

**Exh. WY-1CT
Docket UE-230482
Witness: Wesley Yeomans
REDACTED**

**BEFORE THE WASHINGTON
UTILITIES AND TRANSPORTATION COMMISSION**

In the Matter of

PACIFIC POWER & LIGHT COMPANY

**2022 Power Cost Adjustment Mechanism
Annual Report**

DOCKET UE-230482

TESTIMONY OF

WESLEY YEOMANS

**ON BEHALF OF STAFF OF
WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION**

Hedging

March 28, 2024

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LIST OF EXHIBITS

- Exh. WY-2 Background and Experience Profile
- Exh. WY-3C PacifiCorp Response to AWEC DR 002 CONF, including attachments
- Exh. WY-4C PacifiCorp Response to AWEC DR 003 CONF, including attachments
- Exh. WY-5C PacifiCorp Response to AWEC DR 008 CONF, including attachments
- Exh. WY-6C PacifiCorp Response to AWEC DR 006 CONF, including attachments
- Exh. WY-7C PacifiCorp Response to WUTC DR 1e CONF

1 I. INTRODUCTION

2

3 **Q. Please state your name, occupation and business address.**

4 A. My name is Wesley Yeomans. I am an independent consultant under subcontract to Grid
5 Strategies LLC. Grid Strategies is based in the Washington, DC area. My office is in
6 Tully, NY.

7

8 **Q. Please state your qualifications to provide testimony in this proceeding.**

9 A. I received a BSEE degree with an emphasis in electric power systems from Clarkson
10 University in 1984 and an MBA from Syracuse University in 1990. I was heavily
11 involved with transitioning Niagara Mohawk Power Corporation from vertically
12 integrated cost-of-service constructs for generation and energy supply services to the
13 large, centralized New York Independent System Operator (“NYISO”) energy and
14 capacity markets from 1996-2005 utilizing marginal pricing constructs. A large
15 component of that transition involved managing a wholesale supply portfolio in the
16 NYISO markets and developing hedging policies and procedures to protect electric
17 customers from market volatility. In 2009 I joined the NYISO as Vice President of
18 Operations with responsibilities for executing monthly capacity auctions, day ahead, and
19 real time energy markets, and all NY high voltage transmission operations.
20 My professional qualifications are further summarized in Exhibit WY-2.

1 **Q. Have you testified previously before the Washington Utilities and Transportation**
2 **Commission?**

3 A. No.

4

5 **Q. Have you testified before other commissions?**

6 A. Yes. I testified twice on behalf of Niagara Mohawk Power Corporation, once before the
7 New York Public Service Commission in 1994 and once before FERC in 1996. In 2013, I
8 testified before FERC on behalf of the NYISO. Testimony topics included independent
9 power costs, Open Access Transmission Tariffs (“OATT”), and transmission rates. I have
10 also participated in numerous NY Public Service Commission and FERC technical
11 conferences.

12

13 **Q. What is the purpose of your testimony in this proceeding?**

14 A. The purpose of my testimony is to review and comment on PacifiCorp’s energy risk
15 management program – its hedging practices.

16

17 **Q. Have you prepared exhibits in support of your testimony?**

18 A. Yes. I prepared Exh.WY-2 through Exh.WY-7C. The information contained in these
19 exhibits is correct to the best of my knowledge and belief.

1 **II. SUMMARY**

2

3 **Q. Please summarize your testimony.**

4 A. Based on my review of PacifiCorp’s energy risk management policies, energy
5 management procedures, filings from PacifiCorp, and responses to data requests, I
6 believe PacifiCorp’s energy risk management program is prudent, reasonable, and
7 effective. My testimony includes a generic description of the important characteristics
8 and attributes of a prudent energy risk management program, a review to determine if
9 PacifiCorp has developed and incorporated these important characteristics into its
10 hedging policies and procedures, a review to substantiate if procedures were followed
11 during 2022 consistent and compliant with PacifiCorp’s formal energy risk policies, and
12 recommendations for consideration.

13

14 **III. IMPORTANT CHARACTERISTICS OF A PRUDENT ENERGY**
15 **HEDGING PROGRAM**

16

17 **Q. In your experience, what are the necessary, important characteristics of a prudent**
18 **energy risk management program?**

19 A. In the long run, efficient commodity markets tend to be relatively stable with infrequent
20 instances of extreme volatility. Yet, when extreme market volatility does occur in the
21 energy markets, the cost impacts can have significant impact on electric customers.
22 Market volatility tends to occur during time periods involving, among other things,
23 extreme weather, high levels of generator and transmission infrastructure failures, time

1 periods of volatile fuel prices sometimes set by world events, supply shortages including
2 unexpected loss of intermittent renewable generation, or increased load demands. When
3 market volatility occurs, electric power hedging, along with natural gas hedging for a
4 supply portfolio inclusive of natural gas fired generation, can minimize and mitigate the
5 risks of extreme financial impacts to customers.

6 The difficult challenge is that energy hedges are certainly not free and in the long
7 term may be more expensive than total market expected costs. This is because utilities
8 and customers are paying a premium for the “value-added” protections that hedges
9 provide to mitigate market volatility. Too much hedging can be expensive for customers
10 during time periods of low market volatility. Too little hedging can be extremely
11 expensive for customers during time periods of extreme market volatility.

12 The best strategy for customers is to develop a balanced hedging program
13 avoiding over-hedging and over-charging customers for infrequent, extreme market
14 volatility while prudently minimizing the risks of extreme costs during rare instances of
15 extreme market volatility.

16 Utilities may attempt to strike this balance with a static hedging program whereby
17 certain predetermined blocks of physical and financial energy hedges are purchased on
18 predetermined schedules at prevailing prices and costs. But I do not recommend a static
19 hedging program because it can blindly result in expensive, unnecessary over-hedging
20 during long times of low, non-volatile fuel costs, non-volatile market outcomes, good
21 generator asset performance, and low future market volatility. Of more concern, a static
22 hedging program could blindly result in under-hedging during extreme volatile market
23 conditions.

1 A better approach is a risk-responsive energy hedging program. A risk responsive
2 energy hedging program considers frequently updated asset and portfolio information
3 along with updated market conditions and then develops forward risk assessments and
4 associated reporting. More specifically, it considers and adapts to changing market
5 conditions, asset performance, load demands, variable fuel prices, and transmission
6 capacity by utilizing refreshed and updated forecasts of these variables and applying
7 analytical techniques to report and require hedging action when prudent to “close” risky
8 open positions. A risk-responsive hedge program provides the flexibility to dynamically
9 adjust and require hedging actions based on updated forecasts, refreshed real time data
10 and risk assessments as cost effective for customers.

11
12 **IV. DESCRIPTION OF PACIFICORP ENERGY HEDGING PROGRAM**

13
14 **Q. Have you reviewed PacifiCorp’s hedging policy?**

15 A. Yes. I have carefully reviewed the PacifiCorp “Energy Risk Management Policy”¹ and
16 PacifiCorp’s “Energy Supply Management Front Office Procedures.”²

17
18 **Q. Would you describe PacifiCorp’s hedging policy as static or risk responsive?**

19 A. I would characterize it as risk responsive. My review has found that PacifiCorp’s formal
20 policies and procedures [REDACTED]

21 [REDACTED]
22 [REDACTED]

¹ Yeomans, Exh. WY-3C, Risk Management Policy_20230417 CONF-CURRENT, at 2-22.

² Yeomans, Exh. WY-4C, ESM Front Office Procedures_20220101 CONF-CURRENT, at 2-19.

1 [REDACTED]

2 [REDACTED] This includes:

3 • [REDACTED]

4 [REDACTED]

5 [REDACTED]³ [REDACTED]

6 [REDACTED]

7 [REDACTED]

8 [REDACTED]

9 [REDACTED]⁴ [REDACTED]

10 [REDACTED]⁵ [REDACTED]

11 [REDACTED]⁶ [REDACTED]

12 [REDACTED]⁷

13 [REDACTED]

14 [REDACTED]⁸

15 • [REDACTED]

16 [REDACTED]

17 [REDACTED]⁹ [REDACTED]

18 [REDACTED]

³ Yeomans, Exh. WY-3C, Risk Management Policy_20230417 CONF-CURRENT, at 9.
⁴ Yeomans, Exh. WY-4C, ESM Front Office Procedures_20220101 CONF-CURRENT, at 8-10.
⁵ Yeomans, Exh. WY-3C, Risk Management Policy_20230417 CONF-CURRENT, at 10.
⁶ Yeomans, Exh. WY-4C, ESM Front Procedures_20220101 CONF-CURRENT, at 8.
⁷ Yeomans, Exh. WY-4C, ESM Front Office Procedures_20220101 CONF-CURRENT, at 8.
⁸ *Id.* at 7.
⁹ Yeomans, Exh. WY-3C, Risk Management Policy_20230417 CONF-CURRENT, at 17-18.

1 [REDACTED]

2 [REDACTED]

3 [REDACTED]¹⁰ [REDACTED]

4 [REDACTED]¹¹

5 • [REDACTED]

6 [REDACTED]¹² [REDACTED]

7 [REDACTED]

8 [REDACTED]¹³

9

10 **Q. Given those characteristics, do you find the design of PacifiCorp’s hedging program**
11 **to be prudent?**

12 A. Yes. These characteristics are the key components of a risk responsive energy hedging
13 program. In my experience, a risk responsive energy hedging program is a prudent
14 approach to balance the risk of future market volatility against the premium cost of price
15 certainty.

16

17 **Q. Have you reviewed Staff Witness Wilson’s proposed disallowances for inefficient**
18 **dispatch?**

19 A. Yes. While I did not participate directly in his analysis, I did coordinate with Mr. Wilson.
20 Our respective reviews of power purchase data provided by PacifiCorp relied on the same

¹⁰ *Id.*

¹¹ *Id.*

¹² Yeomans, Exh. WY-3C, Risk Management Policy_20230417 CONF-CURRENT, at 15.

¹³ *Id.*

1 understanding of how those transactions were recorded and their implications for net
2 power costs.

3 Evaluating the prudence of PacifiCorp's long-term power assets, including the
4 dispatch of PacifiCorp's owned generation, is outside the scope of my review of
5 PacifiCorp's energy risk management program. While I did not closely review his
6 calculations, I generally concur that his analytic approach is reasonable and logically
7 leads to the findings and recommendations set forward in his testimony.

8 I would expect that PacifiCorp would dispatch its generation assets in a manner
9 that follows market price signals. In fact, my review of risk management practices and
10 policies considers that such a program should begin with a credible forecast of power
11 market prices and risks.

12
13 **Q. Is it possible that PacifiCorp could execute its risk management program effectively
14 and dispatch its plants inefficiently?**

15 A. Yes. In general, plant dispatch and risk management functions are separated, at least up
16 until close to the point of power delivery. Some of Staff Witness Wilson's analysis
17 suggests that PacifiCorp failed to create or implement practices to closely
18 follow market price data that would have been provided by risk management staff,
19 although, again, I did not review operational dispatch matters for my testimony.

1 **V. DETERMINATION IF PACIFICORP FOLLOWS ITS FORMAL**
2 **ENERGY RISK MANAGEMENT POLICY**

3
4 **Q. Did you review whether or not PacifiCorp is executing the requirements defined in**
5 **its formal Energy Risk Management Policy and Energy Supply Management Front**
6 **Office Procedures?**

7 A. Yes. My review has found actual examples of [REDACTED]
8 [REDACTED]
9 [REDACTED]
10 [REDACTED]¹⁴ [REDACTED]

11
12 **Q. Please describe your findings with respect to PacifiCorp’s practices for maintaining**
13 **updated input data.**

14 A. My review has found actual examples of daily updating of relevant forecast variables as
15 described below:

- 16 • **Refreshed Market Conditions:** [REDACTED]
17 [REDACTED]
18 [REDACTED]
19 [REDACTED]¹⁵ [REDACTED]
20 [REDACTED]

¹⁴ Yeomans, Exh. WY-3C, Risk Management Policy_20230417 CONF-CURRENT, at 17-18.

¹⁵ Yeomans, Exh. WY-5C, Physical Power Position Report 2022-03-31, tabs “Summary Prices” & “Price & Spark Spreads”.

1 [REDACTED] ¹⁶
2 [REDACTED]
3 [REDACTED] ¹⁷
4 • **Refreshed Transmission Capability:** [REDACTED]
5 [REDACTED] ¹⁸
6 [REDACTED] ¹⁹
7 [REDACTED] ²⁰
8 • **Refreshed Load Forecast:** [REDACTED]
9 [REDACTED]
10 [REDACTED]
11 [REDACTED] ²¹
12 [REDACTED] ²²

14 **Q. Please describe your findings with respect to PacifiCorp’s risk model and risk**
15 **reporting.**
16 **A.** My review has found actual examples of daily risk model executions and risk reporting:
17 • **Risk Model Execution:** As described in the Energy Risk Management Policy²³
18 the [REDACTED]

¹⁶ *Id.*
¹⁷ Yeomans, Exh. WY-5C, Physical Position Calculator 2022-03-31, tab “Instructions”.
¹⁸ Yeomans, Exh. WY-5C, Physical Position Calculator 2022-03-31, tab “Transmission”.
¹⁹ *Id.*
²⁰ *Id.*
²¹ Yeomans, Exh. WY-5C, Physical Position Calculator 2022-03-31, tab “Peak Forecasts”.
²² Yeomans, Exh. WY-5C, Physical Position Calculator 2022-03-31, tab “Peak Forecasts”.
²³ Yeomans, Exh. WY-3C, Risk Management Policy_20230417 CONF-CURRENT, at 17.

1 [REDACTED]²⁴ [REDACTED]

2 [REDACTED]²⁵ [REDACTED]

3 [REDACTED]

4 [REDACTED]²⁶

5 • **Risk Reporting:** [REDACTED]

6 [REDACTED]²⁷ [REDACTED]

7 [REDACTED]

8 [REDACTED]

9 [REDACTED]²⁸ [REDACTED]

10 [REDACTED]

11 [REDACTED]

12 [REDACTED]

13 [REDACTED]

14 [REDACTED]²⁹ [REDACTED]

15 [REDACTED]

16 [REDACTED]³⁰ [REDACTED]

17 [REDACTED]³¹

18

²⁴ *Id.*
²⁵ *Id.*
²⁶ Yeomans, Exh. WY-5C, Physical Position Calculator 2022-03031, tab “Hedges”.
²⁷ Yeomans, Exh. WY-3C, Risk Management Policy_20230417 CONF-CURRENT, at 17.
²⁸ *Id.* at 33-34.
²⁹ Yeomans, Exh. WY-4C, ESM Front Office Procedures_20220101 CONF-CURRENT, at 4-7.
³⁰ *Id.* at 7-8.
³¹ Yeomans, Exh. WY-3C, Risk Management Policy_20230417 CONF-CURRENT, at 18.

1 **Q. Do you find PacifiCorp’s hedging program prudent in operation?**

2 A. Yes. Based on my review of the quarterly Physical Power Position Reports, Physical
3 Position Calculator, and review of the Semi-Annual Hedge Reports it certainly appears
4 that the requirements of PacifiCorp’s hedging program are prudently executed in daily
5 operations.

6

7

VI. RECOMMENDATIONS

8

9 **Q. Based on your review, do you have any recommendations?**

10 A. Based on my review I have four recommendations:

11 1. PacifiCorp should strengthen its formal risk review processes. Based on my
12 experience, “known” risks, while infrequent, are usually well understood and
13 usually well hedged. But I have also seen completely unexpected situations occur
14 that were not known, not contemplated, and certainly not hedged. The
15 consequence of significant, unanticipated, unhedged risk events can be extremely
16 expensive for customers.

17 2. PacifiCorp should review and mitigate the causes of production errors reported in
18 the quarterly physical position workbooks.³² [REDACTED]

19 [REDACTED]

20 [REDACTED]³³

³² Yeomans, Exh. WY-5C, Physical Position Report 2022-03-31 CONF, tab “Log of Issues”.

³³ *Id.*

1 3. PacifiCorp should carefully review the performance of the physical hedges as the
2 hedging strategy evolves to utilize higher proportions of physical hedges over
3 financial hedges.

4 4. Understanding that PacifiCorp provides comprehensive semi-annual hedging
5 reports to the Idaho Public Utilities Commission, Oregon Public Utility
6 Commission, Utah Public Service Commission, and Wyoming State Public
7 Commission, I recommend that the Commission require PacifiCorp to provide
8 these reports to Staff. These reports [REDACTED]

9 [REDACTED]

10 [REDACTED]³⁴ Reviewing this type of
11 information on an ongoing basis would provide important context for the review
12 of annual PCAM filings and NPC forecasts in GRC or PCORC proceedings.

13
14 **Q. Please explain why it is important to brainstorm new risks.**

15 A. The electric industry is currently experiencing its most rapid change in several decades in
16 the areas of electric load characteristics, including generation fuel mix (including and
17 especially fossil fuel retirements), expansion of large scale and behind-the-meter
18 intermittent renewable resources, and transmission infrastructure changes. The electricity
19 markets are also undergoing significant design changes. I am aware that PacifiCorp is in
20 the process of joining the CAISO's Extended Day-Ahead Market (EDAM) and that SPP
21 is actively soliciting participation in its Markets+ offering, which may include utility

³⁴ Yeomans, Exh. WY-7C, HgRpt_20230215 CONF.
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1 systems in Washington. It is crucial to monitor and understand the risks associated with
2 these changes in order to hedge against the risks they create.

3
4 **Q. Please explain how PacifiCorp should strengthen its formal risk review process.**

5 A. PacifiCorp should strengthen its formal risk review process by establishing energy risk
6 “brainstorming” sessions for a group to consider new, impending energy risks. This
7 review group should include subject matter experts. This process should be memorialized
8 in PacifiCorp’s Energy Risk Management Policy. I recognize there is evidence that
9 PacifiCorp does monitor the changing characteristics of current, known energy risks.
10 PacifiCorp updates its hedging policy from time to time as apparent in the Presentation
11 Hedging Policy Update January 2019³⁵ and New Power Gas Limits Washington April 19,
12 2021.³⁶ I also recognize that the current policies authorize the internal Risk Management
13 Group to, “[REDACTED]”³⁷ and [REDACTED]
14 [REDACTED]³⁸ However, the primary
15 aspect of my recommendation is that PacifiCorp memorializes a rigorous and frequent
16 brainstorming process to consider any new, unanticipated energy risks.

17

³⁵ Yeomans, Exh. WY-6C, ID-OR-UT-WA-Wy Hedging Policy, at slides 2-12.

³⁶ Yeomans, Exh. WY-6C, WA New Power & Gas Limits Prog, at slides 1-14.

³⁷ Yeomans, Exh. WY-3C, Risk Management Policy_20230417 CONF-CURRENT, at 17, Section 11.8.

³⁸ *Id.*

1 **Q. What types of production issues did you observe in the quarterly physical position**
2 **reports?**

3 A. Based on reporting in the [REDACTED] I observed [REDACTED]
4 [REDACTED]
5 [REDACTED]³⁹

6 I do not know the severity of these internal issues. I recommend management review and
7 mitigate these apparent production issues.

8

9 **Q. Why do you recommend increased monitoring of physical hedges?**

10 A. It is my understanding that PacifiCorp is transitioning to [REDACTED]
11 [REDACTED] as described in New Power & Gas Limits Washington April 19,
12 2021 presentation.⁴⁰ I agree with the basis for this modified strategy for the purpose of
13 better hedging the hourly characteristics of the changing physical load and renewable
14 profiles. I would recommend that PacifiCorp carefully monitor the performance of this
15 [REDACTED]. A [REDACTED] hedge, assuming the counterparty credit is
16 “sound,” is highly effective during extreme volatile market conditions as the swap
17 component is not usually [REDACTED]
18 [REDACTED]. Again, I agree with the
19 description and basis for transitioning to more [REDACTED], but recommend
20 PacifiCorp increase their monitoring of the increased [REDACTED].

³⁹ Yeomans, Exh. WY-5C, Physical Power Report 2022-03-31, tab “List of Issues”.

⁴⁰ Yeomans, Exh WY-6C, WA New Power & Gas Limits Prog. at 1-14.

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

2 A. Yes, it does.