118
Submitted prefiled testimony regarding cost allocations, cost of service, cost of capital, affiliated interests, and depreciation.
- Alaska Waste 2014 Rate Case U-14-104/105/106/107
Submitted prefiled testimony regarding cost of service study, cost of capital, operating ratio, and affiliated interest real estate contracts.
- Fairbanks Natural Gas 2014 Rate Case U-14-102
Submitted prefiled testimony regarding cost of service study and forecasting models.
- Avista 2015 Rate Case U-14-104
Submitted analysis supporting OPUC Staff settlement positions regarding Avista's sales and load forecast, decoupling mechanisms and interstate cost allocation methodology. Represented Staff in settlement conferences on November 21, November 26, and December 4, 2013.
- Portland General Electric 2015 Rate Case
Submitted pre-filed opening testimony addressing PGE's sales forecast, printing and mailing budget forecast, mailing budget, marginal cost study, line extension policy and reactive demand charge. Represented OPUC Staff in settlement conferences on May 20, May 27, and June 12, 2014.
- Portland General Electric 2014 General Rate Case
Submitted analysis supporting OPUC Staff settlement positions regarding PGE's sales and load forecast, revenue decoupling mechanism, and cost of service study. Represented OPUC Staff in settlement conferences on May 29, June 3, June 6, July 2, and July 9 of 2013. Submitted testimony in support of partial stipulation, pre-filed opening testimony addressing PGE's decoupling mechanism, and testimony in support of a second partial stipulation.
- PacifiCorp 2014 General Electric Rate Case
Submitted analysis supporting OPUC Staff settlement positions regarding PacifiCorp's sales and load forecast and cost of service study. Represented Staff in settlement conferences on June 12 through June 14, 2013.