

July 8, 2021

***VIA ELECTRONIC FILING***

Public Utility Commission of Oregon  
Attn: Filing Center  
201 High Street SE, Suite 100  
Salem, OR 97301-3398

**RE: UM \_\_\_\_\_—PacifiCorp’s Application for Authority to Implement a  
Decommissioning Cost Recovery Adjustment and Coal Removal Mechanism**

PacifiCorp d/b/a Pacific Power (PacifiCorp or Company) submits for filing its Application for Authority to Implement a Decommissioning Cost Recovery Adjustment and Coal Removal Mechanism (Application). The Application is supported by testimony and exhibits from the following witnesses: Etta Lockey, Robert Van Engelenhoven, Jeff Tucker, Shelley E. McCoy, Judith M. Ridenour.

Included with this filing is a Motion for Protective Order. The Company’s Application includes confidential information that parties will likely want to review. PacifiCorp also expects that parties will submit requests for discovery that include requests for information that is considered confidential by the Company. PacifiCorp requests expedited consideration of this motion to facilitate the timely provision of confidential portions of the Application and response to discovery in this matter.

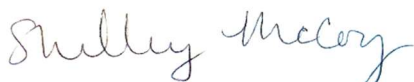
It is respectfully requested that all formal data requests regarding this filing be addressed to:

By e-mail (preferred): [datarequest@pacificorp.com](mailto:datarequest@pacificorp.com)

By regular mail: Data Request Response Center  
PacifiCorp  
825 NE Multnomah St., Suite 2000  
Portland, Oregon 97232

Informal inquiries regarding this filing may be directed to Cathy Allen, Regulatory Affairs Manager (503) 813-5934.

Sincerely,



Shelley McCoy  
Director, Regulation

Enclosures

Cc: UM 374 Service List

## CERTIFICATE OF SERVICE

I certify that I delivered a true and correct copy of PacifiCorp's **Application for Authority to Implement a Decommissioning Cost Recovery Adjustment and Coal Removal Mechanism** on the parties listed below via electronic mail in compliance with OAR 860-001-0180.

### Service List UE 374

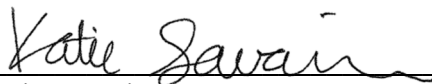
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Dated this 8<sup>th</sup> day of July, 2021.

  
\_\_\_\_\_  
Katie Savarin  
Coordinator, Regulatory Operations

**BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON**

UM \_\_\_\_\_

In the Matter of

PACIFICORP d/b/a PACIFIC POWER

Application for Authority to Implement a  
Decommissioning Cost Recovery  
Adjustment and Coal Removal  
Mechanism.

**APPLICATION FOR AUTHORITY TO  
IMPLEMENT A  
DECOMMISSIONING COST  
RECOVERY ADJUSTMENT AND  
COAL REMOVAL MECHANISM**

**I. INTRODUCTION**

In accordance with ORS 757.205, PacifiCorp d/b/a Pacific Power files this application (Application) requesting an order from the Public Utility Commission of Oregon (Commission) authorizing a new tariff to collect an increase to estimated decommissioning costs of coal-fired generation resources (including remediation and closure costs) reflected in independent estimates conducted by Kiewit Engineering Group, Inc. (Kiewit) and approval of a coal removal mechanism to reduce regulatory lag when coal units are no longer used to serve Oregon customers. PacifiCorp seeks an effective date of January 1, 2022, for its decommissioning costs tariff, with review and approval of the coal removal mechanism in a subsequent phase of this docket.

**II. NOTICE**

Communications regarding this Application should be addressed to:

Oregon Dockets  
PacifiCorp  
825 NE Multnomah St., Suite 2000  
Portland, OR 97232  
Email: [oregondockets@pacificorp.com](mailto:oregondockets@pacificorp.com)

Matthew McVee  
Chief Regulatory Counsel  
PacifiCorp  
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Email: [matthew.mcvee@pacificorp.com](mailto:matthew.mcvee@pacificorp.com)

In addition, PacifiCorp respectfully requests that all data requests regarding this matter be addressed to:

By email (preferred)

[datarequest@pacificorp.com](mailto:datarequest@pacificorp.com)

By regular mail

Data Request Response Center  
PacifiCorp  
825 NE Multnomah, Suite 2000  
Portland, OR 97232

Informal inquiries may be directed to Cathie Allen, Manager, State Regulatory Affairs Manager, at (503) 813-5934.

### **III. DISCUSSION**

#### **A. Applicable Statutory Provision**

PacifiCorp files this Application under ORS 757.205(2), which requires that “[e]very public utility shall file with and as part of every such schedule all rules and regulations that in any manner affect the rates charged or to be charged for any service.”

#### **B. Background**

In PacifiCorp’s Multi-State Process, PacifiCorp worked with Commission Staff, the Oregon Citizens’ Utility Board, the Alliance of Western Energy Consumers, and Sierra Club on how to set just and reasonable decommissioning and remediation costs and facilitate Oregon’s exit from the Company’s coal-fired resources. Those stakeholders reached a consensus resolution that was incorporated into the 2020 PacifiCorp Interjurisdictional Allocation Protocol (2020 Protocol). As part of that agreement, stakeholders stipulated that updated decommissioning costs would be determined by independently-developed cost studies subject to an Independent Evaluator’s (IE) review.

The 2020 Protocol includes important provisions on states' decisions to exit coal-fueled resources, reassignment of coal-fueled resources, and decommissioning costs.<sup>1</sup> These provisions are intended to allow states to set exit dates from existing coal-fueled resources and to allow other states to review whether to take on additional costs and benefits of coal-fueled generation. Until the exit date, the exiting state will continue to receive its allocated share of the benefits of the coal-fueled resource and will also pay its allocated costs associated with that resource, including “any remaining net book value, prudently incurred capital additions, prudently incurred Operations and Maintenance expense, and *prudently incurred or reasonably estimated Decommissioning Costs*.”<sup>2</sup> Decommissioning costs include the costs of removal and environmental remediation or reclamation, net of any salvage value realized, required at the time a generation resource is physically retired, and thus includes remediation and closure costs.<sup>3</sup>

For coal-fired resources having a common life across all states in which PacifiCorp operates, each state will be allocated its share of actual decommissioning costs.<sup>4</sup> For coal-fired resources without a common operating life across all states, the exiting state will be allocated its share of estimated decommissioning costs based on decommissioning studies, without a later true-up for actual decommissioning costs.<sup>5</sup> “Decommissioning Studies” are defined as the engineering studies carried out in advance of planned coal fueled Interim

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<sup>1</sup> *In the Matter of PACIFICORP Request to Initiate an Investigation of Multi-Jurisdictional Issues and Approve an Inter-Jurisdictional Cost Allocation Protocol*, Docket No. UM 1050, Exhibit PAC/100, Lockey/15.

<sup>2</sup> 2020 Protocol § 4.1.2 (emphasis added).

<sup>3</sup> 2020 Protocol, Appendix A.

<sup>4</sup> 2020 Protocol § 4.3.1.4. These exiting costs may also be adjusted depending whether states choosing not to exit a coal-fueled resource accept the reassignment of costs and benefits of the coal-fueled resource. 2020 Protocol § 4.2.1. For plants with exit dates on or before December 31, 2027, the Company's analysis and recommendations for reassignment costs have already been submitted to state's without exit orders.

<sup>5</sup> 2020 Protocol § 4.3.1.1.



Period Resource Reassignment filings in February of 2021 and June of 2024, in order to identify the final Decommissioning Cost liabilities of Exiting States.<sup>6</sup>

The 2020 Protocol dictates that PacifiCorp will undertake a “contractor-assisted engineering study of decommissioning costs.”<sup>7</sup> PacifiCorp hired Kiewit, one of the most reputable engineering firms in the electric industry, to conduct an Association of the Advancement of Cost Engineering (AACE) Class 3 cost estimate for coal decommissioning costs (Kiewit Studies). Given the sensitivity of proprietary pricing elements in a AACE Class 3 cost estimate, the 2020 Protocol contemplated that a state commission may assign an IE for any decommissioning study to ensure that decommissioning costs are fairly assessed.<sup>8</sup>

PacifiCorp originally filed the Kiewit Studies in docket UM 1968, PacifiCorp’s most recent depreciation docket, and the Commission later consolidated this portion of the depreciation docket with the Company’s most recent general rate case, docket UE 374. In Order No. 20-473 in docket UE 374, the Commission determined that it would open this proceeding to provide all parties an opportunity to more thoroughly review the Kiewit Studies and conduct another IE assessment.<sup>9</sup>

### **C. Incremental Decommissioning Costs**

As discussed above, the Kiewit Studies were prepared in response to the stipulated agreement and subsequent Commission approval of the 2020 Protocol. The 2020 Protocol required PacifiCorp to procure a third-party decommissioning study to provide an accurate decommissioning cost estimate which is to be used to establish Oregon’s share of

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<sup>6</sup> 2020 Protocol, Appendix A.

<sup>7</sup> 2020 Protocol § 4.3.1.1.

<sup>8</sup> 2020 Protocol § 4.3.4.

<sup>9</sup> *In the Matter of PacifiCorp, dba Pacific Power, Request for a General Rate Revision, Order No. 20-473 at 17–19 (Dec. 18, 2020).*

decommissioning costs.<sup>10</sup> PacifiCorp committed to undertaking contractor-assisted engineering studies by January 15, 2020, for the Jim Bridger, Dave Johnston, Hunter, Huntington, Naughton, Wyodak, and Hayden plants and by March 15, 2020, for Colstrip Units 3 and 4.<sup>11</sup> PacifiCorp retained Kiewit to conduct the AACE Class 3 costs estimates. AACE Class 3 estimates are generally prepared to form the basis for budget authorization, appropriation, and funding of major projects. An AACE Class 3 estimate provides the most accurate possible estimate for defining a project's costs without beginning the request for proposal process.

PacifiCorp has also updated certain non-asbestos related Asset Retirement Obligations (ARO) in this Application. Specifically, PacifiCorp updates AROs related to coal combustion residual regulations. The updates resulted in: a decrease in the total ARO of \$851,427 at the Hunter plant with a decrease in PacifiCorp's share of \$723,713; a decrease of approximately \$4.2 million at the Huntington plant; a decrease of approximately \$6.8 million at the Dave Johnston plant; an increase of approximately \$39.6 million at the Jim Bridger plant, of which PacifiCorp's share is approximately \$26.4 million; a decrease of approximately \$7.4 million at the Naughton plant; an increase of \$64,946 at the Wyodak plant, of which PacifiCorp's share is \$51,957; an increase in the total ARO of \$244,200 at the Hayden plant, of which PacifiCorp's share is \$42,735; and an increase of approximately \$3.0 million at the Colstrip plant, of which PacifiCorp's share is \$303,626. The total result is an increase in PacifiCorp's ARO costs of approximately \$7.7 million.

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<sup>10</sup> 2020 Protocol § 4.3.1.1.

<sup>11</sup> 2020 Protocol § 4.3.1.1. The 2020 Protocol stipulated that PacifiCorp would use its best efforts to estimate the decommissioning cost requirements for Jim Bridger, Dave Johnson, Hunter, Huntington, Haughton, Wyodak, and Hayden by January 15, 2020. The Company also committed to use its best efforts to complete a decommissioning cost study for Colstrip Units 3 and 4 by March 15, 2020.

#### **D. Overall Rate Impact of Proposed Decommissioning Costs**

PacifiCorp requests a rate increase of \$34.9 million, or 2.8 percent on a net basis, effective January 1, 2022. This represents only the incremental increase of decommissioning costs to reflect the detailed costs estimates from the Kiewit Studies. The estimated monthly impact to the average residential customer using 900 kilowatt-hours per month is a bill increase of \$2.49.

PacifiCorp proposes that these costs be collected over the remaining Oregon depreciable lives for each identified coal generation plant through the new Schedule 92, Decommissioning Cost Recovery Adjustment. The rate would be paid by all Oregon customers based on a generation rate spread for the allocation of the decommissioning costs to customer classes. This surcharge would be a non-bypassable surcharge applicable to all direct access consumers because direct access consumers have been getting the benefit of these plants and should pay for the decommissioning costs to avoid unwarranted cost shifting.

#### **E. Coal Removal Mechanism**

As part of the agreement in the 2020 Protocol, PacifiCorp also agreed to propose a general framework for a coal removal mechanism so that customers receive the benefit of full depreciation of coal-fired resources without experiencing regulatory lag. PacifiCorp proposes removing the revenue requirement included in rates for each resource when it reaches the end of its Oregon depreciable life, or at the exit date approved by the Commission. Coal resources that have an exit date or retirement date that coincides with a general rate case will be removed as part of that proceeding. The coal removal mechanism

will be used to remove resources in between general rate cases through a tariff rider that would effectively act as a sur-credit to customers' rates.

PacifiCorp, however, requests that the Commission bifurcate the proceeding and defer a ruling on the coal removal mechanism to a second phase. PacifiCorp is concerned that the coal removal mechanism issue may take parties longer to address. Delaying recovery of decommissioning costs puts upward pressure on customer rates, resulting in higher rates the longer it takes to incorporate the incremental decommissioning costs. Conversely, the coal removal mechanism would have no rate impact until there is an actual coal retirement, expected at the earliest to be around December 31, 2023. Bifurcation allows for workshops and collaboration among the parties to address concerns and develop a mechanism to remove coal units from Oregon customer rates.

#### **F. Testimony and Exhibits in Support of Application**

In support of this Application, the Company is providing the policy testimony of Etta Lockey, Vice President, Regulation, Customer, and Community Solutions. Ms. Lockey's direct testimony, provided as Exhibit PAC/100, provides an overview of PacifiCorp's filing to recover the incremental decommissioning costs (including remediation and closure costs) estimates in the Kiewit Studies.

The direct testimony and exhibits of Robert Van Engelenhoven, Resource Development Director, provided as Exhibits PAC/200-203, presents the decommissioning studies prepared by Kiewit for eight of PacifiCorp's coal-fired generation resources, and supports and explains in technical detail the process the Company used to ensure that the Kiewit Studies are reasonable, accurate, and comply with AACE Class 3 standards.

The direct testimony and exhibit of Jeff Tucker, Principal Engineer, provided as Exhibits PAC/300-301, provides an overview of PacifiCorp's ARO that are part of PacifiCorp's decommissioning costs estimates for the coal plants included in the Kiewit Studies, and provides relevant updates.

The direct testimony of Shelley E. McCoy, Director of Regulation, provided as Exhibits PAC/400-401, provides the incremental revenue requirement of the Oregon allocated decommissioning costs, including remediation and closure costs, from the Kiewit Studies. Ms. McCoy also discusses a framework for a coal removal mechanism, which the Company proposes be addressed in a second phase of this docket.

Finally, direct testimony and exhibits of Judith M. Ridenour, Specialist, Pricing and Cost of Service, provided as Exhibits PAC/500-503, presents PacifiCorp's proposed rate spread, rates, and proposed tariff for the decommissioning filing to recover the Oregon-allocated decommissioning costs identified by Ms. McCoy. Ms. Ridenour's direct testimony also provides a summary of the impact of the proposed rate change on customers' bills as required by OAR 860-022-0030.

#### **IV. REQUEST FOR RELIEF**

For the reasons described above and in the testimony and exhibits supporting this Application, PacifiCorp respectfully requests that the Commission issue an order:

- a. Finding the costs identified in the Kiewit Studies are reasonable and appropriate;
- b. Finding that an approximately \$34.9 million increase to PacifiCorp's annual revenue requirement is just and reasonable;
- c. Approving the proposed Schedule 92, Decommissioning Cost Recovery Adjustment, effective January 1, 2022; and

- d. Opening a second phase of the proceeding to address an appropriate coal removal mechanism.

Respectfully submitted this 8th day of July, 2021.



Matthew McVee  
Chief Regulatory Counsel  
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Portland, OR 97232  
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**BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON**

UM \_\_\_\_\_

In the Matter of

PACIFICORP d/b/a PACIFIC POWER,

Application for Authority to Implement a  
Decommissioning Cost Recovery  
Adjustment and Coal Removal  
Mechanism.

**MOTION FOR PROTECTIVE ORDER**

*Expedited Consideration Requested*

Under Oregon Rule of Civil Procedure (ORCP) 36(C)(7) and OAR 860-001-0080(1), PacifiCorp d/b/a Pacific Power (PacifiCorp or Company) moves the Public Utility Commission of Oregon (Commission) for entry of a standard protective order in this proceeding. On July 7, 2021, PacifiCorp filed an application for authority to implement a Decommissioning Cost Recovery Adjustment and Coal Removal Mechanism (Application). The Application includes confidential information that parties will likely want to review. PacifiCorp also expects that parties will submit requests for discovery that include requests for information that is considered confidential by the Company.

PacifiCorp requests expedited consideration of this motion to facilitate the timely provision of confidential portions of the Application and response to discovery in this matter. Good cause exists to issue a Protective Order to protect commercially sensitive and confidential business information related to the Company's forward-looking, proprietary, and trade secret information.

The Commission's rules authorize PacifiCorp to seek reasonable restrictions on discovery of trade secrets and other confidential business information.<sup>1</sup> The Commission's standard protective order is designed to allow the broadest possible discovery consistent with the need to protect confidential information.<sup>2</sup> Parties may request commercially sensitive pricing information, and confidential market analyses, and business projections to conduct their analysis of the Application. PacifiCorp will be exposed to competitive injury if it is forced to make unrestricted disclosure of its confidential business information. Issuance of a protective order will facilitate the production of relevant information and expedite the discovery process.

For these reasons, PacifiCorp respectfully requests that the Commission enter its standard protective order in this docket. The Company requests expedited consideration of this motion to allow stakeholders who execute the protective order to receive confidential information to assist in their review of the Application.

Respectfully submitted this 8<sup>th</sup> day of July, 2021.

By: \_\_\_\_\_



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<sup>1</sup> See OAR 860-001-0000(1) (adopting the Oregon Rules of Civil Procedure); ORCP 36(C)(7) (providing protection against unrestricted discovery of "trade secrets or other confidential research, development, or commercial information"). See also *In re Investigation into the Cost of Providing Telecommunication Service*, Docket UM 351, Order No. 91-500 (1991) (recognizing that protective orders are a reasonable means to protect "the rights of a party to trade secrets and other confidential commercial information" and "to facilitate the communication of information between litigants").

<sup>2</sup> OAR 860-001-0080(2).



Docket No. UM \_\_\_\_\_  
Exhibit PAC/100  
Witness: Etta Lockey

**BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON**

**PACIFICORP**

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**Direct Testimony of Etta Lockey**

**July 2021**

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1                                   **I.     INTRODUCTION AND QUALIFICATIONS**

2   **Q.     Please state your name, business address, and present position with PacifiCorp**  
3       **d/b/a Pacific Power (PacifiCorp or the Company).**

4   A.     My name is Etta Lockey, and my business address is 825 NE Multnomah Street, Suite  
5       2000, Portland, Oregon 97232. I am currently employed as Pacific Power’s Vice  
6       President, Regulation, Customer, and Community Solutions.

7   **Q.     Please describe your educational background and professional experience.**

8   A.     I have a Bachelor of Arts degree in Political Science from the University of Oregon  
9       and a Juris Doctorate from the Northwestern School of Law of Lewis and Clark  
10      College. I started at PacifiCorp as an attorney in 2013 and assumed the role of Vice  
11      President, Regulation in 2017. In 2021, I was promoted to my current position.

12 **Q.     Have you testified in other regulatory proceedings?**

13 A.     Yes. I have sponsored testimony on behalf of PacifiCorp in California, Oregon, and  
14      Washington.

15                                   **II.    PURPOSE AND SUMMARY OF TESTIMONY**

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

17 A.     My testimony provides an overview of PacifiCorp’s filing to recover the incremental  
18      decommissioning costs (including remediation and closure costs) reflected in the  
19      2020 studies (Kiewit Studies or Studies) conducted by Kiewit Engineering Group,  
20      Inc. (Kiewit). PacifiCorp proposes to recover these costs through Schedule 92,  
21      Decommissioning Cost Recovery Adjustment, with an initial rate change of  
22      \$34.9 million, effective January 1, 2022. I support the Company’s policy positions  
23      and provide background to this proceeding.

1           PacifiCorp’s 2019 Integrated Resource Plan (IRP) and the 2020 PacifiCorp  
2           Inter-Jurisdictional Allocation Protocol (2020 Protocol) respond to rapidly changing  
3           policies and economics regarding coal-fired generation resources. Both the 2019 IRP  
4           and the 2020 Protocol embody PacifiCorp’s commitment to a future that benefits the  
5           Company’s customers, communities, and the environment by transitioning to least-  
6           cost, least-risk renewable generating resources.

7           As part of this transition, the 2020 Protocol addresses the fair allocation of  
8           decommissioning and remediation costs for retirement of the Company’s coal-fired  
9           generation plants, including when states exit different coal-fired generating facilities  
10          at different times. In accordance with the 2020 Protocol, PacifiCorp developed and  
11          filed in Public Utility Commission of Oregon (Commission) dockets UM 1968 and  
12          UE 374 comprehensive studies estimating the decommissioning and remediation  
13          costs for many of its coal-fired generation resources. In Order No. 20-473, the  
14          Commission responded by directing additional review of the Kiewit Studies in this  
15          separate proceeding.<sup>1</sup> The Commission also noted that it anticipated approving an  
16          additional rate change in this docket following a thorough vetting of the Kiewit  
17          Studies.<sup>2</sup>

18          In support of the Company’s request that the Commission include these costs  
19          in rates, my testimony provides background into the development of the Kiewit  
20          Studies, the Commission’s previous discussion of the Kiewit Studies, and the purpose  
21          of this current filing.

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<sup>1</sup> *In re PacifiCorp, dba Pac. Power, Request for a General Rate Revision*, Docket No. UE 374, Order No. 20-473 at 17–19 (Dec. 18, 2020).

<sup>2</sup> *Id.* at 7.

1 **Q. Please summarize your testimony.**

2 A. In my testimony:

- 3 • I provide the context and the procedural history that led to this proceeding. In the  
4 Multi-State Process, PacifiCorp worked with Commission Staff, the Oregon  
5 Citizens' Utility Board (CUB), the Alliance of Western Energy Consumers  
6 (AWEC), and Sierra Club on how to set just and reasonable decommissioning and  
7 remediation costs and facilitate Oregon's exit from the Company's coal-fired  
8 resources. The 2020 Protocol stipulated that decommissioning costs would be  
9 determined by independently-developed cost studies subject to an Independent  
10 Evaluator's (IE) review. PacifiCorp originally filed the Kiewit Studies in  
11 docket UM 1968, PacifiCorp's most recent depreciation docket, and the  
12 Commission later consolidated this portion of the depreciation docket with the  
13 Company's most recent general rate case, docket UE 374. In Order No. 20-473 in  
14 docket UE 374, the Commission determined that it would open this proceeding to  
15 provide all parties an opportunity to more thoroughly review the Kiewit Studies  
16 and conduct another IE assessment.<sup>3</sup>
- 17 • I describe the critical components of the 2020 Protocol for determining and  
18 allocating coal decommissioning costs. I summarize the Kiewit Studies and  
19 compare them with the preceding decommissioning study (2018 Study) filed in  
20 docket UM 1968. In docket UE 374, the Commission declined to use the cost  
21 estimates from the Kiewit Studies and instead adopted the cost estimates from the  
22 2018 Study. This resulted in a reduction to PacifiCorp's proposed rate increase of

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<sup>3</sup> *Id.* at 17–19.

1           \$27.3 million.<sup>4</sup> I highlight the increased accuracy of the Kiewit Studies and  
2           outline the reasonable costs not included in the 2018 Study.

- 3           • I describe the draft Request for Proposals (RFP) prepared to commission a new IE  
4           report. In Order No. 20-473, the Commission discussed the need for “significant  
5           involvement” of a new IE in this proceeding. AWEC, along with PacifiCorp and  
6           the other parties, have drafted an RFP that clarifies the IE’s scope of work to  
7           ensure a robust IE review process in this proceeding.
- 8           • I update parties and the Commission on the Company’s plans for future  
9           decommissioning studies<sup>5</sup> and the Company’s proposal for a mechanism to  
10          remove retired coal generation plant from rates.

11   **Q.    Please introduce the other witnesses testifying on behalf of PacifiCorp.**

12   A.    Mr. Robert Van Engelenhoven provides testimony explaining how the Kiewit Studies  
13          were prepared and why they are an accurate and reasonable estimate of  
14          decommissioning costs for the eight plants covered by the Studies. Mr. Jeff Tucker  
15          provides testimony explaining and updating PacifiCorp’s Asset Retirement  
16          Obligations (AROs). Ms. Shelley E. McCoy provides testimony on the incremental  
17          revenue requirement for the costs in the Kiewit Studies and describes the Coal  
18          Removal Mechanism. Ms. Judith M. Ridenour provides testimony on the Company’s  
19          proposed rate spread and sponsors Schedule 92.

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<sup>4</sup> *Id.* at 1.  
<sup>5</sup> *Id.* at 19.

1                   **III. BACKGROUND AND PROCEDURAL HISTORY**

2    ***2020 Protocol***

3    **Q.    Please provide general background on the 2020 Protocol.**

4    A.    The 2020 Protocol contains a methodology to determine what percentage of  
5           PacifiCorp’s system costs are assigned to individual states, subject to state  
6           commission review. The 2020 Protocol has been signed by the Company and  
7           22 other parties from five of the six states in which PacifiCorp serves customers. In  
8           Oregon, Staff, CUB, AWEC, and Sierra Club all signed on to the 2020 Protocol and  
9           filed a stipulation and joint testimony with PacifiCorp seeking Commission approval.  
10          The Commission adopted the stipulation and approved the 2020 Protocol in January  
11          2020.<sup>6</sup>

12   **Q.    What changes did the 2020 Protocol make to the previous multi-state allocation**  
13   **methodology, the 2017 Protocol?**

14   A.    While the Stipulating Parties agreed that the 2020 Protocol contained “substantially  
15          similar terms” to the 2017 Protocol,<sup>7</sup> the 2020 Protocol does include important new  
16          provisions on states’ decisions to exit coal-fueled resources, reassignment of coal-  
17          fueled resources, and decommissioning costs.<sup>8</sup> These provisions are intended to  
18          allow states to set exit dates from existing coal-fueled resources and to allow other  
19          states to review whether to take on additional costs and benefits of coal-fueled  
20          generation.<sup>9</sup>

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<sup>6</sup> *In re PacifiCorp, dba Pac. Power, Request to Initiate an Investigation of Multi-Jurisdictional Issues & Approve an Inter-Jurisdictional Cost Allocation Protocol*, Docket No. UM 1050, Order No. 20-024 at 9 (Jan. 23, 2020).

<sup>7</sup> Docket No. UM 1050, Oregon Stipulating Parties/100, Lockey, Storm, Jenks, Mullins, Hausman/10.

<sup>8</sup> Docket No. UM 1050, PAC/100, Lockey/15.

<sup>9</sup> Docket No. UM 1050, PAC/100, Lockey/15.

1 **Q. Has the Commission approved any exit dates in response to the 2020 Protocol?**

2 A. Yes. In Order No. 20-473, the Commission approved exit dates for Cholla Unit 4,  
3 Jim Bridger Unit 1, Craig Units 1-2, Naughton Units 1-2, Colstrip Units 3-4, and  
4 Dave Johnson Units 1-4.<sup>10</sup> These exit dates correspond to the exit dates the  
5 Commission acknowledged in PacifiCorp’s 2019 IRP.<sup>11</sup> While the Commission has  
6 not approved exit dates for Jim Bridger Units 2-4, Hunter Units 1-3, Huntington Units  
7 1-2, and the Wyodak plant, Oregon law requires these plants be removed from  
8 Oregon rates by 2030.<sup>12</sup> An approved exit date is a necessary first step in the coal  
9 resource reassignment process.

10 **Q. How does the 2020 Protocol assign costs to a state exiting a coal-fueled resource?**

11 A. Until the exit date, the exiting state will continue to receive its allocated share of the  
12 benefits of the coal-fueled resource and will also pay its allocated costs associated  
13 with that resource, including “any remaining net book value, prudently incurred  
14 capital additions, prudently incurred Operations and Maintenance expense, and  
15 *prudently incurred or reasonably estimated Decommissioning Costs.*”<sup>13</sup>  
16 “Decommissioning Costs” means the costs of removal and environmental  
17 remediation or reclamation, net of any salvage value realized, required at the time a  
18 generation resource is physically retired, and thus includes remediation and closure  
19 costs.<sup>14</sup>

20 For coal-fired resources having a common life across all states in which

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<sup>10</sup> Order No. 20-473 at 12.

<sup>11</sup> See Docket No. LC 70, PacifiCorp IRP, Vol. 1, Table 5.2.

<sup>12</sup> ORS 757.518(2); see also Docket No. UE 374, Staff/1500, Anderson/7.

<sup>13</sup> 2020 Protocol § 4.1.2 (emphasis added).

<sup>14</sup> 2020 Protocol, Appendix A.



1 PacifiCorp operates, each state will be allocated its share of actual decommissioning  
2 costs.<sup>15</sup> For coal-fired resources without a common operating life across all states,  
3 the exiting state will be allocated its share of estimated decommissioning costs based  
4 on decommissioning studies, without a later true-up for actual decommissioning  
5 costs.<sup>16</sup> “Decommissioning Studies” are defined as the engineering studies carried  
6 out in advance of planned coal fueled Interim Period Resource Reassignment filings  
7 in February of 2021 and June of 2024, in order to identify the final Decommissioning  
8 Cost liabilities of Exiting States.<sup>17</sup>

9 **Q. How does the 2020 Protocol determine reasonably estimated decommissioning**  
10 **costs based on decommissioning studies?**

11 A. The 2020 Protocol dictates that PacifiCorp will undertake a “contractor-assisted  
12 engineering study of decommissioning costs.”<sup>18</sup> This process was a negotiated  
13 outcome that recognized that actual decommissioning costs will vary from the  
14 estimate. The intent was to provide a reasonable estimate of decommissioning costs  
15 to determine a state’s cost responsibility if it exits a plant before its actual retirement  
16 date.

17 **Q. How did PacifiCorp comply with this requirement?**

18 A. PacifiCorp hired Kiewit to conduct an Association of the Advancement of Cost  
19 Engineering (AACE) Class 3 cost estimate for coal decommissioning costs. As  
20 explained by Mr. Van Engelenhoven, an AACE Class 3 cost estimate requires 10 to

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<sup>15</sup> 2020 Protocol § 4.3.1.4. These exiting costs may also be adjusted depending whether states choosing not to exit a coal-fueled resource accept the reassignment of costs and benefits of the coal-fueled resource. 2020 Protocol § 4.2.1. For plants with exit dates on or before December 31, 2027, the Company’s analysis and recommendations for reassignment costs have already been submitted to state’s without exit orders.

<sup>16</sup> 2020 Protocol § 4.3.1.1.

<sup>17</sup> 2020 Protocol, Appendix A.

<sup>18</sup> 2020 Protocol § 4.3.1.1.

1 40 percent project definition and results in an expected cost accuracy range of minus  
2 20 to plus 30 percent. AACE Class 3 studies are commonly the last estimate required  
3 for full budget authorization and can form the basis of cost control for an entire  
4 project. PacifiCorp commissioned an AACE Class 3 cost estimate to provide the  
5 most accurate cost estimate possible for ratemaking purposes, including allocating  
6 decommissioning costs for states that exit a coal-fired resource before the plant is  
7 retired.<sup>19</sup>

8 **Q. Can individual states conduct a separate review process of the decommissioning**  
9 **studies?**

10 A. Yes. A state commission may assign an IE for any decommissioning study to ensure  
11 that decommissioning costs are fairly assessed across PacifiCorp's system.<sup>20</sup>

12 *Dockets UM 1968 and UE 374*

13 **Q. Please describe the 2018 Study filed in docket UM 1968.**

14 A. As a part of its filing for new depreciation rates in docket UM 1968, PacifiCorp  
15 updated its decommissioning costs based on study of selected coal-fired resources  
16 considered reasonable proxies for extrapolation across the Company's fleet.<sup>21</sup>  
17 PacifiCorp conducted this study to an AACE Class 5 level cost estimate. As  
18 explained by Mr. Van Engelenhoven, AACE Class 5 studies are used for concept  
19 screening and have wide accuracy margins. Because these studies are conducted  
20 early in the planning process, they only require 0 to 2 percent project definition. A

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<sup>19</sup> 2020 Protocol § 4.3.1.4.

<sup>20</sup> 2020 Protocol § 4.3.4.

<sup>21</sup> Docket No. UM 1968, PAC/400, Tetry/11; *see also* PAC/402 (2018 coal-fueled decommissioning cost study).

1 typical Class 5 study has an accuracy range of minus 50 to plus 100 percent of project  
2 costs.

3 **Q. What happened after PacifiCorp made its initial filing in docket UM 1968?**

4 A. At PacifiCorp's request, docket UM 1968 was held in abeyance throughout 2019,  
5 pending the issuance of the 2019 IRP.<sup>22</sup> As required under the 2020 Protocol,  
6 PacifiCorp filed the Kiewit Studies in docket UM 1968 on January 16, 2020 (for the  
7 Jim Bridger, Dave Johnston, Hunter, Huntington, Naughton, Wyodak, and Hayden  
8 plants), and on March 16, 2020 (for Colstrip Units 3 and 4).<sup>23</sup> On PacifiCorp's  
9 motion, the Commission then segregated the issues related to PacifiCorp's coal-fired  
10 resources from docket UM 1968 and moved them into the Company's general rate  
11 case, docket UE 374.<sup>24</sup> PacifiCorp filed the Kiewit Studies as Exhibits PAC/1900 and  
12 PAC/1901 in docket UE 374.<sup>25</sup> In this docket, PacifiCorp has filed the Kiewit Studies  
13 as Exhibits PAC/201-202 to Mr. Van Engelenhoven's testimony.

14 **Q. Did the scope of the Kiewit Studies comply with the 2020 Protocol's requirement  
15 to perform a "contractor assisted engineering study of decommissioning costs"?**

16 A. Yes. The Kiewit Studies are the most accurate and comprehensive study of  
17 decommissioning costs ever undertaken by the Company. The Kiewit Studies  
18 estimates are based on site-specific studies to create custom estimates for

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<sup>22</sup> *In re PacifiCorp dba Pac. Power, Application for Authority to Implement Revised Depreciation Rates*, Docket No. UM 1968, Order No. 20-470 at 2 (Dec. 16, 2020).

<sup>23</sup> See 2020 Protocol § 4.3.1.1. As contemplated by the 2020 Protocol, PacifiCorp initially filed the Kiewit Studies in Docket UM 1968. The Company filed the Kiewit Study for Jim Bridger, Dave Johnson, Hunter, Huntington, Naughton, Wyodak, and Hayden on January 16, 2020. PacifiCorp then filed the Kiewit Study for Colstrip Units 3 & 4 on March 16, 2020.

<sup>24</sup> Order No. 20-470 at 2. On April 2, 2020, ALJ Lackey granted PacifiCorp's motion to expand the scope of UE 374 to include a determination for the depreciation rates of the Company's coal-fired resources.

<sup>25</sup> See generally Docket No. UE 374, PAC/1900 (Decommissioning Study for Jim Bridger, Dave Johnson, Hunter, Huntington, Naughton, Wyodak, and Hayden); PAC/1901 (Decommissioning Study for Colstrip Units 3-4).

1 “decommissioning, decontamination, demolition, remediation, and reclamation” of  
2 PacifiCorp’s coal-fired resources.<sup>26</sup> The Kiewit Studies are the first to include  
3 decommissioning estimates that account for the 2015 Environmental Protection  
4 Agency (EPA) Coal Combustion Residuals (CCR) Rules.<sup>27</sup>

5 **Q. What rate treatment did PacifiCorp propose in filing the Kiewit Studies in**  
6 **dockets UM 1968 and UE 374?**

7 A. PacifiCorp filed the Kiewit Studies to supersede the 2018 Study as the most recent,  
8 accurate, and comprehensive decommissioning cost estimate. PacifiCorp sought to  
9 incorporate the cost estimates from the Kiewit Studies into its updated depreciation  
10 and base rates which, in turn, PacifiCorp proposed to reflect in the rate changes  
11 sought in docket UE 374.

12 **Q. Please explain why the Kiewit Studies are more accurate and complete than the**  
13 **2018 Study.**

14 A. First, cost estimates tend to become more specific as the project becomes more  
15 mature and defined. In the 2018 Study, PacifiCorp based its costs on “a selection” of  
16 coal-fired resources and extrapolated the costs across its fleet.<sup>28</sup> The Kiewit Studies  
17 did not use proxy resources to extrapolate decommissioning costs for the Company’s  
18 coal-fired resources. Instead, Kiewit conducted extensive site-specific studies on  
19 each plant in PacifiCorp’s portfolio by conducting on-site visits and consulting with  
20 Company staff and subcontractors to create specific cost estimates for each site.<sup>29</sup>

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<sup>26</sup> Docket No. UE 374, PAC/1900 at 14; Docket No. UE 374, PAC/1901 at 8.

<sup>27</sup> Docket No. UE 374, PAC/3902, Van Engelenhoven/4.

<sup>28</sup> Docket No. UM 1968, PAC/400, Teply/11.

<sup>29</sup> See Docket No. UE 374, PAC/1900 at 14 (“PacifiCorp requested a design basis, current and reliable cost estimates, schedule estimates, and other relevant information for decommissioning and demolition of its thermal resources.”); see also Docket No. UE 374, PAC/1901 at 8 (same).

1           Second, the 2018 Study focused only on the decommissioning costs  
2           associated with each plant’s demolition.<sup>30</sup> In docket UE 374, PacifiCorp clarified that  
3           while previous decommissioning studies conducted from 2014 to 2016 did include  
4           some additional abatement costs,<sup>31</sup> the 2018 Study was updated to focus only on  
5           demolition and reclamation costs associated with each plant’s physical footprint.<sup>32</sup>  
6           Because of this limitation, the 2018 Study did not comprehensively address CCR-  
7           mandated costs for coal ash pond abatement or coal pile remediation. The Kiewit  
8           Studies included all these costs.

9           Third, the 2018 Study did not account for the 2015 EPA CCR Rules’ effect on  
10          decommissioning costs.<sup>33</sup> These rules require PacifiCorp to return each plant site,  
11          excluding Wyodak,<sup>34</sup> to a “natural condition.”<sup>35</sup> This reclamation process requires the  
12          plant operator to grade each plant site for drainage and replant the area with native  
13          grasses.<sup>36</sup> The Kiewit Studies are the first to address these additional requirements  
14          and account for the costs of remediation to a natural condition.

15   **Q.    How did Staff respond to the Kiewit Studies?**

16   A.    Staff requested that the Commission appoint an IE to analyze the Kiewit Studies.<sup>37</sup>  
17          The Commission retained Dr. Ranajit Sahu as the IE on May 11, 2020, through a sole  
18          source procurement process.<sup>38</sup> On June 21, 2020, the IE then produced a report (IE

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<sup>30</sup> Docket No. UE 374, PAC/3900, Van Engelenhoven/8–9.

<sup>31</sup> See Docket No. UM 1968, PAC/400, Tetry/11.

<sup>32</sup> Docket No. UE 374, PAC/ 3900, Van Engelenhoven/8–9.

<sup>33</sup> Docket No. UE 374, PAC/3900, Van Engelenhoven/9.

<sup>34</sup> Wyodak will be restored to “brownfield status” for further industrial use because the facility is in an active industrial park. Docket No. UE 374, PAC/1900 at 14.

<sup>35</sup> Docket No. UE 374, PAC/1900 at 14; Docket No. UE 374, PAC/1901 at 8.

<sup>36</sup> Docket No. UE 374, PAC/1900 at 14; Docket No. UE 374, PAC/1901 at 8.

<sup>37</sup> Docket No. UE 374, Staff/900, Peng/9–10.

<sup>38</sup> See Docket No. UE 374, Staff Report at 3–4 (May 6, 2020) (detailing the procurement process); Docket No. UE 374, Staff/1701 (stating that Dr. Sahu and the Commission executed a Statement of Work on May 11, 2020);

1 Report) to assess whether the Kiewit Studies represented a reasonable AACE Class 3  
2 cost estimate for decommissioning costs.<sup>39</sup>

3 **Q. At a high level, what did the IE Report conclude about the Kiewit Studies?**

4 A. While the IE Report did find that the demolition cost items and assumptions were  
5 “generally reasonable,” it did not support the conclusion that Kiewit’s cost estimates  
6 were consistent with AACE Class 3 standards.<sup>40</sup> Even though the Kiewit Studies had  
7 already been reviewed and approved by two third-party demolition companies, the IE  
8 Report recommended that the Commission request cost breakdown details and  
9 supporting workpapers from PacifiCorp, Kiewit, and its subcontractors.<sup>41</sup>

10 **Q. How did the Company respond to the IE Report’s conclusions?**

11 A. The Company disagreed with the IE’s conclusions, which appeared to result from the  
12 IE not accessing or misunderstanding the available information. Unfortunately, the  
13 IE believed that the Statement of Work prohibited him from discussing the Kiewit  
14 Studies with PacifiCorp, Kiewit, or other contractors, or conducting site visits.<sup>42</sup> As a  
15 result, the Company was unable to provide necessary information to the IE.<sup>43</sup>

16 **Q. Please address the issue that arose in docket UE 374 regarding Kiewit’s**  
17 **workpapers.**

18 A. Because the IE was unable to simply ask questions to PacifiCorp or Kiewit, the IE  
19 Report identified certain areas where the IE needed additional information or back-up

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*see also* Docket No. UE 374, Staff Report, Attachment C (Statement of Work between Dr. Sahu & the Commission).

<sup>39</sup> *See generally* Docket No. UE 374, Staff/1701 (IE Report).

<sup>40</sup> Docket No. UE 374, Staff/1701, Storm/6.

<sup>41</sup> Docket No. UE 374, Staff/1701, Storm/6.

<sup>42</sup> Docket No. UE 374, Staff/1701 at 4 (“By agreement, my [the IE’s] Statement of Work with the OPUC did not include site visits to the different plants nor discussions with PacifiCorp and its contractors.”).

<sup>43</sup> Docket No. UE 374, PAC/3900, Van Engelenhoven/4.

1 on the Kiewit Studies. Staff followed up by requesting additional workpapers from  
2 PacifiCorp and Kiewit. The Company provided all of the requested information with  
3 the exception of Kiewit's proprietary pricing data and model, which was not the focus  
4 of the IE's requests for more information. Nevertheless, parties claimed that they had  
5 inadequate information with which to audit the Kiewit Studies.

6 To avoid further contention on this issue, at PacifiCorp's request, Kiewit has  
7 agreed to make itself available to the Commission, the new IE, and the parties in this  
8 docket to answer questions and provide additional non-proprietary information and  
9 back-up. PacifiCorp has already initiated this process by convening two pre-filing  
10 workshops with Kiewit and the parties to docket UE 374.

11 **Q. Did the IE complete the Statement of Work in the engagement?**

12 A. No. The Statement of Work required the IE to prepare and deliver an independent  
13 AACE Class 3 cost estimate if the IE did not agree with the Kiewit Studies.<sup>44</sup> The IE  
14 did not prepare an alternative estimate apparently based on a similar  
15 misunderstanding of the information available and the specificity required (and  
16 possible) for an AACE Class 3 estimate.<sup>45</sup>

17 **Q. How did other parties respond to the IE Report's conclusions about the Kiewit  
18 Studies?**

19 A. Staff and CUB agreed with the IE's conclusion that it was not possible to confirm that  
20 the estimated costs in the Kiewit Studies represented an AACE Class 3 level of  
21 accuracy for coal decommissioning costs.<sup>46</sup> Staff recommended that (1) the

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<sup>44</sup> Docket No. UE 374, Staff Report, Attachment C at 16.

<sup>45</sup> Docket No. UE 374, PAC/3900, Van Engelenhoven/17-18.

<sup>46</sup> Docket No. UE 374, Staff/ 1700, Storm/29; Docket No. UE 374, CUB/300, Jenks/2.

1 Commission reflect the decommissioning costs from the 2018 Study in PacifiCorp’s  
2 depreciation rates; and (2) allow PacifiCorp to make a separate filing after the rate-  
3 effective date in docket UE 374 to determine whether decommissioning costs should  
4 be adjusted based on the Kiewit Studies.<sup>47</sup> AWEC raised several specific concerns  
5 about the Kiewit Studies and disagreed that the cost estimates met an AACE Class 3  
6 level of accuracy.<sup>48</sup> AWEC recommended that the Commission “recognize that the IE  
7 Report is incomplete”<sup>49</sup> and adopt the 2018 Study without conducting a follow-on  
8 investigation of the Kiewit Studies.<sup>50</sup>

9 **Q. Did PacifiCorp support the idea of creating a separate docket to address coal**  
10 **decommissioning costs?**

11 A. Yes. Once it became clear that other parties wanted additional information and time  
12 to review the Kiewit Studies, the Company asked the Commission to adopt the Kiewit  
13 Studies’ cost estimates for rates in docket UE 374, subject to a true-up based on the  
14 outcome of the follow-on docket.<sup>51</sup>

15 **Q. Ultimately, what did the Commission determine?**

16 A. Due to the magnitude of decommissioning costs for Oregon customers, the  
17 Commission decided that a “robust review and verification” of the Kiewit Studies  
18 was critical.<sup>52</sup> At the same time, the Commission determined that the costs in the  
19 2018 Study were supported by sufficient evidence to include in rates.<sup>53</sup> Accordingly,

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<sup>47</sup> Docket No. UE 374, Staff/ 1700, Storm/37. CUB also recognized the potential need for a new investigation into coal decommissioning costs. Docket No. UE 374, CUB/300, Jenks/8.

<sup>48</sup> Docket No. UE 374, AWEC/300, Kaufman/23.

<sup>49</sup> Docket No. UE 374, AWEC/400, Kaufman/3.

<sup>50</sup> Docket No. UE 374, AWEC/500, Kaufman/42.

<sup>51</sup> Docket No. UE 374, PAC/3300, Lockey/24.

<sup>52</sup> Order No. 20-473 at 17.

<sup>53</sup> Order No. 20-473 at 18–19.



1 the Commission decided to open this proceeding while including the costs from the  
2 2018 Study in rates.<sup>54</sup> The Commission emphasized that the process will “provide the  
3 IE and parties with an opportunity for full review” of the Kiewit Studies and its inputs  
4 along with “the opportunity for direct communication between the IE and all  
5 parties.”<sup>55</sup> The Commission also stated that this proceeding will address the review  
6 process in general to ensure a comprehensive review of future coal decommissioning  
7 studies.<sup>56</sup>

8 **Q. Have several other states in which PacifiCorp serves customers reviewed the**  
9 **Kiewit Studies and adopted their decommissioning cost estimates?**

10 A. Yes. The Washington Utilities and Transportation Commission incorporated cost  
11 estimates from the Kiewit Studies in rates through the approval of an all-party  
12 settlement in PacifiCorp’s most recent general rate case.<sup>57</sup> In that case, the parties  
13 agreed to the recovery of additional decommissioning and remediation costs for  
14 Colstrip Unit 4 and Jim Bridger Units 1-4, which will be recovered over 10 years  
15 from 2021 to 2030.<sup>58</sup>

16 In December 2020, the Idaho Public Utilities Commission approved a  
17 stipulation allowing the Company to defer the incremental decommissioning costs  
18 from the Kiewit Studies until the Company’s next general rate case.<sup>59</sup>

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<sup>54</sup> Order No. 20-473 at 17–18.

<sup>55</sup> Order No. 20-473 at 18.

<sup>56</sup> Order No. 20-473 at 18.

<sup>57</sup> *Wash. Utils. & Transp. Comm’n v. PacifiCorp, dba Pac. Power & Light Co.*, Docket Nos. UE-191024, UE-190750, UE-190929, UE-190981, & UE-180778, Order Nos. 9, 7 & 12, at ¶ 22 (Dec. 14, 2020).

<sup>58</sup> Docket No. UE-191024 *et al.*, Order Nos. 9, 7 & 12, at ¶ 109. While the parties reserved the right to challenge future decommissioning cost estimates, the parties all agreed that the decommissioning and remediation costs based on the Kiewit Studies would set the rates under the stipulated settlement. *Id.*; *see also* Docket UE-191024 *et al.*, Stipulated Settlement, at ¶ 26; Docket No. UE-191024 *et al.*, Joint Testimony, Exh. JT-1T at 18:17–20.

<sup>59</sup> *In the Matter of the Application of Rocky Mountain Power for the Authorization to Change Depreciation Rates Applicable to Electric Property*, Case No. PAC-E-18-08, Order No. 34865 (Dec. 20, 2020).

1           The Utah Public Service Commission also addressed the projected  
2 incremental decommissioning costs contained in the Kiewit Studies in its latest  
3 update to the Company’s depreciation rates.<sup>60</sup> Based on the Company’s unopposed  
4 testimony that the Kiewit Studies’ AACE Class 3 estimates represent reasonable and  
5 appropriate decommissioning costs, the Utah Public Service Commission included  
6 these estimates in PacifiCorp’s updated depreciation rates.<sup>61</sup>

7                           **IV. THE NEW INDEPENDENT EVALUATOR**

8 **Q. Do the parties in this docket plan to retain a second IE to assess the Kiewit**  
9 **Studies?**

10 A. Yes. When addressing this proceeding in Order No. 20-473, the Commission made  
11 clear that it expected “significant IE involvement,” including (1) an evaluation of the  
12 Kiewit Studies and (2) the development of an alternate AACE Class 3 estimate, if  
13 necessary.<sup>62</sup> The Commission also reiterated that the new IE review process will  
14 allow all parties to conduct a full review of the Company-provided inputs and provide  
15 “direct communication” between the IE and all parties.<sup>63</sup>

16 **Q. In response to the Commission’s order, have the parties begun the RFP process**  
17 **to retain a new IE?**

18 A. Yes. The parties are drafting a proposed RFP for a new IE to provide a neutral,  
19 independent evaluation of PacifiCorp’s decommissioning and remediation costs for

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<sup>60</sup> *Application of Rocky Mountain Power for Authority to Change its Depreciation Rates Effective Jan. 1, 2021*, Docket No. 18-035-36, Order No. 1 at 2–3 (Dec. 21, 2020).

<sup>61</sup> *Id.* at 3. Under the Utah Public Service Commission’s order, the Company will defer the amount collected in rates to a regulatory liability account adjusted for actual decommissioning costs once they are known. *Id.*

<sup>62</sup> Order No. 20-473 at 18.

<sup>63</sup> Order No. 20-473 at 18.

1 its coal-fired resources. The RFP will underscore that Staff will oversee the IE's  
2 work product and be the primary point of contact for the IE.

3 **Q. What is the scope of work under the RFP?**

4 A. The current scope of work under the RFP requires the IE to determine if the Kiewit  
5 Studies provide a reasonable AACE Class 3 estimate to decommission,  
6 decontaminate, demolish, and reclaim certain of PacifiCorp's coal-fueled generation  
7 facilities. Specifically, the RFP requires three deliverables. First, the IE must prepare  
8 a narrative report documenting the IE's audit and assessment of the Kiewit Studies,  
9 discuss its findings regarding the specific coal plants in the Kiewit Studies, and  
10 indicate whether the Kiewit Studies represent a reasonable estimate. The IE must  
11 communicate with PacifiCorp and Kiewit throughout this process to make this  
12 assessment. Second, the IE must provide an electronic version of all spreadsheet  
13 reports the IE relied upon to develop the report. Third, the IE must provide all parties  
14 an electronic copy of all other materials the IE relied upon to create the report.

15 **Q. Does the RFP allow the IE to provide the Staff and the Commission with an**  
16 **independent AACE Class 3 cost estimate?**

17 A. Yes. While the RFP scope is for an audit-type approach, it also allows for the  
18 development of an independent cost estimate from the IE. The RFP will allow the  
19 Commission to request independent cost estimates for any item in the Kiewit Studies  
20 where the IE identifies that the Kiewit Studies do not represent a reasonable AACE  
21 Class 3 estimate. Additionally, the RFP will allow the Commission to require the IE  
22 to prepare and deliver an AACE Class 3 cost estimate for any item not included in the

1 Kiewit Studies that the IE believes should have been included in the scope of the  
2 Kiewit Studies.

3 **Q. What information will be available to the IE during the review process?**

4 A. The IE will have access to all information controlled by PacifiCorp, including all  
5 information the Company provided to Kiewit, regardless of whether that information  
6 was included in the Kiewit Studies. The IE will also have access to all information  
7 controlled by Kiewit except information proprietary to Kiewit and its subcontractors,  
8 such as Kiewit's modeling software and pricing information. Finally, the IE will have  
9 access to PacifiCorp and Kiewit representatives and can conduct workshops and site  
10 visits to better understand the available information.

11 **Q. Can the IE submit testimony in this proceeding?**

12 A. Yes. At Staff's direction, the IE may be required to submit testimony describing the  
13 IE report and any independent cost items developed during the assessment. The IE  
14 will also be required to respond to data requests by any party to a proceeding in which  
15 the IE's report and cost estimates are submitted as evidence.

16 **Q. Will the IE appear as an expert witness in this proceeding?**

17 A. Yes. The IE may be required to appear as an expert witness regarding the report and  
18 any independent cost estimates. Such an appearance may be in a hearing during this  
19 proceeding or any other Commission proceeding that includes consideration of the  
20 Kiewit Studies.

21 **V. FUTURE DECOMMISSIONING STUDIES AND RATE MECHANISM**

22 **Q. Does PacifiCorp plan to conduct future Decommissioning Studies?**

23 A. Yes. The Company plans to conduct future decommissioning studies to update the

1 Commission on decommissioning costs for the Craig, Hunter, Huntington, and  
2 Wyodak plants.<sup>64</sup> The Company plans to provide these decommissioning studies to  
3 the Commission no later than June 30, 2024.<sup>65</sup>

4 **Q. Does the Company plan to model these updated studies on the Kiewit Studies?**

5 A. Yes. PacifiCorp plans to conduct any further updates for decommissioning costs to  
6 an AACE Class 3 level of specificity. The Company will also incorporate any  
7 guidance the Commission offers in this docket into its future studies and will provide  
8 its estimates based on the dates the resources will be removed from Oregon rates.

9 **Q. Please address the Company's proposed mechanism for removing generation  
10 costs from rates upon retirement of a coal plant.**

11 A. In her testimony, Ms. McCoy outlines the Company's proposed coal removal  
12 mechanism along with the Company's proposal that this docket proceed in two  
13 phases, with the cost removal mechanism being addressed in the second phase of this  
14 docket after the more time sensitive issues around the Kiewit Studies are resolved.  
15 The Company intends to convene workshops with the parties to collaboratively  
16 develop a framework for this mechanism.

17 **Q. Does this conclude your direct testimony?**

18 A. Yes.

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<sup>64</sup> See 2020 Protocol § 4.3.1.2.

<sup>65</sup> See Order No. 20-473 at 9.

Docket No. UM \_\_\_\_\_  
Exhibit PAC/200  
Witness: Robert Van Engelenhoven

**BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON**

**PACIFICORP**

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**Direct Testimony of Robert Van Engelenhoven**

**July 2021**

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**ATTACHED EXHIBITS**

- Confidential Exhibit PAC/201—Confidential Decommissioning Study for Hunter, Huntington, Dave Johnston, Jim Bridger, Naughton, Wyodak and Hayden Plants
- Confidential Exhibit PAC/202—Confidential Decommissioning Study Update for Colstrip Plant
- Confidential Exhibit PAC/203—Confidential Letter from Kiewit Regarding Independent Evaluation Report Submitted to Public Utility Commission of Oregon on June 21, 2020

1                                   **I.     INTRODUCTION AND QUALIFICATIONS**

2   **Q.     Please state your name, business address, and present position with PacifiCorp**  
3       **d/b/a Pacific Power (PacifiCorp or the Company).**

4   A.    My name is Robert Van Engelenhoven, and my business address is 1407 West North  
5        Temple, Suite 310, Salt Lake City, Utah 84116. I am currently employed as a  
6        Resource Development Director.

7   **Q.     Please describe your educational background and professional experience.**

8   A.    I have a Bachelor of Science Degree in Civil Engineering from Iowa State University  
9        and am a licensed structural engineer in Utah and a licensed professional engineer in  
10       Wyoming. I have managed major capital projects for the Company for over 20 years.

11 **Q.     Have you testified in other regulatory proceedings?**

12 A.    Yes. I have sponsored testimony on behalf of PacifiCorp in Oregon, Utah, Wyoming,  
13        Idaho.

14                                   **II.    PURPOSE AND SUMMARY OF TESTIMONY**

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

16 A.    My testimony supports and explains in technical detail the process the Company used  
17        to ensure that the decommissioning studies prepared by Kiewit Engineering Group,  
18        Inc. (Kiewit) for eight of PacifiCorp's coal-fired generation resources (Kiewit Studies  
19        or Studies) are reasonable, accurate, and comply with the Association for the  
20        Advancement of Cost Engineers (AACE) Class 3 standards. The Kiewit Studies are  
21        included as confidential exhibits PAC/201 and PAC/202 to my testimony. I address  
22        concerns about the Kiewit Studies raised in the Independent Evaluator's (IE) Report  
23        conducted during the Company's last general rate case, docket UE 374.



1 **Q. Please summarize your testimony.**

2 A. In my testimony:

- 3 • I discuss the preparation of the Kiewit Studies and the steps PacifiCorp and  
4 Kiewit took to ensure that the Kiewit studies were independently prepared,  
5 accurate, and satisfy the standards of an AACE Class 3 cost estimate.
- 6 • I outline the specific itemized costs provided by PacifiCorp. While Kiewit  
7 and its subcontractors developed most costs contained in the Kiewit Studies,  
8 PacifiCorp did provide some inputs. I describe the specific nature and  
9 purpose of each input.
- 10 • The IE Report raised questions about Kiewit's assumptions during the  
11 preparation of its Studies. I address those concerns and clarify that these  
12 concerns are misplaced or the result of a misunderstanding.
- 13 • The IE Report compared the Kiewit Studies' cost estimates to a 2017 paper  
14 and suggested that the Kiewit Studies' costs are too high. I outline the  
15 numerous problems with the IE's analysis and demonstrate how the Kiewit  
16 Studies are consistent with statements in the 2017 paper around increasing  
17 environmental compliance costs for plant decommissioning and remediation.

18 **III. PREPARATION OF THE KIEWIT STUDIES**

19 **Q. Why were the Kiewit Studies developed?**

20 A. As explained in the testimony of Ms. Etta Lockey, the Kiewit Studies were prepared  
21 in response to the adoption of the 2020 PacifiCorp Inter-Jurisdictional Allocation  
22 Protocol (2020 Protocol). The 2020 Protocol requires PacifiCorp to procure a third-  
23 party decommissioning study to provide an accurate decommissioning cost estimate

1 which is to be used to establish Oregon's share of decommissioning and remediation  
2 costs.<sup>1</sup> The Company committed to undertaking contractor-assisted engineering  
3 studies by January 15, 2020, for the Jim Bridger, Dave Johnston, Hunter, Huntington,  
4 Naughton, Wyodak, and Hayden plants and by March 15, 2020, for Colstrip Units 3  
5 and 4.<sup>2</sup>

6 **Q. Please describe the scope of the Kiewit Studies.**

7 A. The scope of work for the Kiewit Studies includes the following requirements:

- 8 • Provide an owner-informed, overall decommissioning design basis for all of  
9 the generating facilities in the Studies. The design basis established the  
10 fundamental assumptions for the cost estimates provided in the final Kiewit  
11 Studies.
- 12 • Provide an AACE Class 3 cost estimate to identify all the costs for the  
13 decommissioning, demolition, reclamation, and remediation of the Hunter,  
14 Huntington, Dave Johnston, Jim Bridger, Naughton, Wyodak, and Hayden,  
15 and Colstrip Units 3 and 4<sup>3</sup> coal-fired resources.
- 16 • Provide a narrative report describing the entities involved, the process used to  
17 prepare the report, and the assumptions made.
- 18 • Provide a spreadsheet report incorporating the AACE Class 3 cost estimates  
19 inclusive of certain PacifiCorp-provided Asset Retirement Obligation (ARO)

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<sup>1</sup> 2020 Protocol § 4.3.1.1.

<sup>2</sup> 2020 Protocol § 4.3.1.1. The 2020 Protocol stipulated that PacifiCorp would use its best efforts to estimate the decommissioning cost requirements for Jim Bridger, Dave Johnson, Hunter, Huntington, Haughton, Wyodak, and Hayden by January 15, 2020. The Company also committed to use its best efforts to complete a decommissioning cost study for Colstrip Units 3 and 4 by March 15, 2020. *Id.*

<sup>3</sup> Colstrip Units 3 and 4 were included in a separate study because these resources had a common retirement date in the 2019 Integrated Resource Plan (IRP). *See In re PacifiCorp, dba Pac. Power, 2019 Integrated Res. Plan*, Docket No. LC 70 (Oct. 18, 2019).

1 cost estimates as verified by Kiewit.

- 2 • Provide cost estimates based on fourth-quarter 2019 dollars.

3 **Q. Given that the scope of work dictated that cost estimates be provided as of**  
4 **fourth-quarter 2019, did Kiewit escalate its cost estimates to correspond with the**  
5 **projected retirement dates of the facilities?**

6 A. No. The scope of work assumed that all units at each plant were retired on  
7 December 31, 2019, and that work to begin the decommissioning, demolition, and  
8 reclamation could begin January 1, 2020. The estimated schedule through full  
9 reclamation ranges from 30 to 50 months, however, and Kiewit did include cost  
10 escalation for this reclamation period.

11 **Q. Why did PacifiCorp select Kiewit to prepare its decommissioning studies?**

12 A. PacifiCorp engaged Kiewit to perform the Studies consistent with the 2020 Protocol.<sup>4</sup>  
13 Kiewit is an independent and highly regarded engineering firm founded in 1884. It  
14 has approximately 25 years of experience performing decommissioning work on coal-  
15 fired generation facilities, specializing in the earthwork required to restore sites.

16 **Q. Did Kiewit bring on other engineering firms to add depth and expertise to its**  
17 **team?**

18 A. Yes. Kiewit brought on North American Dismantling Corporation (NADC) to assist  
19 in preparing the Studies. NADC is an engineering firm known for precision  
20 demolition, with approximately 35 years and 27,000 megawatts (MW) of  
21 decommissioning experience. The Studies also included review and input from  
22 independent hazardous materials abatement contractors Winter Environmental and

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<sup>4</sup> See 2020 Protocol § 4.3.1.1.

1 ABC Abatement. Two additional independent demolition contractors, Bierlein  
2 Companies, Inc. and Brandenburg Industrial Service Company, reviewed the Kiewit  
3 Studies to verify their reasonableness.

4 ***AACE Class 3 Cost Estimates***

5 **Q. Describe an AACE Class 3 estimate.**

6 A. AACE Class 3 estimates are generally prepared to form the basis for budget  
7 authorization, appropriation, and funding of major projects. As such, they typically  
8 form the initial control estimate against which actual costs will be monitored.  
9 Because of the increased specificity, a Class 3 estimate has an expected accuracy of  
10 minus 20 percent to plus 30 percent and defines 10 to 40 percent of the project scope.<sup>5</sup>

11 **Q. What inputs are required to prepare an AACE Class 3 cost estimate?**

12 A. Class 3 estimates use deterministic estimating methods instead of generic methods.  
13 They typically involve a substantial number of cost line items, although factoring and  
14 other methods can be used for less-defined project areas. An AACE Class 3 estimate  
15 provides the most accurate possible estimate for defining a project's costs without  
16 beginning the request for proposal process.

17 **Q. How does an AACE Class 3 estimate compare to an AACE Class 5 estimate?**

18 A. Class 5 estimates are generally prepared on limited information and subsequently,  
19 have a wide accuracy range. Specifically, a Class 5 estimate has an expected  
20 accuracy of minus 50 percent to plus 100 percent and defines 0 to 2 percent of the  
21 project's scope.<sup>6</sup> Class 5 estimates generally use generic or proxy estimates  
22 developed from costs based on demolition of similar sized plants. These estimates

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<sup>5</sup> See generally [https://www.costengineering.eu/Downloads/articles/AACE\\_CLASSIFICATION\\_SYSTEM.pdf](https://www.costengineering.eu/Downloads/articles/AACE_CLASSIFICATION_SYSTEM.pdf).

<sup>6</sup> *Id.*

1 are then adjusted with cost factors to compensate for regional or locational  
2 differences, acres of land involved or obvious high cost, specific items such as  
3 evaporation ponds, coal pile restoration or offsite raw water supply reservoirs.  
4 Accordingly, AACE Class 5 estimates are used for concept screening and assessments  
5 of long-range capital planning. PacifiCorp conducted an AACE Class 5 estimate for  
6 the Company's 2018 decommissioning study filed in docket UM 1968 (2018 Study),<sup>7</sup>  
7 which the Commission used to set depreciation rates in docket UE 374 pending the  
8 outcome of this proceeding.

9 ***Kiewit's Process in Preparing its AACE Class 3 Cost Estimates***

10 **Q. Did Kiewit use AACE Class 3 level methodologies to conduct its**  
11 **decommissioning studies for PacifiCorp?**

12 A. Yes. The Kiewit Studies focused on the individual generation units and all common  
13 plant facilities, both inside and outside the facility perimeter. Specifically, Kiewit and  
14 NADC conducted site visits by touring each facility and gathering detailed  
15 information concerning site layout and conditions. Kiewit also requested drawings,  
16 reports, environmental studies, and additional documentation regarding each facility  
17 included in the Studies. Kiewit then broke the decommissioning and reclamation  
18 costs down into major line items including: (1) site investigation and development;  
19 (2) decommissioning; (3) pre-demolition decontamination; (4) demolition, salvage,  
20 and scrap; and (5) reclamation. These broad line items are further broken down and  
21 identified in the Kiewit report as Cost Categories. For each component of the Cost  
22 Category quantities of materials, labor, equipment and specialty subcontractor costs

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<sup>7</sup>Docket No. UE 374, PAC/1602; Docket No. UM 1968, PAC/202.

1 are estimated, and to those estimated quantities, experiential or historical pricing is  
2 applied from Kiewit's proprietary cost database to calculate the estimated costs.  
3 Kiewit summarized the methodology, quantities, costs, and documented assumptions,  
4 and included them in their Studies.

5 **Q. Do the Kiewit Studies expand the scope of the Company's 2018 Study?**

6 A. Yes. The 2018 Study focused primarily at the facility level and limited its site-  
7 specific analysis to three generating units. The previous estimates also did not  
8 include all infrastructure and utilities outside the plant perimeter. In contrast, the  
9 Kiewit Studies focused on all of the individual units, as well as on all common plant  
10 facilities, both inside and outside the facility perimeter.

11 **Q. At a high level, what are AROs?**

12 A. As described further in the testimony of Mr. Jeff Tucker, AROs describe a legal  
13 obligation associated with the retirement of a tangible, long-term asset where  
14 PacifiCorp is responsible for the removal of that asset at some future date. The value  
15 of AROs is based on PacifiCorp's recent experience and estimates prepared by  
16 consultants. These values represent the present value of the existing  
17 retirement/removal obligation. During the time between the 2018 Study and the  
18 Kiewit Studies, the scope and cost of individual AROs changed as existing  
19 obligations were completed and new obligations were incurred. Mr. Tucker provides  
20 the Company's most recent ARO values associated with the plants.

21 **Q. Did the Kiewit Studies address site reclamation?**

22 A. Yes. The Kiewit Studies include site reclamation costs as a specific line item for each  
23 generating facility. Reclamation scope assumptions include grading to meet permit

1 and regulatory conditions, installing topsoil, and seeding for native plants. Topsoil  
2 installation and seeding were not estimated for the Wyodak plant because it is located  
3 within an industrial park, and the site will be restored for industrial use. PacifiCorp's  
4 2018 Study did not include site reclamation costs.

5 **Q. Did the Kiewit Studies address owner's costs and indirect costs?**

6 A. Yes. The Kiewit Studies include the cost of preparing each facility for  
7 decommissioning work, project management overhead, long-lead permitting, site  
8 demolition management, and contractor and engineering indirect costs.<sup>8</sup> The 2018  
9 Study did not include owner's project development and oversight costs or indirect  
10 costs.

11 **Q. How did the Company provide information to Kiewit?**

12 A. Throughout the process, PacifiCorp ensured that Kiewit had access to documents,  
13 power plant sites, and power plant personnel. PacifiCorp provided a liaison,  
14 Mr. H. Grant Laughter, who visited each power plant along with Kiewit's team to  
15 provide a consistent evaluation of each plant.<sup>9</sup>

16 **Q. Did Kiewit work independently from the Company when preparing these**  
17 **Studies?**

18 A. Yes. Once PacifiCorp developed the scope of work and provided information about  
19 its plants, the Company did not participate in Kiewit's cost estimation process.  
20 Kiewit prepared its own cost estimates for the decommissioning, decontamination,  
21 demolition, and reclamation of the Company's coal-fired resources based on the

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<sup>8</sup> Indirect costs are defined at section 5.9 of the January 15, 2020 Kiewit Study.

<sup>9</sup> PAC/203, Van Engelenhoven/1, August 13, 2020 Letter from Kiewit Regarding Independent Evaluator's Report Submitted June 21, 2020 (previously submitted in Docket No. UE 374 as PAC/3902).

1 design parameters outlined in the Studies. Notably, the IE Report endorsed the  
2 reasonableness of Kiewit's design parameters, which provide the foundation for  
3 Kiewit's cost estimation.<sup>10</sup>

4 **Q. Were the Kiewit Studies' cost estimates subject to additional, independent**  
5 **review?**

6 A. Yes. As noted above, two additional independent demolition contractors—Bierlein  
7 Companies, Inc. and Brandenburg Industrial Service Company—reviewed the results  
8 of the Kiewit Studies. Both companies are leaders in the field of demolition and  
9 restoration of industrial sites, and both companies agreed that the cost estimates  
10 provided in the Kiewit Studies represent accurate AACE Class 3 cost estimates. The  
11 costs in the 2018 Study were never independently reviewed and endorsed in this  
12 manner.

13 **Q. During the Company's last general rate case, did the Company produce Kiewit's**  
14 **work papers supporting its Studies?**

15 A. Yes. Although most of Kiewit's analysis and calculations were included in the  
16 Studies, the Company produced all backup information and work papers (including  
17 the information PacifiCorp provided to Kiewit), with the exception of Kiewit's  
18 proprietary pricing data and model. While the issues raised by the IE and the parties  
19 in docket UE 374 primarily focused on the assumptions and inputs to the Kiewit  
20 Studies, not the pricing model, parties to that docket claimed they lacked the  
21 necessary information to audit the Kiewit Studies. To address this concern, Kiewit  
22 has agreed to meet with the Commission, the new IE, and the parties to ensure that all

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<sup>10</sup> Docket No. UE 374, Staff/1701, Storm/9.



1 non-proprietary information underlying the Kiewit Studies is available for review and  
2 audit in this docket. On May 7, 2021, PacifiCorp initiated this process by convening  
3 a workshop with Kiewit and the parties to docket UE 374. A second workshop with  
4 Kiewit and the parties was held on June 18, 2021.

5 **IV. SPECIFIC COSTS PROVIDED BY PACIFICORP**

6 **Q. Did PacifiCorp provide some of the cost inputs used in the Kiewit Studies?**

7 A. Yes. While Kiewit independently developed the vast majority of the costs contained  
8 within the Kiewit Studies, PacifiCorp did provide some limited inputs for items with  
9 less-defined costs, costs that the Company had already developed, and remediation  
10 and closure costs.

11 **Q. How do the Kiewit Studies break down these costs?**

12 A. Very generally, the Kiewit Studies break down costs into two categories: (1) base  
13 estimates; and (2) "Other Items to be Considered." Base estimates, which represent  
14 the majority of decommissioning costs, include the costs to decommission,  
15 decontaminate, demolish, and reclaim the site. Kiewit developed the majority of  
16 these costs. The "Other Items to be Considered" category encompasses remediation  
17 and closure costs, such as materials and supply (M&S) inventory, unspecified  
18 liabilities, and coal pile excavation and haul off.

19 **Q. What costs did PacifiCorp provide as part of the Kiewit Studies' base estimates?**

20 A. PacifiCorp provided (1) owner's costs for decommissioning; (2) the asbestos ARO;  
21 and (3) other AROs. PacifiCorp also provided owner plant-specific liabilities, which,  
22 were inadvertently identified as a separate cost category in section 5.8 of the Kiewit  
23 Studies, but should have been included in section 5.14, Other Items to Consider.

1           These costs were correctly included as part of the “Other Items to Consider” category  
2           in docket UE 374 and in this filing.<sup>11</sup>

3   **Q.    What is included in the line item for owner’s costs for decommissioning?**

4   A.    This line item includes internal Company costs to oversee the decommissioning  
5           process. This process includes costs for equipment shutdown, disconnection from  
6           transmission, removal of personal property, closeout of operating permits, and  
7           disposition of spares, inventory, consumables, chemicals, and universal wastes.<sup>12</sup>

8   **Q.    How did the Company prepare these costs for the Kiewit Studies?**

9   A.    PacifiCorp estimated owner’s costs based on the actual owner costs incurred for  
10          decommissioning and demolition of the Carbon generating facility, adjusted for the  
11          size of the generating facility and economies of scale. In discovery in docket UE 374,  
12          PacifiCorp provided parties with all of the owner’s cost estimates furnished to  
13          Kiewit.<sup>13</sup>

14   **Q.    Does another PacifiCorp witness address how AROs were handled in the Kiewit  
15          Studies?**

16   A.    Yes. Mr. Tucker addresses this issue in his testimony.

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<sup>11</sup> PAC/203, Van Engelenhoven/3-4.

<sup>12</sup> Docket No. UE 374, PAC/1900 at 33.

<sup>13</sup> Docket No. UE 374, PacifiCorp Confidential Attachment OPUC 725.

1 ***Other Items to Consider: M&S Inventory Sale and Disposal***

2 **Q. Appendix A to the IE Report indicated that the line item of M&S Inventory Sale**  
3 **and Disposal was not adequately supported in the Kiewit Studies. How do you**  
4 **respond?**

5 A. The value included in the Kiewit Studies was the actual book value of M&S  
6 Inventory at the time the Studies were prepared. Providing the list of all M&S  
7 inventory at the time the Studies were performed was not practical or necessary for  
8 the completion of the Kiewit Studies' AACE Class 3 estimate. Disposal of the M&S  
9 inventory is a closure cost that has been included in Oregon rates for other retired  
10 generation plants, calculated as here based on book values, and has been appropriately  
11 included in the estimates for the Other Items to Consider.

12 ***Other Items to Consider: Coal Pile Excavation and Haul Off***

13 **Q. How did PacifiCorp calculate the coal pile excavation costs?**

14 A. PacifiCorp provided the depth of the coal pile removal excavation and Kiewit  
15 calculated the costs for coal pile excavations based on the regulatory requirements  
16 under the Environmental Protection Agency's (EPA) Coal Combustion Residuals  
17 (CCR) rules and the Company's recent experience excavating the coal pile at its  
18 retired Carbon facility.<sup>14</sup> When the Company performed abatement work at its  
19 Carbon facility, the depth of removal of contaminated soil at the coal pile varied  
20 greatly and on the west side was approximately 30 feet deep. The Company used the  
21 average excavation depth of 10 feet at Carbon as the basis for establishing the  
22 excavation depth of 10 feet for coal pile excavations at the plants covered by the

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<sup>14</sup> Docket No. UE 374, Staff/1706, Storm/1.

1 Studies. This was a reasonable assumption because the work at Carbon is relatively  
2 recent and there were no unique or complicating factors present. Given the fact that  
3 the coal pile at Carbon was smaller than most others, however, the 10 feet average  
4 may be a conservative estimate.

5 **Q. In docket UE 374, PacifiCorp stated that it was working to improve its estimated**  
6 **excavation depths for its other coal-fired generation facilities. Can you provide**  
7 **an update?**

8 A. The Company explored whether it could drill under coal piles to sample the level of  
9 contamination on a site-specific basis. Unfortunately, the Company determined that it  
10 is infeasible to drill core samples to more precisely determine excavation depth for  
11 abatement in an active coal pile. Based on consultation with the drilling company it  
12 was determined to be impractical because drilling from the surface contaminates the  
13 subsurface with materials that the drill passes through. For this reason, the average  
14 excavation depth level derived from the Company's experience in excavating the  
15 Carbon plant coal pile remains the best information available to develop the  
16 excavation costs for other plants.

17 **V. OTHER LINE ITEMS DISCUSSED IN THE IE REPORT**

18 **Q. Outside of the specific line items discussed above, did the IE Report express**  
19 **concern with any other line items in the Kiewit Studies?**

20 A. Yes. The IE Report identified five other areas where the IE believed that Kiewit  
21 made assumptions without a "reasoned basis" or adequate support.<sup>15</sup> Specifically, the  
22 IE addressed: (1) the removal of structures to three feet below grade; (2) the

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<sup>15</sup> Docket No. UE 374, Staff/1701, Storm/14.

1 assumption that buried pipe is three feet below final grade; (3) the basis for the  
2 removal of three feet of material from non-CCR ponds; (4) the depth of waste  
3 removed from coal pile runoff ponds; and (5) asphalt removal and disposal.

4 **Q. Do you believe that the removal of structures to three feet below the existing**  
5 **grade is arbitrary?**

6 A. No. Removing structures to three feet below grade is common practice for power  
7 plant demolition. Specifically, NADC indicates that over 50 percent of power plant  
8 jobs it bids have this requirement.<sup>16</sup> Kiewit and NADC chose this figure based on  
9 their extensive experience in the power plant demolition industry. It is important to  
10 understand that the foundation material removed to three feet below the surface is  
11 used as part of fill material and thus is part of the calculated balance of cut and fill  
12 quantities. Using these materials as fill is far less expensive than having to truck fill  
13 material from one location to another.

14 **Q. Similarly, is the three-foot depth of buried pipe an arbitrary assumption in the**  
15 **context of the Kiewit Studies?**

16 A. No. All of the resources included in the Kiewit Studies are located in harsh winter  
17 climates. Underground piping is typically placed below the frost depth which is  
18 established by local building codes to prevent freezing and most, if not all, pipe will  
19 be buried to at least a depth of three feet.<sup>17</sup>

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<sup>16</sup> PAC/203, Van Engelenhoven/3.

<sup>17</sup> PAC/203, , Van Engelenhoven/3.

1 **Q. The IE Report seems to suggest that the Kiewit Studies should characterize the**  
2 **materials contained in each pond at each plant.<sup>18</sup> Is this beyond the scope of an**  
3 **AACE Class 3 cost estimate?**

4 A. Yes. The characterization of the materials in each pond would not materially impact  
5 the overall net project cost in the base estimate.<sup>19</sup> An AACE Class 3 cost estimate  
6 only requires 10 to 40 percent of the project's scope to be defined. Kiewit did  
7 establish the surface area of material for removal in each pond and the overall site  
8 grading plan, consistent with AACE Class 3 standards.<sup>20</sup> However, the sediments  
9 across a pond bottom vary and are best classified once the pond is taken out of service  
10 and dewatered, which is impractical at an operating facility. That level of  
11 investigation was outside the scope of these Studies, especially since it would not  
12 have materially impacted the estimates.

13 **Q. The IE Report appears to conflate the depth of excavation for coal pile runoff**  
14 **ponds with the excavation depth for coal piles.<sup>21</sup> What excavation depth do the**  
15 **Kiewit Studies employ for coal pile runoff ponds?**

16 A. The Kiewit Studies state that coal pile runoff ponds would be assessed like all other  
17 non-CCR ponds with an excavation depth of three feet. The discussion of 10 feet of  
18 removal was a reference to coal pile excavation depth, not the potential removal depth  
19 for coal pile runoff ponds.

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<sup>18</sup> See Docket No. UE 374, Staff/1701, Storm/15.

<sup>19</sup> PAC/203, Van Engelenhoven/3.

<sup>20</sup> PAC/203, Van Engelenhoven/3.

<sup>21</sup> Docket No. UE 374, Staff/1701, Storm/14.

1 **Q. Finally, the IE Report suggests that Kiewit should have done asphalt coring to**  
2 **perform an AACE Class 3 cost estimate.<sup>22</sup> Are these actions required to perform**  
3 **a reasonable AACE Class 3 estimate?**

4 A. No. A coring program to determine the depth of asphalt is not required, nor is it a  
5 common or normal practice in advance of demolition work. Kiewit utilized drawings,  
6 maps, and satellite images to estimate the surface area of the asphalt roads and  
7 parking lots at each plant. Discussion with plant staff, as well as experience with  
8 similar facilities, also served as the basis for Kiewit's estimates. The method, labor  
9 and equipment used to remove asphalt is generally not dependent on the thickness of  
10 the asphalt and thus the removal cost is not significantly affected by the depth of  
11 asphalt for a standard road, parking, or plant surface design, such as those addressed  
12 in the Studies. Coring studies would not have materially affected the estimates.

13 **VI. KIEWIT STUDIES' ESTIMATES COMPARED TO INDUSTRY DATA**

14 **Q. The IE Report stated that decommissioning costs for several power plants**  
15 **appeared "substantially higher" than other industry plant decommissioning**  
16 **costs.<sup>23</sup> Do you agree with this assessment?**

17 A. No. The Kiewit Studies' cost estimates were developed and reviewed by a team of  
18 independent engineering firms currently engaged in coal plant decommissioning. The  
19 estimates represent what the decommissioning and remediation of these particular  
20 plants is likely to cost as of the date of the Studies based on the relevant markets for  
21 supplies and contractors.

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<sup>22</sup> Docket No. UE 374, Staff/1701, Storm/14.

<sup>23</sup> Docket No. UE 374, Staff/1701, Storm/21.

1 **Q. What did the IE rely upon for his assessment?**

2 A. The IE relied mainly on one graphic from a 2017 paper addressing power plant  
3 decommissioning (2017 paper).<sup>24</sup> The figure shows estimated decommissioning costs  
4 for 28 coal plants in 2016 dollars, and was designed to demonstrate that, on a per MW  
5 basis, larger plants typically are less expensive as the incremental costs of  
6 decommissioning tend to decrease with scale; in addition, the larger plants in the  
7 figure were newer and thus had fewer environmental issues.<sup>25</sup> The IE used this figure  
8 for an unintended purpose, however, which was to compare the costs estimates  
9 reflected in the figure to those in the Kiewit Studies. This analysis is inappropriate  
10 for numerous reasons. Most fundamentally, decommissioning costs are dependent on  
11 numerous plant specific factors and a company cannot simply look to industry  
12 averages from several years prior to determine a reasonable estimate for these costs.  
13 Additionally, there is no data provided to ensure that the IE was comparing like  
14 estimates. Potential discrepancies include: (1) changes in environmental or other  
15 regulations; (2) maturity level of project definition; (3) escalation; and (4) plant  
16 specific issues, including the geographic location of the plant.

17 **Q. Does the 2017 paper imply that the decommissioning estimates it reported could**  
18 **be understated by as much as 50 percent?**

19 A. Yes. A comment in the 2017 paper explicitly states that the estimates it reported do  
20 “not include costs of compliance with 2015 EPA rules related to CCR management  
21 and monitoring.”<sup>26</sup> The 2017 paper also states that “Management costs of CCRs and

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<sup>24</sup> Daniel Raimi, *Decommissioning US Power Plants—Decisions, Costs, & Key Issues, Resources for the Future*, Fig. 9 (Oct. 2017).

<sup>25</sup> *Id.*

<sup>26</sup> *Id.* at 25.



1 other coal-related environmental issues (such as cleaning up coal storage areas) can  
2 be substantial, *in some cases exceeding 50 percent of total project costs.*<sup>27</sup>

3 **Q. Do the Kiewit Studies account for CCR compliance costs?**

4 A. Yes. The Kiewit Studies account for CCR compliance costs by including the CCR  
5 AROs provided by PacifiCorp.

6 **Q. Did the IE Report or the 2017 paper discuss the maturity level of any of the  
7 estimates included in the 2017 paper?**

8 A. No. The 2017 paper does not address whether decommissioning costs are assessed to  
9 an AACE Class 3 scale for any of the 28 data points.

10 **Q. Does the IE Report address escalation factors for its comparisons between the  
11 figure and the Kiewit Studies?**

12 A. Yes, but it did not find them significant. The IE believed that an escalation factor of  
13 5.7 percent would account for the difference between the Kiewit Studies' 2019 dollar  
14 figures and the 2017 figure's 2016 dollars.<sup>28</sup> However, the IE then did not adjust the  
15 figures "given the uncertainties in the costs."<sup>29</sup>

16 **Q. Does the 2017 figure address power plants in the same geographic region as  
17 PacifiCorp's coal-fired resources?**

18 A. Not entirely. The 2017 paper and the IE Report do discuss seven Colorado coal-fired  
19 power plants, including Hayden, which was also part of the Kiewit Studies.

20 However, the majority of the 28 plants in the figure are located in Minnesota and

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<sup>27</sup> *Id.* at 20 (emphasis added).

<sup>28</sup> Docket No. UE 374, Staff/1701, Storm/20.

<sup>29</sup> Docket No. UE 374, Staff/1701, Storm/20.

1 Florida, which may introduce regional cost differences compared to PacifiCorp's  
2 coal-fired resources, which are primarily located in Utah and Wyoming.

3 **Q. In summary, based on your professional experience, do you believe that the cost**  
4 **estimates contained in the Kiewit Studies are a reasonable, AACE Class 3**  
5 **estimate of PacifiCorp's decommissioning and remediation costs?**

6 A. Yes.

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

8 A. Yes.

**REDACTED**

Docket No. UM \_\_\_\_

Exhibit PAC/201

Witness: Robert Van Engelenhoven

**BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON**

**PACIFICORP**

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**REDACTED**

Exhibit Accompanying Direct Testimony of Robert Van Engelenhoven

Confidential Decommissioning Study for Hunter, Huntington, Dave Johnston, Jim  
Bridger, Naughton, Wyodak and Hayden Plants

July 2021



January 16, 2020

***VIA ELECTRONIC FILING  
AND OVERNIGHT DELIVERY***

Public Utility Commission of Oregon  
201 High Street SE, Suite 100  
Salem, OR 97301-3398

Attn: Filing Center

**RE: UM 1968—PacifiCorp's Decommissioning Study**

Per discussions within the 2020 Interjurisdictional Cost Allocation Agreement proceeding (UM 1050), PacifiCorp d/b/a Pacific Power committed to provide the results of the contractor-assisted engineering study of decommissioning costs for the Jim Bridger, Dave Johnston, Hunter, Huntington, Naughton, Wyodak, and Hayden coal plants.

The confidential decommissioning study is provided in this docket for informational purposes only at this time. PacifiCorp will host a teleconference on January 17, 2020 to review the decommissioning study and it will be an agenda item at the next all-state depreciation meeting.

Please direct any informal inquiries in advance of the next all-state depreciation meeting to Cathie Allen, Regulatory Affairs Manager, at (503) 813-5934.

Sincerely,

Etta Lockey  
Vice President, Regulation

**THIS ATTACHMENT IS CONFIDENTIAL IN ITS  
ENTIRETY AND IS PROVIDED UNDER SEPARATE  
COVER**

## CERTIFICATE OF SERVICE

I certify that I served a true and correct copy of PacifiCorp's **Decommissioning Study** on the parties listed below via electronic mail and/or overnight delivery in compliance with OAR 860-001-0180.

### SERVICE LIST UM 1968

<b>PacifiCorp</b>	
PacifiCorp, dba Pacific Power 825 NE Multnomah St., Suite 2000 Portland, OR 97232 <a href="mailto:oregondockets@pacificorp.com">oregondockets@pacificorp.com</a>	Etta Lockey (C) Pacific Power 825 NE Multnomah Ste 2000 Portland OR 97232 <a href="mailto:Etta.lockey@pacificorp.com">Etta.lockey@pacificorp.com</a>
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<b>Alliance of Western Energy Consumers</b>	
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Elizabeth B Uzelac (C) PUC Staff – Department of Justice Business Activities Section 1162 Court St NE Salem, OR 97301 <a href="mailto:Elizabeth.b.uzelac@state.or.us">Elizabeth.b.uzelac@state.or.us</a>	

Dated this 16<sup>th</sup> day of January, 2020



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Mary Penfield  
Adviser, Regulatory Operations

**REDACTED**

Docket No. UM \_\_\_\_

Exhibit PAC/202

Witness: Robert Van Engelenhoven

**BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON**

**PACIFICORP**

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**REDACTED**

Exhibit Accompanying Direct Testimony of Robert Van Engelenhoven

Confidential Decommissioning Study Update for Colstrip Plant

July 2021





March 16, 2020

***VIA ELECTRONIC FILING***

Public Utility Commission of Oregon  
201 High Street SE, Suite 100  
Salem, OR 97301-3398

Attn: Filing Center

**RE: UM 1968—PacifiCorp's Colstrip Decommissioning Study and Request for Waiver from Providing Hard Copies of Confidential Information**

Per discussions within the 2020 Interjurisdictional Cost Allocation Agreement proceeding (UM 1050), PacifiCorp d/b/a Pacific Power committed to provide the results of the contractor-assisted engineering study of decommissioning costs for the Colstrip coal plant. The confidential decommissioning study is provided in this docket for informational purposes only at this time. Confidential information is provided in accordance with Protective Order 18-431.

To help control the spread and transmission of the Covid-19 virus, PacifiCorp has requested all non-essential employees work remotely from home limiting employee access to company printers and mail facilities. As such, PacifiCorp respectfully requests a temporary waiver from providing hard copies of the confidential materials supporting this filing. PacifiCorp will provide these confidential materials to the commission via encrypted email concurrent with this filing. If the Commission requests, hard copies will be provided once normal business resumes.

Please direct any informal inquiries in advance of the next all-state depreciation meeting to Cathie Allen, Regulatory Affairs Manager, at (503) 813-5934.

Sincerely,

A handwritten signature in black ink, appearing to read "Etta Lockey".

Etta Lockey  
Vice President, Regulation

**THIS ATTACHMENT IS CONFIDENTIAL IN ITS  
ENTIRETY AND IS PROVIDED UNDER SEPARATE  
COVER**

## CERTIFICATE OF SERVICE

I certify that I served a true and correct copy of PacifiCorp's **Supplemental Filing** on the parties listed below via electronic mail and/or overnight delivery in compliance with OAR 860-001-0180.

### SERVICE LIST UM 1968

<b>PacifiCorp</b>	
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Tyler C Pepple (C) Davison Van Cleve, PC 1750 SW Harbor Way, Suite 450 Portland, OR 97201 <a href="mailto:tcp@dvclaw.com">tcp@dvclaw.com</a>	
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Dated this 16<sup>th</sup> day of March, 2020



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Mary Penfield  
Adviser, Regulatory Operations

**REDACTED**

Docket No. UM \_\_\_\_

Exhibit PAC/203

Witness: Robert Van Engelenhoven

**BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON**

**PACIFICORP**

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**REDACTED**

Exhibit Accompanying Direct Testimony of Robert Van Engelenhoven

Letter from Kiewit Regarding Independent Evaluation Report Submitted to Public Utility  
Commission of Oregon on June 21, 2020

July 2021

**THIS EXHIBIT IS CONFIDENTIAL IN ITS  
ENTIRETY AND IS PROVIDED UNDER  
SEPARATE COVER**

Docket No. UM \_\_\_\_\_  
Exhibit PAC/300  
Witness: Jeff Tucker

**BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON**

**PACIFICORP**

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**Direct Testimony of Jeff Tucker**

**July 2021**

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**ATTACHED EXHIBITS**

Exhibit PAC/301 — Change in ARO Estimates from Q4 2019 to Q2 2021



1                                   **I.    INTRODUCTION AND QUALIFICATIONS**

2   **Q.    Please state your name, business address, and present position with PacifiCorp**  
3       **d/b/a Pacific Power (PacifiCorp or the Company).**

4   A.    My name is Jeff Tucker, and my business address is 1407 W North Temple Street,  
5        Suite 201, Salt Lake City, Utah 84116. I am currently employed as Principal  
6        Engineer for PacifiCorp.

7   **Q.    Please describe your educational background and professional experience.**

8   A.    I have a Bachelor of Science degree in Chemical Engineering and I am a licensed  
9        Professional Engineer in Utah. I have worked at PacifiCorp or its predecessor  
10       companies since July 1981 and as a principal engineer since 1997. My work at  
11       PacifiCorp has included engineering positions at a generating plant, environmental  
12       compliance including compliance with the coal combustion residual (CCR)  
13       regulations, managing the Company's environmental liabilities and other remedial  
14       efforts. I served on the Utah Water Quality Board from 2011 through 2013. I am also  
15       responsible for preparing the Company's environmental liability obligation estimates  
16       and preparing/reviewing the asset retirement obligation estimates for PacifiCorp's  
17       coal fired power generation facilities.

18 **Q.    Have you testified in other regulatory proceedings?**

19 A.    No.

20                                   **II.   PURPOSE AND SUMMARY OF TESTIMONY**

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

22 A.    My testimony provides an overview of PacifiCorp's Asset Retirement Obligations  
23       (ARO) that are part of PacifiCorp's decommissioning costs estimates for the coal

1 plants included in the 2020 studies (Kiewit Studies or Studies) conducted by Kiewit  
2 Engineering Group, Inc. (Kiewit), and provides relevant updates.

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

4 A. In my testimony:

- 5 • I provide an overview of AROs;
- 6 • Discuss the AROs included in the Kiewit Studies;
- 7 • Provide an update on the ARO estimates.

8 **III. BACKGROUND**

9 **Q. At a high level, what are AROs?**

10 A. AROs describe a legal obligation associated with the retirement of a tangible, long-  
11 term asset where a company will be responsible for the removal of that asset at some  
12 future date. The value of AROs is based on PacifiCorp's recent experience and  
13 estimates prepared by industry experts PacifiCorp retains. These values represent the  
14 present value of existing retirement/removal obligations.

15 **Q. Generally, how does PacifiCorp arrive at an estimated ARO value?**

16 A. The estimated value of AROs is based on PacifiCorp's recent experience and  
17 estimates prepared by industry experts PacifiCorp retains. For those plants where  
18 PacifiCorp is a minority interest owner, the values are provided by the operator.

19 **Q. In your work as Principal Engineer, do you assist in preparing and reviewing  
20 PacifiCorp's AROs for accuracy?**

21 A. Yes. I am specifically involved in preparing AROs related to PacifiCorp's  
22 obligations. I assist in reviewing PacifiCorp's AROs on a quarterly basis and update  
23 them as appropriate.

1 **Q. Are AROs governed by accounting standards with which PacifiCorp must**  
2 **comply?**

3 A. Yes. While I am not an accountant, I understand that AROs are governed by the  
4 Accounting Standards Codification published by the Financial Accounting Standards  
5 Board, Topic 410-20. Accordingly, PacifiCorp’s recording of ARO values is required  
6 to meet generally accepted accounting principles (GAAP).

7 **IV. AROS FOR PLANTS COVERED BY KIEWIT STUDIES**

8 **Q. Did the scope of the Kiewit Studies include AROs as a part of the requested**  
9 **decommissioning costs estimate?**

10 A. Yes. Kiewit’s work scope included the following provision on AROs: “Provide a  
11 spreadsheet report incorporating the AACE Class 3 cost estimates inclusive of certain  
12 PacifiCorp-provided ARO cost estimates as verified by Kiewit.”

13 **Q. In summary, how did Kiewit address AROs in its Studies?**

14 A. The Kiewit Studies provided ARO costs in two groups—asbestos ARO costs, which  
15 represent a significant stand-alone ARO cost, and all other ARO costs. To assess  
16 whether the Company’s asbestos ARO costs were accurate, Kiewit conducted  
17 independent reviews of asbestos abatement costs at each of the facilities it studied and  
18 used the estimate it determined was most reasonable. For non-asbestos AROs, Kiewit  
19 used PacifiCorp’s 2019 Q4 ARO list to ensure that all items were accounted for in the  
20 final cost estimates without separating the AROs into individual line items.

1 **Q. Did Kiewit bring in additional experts to assist it in reviewing the ARO costs**  
2 **included in the Studies?**

3 A. Yes. Kiewit brought on North American Dismantling Corporation (NADC) to  
4 assist in preparing the Studies. NADC is an engineering firm with significant thermal  
5 plant decommissioning experience. Kiewit and NADC also sought review and input  
6 from independent hazardous materials abatement contractors Winter Environmental  
7 and ABC Abatement.

8 **Q. How did Kiewit approach its review of the AROs related to asbestos at the**  
9 **plants?**

10 A. Kiewit and NADC brought an asbestos abatement contractor to each plant to develop  
11 an independent cost estimate based upon thorough site inspections, discussions with  
12 plant staff regarding site-specific information, review of relevant documents plans  
13 and records, and previous experience. At four of the eight sites, the  
14 Kiewit subcontractor estimated higher costs for asbestos abatement than the costs  
15 provided by PacifiCorp. In these instances, the Kiewit Studies used what it deemed  
16 to be the more accurate number, which was determined to be the higher number.

17 **Q. The original Oregon independent evaluator (IE) stated in his report that “[i]t is**  
18 **not clear why the higher of the PacifiCorp or independent abatement estimate**  
19 **was used” rather than the more accurate number. Describe Kiewit’s process for**  
20 **choosing its individual asbestos abatement numbers.**

21 A. Kiewit’s values for the Dave Johnston and Naughton plants were higher than the  
22 PacifiCorp estimated values. Kiewit determined their values to be  
23 more accurate based on Kiewit’s subcontractors’ extensive experience in asbestos

1 abatement, as well as the aforementioned site visits and discussions with plant  
2 staff. In the two plants not operated by PacifiCorp, Hayden and Colstrip, the  
3 Company did not have asbestos ARO values. PacifiCorp subsequently updated  
4 its ARO tables to reflect the values reported in the Kiewit Studies.

5 **Q. Does PacifiCorp maintain a consistent inventory of asbestos liabilities?**

6 A. Yes. Under the Environmental Protection Agency's (EPA) National Emission  
7 Standards for Hazardous Air Pollutants, the Company must maintain an updated  
8 inventory of asbestos within its facilities. It has updated that inventory consistent  
9 with the findings of the Kiewit Studies. PacifiCorp continues to review and update  
10 the inventory as appropriate.

11 **Q. Does the presentation of all AROs other than asbestos abatement accurately  
12 reflect estimated ARO costs for PacifiCorp's facilities?**

13 A. Yes. Although Kiewit chose to present the AROs other than asbestos abatement as a  
14 single "all other AROs" line item, rather than as individual line items for each ARO,  
15 the ultimate level of ARO cost reflected is consistent with the information provided  
16 by PacifiCorp to Kiewit. The presentation of the information does not change the  
17 accuracy of the information.

18 **Q. The IE Report states that "[b]ased on my review, I cannot conclude that the non-  
19 asbestos ARO line items provided by PacifiCorp are appropriate." How do you  
20 respond?**

21 A. I disagree with the IE's conclusion regarding non-asbestos AROs. Each of the AROs  
22 listed is a legal obligation associated with the retirement of a tangible, long-term asset  
23 where PacifiCorp is responsible for the removal of that asset at some future date. As

1 noted above, PacifiCorp's AROs are calculated using GAAP to ensure valid and  
2 reasonable figures.

3 **Q. Did PacifiCorp make all of the ARO information provided to Kiewit available to**  
4 **the parties in docket UE 374?**

5 A. Yes. This information was provided in discovery in docket UE 374.

6 **Q. Did PacifiCorp include AROs in previous decommissioning studies?**

7 A. Yes. I understand that the Company included AROs in its previous Decommissioning  
8 Study filed in docket UM 1968.

9 **Q. Are there further updates to PacifiCorp's non-asbestos AROs since the time of**  
10 **the Kiewit Study?**

11 A. Yes. PacifiCorp has continued to review its CCR compliance obligations and update  
12 them as warranted. Since the time of the Kiewit Study numerous non-asbestos related  
13 AROs were updated. The updates resulted in a decrease in the total ARO estimate of  
14 \$851,427 at the Hunter plant with a decrease in PacifiCorp's share of \$723,713; a  
15 decrease of \$4,227,488 at the Huntington plant; a decrease of \$6,777,876 at the Dave  
16 Johnston plant; an increase in the total of \$39,627,488 at the Jim Bridger Plant with  
17 an increase in PacifiCorp's share of \$26,415,684; a decrease of \$7,381,784 at the  
18 Naughton plant; an increase in the total of \$64,946 at the Wyodak plant with an  
19 increase in PacifiCorp's share of \$51,957; an increase in the total of \$244,200 at the  
20 Hayden plant with an increase in PacifiCorp's share of \$42,735; and an increase of  
21 \$3,036,258 at the Colstrip plant with an increase in PacifiCorp's share of \$303,626.  
22 The total increase in PacifiCorp's share is \$7,703,141.

1 **Q. Please explain why these costs have increased.**

2 A. PacifiCorp reviews its AROs on a quarterly basis and updates them as appropriate.

3 From the fourth quarter 2019 estimates, used in the Kiewit Study, to the current

4 second quarter 2021 estimates presented as part of this testimony, some estimates

5 have increased, and some have decreased. The estimates for the Wyodak and Hayden

6 plants remain essentially the same. The closure costs of the three landfills at the Dave

7 Johnston plant increased to reflect costs associated with placement of cover material.

8 The 2021 estimates no longer have an ARO for the closure of the Dave Johnston ash

9 pond since it was closed in 2020 – 2021. These changes resulted in an overall

10 decrease in the ARO cost associated with the Dave Johnston plant. The estimates for

11 the Hunter and Huntington CCR landfills were adjusted to reflect changes in permit

12 conditions and closure methodology resulting in decreases to the overall ARO

13 estimate for both plants. The closure costs for the six CCR impoundments at the

14 Naughton plant were adjusted to reflect work completed from 2019 to 2021 and

15 closure requirements presented in a November 2020 demonstration application, which

16 was required to be submitted to EPA. The final closure of flue gas desulfurization

17 (FGD) Pond 1 and FGD Pond 2 were completed and are therefore not part of the

18 2021 estimate. The costs for the four operating ponds were adjusted to reflect costs

19 incurred in recent closures as well as changes to the scope of the closures. The

20 closure costs are highly dependent on the amount of soil required to cap the

21 impoundment, and the amount of liner required to close the impoundment. As

22 closure requirements become more refined or adjusted by regulation, the quantities

23 and costs per unit of soil and liner placement are correspondingly adjusted. Also, in

1 general, the cost of liner and soil placement has increased. The cost to close three of  
2 the impoundments increased based on the higher costs of the liner and placement of  
3 the cover material. The scope of the closure of the fourth impoundment was reduced  
4 due to a change in scope resulting in a decrease in the cost. The overall estimate of  
5 the AROs for the Naughton plant decreased. As part of the second quarter 2021  
6 review, PacifiCorp obtained an independent outside consulting estimate of closure  
7 cost for an impoundment at the Jim Bridger plant. Utilizing this estimate and recent  
8 costs associated with closure of other impoundments, the costs were adjusted  
9 resulting in the AROs for the plant increasing.

10 **Q. Are these updated costs already covered in the decommissioning costs estimates**  
11 **provided by Kiewit?**

12 A. No. The cost estimate for each ARO was included in the decommissioning cost  
13 estimate provided by Kiewit. The updates to the estimates since 2019 are not  
14 included. PacifiCorp is seeking the recovery of the 2019 cost estimate in the original  
15 filing plus the additional \$7,703,141 presented here.

16 **Q. Have you provided back-up related to these ARO cost increases?**

17 A. Yes. The updated estimates are included as Exhibit PAC/301.

18 **Q. How do these updates impact the total decommissioning cost estimate presented**  
19 **in this docket?**

20 A. The increase in the ARO costs from the 2019 Kiewit estimate to the second quarter  
21 2021 estimate is approximately \$7.7 million.

22 **Q. Does this conclude your direct testimony?**

23 A. Yes.



Docket No. UM \_\_\_\_  
Exhibit PAC/301  
Witness: Jeff Tucker

**BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON**

**PACIFICORP**

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Exhibit Accompanying Direct Testimony of Jeff Tucker  
Change in ARO Estimates from Q4 2019 to Q2 2021

July 2021

Summary of ARO Tracker Q4 2019 - dated 1/15/20  
Asbestos & Other AROs (Base Estimates - 100% excl overheads)

Q4 2019 Tracker:	Hunter	Huntington	Dave Johnston	Bridger	Naughton	Wyodak	Hayden	Colstrip (1)	Total	Comments
Asbestos	6,134,952	7,104,882	10,530,000	6,973,850	7,020,000	4,236,659	6,628,500	1,271,699	49,900,542	
All Other AROs	21,852,683	14,411,172	22,407,877	61,187,250	65,605,432	-	8,679,446	88,804,705	282,948,565	
Subtotal	27,987,635	21,516,054	32,937,877	68,161,100	72,625,432	4,236,659	15,307,946	90,076,404	332,849,107	100% with no overheads
(1) Colstrip per ARO Tracker dated 3/30/20 - to include asbestos										
Final Report: (2)										
Asbestos	6,343,192	7,265,660	10,530,000	7,408,029	7,020,000	4,137,432	6,628,500	1,271,699	50,604,512	
All Other AROs	23,185,697	14,559,190	20,611,977	66,404,416	61,620,795	-	8,974,847	90,331,335	285,688,257	
Subtotal	29,528,888	21,824,850	31,141,977	73,812,445	68,640,795	4,137,432	15,603,347	91,603,034	336,292,768	Total before 8.5% indirects
Table 7-9 Table 8-11 Table 9-9 Table 10-9 Table 11-9 Table 12-9 Table 13-9 Table 6-7 "Plant Specific AROs"										
(2) All plants per 1/15/20 Kiewitt TPP Demolition Estimate, except Colstrip is per 3/13/20 report										
Variance:										
Asbestos	(208,240)	(160,778)	-	(434,179)	-	99,227	-	-	(703,970)	
All Other AROs	(1,333,014)	(148,018)	1,795,900	(5,217,166)	3,984,637	-	(295,401)	(1,526,630)	(2,739,692)	
Subtotal	(1,541,253)	(308,796)	1,795,900	(5,651,345)	3,984,637	99,227	(295,401)	(1,526,630)	(3,443,661)	

Q4 2019 Tracker: - Revised to exclude 2019	6.1%	4.8%	4.2%	8.8%	5.7%	6.8%	3.4%	3.4%	CS rates	
Asbestos	5,978,503	6,932,882	10,530,000	6,808,850	7,020,000	3,874,000	6,628,500	1,271,699	49,044,434	
All Other AROs	21,852,683	13,892,357	19,781,168	61,033,471	58,297,819	-	8,679,736	87,361,059	270,898,293	
Subtotal	27,831,186	20,825,239	30,311,168	67,842,321	65,317,819	3,874,000	15,308,236	88,632,758	319,942,727	
Final Report: (2) - Excluding Cap. Surcharge (except for DJ, NAU, HDN, COL asbestos)										
Asbestos	5,978,503	6,932,882	10,530,000	6,808,850	7,020,000	3,874,000	6,628,500	1,271,699	49,044,434	
All Other AROs	21,852,683	13,892,357	19,781,168	61,033,471	58,297,819	-	8,679,736	87,361,059	270,898,293	
Subtotal	27,831,186	20,825,239	30,311,168	67,842,321	65,317,819	3,874,000	15,308,236	88,632,758	319,942,727	
Subtotal variance	(0)	0	0	0	(0)	-	0	0	0	
Kiewitt Report format - Base Estimate Amounts incl Cap Surchg and 8.5% indirects										
Asbestos	6,343,192	7,265,660	10,530,000	7,408,029	7,020,000	4,137,432	6,628,500	1,271,699	50,604,512	
All Other AROs	23,185,697	14,559,190	20,611,977	66,404,416	61,620,795	-	8,974,847	90,331,335	285,688,257	
Subtotal	29,528,888	21,824,850	31,141,977	73,812,445	68,640,795	4,137,432	15,603,347	91,603,034	336,292,769	
Owner AROs Indirects (8.5%)	2,509,956	1,855,112	2,647,068	6,274,058	5,834,468	351,682	1,326,284	7,786,258	28,584,885	
Total Owner AROs	32,038,844	23,679,963	33,789,045	80,086,503	74,475,262	4,489,114	16,929,632	99,389,292	364,877,654	

Summary of ARO Tracker Q2 2021 - dated 6/24/21  
Asbestos & Other AROs (Base Estimates - 100%)

	Hunter	Huntington	Dave Johnston	Bridger	Naughton	Wyodak	Hayden	Colstrip	Total	Comments
<u>Q2 2021 Tracker (Base Estimates excl overheads):</u>										
Asbestos	6,074,894	7,104,882	10,133,269	6,973,850	6,979,421	3,930,047	6,628,500	1,271,699	49,096,562	
All Other AROs	21,016,683	10,002,511	13,758,369	94,437,433	51,523,235	-	8,679,446	90,025,621	289,443,298	
Subtotal	27,091,577	17,107,393	23,891,638	101,411,283	58,502,656	3,930,047	15,307,946	91,297,320	338,539,860	
Capital Surcharge rates	6.1%	4.8%	4.2%	8.8%	5.7%	6.8%	3.4%	3.4%		
<u>Kiewit Report format - Base Estimate Amounts incl Cap Surchg and 8.5% indirects</u>										
Asbestos	6,445,463	7,445,916	10,558,866	7,587,549	7,377,248	4,197,290	6,853,869	1,314,937	51,781,138	
All Other AROs	22,298,701	10,482,632	14,336,220	102,747,927	54,460,059	-	8,974,547	93,086,492	306,386,578	
Subtotal	28,744,163	17,928,548	24,895,087	110,335,476	61,837,307	4,197,290	15,828,416	94,401,429	358,167,716	
Owner AROs Indirects (8.5%)	2,443,254	1,523,927	2,116,082	9,378,515	5,256,171	356,770	1,345,415	8,024,121	30,444,256	
Total Owner AROs	31,187,417	19,452,474	27,011,169	119,713,991	67,093,479	4,554,060	17,173,832	102,425,550	388,611,972	
Change in Total Owner AROs (vs. YE 2019 - Kiewit Report)	(851,427)	(4,227,488)	(6,777,876)	39,627,488	(7,381,784)	64,946	244,200	3,036,258	23,734,318	100% dollars
Pac Share (info only)	(723,713)	(4,227,488)	(6,777,876)	26,415,684	(7,381,784)	51,957	42,735	303,626	7,703,141	PacifiCorp Share

Docket No. UM \_\_\_\_\_  
Exhibit PAC400  
Witness: Shelley E. McCoy

**BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON**

**PACIFICORP**

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**Direct Testimony of Shelley E. McCoy**

**July 2021**

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**ATTACHED EXHIBITS**

Confidential Exhibit PAC/401 — Incremental Decommissioning and Other Closure Costs

1                                   **I. INTRODUCTION AND QUALIFICATIONS**

2   **Q. Please state your name, business address, and present position with PacifiCorp**  
3   **d/b/a Pacific Power (PacifiCorp or the Company).**

4   A. My name is Shelley E. McCoy, and my business address is 825 NE Multnomah  
5   Street, Suite 2000, Portland, OR 97232. I am currently employed as the Director of  
6   Regulation for PacifiCorp.

7   **Q. Briefly describe your educational background and professional experience.**

8   A. I earned my Bachelor of Science degree in Accounting from Portland State  
9   University. In addition to my formal education, I have attended several utility  
10   accounting, ratemaking, and leadership seminars and courses. I have been employed  
11   by PacifiCorp since November of 1996. My past responsibilities have included  
12   general and regulatory accounting, budgeting, forecasting, and reporting. I also  
13   previously oversaw the calculation of the Company's revenue requirement and the  
14   preparation of various regulatory filings in Oregon, Washington, and California.

15   **Q. Have you testified in previous regulatory proceedings?**

16   A. Yes. I have previously provided testimony in Oregon, Washington, and California.

17                                   **II. PURPOSE AND SUMMARY OF TESTIMONY**

18   **Q. What is the purpose of your testimony in this case?**

19   A. I provide the incremental revenue requirement of the Oregon allocated  
20   decommissioning costs, including Other Items to Consider (or remediation and  
21   closure costs), from the Kiewit Decommissioning Studies (Kiewit Studies). I also  
22   discuss a framework for a coal removal mechanism, which the Company proposes be  
23   addressed in a second phase of this docket.

1 **Q. Please summarize your testimony.**

2 A. I recommend the Public Utilities Commission of Oregon (Commission) approve a  
3 rate increase of \$34.9 million effective January 1, 2022, to begin collecting the  
4 decommissioning costs detailed in the Kiewit Studies not already reflected in  
5 PacifiCorp's base rates. These costs are proposed to be collected over the Oregon  
6 remaining depreciable life for each identified coal generation plant through Schedule  
7 92 – Decommissioning Cost Recovery Adjustment, described in the testimony of  
8 Ms. Judith M. Ridenour.

9 I also recommend that a coal removal mechanism be developed in a second  
10 phase of this docket. This mechanism will remove the revenue requirement of fully  
11 depreciated coal units from Oregon rates upon the Exit Date specified in a  
12 Commission-issued Exit Order or upon the date that the resource reaches the end of  
13 its depreciable life in Oregon.

14 **III. REVENUE REQUIREMENT FOR DECOMMISSIONING COSTS**

15 **Q. Please describe the types of decommissioning costs included in this filing.**

16 A. There are two categories of costs from the Kiewit Studies included in this filing,  
17 general decommissioning costs and remediation and closure costs, referred to as  
18 Other Items to Consider in the Kiewit Studies (closure costs). Closure costs include  
19 the materials and supplies inventory sale and disposal; underground pipe removal and  
20 disposal; demolition, salvage and scrap of rolling stock and railcars; and coal pile  
21 excavation and haul off associated with each of the generation plants.

1 **Q. Do the decommissioning costs include asset retirement obligations (AROs)?**

2 A. Yes. As addressed in Mr. Jeffrey Tucker's testimony, AROs are a requirement under  
3 generally accepted accounting principles to record a liability on the Company's  
4 accounting books for a legal obligation associated with the retirement of a tangible,  
5 long-lived asset where PacifiCorp is responsible for the removal of that asset at some  
6 future date. These costs are appropriately included in total decommissioning costs.

7 **Q. Are some decommissioning costs, including AROs, already included in Oregon  
8 customer rates?**

9 A. Yes. The Commission used the Company's 2018 decommissioning study filed in  
10 docket UM 1968 (2018 Study) to set depreciation rates pending the outcome of this  
11 proceeding. The 2018 Study included current ARO estimates at that time. However,  
12 as discussed in the testimony of Ms. Etta Lockey and Mr. Robert Van Engelenhoven,  
13 the 2018 Study is an Association for the Advancement of Cost Engineers (AACE)  
14 Class 5 study. The Kiewit Studies are an AACE Class 3 study and provide more  
15 accurate and complete cost estimates for the decommissioning of PacifiCorp's coal  
16 fired resources.

17 **Q. What decommissioning costs are included in this filing?**

18 A. This filing reflects the incremental difference between the Kiewit Studies'  
19 decommissioning and closure costs and the costs reflected in the 2018 Study,  
20 including updated ARO estimates.

21 **Q. Are changes being proposed to depreciation rates in this case?**

22 A. No. At this time the Company is not proposing to include the incremental  
23 decommissioning costs in depreciation rates. Instead, the Company is proposing to



1 collect the incremental decommissioning and closure costs through a separate tariff  
2 rider, Schedule 92, until the Company's next general rate case when these costs will  
3 be included in base rates. The Company intends to include the decommissioning  
4 costs in a future calculation of depreciation rates but will continue to recover closure  
5 costs separately from depreciation rates, in accordance with Generally Accepted  
6 Accounting Principles.

7 **Q. How is the Company proposing to collect these costs?**

8 A. The Company is proposing to collect the costs over the remaining Oregon depreciable  
9 life for each respective plant through a separate tariff rider as discussed in the  
10 testimony of Ms. Ridenour. With the proposed effective date of January 1, 2022, the  
11 Company will collect \$34.9 million annually in the first two years, with the amount  
12 declining through 2029 as plants reach the end of their Oregon depreciable lives.  
13 Please refer to Exhibit PAC/401 for the annual amounts the Company is proposing to  
14 collect from Oregon customers. As shown in this exhibit, the collection amount  
15 decreases every two years as plants reach the end of their depreciable lives. Amounts  
16 collected will be recorded in a regulatory liability until actual costs are incurred, and  
17 reflected as a reduction to Oregon rate base.

18 **Q. Did the Company previously seek recovery of these costs in its 2021 General Rate**  
19 **Case, docket UE 374 (2021 Rate Case)?**

20 A. Yes. The Company included these costs in its 2021 Rate Case, however the  
21 Commission determined that a separate investigation was warranted to establish final  
22 cost estimates for inclusion in rates. The Commission authorized using  
23 decommissioning costs from the 2018 Study for calculating depreciation rates for the

1 Company's coal generation assets, which were included in the approved revenue  
2 requirement in the 2021 Rate Case.

3 **Q. What was the total incremental decommissioning and closure costs requested in**  
4 **the 2021 Rate Case?**

5 A. PacifiCorp included \$27.3 million of annual costs in the 2021 Rate Case.

6 **Q. How does this compare to the \$34.9 million of annual costs included in this filing?**

7 A. The \$7.6 million difference between this filing and the 2021 Rate Case is due to three  
8 factors.

9 First, delaying the collection of these costs to January 2022, increases the rate  
10 by approximately \$5.8 million than if it had started in January 2021. This increase is  
11 due to a shorter time period over which to collect these costs. Second, this filing  
12 includes the costs in the Kiewit Study for Colstrip. The Colstrip study was provided  
13 at a later date and was not included in the 2021 Rate Case. Colstrip accounts for \$0.7  
14 million of the increase. Third, this filing includes updates to the AROs for the plants  
15 included in the Kiewit Studies, adding \$1.1 million to this filing. Mr. Tucker  
16 provides testimony on the changes in AROs.

#### 17 **IV. COAL REMOVAL MECHANISM**

18 **Q. Is PacifiCorp proposing a mechanism to remove coal plants from Oregon rates?**

19 A. Yes. As agreed to in the 2020 PacifiCorp Inter-Jurisdictional Allocation Protocol, the  
20 Company is proposing a general framework for a coal removal mechanism to be  
21 addressed in a second phase of this proceeding. This mechanism ensures that  
22 customers receive the benefit of full depreciation of coal-fired resources without  
23 experiencing regulatory lag.

1 **Q. Please describe the general framework for the coal removal mechanism.**

2 A. The Company proposes removing the revenue requirement included in rates for each  
3 resource when it reaches the end of its Oregon depreciable life and/or at the exit date  
4 approved by the Commission. Coal resources that have an exit date or retirement  
5 date that coincides with a general rate case will be removed as part of that proceeding.  
6 The coal removal mechanism will be used to remove resources between general rate  
7 cases through a tariff rider that would effectively act as a sur-credit to customers'  
8 rates. This benefits customers by ensuring no regulatory lag in the decrease to rate  
9 base associated with fully-depreciated coal-fired resources.

10 **Q. As part of PacifiCorp's general framework, does the Company anticipate**  
11 **proposing a process for collecting interim capital additions for coal-fired**  
12 **resources?**

13 A. No, not at this time. PacifiCorp's general framework contemplates no interim updates  
14 to the capital costs of coal-fired resources. This simplifies administration of the coal  
15 removal mechanism by limiting regulatory filings and associated review, while also  
16 placing risk of recovery of those costs solely on the Company. In this instance,  
17 relying on the traditional regulatory model of declining rate base (i.e., declining rate  
18 base without annual updates to depreciation rates) to offset interim capital additions is  
19 a reasonable trade-off when combined with eliminating regulatory lag in favor of  
20 customers by removing the coal-fired resource from rates as soon as the resource is  
21 fully depreciated.

1 **Q. Why is the Company recommending that decommissioning costs and the Coal**  
2 **Removal Mechanism be addressed in separate phases?**

3 A. As indicated previously in my testimony, delaying recovery of decommissioning  
4 costs puts upward pressure on customer rates. This impact to customers necessitates  
5 resolving the decommissioning costs first. Additionally, the first exit date or coal  
6 retirement is not expected until December 31, 2023. This timeline allows for  
7 workshops and collaboration among the parties to fully develop a mechanism to  
8 remove coal units from Oregon customer rates.

9 **V. CONCLUSION**

10 **Q. Please summarize your testimony.**

11 A. I recommend that the Commission approve the recovery of the incremental  
12 decommissioning and closure costs identified in the Kiewit Studies, with updates for  
13 AROs. These costs will be recovered over each respective plant's remaining Oregon  
14 depreciable life through a separate tariff rider initially set at \$34.9 million effective  
15 January 1, 2022.

16 **Q. Does this conclude your direct testimony?**

17 A. Yes.

**REDACTED**

Docket No. UM \_\_\_\_

Exhibit PAC/401

Witness: Shelley E. McCoy

**BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON**

**PACIFICORP**

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**REDACTED**

Exhibit Accompanying Direct Testimony of Shelley E. McCoy

Incremental Decommissioning and Other Closure Costs

July 2021

**THIS EXHIBIT IS CONFIDENTIAL IN ITS  
ENTIRETY AND IS PROVIDED UNDER  
SEPARATE COVER**

Docket No. UM \_\_\_\_\_  
Exhibit PAC/500  
Witness: Judith M. Ridenour

**BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON**

**PACIFICORP**

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**Direct Testimony of Judith M. Ridenour**

**July 2021**

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**ATTACHED EXHIBITS**

Exhibit PAC/501—Proposed Rate Spread and Rates

Exhibit PAC/502—Proposed Tariffs

Exhibit PAC/503—Estimated Effect of Proposed Price Change



1                                   **I. INTRODUCTION AND QUALIFICATIONS**

2   **Q. Please state your name, business address, and present position with PacifiCorp**  
3   **d/b/a Pacific Power (PacifiCorp or the Company).**

4   A. My name is Judith M. Ridenour. My business address is 825 NE Multnomah Street,  
5   Suite 2000, Portland, Oregon 97232. My current position is Specialist, Pricing and  
6   Cost of Service, in the regulation department.

7   **Q. Briefly describe your education and professional experience.**

8   A. I have a Bachelor of Arts degree in Mathematics from Reed College. I joined the  
9   Company in the regulation department in October 2000. I assumed my present  
10   responsibilities in May 2001. In my current position, I am responsible for the  
11   preparation of rate design used in retail price filings and related analyses. Since 2001,  
12   with levels of increasing responsibility, I have analyzed and implemented rate design  
13   proposals throughout the Company's six-state service territory.

14                                   **II. PURPOSE OF TESTIMONY**

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

16   A. I present PacifiCorp's proposed rate spread, rates, and proposed tariff to recover the  
17   Oregon-allocated decommissioning costs identified by Ms. Shelley E. McCoy. I also  
18   provide a summary of the impact of the proposed rate change on customers' bills.

19                                   **III. PROPOSED RATE SPREAD AND RATE DESIGN**

20   **Q. Please describe the Company's proposal to collect decommissioning costs from**  
21   **customer classes.**

22   A. PacifiCorp proposes to use a generation rate spread for the allocation of the  
23   decommissioning costs to customer classes. This is appropriate since the costs are

1 generation related. The Company then proposes to collect costs from customers  
2 through a non-bypassable cents per kilowatt-hour (kWh) surcharge in a new  
3 adjustment, Schedule 92, Decommissioning Cost Recovery Adjustment.

4 Exhibit PAC/501 shows the proposed rate spread and rates by delivery service rate  
5 schedule.

6 **Q. Will this proposed surcharge apply to direct access consumers?**

7 A. Yes. This surcharge will be a non-bypassable surcharge applicable to all direct access  
8 consumers. As succinctly explained in the Oregon Citizens' Utility Board's (CUB's)  
9 opening testimony in the Company's most recent general rate case, docket UE 374<sup>1</sup>,  
10 if decommissioning costs have historically been under-collected in base rates, that  
11 under-collection should be charged to all consumers who historically underpaid for  
12 those costs, which includes consumers who no longer take supply service from the  
13 Company. CUB's testimony also points out that similar costs have been found to be  
14 non-bypassable to direct access consumers in other states. Direct access consumers  
15 have been getting the benefit of these plants and should pay for the decommissioning  
16 costs to avoid cost shifting.

17 **Q. Please describe Exhibit PAC/502.**

18 A. Exhibit PAC/502 contains the proposed tariff Schedule 92, Decommissioning Cost  
19 Recovery Adjustment along with other tariff changes to add reference to this new  
20 adjustment rate.

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<sup>1</sup> CUB/100, Jenks/27-29.

1       **IV.    COMPARISON OF PRESENT AND PROPOSED CUSTOMER RATES**

2       **Q.    What are the overall rate effects of the change proposed in this filing?**

3       A.    The overall proposed effect is a rate increase of \$34.9 million or 2.8 percent, on a net  
4       basis. The rate change varies by customer type. Page one of Exhibit PAC/503 shows  
5       the estimated effect of PacifiCorp's proposed prices by delivery service schedule both  
6       excluding (base) and including (net) applicable adjustment schedules. The net rates  
7       in Columns 7 and 10 exclude effects of the Low Income Bill Payment Assistance  
8       Charge (Schedule 91), the Adjustment Associated with the Pacific Northwest Electric  
9       Power Planning and Conservation Act (Schedule 98), the Public Purpose Charge  
10      (Schedule 290), and the Energy Conservation Charge (Schedule 297).

11      **Q.    What is the impact on customer bills as a result of the proposed tariff?**

12      A.    Exhibit PAC/503, beginning on page two, contains monthly billing comparisons for  
13      customers at different usage levels served on each of the major delivery service  
14      schedules. Each bill impact is shown in both dollars and percentages. These bill  
15      comparisons include the effects of all adjustment schedules including the Low  
16      Income Bill Payment Assistance Charge (Schedule 91), the Adjustment Associated  
17      with the Pacific Northwest Electric Power Planning and Conservation Act  
18      (Schedule 98), the Public Purpose Charge (Schedule 290), and the Energy  
19      Conservation Charge (Schedule 297).

20      **Q.    What is the estimated monthly impact to an average residential customer?**

21      A.    The estimated monthly impact to the average residential customer using 900 kWh per  
22      month is a bill increase of \$2.49.

- 1 **Q. Does this conclude your direct testimony?**
- 2 **A. Yes.**

Docket No. UM \_\_\_\_  
Exhibit PAC/501  
Witness: Judith M. Ridenour

**BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON**

**PACIFICORP**

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Exhibit Accompanying Direct Testimony of Judith M. Ridenour  
Proposed Rate Spread and Rates

July 2021

**PACIFIC POWER**  
**DECOMMISSIONING COST RECOVERY ADJUSTMENT - SCHEDULE 92**  
**RATE SPREAD AND RATE CALCULATION**  
**FORECAST 12 MONTHS ENDED DECEMBER 31, 2022**

Line No.	Description (1)	Sch No. (2)	No. of Cust (3)	MWh (4)	Generation Rate Spread <sup>1</sup> (5)	Proposed Schedule 92 Rates ¢/kWh (6)	Revs (\$000) (7)
<b><u>Residential</u></b>							
1	Residential	4	530,213	5,644,009	43.79%	0.266	\$15,013
2	<b>Total Residential</b>		530,213	5,644,009			\$15,013
<b><u>Commercial &amp; Industrial</u></b>							
3	Gen. Svc. < 31 kW	23	84,307	1,146,808	8.43%	0.252	\$2,890
4	Gen. Svc. 31 - 200 kW	28	10,611	2,027,674	15.03%	0.254	\$5,150
5	Gen. Svc. 201 - 999 kW	30	881	1,341,454	9.71%	0.248	\$3,327
6	Large General Service >= 1,000 kW	48	198	3,135,583	21.38%	0.234	\$7,337
7	Partial Req. Svc. >= 1,000 kW	47	6	35,808		0.234	\$84
8	Dist. Only Lg Gen Svc >= 1,000 kW	848	1	255,059		0.234	\$597
9	Agricultural Pumping Service	41	7,964	219,247	1.54%	0.240	\$526
10	<b>Total Commercial &amp; Industrial</b>		103,968	8,161,632			\$19,911
<b><u>Lighting</u></b>							
11	Outdoor Area Lighting Service	15	5,934	8,514		0.101	\$9
12	Street Lighting Service HPS	51	1,106	20,528		0.101	\$21
13	Street Lighting Service	53	312	11,100		0.101	\$11
14	Recreational Field Lighting	54	103	1,423		0.101	\$1
15	<b>Total Lighting</b>		7,455	41,564	0.12%		\$42
16	<b>Subtotal</b>		641,636	13,847,205	100.00%		\$34,966
17	Employee Discount		1,061	14,243			(\$9)
18	<b>Total (including distribution only)</b>		641,636	13,847,205			\$34,957

<sup>1</sup> Generation rate spread from UE 390, Transition Adjustment Mechanism for 2022.

Docket No. UM \_\_\_\_\_  
Exhibit PAC/502  
Witness: Judith M. Ridenour

**BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON**

**PACIFICORP**

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Exhibit Accompanying Direct Testimony of Judith M. Ridenour  
Proposed Tariffs

July 2021

**Schedule No.**

<b>SUPPLY SERVICE</b>	
200	Base Supply Service
201	Net Power Costs – Cost-Based Supply Service
210	Portfolio Time-of-Use Supply Service
211	Portfolio Renewable Usage Supply Service
212	Portfolio Fixed Renewable Energy– Supply Service
213	Portfolio Habitat Supply Service
218	Interruptible Service Pilot
220	Standard Offer Supply Service
230	Emergency Supply Service
247	Partial Requirements Supply Service
276R	Large General Service/Partial Requirements Service – Economic Replacement Power Rider Supply Service

<b>ADJUSTMENTS</b>	
90	Summary of Effective Rate Adjustments
91	Low Income Bill Payment Assistance Fund
92	Decommissioning Cost Recovery Adjustment (N)
93	Independent Evaluator Cost Adjustment
95	Pilot Program Cost Adjustment
96	Property Sales Balancing Account Adjustment
97	Intervenor Funding Adjustment
98	Adjustment Associated with the Pacific Northwest Electric Power Planning and Conservation Act
101	Municipal Exaction Adjustment
103	Multnomah County Business Income Tax Recovery
104	Oregon Corporate Activity Tax Recovery Adjustment
194	Replaced Meter Deferred Amounts Adjustment
195	Federal Tax Act Adjustment
198	Deer Creek Mine Closure Deferred Amounts Adjustment
202	Renewable Adjustment Clause – Supply Service Adjustment
203	Renewable Resource Deferral – Supply Service Adjustment
204	Oregon Solar Incentive Program Deferral – Supply Service Adjustment
205	TAM Adjustment for Other Revenues
206	Power Cost Adjustment Mechanism – Adjustment
207	Community Solar Start-Up Cost Recovery Adjustment
270	Renewable Energy Rider – Optional
271	Energy Profiler Online – Optional
272	Renewable Energy Rider – Optional Bulk Purchase Option
290	Public Purpose Charge (3%)
294	Transition Adjustment
295	Transition Adjustment – Three-Year Cost of Service Opt-Out
296	Transition Adjustment – Five-Year Cost of Service Opt-Out
297	Energy Conservation Charge
299	Rate Mitigation Adjustment



## SUMMARY OF EFFECTIVE RATE ADJUSTMENTS

The following summarizes the applicability of the Company's adjustment schedules

**SUMMARY OF EFFECTIVE RATE ADJUSTMENTS**

Schedule	91	92	93	95	96	97	98*	104	194	195	198	202*	203*	204
4	x	x	x	x	x	x	x	x	x	x	x	x	x	x
5	x	x	x	x	x	x	x	x	x	x	x	x	x	x
15	x	x	x	x	x		x	x	x	x	x	x	x	x
23	x	x	x	x	x		x	x	x	x	x	x	x	x
28	x	x	x	x	x		x	x	x	x	x	x	x	x
30	x	x	x	x	x		x	x	x	x	x	x	x	x
41	x	x	x	x	x	x	x	x	x	x	x	x	x	x
47	x	x	x	x	x	x	x	x	x	x	x	x	x	x
48	x	x	x	x	x	x	x	x	x	x	x	x	x	x
51	x	x	x	x	x			x	x	x	x	x	x	x
53	x	x	x	x	x			x	x	x	x	x	x	x
54	x	x	x	x	x			x	x	x	x	x	x	x
60														
723	x	x	x	x	x		x	x	x	x	x	x	x	x
728	x	x	x	x	x		x	x	x	x	x	x	x	x
730	x	x	x	x	x		x	x	x	x	x	x	x	x
741	x	x	x	x	x	x	x	x	x	x	x	x	x	x
747	x	x	x	x	x	x	x	x	x	x	x	x	x	x
748	x	x	x	x	x	x	x	x	x	x	x	x	x	x
751	x	x	x	x	x			x	x	x	x	x	x	x
753	x	x	x	x	x			x	x	x	x	x	x	x
754	x	x	x	x	x			x	x	x	x	x	x	x
848	x	x		x				x						

(N) (M)

(N) (M)

\*Not applicable to all consumers. See Schedule for details.

## SUMMARY OF EFFECTIVE RATE ADJUSTMENTS

The following summarizes the applicability of the Company's adjustment schedules

**SUMMARY OF EFFECTIVE RATE ADJUSTMENTS**

Schedule	205	206	207	290	293	294*	295*	296*	297*	299
4	X	X	X	X					X	X
5	X	X	X	X					X	X
15	X	X	X	X		X			X	X
23	X	X	X	X		X			X	X
28	X	X	X	X		X			X	X
30	X	X	X	X		X			X	X
41	X	X	X	X		X			X	X
47	X	X	X	X		X			X	X
48	X	X	X	X		X			X	X
51	X	X	X	X		X			X	X
53	X	X	X	X		X			X	X
54	X	X	X	X		X			X	X
60				X						
723	X	X	X	X		X			X	X
728	X	X	X	X		X			X	X
730	X	X	X	X		X	X	X	X	X
741	X	X	X	X		X			X	X
747	X	X	X	X		X	X	X	X	X
748	X	X	X	X		X	X	X	X	X
751	X	X	X	X		X			X	X
753	X	X	X	X		X			X	X
754	X	X	X	X		X			X	X
848				X	X					

(M)

(M)

\*Not applicable to all consumers. See Schedule for details.

**DECOMMISSIONING COST RECOVERY ADJUSTMENT**

Page 1

**Purpose**

This non-bypassable schedule recovers decommissioning costs authorized for recovery by the commission in Order 21-XXX.

**Monthly Billing**

All bills calculated in accordance with Schedules contained in this tariff will have applied an amount equal to the product of all kWh multiplied by the following applicable rate as listed by Delivery Service schedule.

**Delivery Service Schedule**

Schedule 4, per kWh	0.266¢
Schedule 5, per kWh	0.266¢
Schedule 15, per kWh	0.101¢
Schedule 23, 723, per kWh	0.252¢
Schedule 28, 728, per kWh	0.254¢
Schedule 30, 730, per kWh	0.248¢
Schedule 41, 741, per kWh	0.240¢
Schedule 47, 747, per kWh	0.234¢
Schedule 48, 748, 848 per kWh	0.234¢
Schedule 51, 751, per kWh	0.101¢
Schedule 53, 753, per kWh	0.101¢
Schedule 54, 754, per kWh	0.101¢

(N)

Docket No. UM \_\_\_\_  
Exhibit PAC/503  
Witness: Judith M. Ridenour

**BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON**

**PACIFICORP**

---

Exhibit Accompanying Direct Testimony of Judith M. Ridenour  
Estimated Effect of Proposed Price Change

July 2021

**PACIFIC POWER**  
**ESTIMATED EFFECT OF PROPOSED PRICE CHANGE**  
**ON REVENUES FROM ELECTRIC SALES TO ULTIMATE CONSUMERS**  
**DISTRIBUTED BY RATE SCHEDULES IN OREGON**  
**FORECAST 12 MONTHS ENDED DECEMBER 31, 2022**

Line No.	Description	Sch No.	Cust No. of	MWh	Present Revenues (\$000)			Proposed Revenues (\$000)			Change			Line No.	
					Base Rates		Net Rates	Base Rates		Net Rates	Base Rates		Net Rates		
					(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)		(13)
	(1)	(2)	(3)					(5) + (6)		(8) + (9)	(10)	(11) - (12)	(13) - (14)		
<b>Residential</b>															
1	Residential	4	530,213	5,644,009	\$603,763	\$10,240	\$614,003	\$614,003	\$618,776	\$10,240	\$629,016	\$15,013	\$15,013	2.5%	1
2	<b>Total Residential</b>		530,213	5,644,009	\$603,763	\$10,240	\$614,003	\$614,003	\$618,776	\$10,240	\$629,016	\$15,013	\$15,013	2.5%	2
<b>Commercial &amp; Industrial</b>															
3	Gen. Svc. < 31 kW	23	84,307	1,146,808	\$125,972	\$1,118	\$127,090	\$127,090	\$128,862	\$1,118	\$129,980	\$2,890	\$2,890	2.3%	3
4	Gen. Svc. 31 - 200 kW	28	10,611	2,027,674	\$166,178	\$9,521	\$175,699	\$175,699	\$171,328	\$9,521	\$180,849	\$5,150	\$5,150	2.9%	4
5	Gen. Svc. 201 - 999 kW	30	881	1,341,454	\$99,122	\$5,026	\$104,148	\$104,148	\$102,449	\$5,026	\$107,475	\$3,327	\$3,327	3.2%	5
6	Large General Service >= 1,000 kW	48	198	3,135,583	\$202,175	(\$13,101)	\$189,074	\$189,074	\$209,512	(\$13,101)	\$196,411	\$7,337	\$7,337	3.8%	6
7	Partial Req. Svc. >= 1,000 kW	47	6	35,808	\$4,200	(\$145)	\$4,055	\$4,055	\$4,284	(\$145)	\$4,139	\$84	\$84	3.8%	7
8	Dist. Only Lg Gen Svc >= 1,000 kW	848	1	0	\$1,681	\$12	\$1,693	\$1,693	\$2,278	\$12	\$2,290	\$597	\$597	35%	8
9	Agricultural Pumping Service	41	7,964	219,247	\$25,087	(\$3,006)	\$22,082	\$22,082	\$25,614	(\$3,006)	\$22,608	\$526	\$526	2.4%	9
10	<b>Total Commercial &amp; Industrial</b>		103,968	7,906,573	\$624,415	(\$574)	\$623,841	\$623,841	\$644,326	(\$574)	\$643,752	\$19,911	\$19,911	3.2%	10
<b>Lighting</b>															
11	Outdoor Area Lighting Service	15	5,934	8,514	\$935	\$307	\$1,242	\$1,242	\$944	\$307	\$1,250	\$9	\$9	0.7%	11
12	Street Lighting Service Comp. Owned	51	1,106	20,528	\$2,722	\$959	\$3,681	\$3,681	\$2,743	\$959	\$3,702	\$21	\$21	0.6%	12
13	Street Lighting Service Cust. Owned	53	312	11,100	\$642	\$203	\$845	\$845	\$653	\$203	\$856	\$11	\$11	1.3%	13
14	Recreational Field Lighting	54	103	1,423	\$100	\$33	\$134	\$134	\$102	\$33	\$135	\$1	\$1	1.1%	14
15	<b>Total Public Street Lighting</b>		7,455	41,564	\$4,399	\$1,502	\$5,901	\$5,901	\$4,441	\$1,502	\$5,943	\$42	\$42	0.7%	15
16	<b>Subtotal</b>		641,636	13,592,146	\$1,232,577	\$11,168	\$1,243,745	\$1,243,745	\$1,267,543	\$11,168	\$1,278,711	\$34,966	\$34,966	2.8%	16
17	Employee Discount		1,061	14,243	(\$376)	(\$6)	(\$383)	(\$383)	(\$386)	(\$6)	(\$392)	(\$9)	(\$9)		17
18	AGA Revenue				\$2,993	\$2,993	\$2,993	\$2,993	\$2,993	\$2,993	\$2,993	\$0	\$0		18
19	COOC Amortization				\$1,727	\$1,727	\$1,727	\$1,727	\$1,727	\$1,727	\$1,727	\$0	\$0		19
20	<b>Total Sales with AGA</b>		641,636	13,592,146	\$1,236,921	\$11,162	\$1,248,083	\$1,248,083	\$1,271,878	\$11,162	\$1,283,040	\$34,957	\$34,957	2.8%	20

<sup>1</sup> Excludes effects of the Low Income Bill Payment Assistance Charge (Sch. 91), BPA Credit (Sch. 98), Public Purpose Charge (Sch. 290) and Energy Conservation Charge (Sch. 297).

<sup>2</sup> Percentages shown for Schedules 48 and 47 reflect the combined rate change.

**Pacific Power**  
**Monthly Billing Comparison**  
**Delivery Service Schedule 4 + Cost-Based Supply Service**  
**Residential Service - Single Family**

kWh	Monthly Billing*			Percent Difference
	Present Price	Proposed Price	Difference	
100	\$19.81	\$20.07	\$0.26	1.31%
200	\$29.06	\$29.62	\$0.56	1.93%
300	\$38.35	\$39.18	\$0.83	2.16%
400	\$47.62	\$48.72	\$1.10	2.31%
500	\$56.89	\$58.27	\$1.38	2.43%
600	\$66.16	\$67.82	\$1.66	2.51%
700	\$75.43	\$77.36	\$1.93	2.56%
800	\$84.72	\$86.91	\$2.19	2.58%
<b>900</b>	<b>\$93.97</b>	<b>\$96.46</b>	<b>\$2.49</b>	<b>2.65%</b>
<i>1,000</i>	<i>\$103.25</i>	<i>\$106.01</i>	<i>\$2.76</i>	<i>2.67%</i>
1,100	\$114.71	\$117.74	\$3.03	2.64%
1,200	\$126.16	\$129.47	\$3.31	2.62%
1,300	\$137.63	\$141.21	\$3.58	2.60%
1,400	\$149.08	\$152.94	\$3.86	2.59%
1,500	\$160.54	\$164.68	\$4.14	2.58%
1,600	\$171.99	\$176.41	\$4.42	2.57%
2,000	\$217.82	\$223.33	\$5.51	2.53%
3,000	\$332.40	\$340.66	\$8.26	2.48%
4,000	\$446.97	\$457.99	\$11.02	2.47%
5,000	\$561.55	\$575.32	\$13.77	2.45%

\* Net rate including Schedules 91, 98, 290 and 297.  
Note: Assumed average billing cycle length of 30.42 days.

**Pacific Power**  
**Monthly Billing Comparison**  
**Delivery Service Schedule 4 + Cost-Based Supply Service**  
**Residential Service - Multi-Family**

kWh	Monthly Billing*			Percent Difference
	Present Price	Proposed Price	Difference	
100	\$18.25	\$18.52	\$0.27	1.48%
200	\$27.51	\$28.07	\$0.56	2.04%
300	\$36.80	\$37.63	\$0.83	2.26%
400	\$46.06	\$47.16	\$1.10	2.39%
500	\$55.34	\$56.72	\$1.38	2.49%
600	\$64.61	\$66.27	\$1.66	2.57%
700	\$73.88	\$75.80	\$1.92	2.60%
800	\$83.16	\$85.36	\$2.20	2.65%
900	\$92.42	\$94.91	\$2.49	2.69%
1,000	\$101.70	\$104.45	\$2.75	2.70%
1,100	\$113.16	\$116.18	\$3.02	2.67%
1,200	\$124.61	\$127.91	\$3.30	2.65%
1,300	\$136.08	\$139.65	\$3.57	2.62%
1,400	\$147.53	\$151.38	\$3.85	2.61%
1,500	\$158.99	\$163.12	\$4.13	2.60%
1,600	\$170.44	\$174.85	\$4.41	2.59%
2,000	\$216.27	\$221.78	\$5.51	2.55%
3,000	\$330.84	\$339.11	\$8.27	2.50%
4,000	\$445.42	\$456.44	\$11.02	2.47%
5,000	\$559.99	\$573.76	\$13.77	2.46%

\* Net rate including Schedules 91, 98, 290 and 297.  
Note: Assumed average billing cycle length of 30.42 days.

**Pacific Power**  
**Monthly Billing Comparison**  
**Delivery Service Schedule 23 + Cost-Based Supply Service**  
**General Service - Secondary Delivery Voltage**

k W Load Size	kWh	Monthly Billing*						Percent	
		Present Price		Proposed Price		Difference		Single Phase	Three Phase
		Single Phase	Three Phase	Single Phase	Three Phase	Single Phase	Three Phase		
5	500	\$68	\$77	\$70	\$78	1.90%	1.70%	1.90%	1.70%
	750	\$93	\$102	\$95	\$104	2.09%	1.92%		
	1,000	\$119	\$128	\$121	\$130	2.20%	2.05%		
	1,500	\$169	\$178	\$173	\$182	2.31%	2.20%		
10	1,000	\$119	\$128	\$121	\$130	2.20%	2.05%	2.20%	2.05%
	2,000	\$219	\$228	\$225	\$233	2.38%	2.29%		
	3,000	\$320	\$329	\$328	\$337	2.45%	2.38%		
	4,000	\$407	\$416	\$417	\$426	2.57%	2.51%		
20	4,000	\$438	\$447	\$448	\$457	2.38%	2.34%	2.38%	2.34%
	6,000	\$612	\$620	\$627	\$636	2.56%	2.52%		
	8,000	\$785	\$794	\$806	\$815	2.66%	2.63%		
	10,000	\$959	\$968	\$985	\$994	2.72%	2.70%		
30	9,000	\$934	\$943	\$958	\$967	2.51%	2.49%	2.51%	2.49%
	12,000	\$1,195	\$1,204	\$1,226	\$1,235	2.62%	2.60%		
	15,000	\$1,455	\$1,464	\$1,494	\$1,503	2.69%	2.67%		
	18,000	\$1,715	\$1,724	\$1,762	\$1,771	2.74%	2.72%		

\* Net rate including Schedules 91, 290 and 297.



**Pacific Power**  
**Monthly Billing Comparison**  
**Delivery Service Schedule 23 + Cost-Based Supply Service**  
**General Service - Primary Delivery Voltage**

k W Load Size	kWh	Monthly Billing*						Percent	
		Present Price		Proposed Price		Single Phase	Three Phase	Single Phase	Three Phase
		Single Phase	Three Phase	Single Phase	Three Phase				
5	500	\$67	\$76	\$69	\$78			1.93%	1.71%
	750	\$92	\$101	\$94	\$103			2.13%	1.94%
	1,000	\$117	\$126	\$119	\$128			2.23%	2.08%
	1,500	\$166	\$175	\$170	\$179			2.36%	2.23%
	10	1,000	\$117	\$126	\$119	\$128			2.23%
20	2,000	\$216	\$224	\$221	\$230			2.42%	2.33%
	3,000	\$314	\$323	\$322	\$331			2.49%	2.42%
	4,000	\$400	\$409	\$410	\$419			2.61%	2.56%
	4,000	\$431	\$440	\$441	\$450			2.42%	2.37%
	6,000	\$601	\$610	\$617	\$626			2.60%	2.57%
30	8,000	\$772	\$781	\$793	\$801			2.71%	2.67%
	10,000	\$942	\$951	\$968	\$977			2.77%	2.74%
	9,000	\$919	\$928	\$942	\$951			2.56%	2.53%
	12,000	\$1,175	\$1,183	\$1,206	\$1,215			2.67%	2.65%
	15,000	\$1,430	\$1,439	\$1,470	\$1,478			2.74%	2.72%
18,000	\$1,686	\$1,695	\$1,733	\$1,742			2.79%	2.77%	

\* Net rate including Schedules 91, 290 and 297.

**Pacific Power**  
**Monthly Billing Comparison**  
**Delivery Service Schedule 28 + Cost-Based Supply Service**  
**Large General Service - Secondary Delivery Voltage**

kW Load Size	kWh	Monthly Billing*		Percent Difference
		Present Price	Proposed Price	
15	3,000	\$330	\$338	2.39%
	4,500	\$428	\$440	2.77%
	7,500	\$623	\$643	3.17%
31	6,200	\$662	\$678	2.46%
	9,300	\$863	\$888	2.83%
	15,500	\$1,267	\$1,308	3.22%
40	8,000	\$848	\$869	2.48%
	12,000	\$1,108	\$1,140	2.85%
	20,000	\$1,629	\$1,682	3.23%
60	12,000	\$1,263	\$1,295	2.50%
	18,000	\$1,654	\$1,701	2.86%
	30,000	\$2,435	\$2,514	3.24%
80	16,000	\$1,672	\$1,714	2.52%
	24,000	\$2,193	\$2,256	2.88%
	40,000	\$3,234	\$3,339	3.25%
100	20,000	\$2,081	\$2,134	2.53%
	30,000	\$2,732	\$2,811	2.89%
	50,000	\$4,034	\$4,165	3.26%
200	40,000	\$4,094	\$4,199	2.57%
	60,000	\$5,396	\$5,554	2.92%
	100,000	\$7,999	\$8,262	3.29%

\* Net rate including Schedules 91, 290 and 297.

**Pacific Power**  
**Monthly Billing Comparison**  
**Delivery Service Schedule 28 + Cost-Based Supply Service**  
**Large General Service - Primary Delivery Voltage**

kW Load Size	kWh	Monthly Billing*		Percent Difference
		Present Price	Proposed Price	
15	4,500	\$431	\$443	2.74%
	6,000	\$523	\$539	3.02%
	7,500	\$614	\$634	3.21%
31	9,300	\$864	\$888	2.83%
	12,400	\$1,053	\$1,085	3.10%
	15,500	\$1,242	\$1,283	3.28%
40	12,000	\$1,107	\$1,139	2.85%
	16,000	\$1,351	\$1,393	3.12%
	20,000	\$1,595	\$1,647	3.30%
60	18,000	\$1,651	\$1,698	2.87%
	24,000	\$2,017	\$2,080	3.13%
	30,000	\$2,382	\$2,461	3.31%
80	24,000	\$2,186	\$2,249	2.89%
	32,000	\$2,674	\$2,758	3.15%
	40,000	\$3,162	\$3,267	3.33%
100	30,000	\$2,722	\$2,801	2.90%
	40,000	\$3,331	\$3,436	3.16%
	50,000	\$3,941	\$4,072	3.34%
200	60,000	\$5,365	\$5,522	2.94%
	80,000	\$6,584	\$6,794	3.20%
	100,000	\$7,803	\$8,066	3.37%

\* Net rate including Schedules 91, 290 and 297.

**Pacific Power**  
**Monthly Billing Comparison**  
**Delivery Service Schedule 30 + Cost-Based Supply Service**  
**Large General Service - Secondary Delivery Voltage**

kW Load Size	kWh	Monthly Billing*		Percent Difference
		Present Price	Proposed Price	
100	20,000	\$2,527	\$2,578	2.03%
	30,000	\$3,011	\$3,089	2.56%
	50,000	\$3,981	\$4,109	3.23%
200	40,000	\$4,542	\$4,645	2.26%
	60,000	\$5,511	\$5,666	2.80%
	100,000	\$7,450	\$7,707	3.45%
300	60,000	\$6,739	\$6,893	2.29%
	90,000	\$8,193	\$8,424	2.82%
	150,000	\$11,101	\$11,486	3.47%
400	80,000	\$8,807	\$9,012	2.33%
	120,000	\$10,745	\$11,053	2.87%
	200,000	\$14,623	\$15,136	3.51%
500	100,000	\$10,910	\$11,167	2.35%
	150,000	\$13,333	\$13,718	2.89%
	250,000	\$18,180	\$18,822	3.53%
600	120,000	\$13,013	\$13,321	2.37%
	180,000	\$15,921	\$16,383	2.90%
	300,000	\$21,737	\$22,508	3.54%
800	160,000	\$17,220	\$17,631	2.39%
	240,000	\$21,097	\$21,713	2.92%
	400,000	\$28,852	\$29,879	3.56%
1000	200,000	\$21,426	\$21,940	2.40%
	300,000	\$26,273	\$27,043	2.93%
	500,000	\$35,966	\$37,250	3.57%

\* Net rate including Schedules 91, 290 and 297.

**Pacific Power**  
**Monthly Billing Comparison**  
**Delivery Service Schedule 30 + Cost-Based Supply Service**  
**Large General Service - Primary Delivery Voltage**

kW Load Size	kWh	Monthly Billing*		Percent Difference
		Present Price	Proposed Price	
100	30,000	\$3,001	\$3,078	2.57%
	40,000	\$3,487	\$3,590	2.95%
	50,000	\$3,973	\$4,101	3.23%
200	60,000	\$5,503	\$5,657	2.80%
	80,000	\$6,476	\$6,681	3.17%
	100,000	\$7,448	\$7,705	3.45%
300	90,000	\$8,177	\$8,408	2.83%
	120,000	\$9,635	\$9,943	3.20%
	150,000	\$11,094	\$11,479	3.47%
400	120,000	\$10,748	\$11,057	2.87%
	160,000	\$12,693	\$13,104	3.24%
	200,000	\$14,638	\$15,152	3.51%
500	150,000	\$13,334	\$13,719	2.89%
	200,000	\$15,765	\$16,279	3.26%
	250,000	\$18,196	\$18,838	3.53%
600	180,000	\$15,919	\$16,381	2.90%
	240,000	\$18,836	\$19,453	3.27%
	300,000	\$21,754	\$22,524	3.54%
800	240,000	\$21,090	\$21,706	2.92%
	320,000	\$24,980	\$25,801	3.29%
	400,000	\$28,869	\$29,897	3.56%
1000	300,000	\$26,261	\$27,031	2.93%
	400,000	\$31,123	\$32,150	3.30%
	500,000	\$35,985	\$37,269	3.57%

\* Net rate including Schedules 91, 290 and 297.

**Pacific Power  
Billing Comparison  
Delivery Service Schedule 41 + Cost-Based Supply Service  
Agricultural Pumping - Secondary Delivery Voltage**

kW Load Size	kWh	Present Price*			Proposed Price*			Percent Difference		
		April - November Monthly Bill	December- March Monthly Bill	Annual Load Size Charge	April - November Monthly Bill	December- March Monthly Bill	Annual Load Size Charge	April - November Monthly Bill	December- March Monthly Bill	Annual Load Size Charge
<u>Single Phase</u>										
10	2,000	\$165	\$165	\$177	\$170	\$170	\$177	3.01%	3.01%	0.00%
	3,000	\$248	\$248	\$177	\$255	\$255	\$177	3.01%	3.01%	0.00%
	5,000	\$413	\$413	\$177	\$426	\$426	\$177	3.01%	3.01%	0.00%
<u>Three Phase</u>										
20	4,000	\$330	\$330	\$354	\$340	\$340	\$354	3.01%	3.01%	0.00%
	6,000	\$496	\$496	\$354	\$511	\$511	\$354	3.01%	3.01%	0.00%
	10,000	\$826	\$826	\$354	\$851	\$851	\$354	3.01%	3.01%	0.00%
100	20,000	\$1,652	\$1,652	\$1,584	\$1,702	\$1,702	\$1,584	3.01%	3.01%	0.00%
	30,000	\$2,479	\$2,479	\$1,584	\$2,553	\$2,553	\$1,584	3.01%	3.01%	0.00%
	50,000	\$4,131	\$4,131	\$1,584	\$4,255	\$4,255	\$1,584	3.01%	3.01%	0.00%
300	60,000	\$4,957	\$4,957	\$3,987	\$5,106	\$5,106	\$3,987	3.01%	3.01%	0.00%
	90,000	\$7,436	\$7,436	\$3,987	\$7,659	\$7,659	\$3,987	3.01%	3.01%	0.00%
	150,000	\$12,393	\$12,393	\$3,987	\$12,766	\$12,766	\$3,987	3.01%	3.01%	0.00%

\* Net rate including Schedules 91, 98, 290 and 297.

**Pacific Power  
Billing Comparison  
Delivery Service Schedule 41 + Cost-Based Supply Service  
Agricultural Pumping - Primary Delivery Voltage**

kW Load Size	kWh	Present Price*			Proposed Price*			Percent Difference		
		April - November Monthly Bill	December- March Monthly Bill	Annual Load Size Charge	April - November Monthly Bill	December- March Monthly Bill	Annual Load Size Charge	April - November Monthly Bill	December- March Monthly Bill	Annual Load Size Charge
<u>Single Phase</u>										
10	3,000	\$243	\$243	\$175	\$251	\$251	\$175	3.07%	3.07%	0.00%
	4,000	\$324	\$324	\$175	\$334	\$334	\$175	3.06%	3.06%	0.00%
	5,000	\$405	\$405	\$175	\$418	\$418	\$175	3.07%	3.07%	0.00%
<u>Three Phase</u>										
20	6,000	\$486	\$486	\$350	\$501	\$501	\$350	3.07%	3.07%	0.00%
	8,000	\$649	\$649	\$350	\$669	\$669	\$350	3.07%	3.07%	0.00%
	10,000	\$811	\$811	\$350	\$836	\$836	\$350	3.06%	3.06%	0.00%
100	30,000	\$2,432	\$2,432	\$1,564	\$2,507	\$2,507	\$1,564	3.07%	3.07%	0.00%
	40,000	\$3,243	\$3,243	\$1,564	\$3,342	\$3,342	\$1,564	3.07%	3.07%	0.00%
	50,000	\$4,054	\$4,054	\$1,564	\$4,178	\$4,178	\$1,564	3.07%	3.07%	0.00%
300	90,000	\$7,297	\$7,297	\$3,925	\$7,521	\$7,521	\$3,925	3.07%	3.07%	0.00%
	120,000	\$9,729	\$9,729	\$3,925	\$10,027	\$10,027	\$3,925	3.07%	3.07%	0.00%
	150,000	\$12,161	\$12,161	\$3,925	\$12,534	\$12,534	\$3,925	3.07%	3.07%	0.00%

\* Net rate including Schedules 91, 98, 290 and 297.

**Pacific Power**  
**Monthly Billing Comparison**  
**Delivery Service Schedule 48 + Cost-Based Supply Service**  
**Large General Service - Secondary Delivery Voltage**  
**1,000 kW and Over**

kW Load Size	kWh	Monthly Billing		Percent Difference
		Present Price	Proposed Price	
1,000	300,000	\$26,202	\$26,929	2.77%
	500,000	\$35,497	\$36,708	3.41%
	700,000	\$44,791	\$46,487	3.79%
2,000	600,000	\$51,804	\$53,258	2.81%
	1,000,000	\$68,003	\$70,426	3.56%
	1,400,000	\$85,435	\$88,828	3.97%
6,000	1,800,000	\$138,760	\$143,122	3.14%
	3,000,000	\$191,058	\$198,327	3.80%
	4,200,000	\$243,355	\$253,532	4.18%
12,000	3,600,000	\$275,363	\$284,087	3.17%
	6,000,000	\$379,958	\$394,497	3.83%
	8,400,000	\$484,553	\$504,908	4.20%

Notes:

On-Peak kWh	38.23%
Off-Peak kWh	61.77%

\* Net rate including Schedules 91 and 290. Schedule 297 included for kWh levels under 730,000.



**Pacific Power**  
**Monthly Billing Comparison**  
**Delivery Service Schedule 48 + Cost-Based Supply Service**  
**Large General Service - Primary Delivery Voltage**  
**1,000 kW and Over**

kW Load Size	kWh	Monthly Billing		Percent Difference
		Present Price	Proposed Price	
1,000	300,000	\$24,420	\$25,147	2.98%
	500,000	\$33,189	\$34,401	3.65%
	700,000	\$41,958	\$43,655	4.04%
2,000	600,000	\$48,271	\$49,725	3.01%
	1,000,000	\$63,419	\$65,842	3.82%
	1,400,000	\$79,801	\$83,193	4.25%
6,000	1,800,000	\$137,150	\$141,511	3.18%
	3,000,000	\$186,295	\$193,565	3.90%
	4,200,000	\$235,441	\$245,619	4.32%
12,000	3,600,000	\$272,256	\$280,980	3.20%
	6,000,000	\$370,548	\$385,087	3.92%
	8,400,000	\$468,839	\$489,194	4.34%

Notes:

On-Peak kWh	38.23%
Off-Peak kWh	61.77%

\* Net rate including Schedules 91 and 290. Schedule 297 included for kWh levels under 730,000.

**Pacific Power**  
**Monthly Billing Comparison**  
**Delivery Service Schedule 48 + Cost-Based Supply Service**  
**Large General Service - Transmission Delivery Voltage**  
**1,000 kW and Over**

kW Load Size	kWh	Monthly Billing		Percent Difference
		Present Price	Proposed Price	
1,000	500,000	\$31,298	\$32,509	3.87%
	700,000	\$39,467	\$41,163	4.30%
2,000	1,000,000	\$59,470	\$61,893	4.07%
	1,400,000	\$74,653	\$78,046	4.54%
6,000	3,000,000	\$175,846	\$183,115	4.13%
	4,200,000	\$221,396	\$231,573	4.60%
12,000	6,000,000	\$349,307	\$363,846	4.16%
	8,400,000	\$440,407	\$460,762	4.62%

Notes:

On-Peak kWh      37.63%  
Off-Peak kWh     62.37%

\* Net rate including Schedules 91 and 290. Schedule 297 included for kWh levels under 730,000.