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Attention: Filing Center
Public Utility Commission of Oregon
P.O. Box 1088
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Re: UM 2118 –SUNTHURST ENERGY, LLC vs. PACIFICORP dba PACIFIC POWER

Attention Filing Center:

Attached for filing in the above-captioned docket is PacifiCorp's Opening Brief.

Please contact this office with any questions.

Thank you,

Jennifer Miller
Legal Assistant

Attachment

**BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON
UM 2118**

In the Matter of:

SUNTHURST ENERGY, LLC,

Complainant

vs.

PACIFICORP dba PACIFIC POWER,

Respondent.

PACIFICORP'S OPENING BRIEF

Table of Contents

I.	INTRODUCTION AND SUMMARY OF ARGUMENT	1
II.	FACTUAL BACKGROUND.....	4
	A. PacifiCorp’s interconnection study process.....	4
	B. Execution of the Small Generator Interconnection Agreement for PRS1.	5
	C. Interconnection process and studies for PRS2.....	6
	D. PacifiCorp’s extensive efforts to refine its cost estimates and lower the costs to interconnect PRS1 and PRS2.....	8
III.	LEGAL STANDARDS	8
	A. The Commission’s rules require interconnection customers to pay for the reasonable costs to interconnect their projects.	8
	B. PURPA mandates customer indifference to QF interconnections.....	10
	C. Sunthurst carries the burden of proof.....	12
IV.	ARGUMENT	12
	A. PacifiCorp’s most recent cost estimates accurately reflect the reasonable interconnection costs of PRS1 and PRS2.	12
	1. Voltage regulators are required to maintain energy-efficient operations.	14
	2. Sunthurst must pay construction overhead costs incurred to interconnect its projects.	18
	3. Sunthurst must bear the cost of fiber optic cables connecting PRS1 and PRS2 to the Pilot Rock Substation.	21
	4. Dead-line checking is required to maintain PacifiCorp’s current level of service.	23
	5. Sunthurst must pay for the 0.3-mile line extension to PRS1 and PRS2 because the line would not be constructed but for Sunthurst’s interconnection requests.....	24
	6. Direct transfer trip is required to interconnect PRS1 and PRS2 safely.....	26
	7. Sunthurst’s costs to install telemetry equipment are reasonable.	27
	8. Sunthurst’s request for low-side metering is contrary to standard practice.	28
	9. PacifiCorp has removed any costs associated with the necessary PI-111 Annunciator Panel from its most recent cost estimates for Q0666.....	31
	10. PacifiCorp has refined and reduced avian protection costs in its most recent estimates for Q0666.	32
	11. PacifiCorp’s junction box costs are reasonable.	32
	12. PacifiCorp has removed cost responsibility for the POI meter.	34
	B. Sunthurst’s interconnection costs would be the same if the Commission applied FERC’s non-QF cost allocation policies.....	34

C.	Sunthurst’s reliance on general interconnection study costs from other projects is misplaced.....	34
D.	Sunthurst must bear the costs resulting from its siting decision.....	36
V.	CONCLUSION.....	37

I. INTRODUCTION AND SUMMARY OF ARGUMENT

1 The Public Utility Commission of Oregon’s (“Commission”) implementation of the Public
2 Utility Regulatory Policies Act of 1978 (“PURPA”) rests on one bedrock principle—transactions
3 with qualifying facilities (“QFs”) must not harm utility customers. The Commission has made
4 clear its intent to faithfully adhere to this standard to maintain “customer indifference” to QFs
5 transactions and protect Oregonians from harm.¹ To maintain customer indifference, both the
6 Commission’s interconnection rules and PURPA require interconnecting QFs to pay the costs
7 incurred by a utility to interconnect the project, thereby leaving retail customers indifferent to the
8 QF interconnection.² Sunthurst Energy, LLC (“Sunthurst”) seeks to violate the customer-
9 indifference standard, and thereby harm PacifiCorp’s (or the Company) customers by: (1) shifting
10 interconnection costs of two projects to PacifiCorp customers; and (2) insisting that PacifiCorp
11 design, maintain, and operate its system in a manner that would degrade the quality of service that
12 PacifiCorp customers currently enjoy.

13 Sunthurst has proposed two QFs to interconnect to PacifiCorp’s distribution system and
14 participate in Oregon’s Community Solar Program (“CSP”). Through the interconnection study
15 process—and extensive negotiations and refinements—PacifiCorp has provided comprehensive
16 estimates of the costs required to safely and reliably interconnect both projects. PacifiCorp’s
17 interconnection requirements ensure that the interconnection of Sunthurst’s projects do not
18 degrade service to existing customers—which is critical to maintaining customer indifference.
19 PacifiCorp has worked in good faith with Sunthurst to explain its interconnection requirements

¹ *In re Pub. Util. Comm’n of Or., Investigation into Qualifying Facility Contracting and Pricing*, Docket No. UM 1610, Order No. 14-058, at 12 (Feb. 24, 2014).

² Order No. 14-058, at 12; *S. Cal. Edison Co., San Diego Gas & Elec. Co.*, 71 FERC ¶ 61,269, at ¶ 62,080 (1995).

1 and reduce costs where possible. The resulting costs for interconnecting the projects are
2 reasonable, consistent with good utility practice, and consistent with the interconnection
3 requirements for similarly situated interconnection requests, including PacifiCorp’s own
4 resources.

5 As noted earlier, Sunthurst asks the Commission to either require retail customers to foot
6 the bill for its interconnection facilities or implement recommendations that would degrade the
7 quality of service that PacifiCorp customers currently enjoy. In particular, Sunthurst demands
8 that:

- 9 • Customers pay for voltage regulators that are required so those customers can
10 maintain their current level of service. PacifiCorp currently implements
11 Conservation Voltage Reduction (“CVR”) to efficiently regulate voltage on the
12 feeder that will interconnect Sunthurst’s projects. Using CVR means that all else
13 being equal, customers consume less energy and therefore pay less for service.
14 After Sunthurst interconnects its second project (the 2.99-MW Pilot Rock
15 Solar 2, LLC project), PacifiCorp cannot implement CVR without installing
16 additional voltage regulators. Requiring customers to pay more for the same
17 service is a clear-cut and indefensible violation of PURPA’s strict customer
18 indifference requirement. Therefore, Sunthurst must pay for the voltage regulators.
- 19 • Customers pay the construction overhead costs to interconnect Sunthurst’s projects.
20 Consistent with standard accounting practices, PacifiCorp allocates overhead costs
21 using a capital surcharge, which is applied consistently to all capital projects,
22 including PacifiCorp’s own projects. Sunthurst provides no evidence that
23 PacifiCorp does not incur these costs, provides no evidence that PacifiCorp’s
24 surcharge methodology is flawed, and provides no evidence that PacifiCorp’s
25 surcharge is contrary to standard accounting practices. Customers are not
26 indifferent if they are required to pay the overhead costs incurred to interconnect
27 Sunthurst’s projects.
- 28 • PacifiCorp install less reliable spread spectrum radio communications because they
29 are “good enough,” although such facilities are subject to radio interference and,
30 therefore, could cost Sunthurst more.
- 31 • Customers pay for fiber optic cables and a distribution line extension that
32 serve no purpose except to allow Sunthurst’s projects to interconnect. Customers
33 are not indifferent if they must pay for equipment that would not be installed but
34 for Sunthurst’s interconnection requests.

- 1 • PacifiCorp allow longer outages from temporary faults instead of installing a dead-
2 line check system. If customers experience more prolonged outages because of
3 Sunthurst’s interconnection, then those customers are not indifferent. Therefore,
4 Sunthurst must pay for dead-line checking.

- 5 • Customers pay for Direct Transfer Trip (“DTT”) equipment, which is necessary to
6 protect PacifiCorp’s system in the event of a fault. Customers are not indifferent if
7 they must pay to mitigate a risk created by Sunthurst’s interconnection requests.

- 8 • Customers pay for limited telemetry equipment that will be installed on Sunthurst’s
9 facilities to enable safe and reliable system operations. PacifiCorp has already
10 assumed the cost of the vast majority of the telemetry equipment as an
11 accommodation to Sunthurst. Sunthurst can bear the reasonable costs of telemetry
12 equipment on its own facilities.

- 13 • PacifiCorp depart from standard utility practice and meter its projects on the low
14 side of the step-up transformer even though doing so requires PacifiCorp to
15 estimate losses.

16
17 Implementing Sunthurst’s recommendations would be contrary to Commission policy as
18 customers would be required to pay costs that would not have been incurred but for Sunthurst’s
19 interconnection requests, while also resulting in a less efficient, less reliable system.

20 Ultimately, Sunthurst must bear the reasonable costs to interconnect its projects.
21 Reasonable interconnection costs do not mean the absolute lowest costs, especially when the latter
22 is contrary to good utility practice, Commission and Company policies, and could result in a
23 degradation of service to PacifiCorp customers. PacifiCorp’s retail customers cannot subsidize
24 Sunthurst’s development efforts, and Sunthurst must plan its projects in a way that makes them
25 economically feasible to construct.

26 Finally, under ORS 756.500, “the moving party, the complainant, has the burden of
27 persuasion.” Thus, Sunthurst has the burden of proof in this complaint proceeding to demonstrate
28 that PacifiCorp customers must: (1) pay costs related to Sunthurst’s interconnection requests, and
29 (2) accept a compromised system that would degrade the quality of service that PacifiCorp
30 customers currently enjoy. Sunthurst has failed to meet its burden of proof.

II. FACTUAL BACKGROUND

1 Sunthurst’s complaint involves two photovoltaic QF generation resources—the 1.98-
2 megawatt (“MW”) Pilot Rock Solar 1, LLC and the 2.99-MW Pilot Rock 2, LLC (“PRS1” and
3 “PRS2”, respectively). Each project is owned by a separate legal entity that Sunthurst wholly
4 owns.³ Both projects have requested interconnection to PacifiCorp’s city feeder circuit 5W406,
5 out of its Pilot Rock Substation.⁴ PRS1 has been designated interconnection Queue No. 0666
6 (“Q0666”).⁵ PRS2 is a 2.99-MW CSP facility, designated as interconnection Queue No. 1045
7 (“Q1045”).⁶

8 A. PacifiCorp’s interconnection study process.

9 PacifiCorp’s interconnection study process applicable to PRS1 and PRS2 is governed by
10 the Commission’s small generator interconnection rules, which are contained in OAR Chapter
11 860, Division 82.

12 The purpose of an interconnection study is to identify the requirements, including the
13 necessary equipment and modifications to the utility’s system, that are necessary to allow a
14 generator to interconnect to the utility’s system safely and reliably and without degrading service
15 to existing customers.⁷ In other words, the interconnection study determines what interconnection
16 facilities are needed, if any, to accommodate interconnection requests *without adversely impacting*

³ PAC/100, Bremer/4.

⁴ PAC/103, Bremer/3.

⁵ PAC/101, Bremer/1.

⁶ PAC/103, Bremer/3.

⁷ See PAC/200, Patzkowski, Taylor, Vaz/26 (“PacifiCorp is mandated to ensure that its existing customers continue to receive the same level of service that existed prior to the interconnection of distributed energy resources such as PRS1 and PRS2.”).

1 *the existing system.*⁸ The purpose is to fundamentally place the utility system in the same position
2 it was in before the interconnection in terms of safety, reliability, and quality of service.

3 Additionally, the interconnection study process identifies the *estimated* costs to implement
4 the interconnection requirements.⁹ As the interconnection customer progresses through the
5 interconnection study process, the estimate of costs becomes more refined. Once the parties
6 execute an interconnection agreement, detailed design work and bidding for individual facilities
7 occur to finalize the costs further. Utilities ultimately invoice the actual expenses of
8 interconnection to the interconnection customer.¹⁰

9 **B. Execution of the Small Generator Interconnection Agreement for PRS1.**

10 On May 7, 2015, Sunthurst submitted its interconnection application for PRS1 to
11 PacifiCorp.¹¹ By March 14, 2016, Sunthurst and PacifiCorp had entered into a Small Generator
12 Interconnection Agreement (“SGIA”) for PRS1.¹² The SGIA included interconnection
13 requirements, an interconnection schedule, and milestone payments intended to allow PRS1 to
14 interconnect by May 15, 2017.¹³ The SGIA estimated interconnection costs for the facility at
15 \$805,000.¹⁴ These costs reflected the Company’s best estimate of interconnection requirements
16 and cost at the time.¹⁵

⁸ See OAR 860-082-0035(2) (“[A] public utility must identify the interconnection facilities necessary to safely interconnect the small generator facility with the public utility’s transmission or distribution system. The [interconnection customer] must pay the reasonable costs of the interconnection facilities. The public utility constructs, owns, operates, and maintains the interconnection facilities.”).

⁹ PAC/200, Patzkowski, Taylor, Vaz/3.

¹⁰ PAC/200, Patzkowski, Taylor, Vaz/4-5.

¹¹ PAC/101, Bremer/1.

¹² PAC/101, Bremer/1.

¹³ PAC/100, Bremer/4.

¹⁴ PAC/100, Bremer/4.

¹⁵ PAC/100, Bremer/4.

1 Since signing the SGIA in 2016, Sunthurst has continued to request extensions of the
2 interconnection schedule and milestone payments required by the SGIA. PacifiCorp agreed to
3 extend the milestones for interconnection four times at the request of Sunthurst by amending the
4 SGIA on June 20, 2016; October 11, 2016; November 27, 2017; and November 6, 2018.¹⁶ Even
5 when Sunthurst has been unable to meet its obligations and deadlines under the SGIA, including
6 the provision of agreed upon progress payments to pay for work performed by PacifiCorp,
7 PacifiCorp worked in good faith with Sunthurst to amend the agreement without seeking
8 termination.¹⁷ Regardless, the uncertainty surrounding PRS1 and its interconnection delays have
9 increased costs for PacifiCorp and taken away resources from other interconnection customers.¹⁸

10 **C. Interconnection process and studies for PRS2.**

11 Concurrently with the ongoing negotiations and amendments to the PRS1 SGIA, Sunthurst
12 submitted an interconnection request for PRS2, which was initially a 6-MW photovoltaic facility
13 that would interconnect to the same feeder as PRS1.¹⁹ PacifiCorp designated this original proposal
14 for PRS2 as interconnection Queue No. 0747 (“Q0747”).²⁰ As part of the configuration of Q0666
15 and Q0747, Sunthurst’s design included separate tie line interconnection facilities, with separate
16 reclosers for PRS1 and PRS2.²¹ This configuration for Q0666/Q0747 allowed PacifiCorp to
17 propose a two-meter configuration for interconnection because power from the two projects would
18 not comingle before the power interconnected into PacifiCorp’s system.²²

¹⁶ PAC/100, Bremer/5.
¹⁷ PAC/100, Bremer/5–6.
¹⁸ PAC/100, Bremer/5–6.
¹⁹ Sunthurst/206, Beanland/3.
²⁰ Sunthurst/206, Beanland/3.
²¹ See Sunthurst/206, Beanland/4 (system one line diagram for the proposed Q0666/Q0747 project).
²² Sunthurst/206, Beanland/9–10.

1 Given its 6 MW size, Q0747 created surplus generation on the local Pendleton area system
2 that required extensive network upgrades to resolve.²³ Therefore, Sunthurst withdrew Q0747.

3 Sunthurst then decided to resize PRS2 to avoid the network upgrade costs associated with
4 the 6-MW facility and submitted a new interconnection request for 2.99 MW, which was
5 designated Q1045.²⁴ In addition, Sunthurst clearly attempted to use a perceived loophole by sizing
6 the project exactly one kilowatt below the 3 MW threshold for which the Commission’s rules allow
7 PacifiCorp to assess telemetry upgrades to an interconnection request even while siting PRS2 at
8 the same Point of Interconnection (“POI”) as its earlier Q0666 request, which in aggregate clearly
9 exceeds 3 MW.²⁵ In addition to reducing the size of PRS2, Sunthurst also modified the
10 configuration of PRS1 and PRS2 compared to the Q0666/Q0747 design. Specifically, under the
11 current project design, PRS1 and PRS2 have a common interconnection tie line such that the output
12 of both facilities is combined before reaching the common POI.²⁶ PacifiCorp completed its initial
13 SIS for PRS2 on March 27, 2020.²⁷

²³ Sunthurst/206, Beanland/6. Sunthurst has claimed that Q0747 would not have created surplus generation in the Pendleton area but for the proposed 8-MW second phase of another project designated as interconnection Queue No. 0547 (Q0547). Sunthurst/100, Hale/6. However, PacifiCorp’s serial queue study process does not allow the Company to jump the serial queue order when conducting system impact studies. PAC/100, Bremer/12–13. Q0547 executed an interconnection agreement on December 19, 2014, almost two years before PacifiCorp completed its interconnection study for Q0747. PAC/100, Bremer/13. Consistent with its approach on Sunthurst’s projects, PacifiCorp has negotiated in good faith with Q0547 to allow several extensions to its 8-MW second phase, which is now planned for commercial operation on August 6, 2021. PAC/100, Bremer/13. PacifiCorp cannot simply disregard the impact of Q0547 when studying the impact of lesser queue priority projects such as Q0747 according to the terms of the Company’s legally binding interconnection agreement with Q0547. PAC/100, Bremer/12–13.

²⁴ PAC/100, Bremer/11–12.

²⁵ PAC/100, Bremer/10–12.

²⁶ See PAC/103, Bremer/4 (system one line diagram for the proposed Q0666/Q1045 project).

²⁷ PAC/100, Bremer/6.

1 **D. PacifiCorp’s extensive efforts to refine its cost estimates and lower the costs to**
2 **interconnect PRS1 and PRS2.**

3 Following receipt of the PRS2 SIS, PacifiCorp and Sunthurst engaged in six months of
4 negotiations addressing the interconnection requirements for both PRS1 and PRS2. During this
5 process, PacifiCorp worked in good faith with Sunthurst to refine its cost estimates and
6 accommodate, where possible, Sunthurst’s need for reduced interconnection requirements and
7 costs. PacifiCorp’s efforts reduced the interconnection costs for PRS1 and PRS2 by over
8 \$1 million. Over half of the reduced expenses (\$525,000) resulted from PacifiCorp’s agreement
9 to bear the expense of telemetry equipment despite the apparent attempt by Sunthurst to avoid
10 these costs by sizing PRS2 exactly 1 kilowatt below the threshold.²⁸ The Company initially
11 assigned telemetry costs to Sunthurst because the combined size of PRS1 and PRS2 require
12 telemetry equipment at the common POI.²⁹ Other major reductions in costs of approximately
13 \$250,000 reflected: (1) design modifications PacifiCorp was willing to undertake that would not
14 negatively impact the quality of service to other customers; or (2) offers by PacifiCorp to pay for
15 costs in an effort to resolve Sunthurst’s concerns.³⁰

III. LEGAL STANDARDS

16 **A. The Commission’s rules require interconnection customers to pay for the**
17 **reasonable costs to interconnect their projects.**

18 The Commission’s small generator interconnection rules, specifically, OAR 860-082-
19 0035, sets forth the interconnection customer’s cost responsibility for interconnecting its project

²⁸ PAC/100, Bremer/10.

²⁹ PAC/100, Bremer/10–11. See section IV.A.7 for a more detailed discussion of telemetry costs for PRS1 and PRS2.

³⁰ See PAC/100, Bremer/8 (removal of \$200,000 due to an adjustment to require a weatherproof enclosure on site, as opposed to a control building); see also PAC/100, Bremer/10; PAC/200, Patzkowski, Taylor, Vaz/30. PacifiCorp also offered to remove the costs related to the PI-111 annunciator panel at a total of approximately \$54,000.

1 to a utility’s system.³¹ Subsection (2) of that rule addresses *interconnection facilities*, which are
2 defined as the “facilities and equipment required by a public utility to accommodate the
3 interconnection of a small generator facility to the public utility’s transmission or distribution
4 system and used exclusively for that interconnection.”³² OAR 860-082-0035(2) states that, “a
5 public utility must identify the interconnection facilities necessary to safely interconnect the small
6 generator facility with the public utility’s transmission or distribution system.”³³ The
7 interconnection customer “must pay the reasonable costs of the interconnection facilities,” even
8 though the “public utility constructs, owns, operates, and maintains the interconnection
9 facilities.”³⁴

10 Subsection (3) addresses *interconnection equipment*, which “means a group of components
11 or an integrated system provided by an interconnection customer or applicant to connect a small
12 generator facility to a public utility’s transmission or distribution system.”³⁵ OAR 860-082-
13 0035(3) states that the interconnection customer “must pay all expenses associated with
14 constructing, owning, operating, maintaining, repairing, and replacing its interconnection
15 equipment.”³⁶

16 Subsection (4) addresses *system upgrades*, which are “addition[s] or modification[s] to a
17 public utility’s transmission or distribution system or to an affected system that is required to
18 accommodate the interconnection of a small generator facility.”³⁷ OAR 860-082-0035(4) states
19 that a “public utility must design, procure, construct, install, and own any system upgrades to the

³¹ OAR 860-082-0035.

³² OAR 860-082-0015(16).

³³ OAR 860-035-0035(2).

³⁴ OAR 860-035-0035(2).

³⁵ OAR 860-082-0015(15).

³⁶ OAR 860-035-0035(3).

³⁷ OAR 860-082-0015(34).

1 public utility’s transmission or distribution system necessitated by the interconnection of a small
2 generator facility.”³⁸ As part of the study process, a “public utility must identify any adverse
3 system impacts on an affected system caused by the interconnection of a small generator facility
4 to the public utility’s transmission or distribution system” and “must determine what actions or
5 upgrades are required to mitigate these impacts.”³⁹ The interconnection customer “must pay the
6 reasonable costs of any system upgrades.”⁴⁰

7 Collectively, these provisions set forth a comprehensive cost allocation policy that requires
8 the interconnection customer to pay for interconnection facilities installed on the utility’s system,
9 interconnection equipment installed on the interconnection customer’s system, and system
10 upgrades.

11 **B. PURPA mandates customer indifference to QF interconnections.**

12 The Commission’s Division 82 interconnection rules do not apply exclusively to
13 QF interconnections. But the cost allocation policies promulgated in those rules are consistent
14 with the requirements of PURPA. PURPA not only requires utilities to purchase power generated
15 by QFs, but also mandates that the rates utilities pay for such power must be “just and reasonable”
16 to the consumers of the electric utility and “in the public interest.”⁴¹ Federal law requires that
17 customers remain indifferent to QF generation.⁴² This customer-indifference standard is firmly

³⁸ OAR 860-082-0035(4).

³⁹ OAR 860-082-0035(4).

⁴⁰ OAR 860-082-0035(4).

⁴¹ 18 C.F.R. § 292.304(a)(1).

⁴² See 16 U.S.C. § 824a-3(d) (stipulating that the rate for QF purchases may not exceed “the cost to the electric utility of the electric energy which, *but for* the purchase from such cogenerator or small power producer, such utility would generate or purchase from another source” (emphasis added)); see also *S. Cal. Edison Co., San Diego Gas & Elec. Co.*, 71 FERC ¶ 61,269, at ¶ 62,080 (1995) (“The intention [of Congress] was to make ratepayers indifferent as to whether the utility used more traditional sources of power or the newly-encouraged alternatives.”).

1 established in Oregon, and the Commission has repeatedly emphasized that its implementation of
2 PURPA must not cause customer harm.⁴³ The Commission has emphasized that it “has broad
3 authority to prevent customer harm.”⁴⁴

4 Under the Federal Energy Regulatory Commission’s (“FERC”) PURPA regulations, QFs
5 must pay interconnection costs,⁴⁵ which is consistent with the Commission’s interconnection rules
6 promulgated in Division 82.⁴⁶ FERC’s regulations define “interconnection costs” broadly:

7 [T]he reasonable costs of connection, switching, metering, transmission,
8 distribution, safety provisions and administrative costs incurred by the
9 electric utility directly related to the installation and maintenance of the
10 physical facilities ***necessary to permit interconnected operations with a***
11 ***qualifying facility***, to the extent such costs are in excess of the
12 corresponding costs which the electric utility would have incurred if it had
13 not engaged in interconnected operations, but instead generated an
14 equivalent amount of electric energy itself or purchased an equivalent
15 amount of electric energy or capacity from other sources. Interconnection
16 costs do not include any costs included in the calculation of avoided costs.⁴⁷

17 This definition includes a wide range of costs—of varying types—that would not be incurred but
18 for the QF interconnection.

⁴³ See, e.g., Order No. 14-058, at 12 (“We first return to the goal of this docket: to ensure that our PURPA policies continue to promote QF development while ensuring that utilities pay no more than avoided costs.”); *In re Investigation into Elec. Util. Tariffs for Cogeneration and Small Power Prod. Facilities*, Docket No. R-58, Order No. 81-319, at 3 (May 6, 1981) (stating goal of PURPA is “to provide maximum economic incentives for development of qualifying facilities while insuring that the costs of such development do not adversely impact utility ratepayers who ultimately pay these costs”).

⁴⁴ *In re PacifiCorp, dba Pac. Power, Updates Standard Avoided Cost Purchases from Eligible Qualifying Facilities*, Docket No. UM 1729, Order No. 18-289, at 4 (Aug. 9, 2018).

⁴⁵ 18 C.F.R. § 292.306(a) (“Each qualifying facility shall be obligated to pay any interconnections costs which the State regulatory authority . . . may assess against the qualifying facility on a nondiscriminatory basis with respect to other customers with similar load characteristics.”); see also *Pioneer Wind Park I, LLC*, 145 FERC ¶ 61,215, at ¶ 62,168 n.73 (2013) (stating that PURPA requires a utility to make transmission arrangements for the QF power, but that “[t]his is not to suggest that the QF is exempt from paying interconnection costs, which may include transmission or distribution costs directly related to installation and maintenance of the physical facilities necessary to permit interconnected operations.” (internal citations omitted)).

⁴⁶ See generally OAR 860-082-0035.

⁴⁷ 18 C.F.R. § 292.101(b)(7) (emphasis added).

1 Oregon’s PURPA rules echo FERC’s regulations, providing that:

2 Interconnection costs are the responsibility of the owner or operator of the
3 qualifying facility. Interconnection costs that may reasonably be incurred
4 by the public utility will be assessed against a qualifying facility on a
5 nondiscriminatory basis with respect to other customers with similar load
6 or other cost-related characteristics.⁴⁸

7
8 The Commission’s PURPA rules reinforce the cost allocation framework outlined in Division 82.

9 **C. Sunthurst carries the burden of proof.**

10 Sunthurst filed its complaint under ORS 756.500.⁴⁹ Under ORS 756.500, “the moving
11 party, the complainant, has the burden of persuasion.”⁵⁰ Sunthurst also bears the burden of proof
12 to establish that they are entitled to relief.⁵¹

IV. ARGUMENT

13 **A. PacifiCorp’s most recent cost estimates accurately reflect the reasonable**
14 **interconnection costs of PRS1 and PRS2.**

15 PacifiCorp’s estimated costs to interconnect PRS1 and PRS2 are reasonable,
16 nondiscriminatory, and consistent with good utility practice. Throughout this case, and consistent
17 with the general process of refining cost estimates as the interconnection process proceeds,
18 PacifiCorp has submitted updated detailed cost estimates for both projects.⁵² PacifiCorp’s most
19 up-to-date analysis estimates the interconnection costs are \$571,306 for PRS1 and \$287,287 for

⁴⁸ OAR 860-029-0060(1).

⁴⁹ Complaint ¶ 1; ORS 756.500(1) (“Any person may file a complaint before the Public Utility Commission, or the commission may, on the commission’s own initiative, file such complaint. The complaint shall be against any person whose business or activities are regulated by some one or more of the statutes, jurisdiction for the enforcement or regulation of which is conferred upon the commission.”).

⁵⁰ *In re Application of Portland Gen. Elec. Co. for an Accounting Order and Order Approving Tariff Sheets Implementing a Rate Reduction*, Docket No. UM 989, Order No. 01-152, at 2 (Feb. 2, 2001).

⁵¹ *See, e.g., Richter v. Nw. Nat. Gas Co.*, Docket No. UC 526, Order No. 00-649, at 2 (noting that the “[c]omplainant bears the burden of proof” in actions under ORS 756.500); *M.J. v. PacifiCorp*, Docket No. UCR 125, Order No. 10-293, at 2 (denying complaint for failure to meet the requisite burden of proof).

⁵² PAC/201, Patzkowski, Taylor, Vaz/1–5 (PRS1 detailed cost estimate report); PAC/202, Patzkowski, Taylor, Vaz/1–2 (PRS2 detailed cost estimate report).

1 PRS2.⁵³ These estimated costs represent the minimum requirements for PRS1 and PRS2 to safely
2 interconnect and reliably operate on PacifiCorp’s system. Specifically, PacifiCorp has ensured
3 that any expenses associated with telemetry on its system and the PI-111 Annunciator panel have
4 been removed from the latest detailed cost estimates.⁵⁴ The Company’s latest estimates have also
5 refined the estimated costs for avian protection, fiber optic cable installation, and junction boxes.⁵⁵

6 Any further cost reductions proposed by Sunthurst would unreasonably shift
7 interconnection costs onto retail customers and potentially degrade service to existing customers.
8 Even Sunthurst’s previous consulting engineer stated that some of Sunthurst’s alternatives
9 “highlight how this interconnection could be done with minimal cost, but not necessarily how it
10 should be done.”⁵⁶

11 Similarly, Sunthurst’s current consulting engineer, Mr. Michael Beanland, urges
12 PacifiCorp to set aside best practices in lieu of design modifications that are simply “good
13 enough.”⁵⁷ However, the Commission and FERC hold PacifiCorp accountable for the reliable
14 design, operation, and maintenance of its system, as well as the quality of service for its customers.
15 Consequently, PacifiCorp cannot cut corners merely to reduce Sunthurst’s costs. Sunthurst’s goal
16 is to have its costs for interconnection reflect the absolute lowest possible cost (notwithstanding
17 the potential detrimental impact on customer service), which is not the same as the “reasonable”
18 costs of interconnection required under OAR 860-035-0035(3). Sunthurst’s goal is inconsistent
19 with the Commission’s small generator interconnection rules requirement for Sunthurst to pay for
20 the reasonable costs to interconnect its projects.⁵⁸

⁵³ PAC/201, Patzkowski, Taylor, Vaz/5; PAC/202, Patzkowski, Taylor, Vaz/2.

⁵⁴ PAC/200, Patzkowski, Taylor, Vaz/3–4.

⁵⁵ PAC/200, Patzkowski, Taylor, Vaz/4.

⁵⁶ PAC/104, Bremer/8.

⁵⁷ Sunthurst/400, Beanland/21.

⁵⁸ See OAR 860-082-0035(2).

1 **1. Voltage regulators are required to maintain energy-efficient**
2 **operations.**

3 PacifiCorp uses Line Drop Compensation (“LDC”) to provide effective, efficient voltage
4 regulation on its feeder networks.⁵⁹ LDC allows PacifiCorp to regulate voltage remotely and
5 allows for lower voltages during light load and higher voltages during higher load. This process
6 is referred to as CVR.⁶⁰ The ability to lower system voltage while still maintaining American
7 National Standards Institute (“ANSI”) Range A lowers energy use and system losses, which
8 impacts both customers (who pay less) and PacifiCorp (who generates less).⁶¹ Thus, using LDC
9 settings to regulate voltage is an energy efficient way for PacifiCorp to operate its system. The
10 Commission has repeatedly emphasized the need for utilities to expand CVR capabilities on their
11 systems as part of their resource planning process and deployment of smart grid technologies.⁶²

12 The addition of the PRS2 generation to the feeder line increases the peak load beyond the
13 level PacifiCorp can control with its current LDC settings.⁶³ Without voltage regulators,
14 PacifiCorp would no longer be able to utilize LDC settings to deploy this basic CVR capability on
15 the feeder. This means that voltage regulators are required to *maintain the same level of service*

⁵⁹ PAC/200, Patzkowski, Taylor, Vaz/20.

⁶⁰ PAC/200, Patzkowski, Taylor, Vaz/20.

⁶¹ See *Implementing CVR through voltage regulator LDC settings*, Jeffrey M. Triplett, P.E., Sean A. Kufel, P.E. (Inst. of Electrical and Electronic Engineers May 7, 2012) (abstract available here: <https://ieeexplore.ieee.org/abstract/document/6194566/footnotes#footnotes>) (“Line Drop Compensation (LDC) is a standard feature that is available on virtually all voltage regulator controls that can be used to implement CVR. Rather than simply lowering the voltage output of the regulator, LDC uses a load-side CT and voltage-compensation settings representing the resistance and reactance of the feeder to monitor load current and maintain a desired voltage level at some point down the lines. The current-monitoring capability of the LDC system allows it to keep the feeder voltage as low as possible during both peak and light loading periods in a dynamic response to real-time system needs.”).

⁶² See, e.g., *In re Portland Gen. Elec. Co., 2016 Integrated Resource Plan*, Docket No. LC 66, Order No. 17-386, at 9–10 (Oct. 9, 2017) (approving PGE’s proposal to deploy 1 MWa of conservation voltage reduction in its IRP); *In re Idaho Power Co. 2014, Annual Smart Grid Report*, Docket No. UM 1675, Order No. 15-053, App’x A at 6–7 (Feb. 23, 2015) (discussing and approving of Idaho Power’s implementation of CVR technology through its deployment of smart grid technologies).

⁶³ PAC/200, Patzkowski, Taylor, Vaz/20.

1 *that currently exists.*⁶⁴ The customer indifference requirement mandated by PURPA and
2 reinforced by the Commission's interconnection rules, therefore, requires Sunthurst to pay for
3 voltage regulators. Indeed, if PacifiCorp can no longer use its LDC settings after PRS2
4 interconnects, customers served by the feeder will pay more (all else being equal) because of higher
5 voltages. Eliminating the Company's CVR capability as a result of interconnecting Sunthurst's
6 projects will therefore not only harm customers, but would be a step backward by disabling energy
7 efficient voltage regulation, which is contrary to Commission guidance.

8 Sunthurst questioned PacifiCorp's inclusion of voltage regulators as part of the reasonable
9 interconnection costs for PRS1 and PRS2.⁶⁵ Sunthurst argues that PacifiCorp has included these
10 costs to redress an existing problem in the Pilot Rock substation.⁶⁶ This claim is untrue, and
11 Sunthurst has failed to provide a reasonable basis to support its conjecture.

12 But for the increased generation from PRS2, PacifiCorp would not need to install voltage
13 regulators.⁶⁷ Without PRS2, PacifiCorp can efficiently control the voltage using LDC settings.
14 With PRS2, PacifiCorp cannot. Thus, the installation of line voltage regulators is a necessary and
15 reasonable cost of interconnection for PRS2 to ensure the interconnection of PRS2 does not
16 adversely impact customers.

17 Sunthurst further claims that PacifiCorp has not provided a study to demonstrate that the
18 voltage regulators are necessary.⁶⁸ Sunthurst's argument, however, misunderstands the need for
19 the voltage regulators. PacifiCorp does not need a study to know that it currently uses LDC settings
20 to *efficiently* regulate voltage on the feeder. However, PacifiCorp *has* determined that after PRS2

⁶⁴ PAC/200, Patzkowski, Taylor, Vaz/20–21.

⁶⁵ Sunthurst/200, Beanland/26.

⁶⁶ Sunthurst/300, Hale/6–7.

⁶⁷ PAC/200, Patzkowski, Taylor, Vaz/20.

⁶⁸ *See, e.g.,* Sunthurst/400, Beanland/2.

1 interconnects, PacifiCorp will be unable to use LDC settings to *efficiently* regulate voltage on the
2 feeder. PacifiCorp does not need a study to know that without using the LDC settings, the system
3 will be less efficient and its CVR capabilities will be impaired—both to the detriment of customers.

4 Sunthurst’s testimony acts as if PacifiCorp were deciding whether to use LDC settings in
5 the first instance. However, whether PacifiCorp should use LDC settings is not at issue in this
6 case because PacifiCorp is already using LDC settings. Customers are currently receiving a
7 particular quality of service because PacifiCorp uses LDC settings to control voltage, and
8 customers will lose those benefits if PRS2 interconnects without the voltage regulators. These
9 facts demonstrate in clear and simple terms why customer indifference requires Sunthurst to pay
10 for voltage regulators.

11 Sunthurst suggests that the interconnection of PRS1 and PRS2 will only result in a voltage
12 rise of 0.5 percent when operating at peak production.⁶⁹ Sunthurst also argues that PacifiCorp can
13 maintain appropriate voltages without additional voltage regulators.⁷⁰ These arguments, again,
14 miss the mark because the installation of voltage regulators is needed to maintain the Company’s
15 *existing* ability to *efficiently* maintain system voltage using CVR capabilities.⁷¹ Mr. Beanland
16 acknowledged not knowing whether the use of LDC settings is a more energy efficient manner of
17 regulating voltage versus his recommended method of fixed voltage regulation.

⁶⁹ Sunthurst/200, Beanland/26.

⁷⁰ Sunthurst/400, Beanland/3.

⁷¹ PAC/200, Patzkowski, Taylor, Vaz/21–22.

1 Put simply, PacifiCorp can currently use LDC settings to regulate voltage and implement
2 CVR. After PRS2 interconnects, PacifiCorp cannot implement CVR *without additional voltage*
3 *regulators*. Therefore, to maintain current system performance and leave customers indifferent to
4 PRS2's interconnection, Sunthurst must pay for voltage regulators.

5 Sunthurst also argues that requiring voltage regulation is uncommon based on its review
6 of other CSP interconnection studies.⁷² Each interconnection request is studied based on its unique
7 circumstances.⁷³ Just because some interconnections require voltage regulators to maintain system
8 capabilities does not necessarily mean that others will too.⁷⁴ As PacifiCorp explained, the
9 interconnecting generator's size relative to load on the feeder drove the need for voltage regulators
10 in this case.⁷⁵ It is not surprising that different generators interconnecting to different feeders with
11 different loads may produce different results.

12 Sunthurst also points out that for one CSP project, PacifiCorp agreed to fund the voltage
13 regulators.⁷⁶ But that is because PacifiCorp planned to install the regulators before the
14 interconnection customer's request. Thus, the interconnection request did not trigger the need for
15 voltage regulators. That is not the case here where PacifiCorp had no plans to install additional
16 voltage regulators because the relationship of feeder load to generation currently allows PacifiCorp
17 to use LDC settings to implement CVR.⁷⁷ The voltage regulators here are required only because
18 of Sunthurst's interconnection.

⁷² Sunthurst/400, Beanland/9.

⁷³ PSC/100, Bremer/16.

⁷⁴ See PAC/100, Bremer/16-17.

⁷⁵ PAC/200, Patzkowski, Taylor, Vaz/19-22.

⁷⁶ Sunthurst/400, Beanland/9.

⁷⁷ PAC/200, Patzkowski, Taylor, Vaz/20.

1 **2. Sunthurst must pay construction overhead costs incurred to**
2 **interconnect its projects.**

3 PacifiCorp incurs construction overhead costs to interconnect QFs like PRS1 and PRS2.
4 To ensure that the QFs, not retail customers, pay the overhead costs to interconnect the QF,
5 PacifiCorp includes a capital surcharge as a reasonable component of its interconnection cost
6 estimates.⁷⁸ The capital surcharge reflects a reasonable portion of the administrative and general
7 costs that cannot be charged directly to a capital project, in accordance with FERC and United
8 States Generally Accepted Accounting Principles (“GAAP”).⁷⁹ FERC authorized capital
9 surcharges in its Uniform System of Accounts (“USOA”) for electric companies.⁸⁰ The
10 Commission has adopted FERC’s USOA for electric companies.⁸¹ Requiring interconnection
11 customers to pay a reasonable portion of the overhead costs incurred to construct interconnection
12 facilities is consistent with the Commission’s rules.⁸² PacifiCorp applies this capital surcharge to
13 all projects—including its own projects—and it has long been a reasonable component of
14 interconnection costs.⁸³

15 PacifiCorp ensures that its capital surcharge represents the construction costs that the
16 Company cannot charge directly to capital projects. The Company derives the rate by taking the
17 construction support costs and dividing it by the direct capital spending for the year.⁸⁴ Each year,

⁷⁸ PAC/200, Patzkowski, Taylor, Vaz/36.

⁷⁹ PAC/200, Patzkowski, Taylor, Vaz/36. Type of activities covered by overhead costs include capital project estimates, annual capital budget, engineering, scope and design, financial reviews, approval reviews, long lead material planning, resource scheduling, project priority and scheduling, forecasting, governance review, asset management, accounting, procurement, human resource supp.

⁸⁰ PAC/200, Patzkowski, Taylor, Vaz/37.

⁸¹ PAC/200, Patzkowski, Taylor, Vaz/37–38; *see also* OAR 860-027-0045(1).

⁸² *See* OAR 860-082-0035 (requiring interconnection customer to pay interconnection costs); OAR 860-029-0060 (requiring QFs to pay interconnection costs); *see also* OAR 860-029-0010(9) (defining interconnection costs to include administrative costs).

⁸³ *See* Sunthurst/401, Beanland/5 (showing capital surcharge included for Oregon interconnection requests).

⁸⁴ PAC/200, Patzkowski, Taylor, Vaz/37.

1 PacifiCorp reviews each one of its cost centers to verify and update the construction support
2 amount that should be part of the capital surcharge assessment. PacifiCorp then adjusts its annual
3 capital surcharge based on planned capital projects for the year and capital investment programs.⁸⁵

4 PacifiCorp applies the same capital surcharge to its own capital projects interconnecting
5 Company-owned generation. PacifiCorp also uses the same capital surcharge framework for
6 resource cost assumptions used in its Integrated Resource Plans (“IRP”).⁸⁶ And because
7 PacifiCorp’s avoided cost prices are derived from the resource cost assumptions in its IRP, the
8 capital surcharge is also included in PacifiCorp’s avoided cost prices.⁸⁷

9 Sunthurst complains about PacifiCorp’s inclusion of an 8 percent capital surcharge to the
10 interconnection costs for PRS1 and PRS2 because Sunthurst originally argued that PacifiCorp’s
11 avoided cost prices do not include the capital surcharge.⁸⁸ This is incorrect.⁸⁹

12 Sunthurst then claimed that the resource costs included in PacifiCorp’s 2017 IRP included
13 a smaller capital surcharge as a percentage of overall costs than the 8 percent applied to
14 interconnection customers.⁹⁰ However, this comparison is inapt because, as Sunthurst
15 acknowledges, the capital surcharge for large capital projects (like proxy resources in an IRP) is
16 calculated differently than the capital surcharge for projects costing less than \$10 million.⁹¹
17 Moreover, it is not surprising that large capital projects, like a new natural gas-fired generating

⁸⁵ PAC/200, Patzkowski, Taylor, Vaz/37. Some examples of capital investment programs are new connects, replacing assets, equipment failures, storm and casualty, capital projects to address additional load requirements, regulatory mandated projects, and customer-initiated requests. The actual capital surcharge rate may vary during the year depending on the actual costs of capital spending, if different from the forecasted costs.

⁸⁶ PAC/200, Patzkowski, Taylor, Vaz/38–39.

⁸⁷ PAC/200, Patzkowski, Taylor, Vaz/38–39.

⁸⁸ Sunthurst/200, Hale/11.

⁸⁹ PAC/200, Patzkowski, Taylor, Vaz/38–39.

⁹⁰ Sunthurst/300, Hale/8–10.

⁹¹ Sunthurst/300, Hale/10–11.

1 plant, would have a lower capital surcharge percentage because much of the capital spending
2 associated with projects of that scale is performed by outside contractors, who include their own
3 overhead costs in the amounts charged to PacifiCorp.⁹² In contrast, for smaller capital projects of
4 less than \$10 million, PacifiCorp personnel perform the overhead tasks (such as engineering and
5 procurement), which necessitates a higher capital surcharge percentage.⁹³

6 Sunthurst also claims that PacifiCorp is not assessing capital surcharges uniformly across
7 its interconnection customers.⁹⁴ However, the evidence for this baseless assertion is a comparison
8 of projects *above* \$10 million to PRS1 and PRS2, which are *below* \$10 million.⁹⁵ This comparison
9 willfully ignores that PacifiCorp treats all capital projects of less than \$10 million similarly.
10 Simply put, PacifiCorp assessed the capital surcharge for PRS1 and PRS2 in the same manner as
11 other similarly situated interconnection requests.

12 Sunthurst carries the burden of demonstrating that the capital surcharge does not accurately
13 reflect a reasonable cost of interconnection.⁹⁶ Yet, Sunthurst has not: (1) disputed that PacifiCorp
14 incurs construction overhead costs; (2) disputed PacifiCorp's methodology used to calculate the
15 capital surcharge; (3) disputed the inputs PacifiCorp uses to calculate the capital surcharge; or
16 (4) provided an alternative methodology for charging interconnection customers for construction
17 overhead costs. Sunthurst has, therefore, failed to meet its burden of proof.

⁹² Sunthurst/500, Beanland/4.

⁹³ Sunthurst/500, Beanland/4.

⁹⁴ Sunthurst/300, Hale/10.

⁹⁵ Sunthurst/300, Hale/10–11.

⁹⁶ ORS 756.500(1).

1 **3. Sunthurst must bear the cost of fiber optic cables connecting PRS1**
2 **and PRS2 to the Pilot Rock Substation.**

3 Fiber optic cables allow utilities to monitor and manage electrical networks to ensure
4 reliable power for customers.⁹⁷ Unlike a fiber optic cable, a spread spectrum radio can experience
5 interference from other spread-spectrum users in the area.⁹⁸ The enhanced reliability of fiber optic
6 cable links has made them part of a utility’s best practices for ensuring reliable and fast
7 communication networks.⁹⁹ For this reason, PacifiCorp has a nondiscriminatory policy requiring
8 interconnection requests—including many CSP interconnection requests—to use fiber optic
9 links.¹⁰⁰

10 Sunthurst has argued that PacifiCorp’s requirement of a fiber optic cable for monitoring
11 and managing the system between PRS1, PRS2, and the Pilot Rock substation is unnecessary when
12 a radio link “likely would be cheaper”¹⁰¹ and is “good enough.”¹⁰² While a radio link would
13 accomplish many of the same tasks a fiber optic cable, it is unrefuted that radio links are less
14 reliable. Moreover, using a radio link does not reflect current utility best practices.¹⁰³

15 Further, the cost of a fiber optic link for PRS1 and PRS2 is comparable to the cost for a
16 less reliable spread-spectrum radio link. In its most recent interconnection estimate for PRS1,
17 PacifiCorp estimates that a fiber optic will cost approximately \$38,000,¹⁰⁴ which is comparable to
18 the \$46,000 estimated cost for a radio link.¹⁰⁵ Sunthurst’s prior consulting engineer agreed that
19 using radio instead of fiber would produce a “slight” reduction in costs while acknowledging that

⁹⁷ PAC/200, Patzkowski, Taylor, Vaz/22.

⁹⁸ PAC/200, Patzkowski, Taylor, Vaz/22.

⁹⁹ PAC/200, Patzkowski, Taylor, Vaz/22.

¹⁰⁰ PAC/200, Patzkowski, Taylor, Vaz/23.

¹⁰¹ Sunthurst/200, Beanland/26.

¹⁰² Sunthurst/400, Beanland/21.

¹⁰³ PAC/200, Patzkowski, Taylor, Vaz/22.

¹⁰⁴ PAC/201, Patzkowski, Taylor, Vaz/5; PAC/200, Patzkowski, Taylor, Vaz/24.

¹⁰⁵ PAC/200, Patzkowski, Taylor, Vaz/24.

1 the radio link would be “not as reliable.”¹⁰⁶ Considering the comparable costs of radio and fiber,
2 the fiber optic link represents reasonable communication costs between PRS1, PRS2, and the Pilot
3 Rock substation. Sunthurst insists on the absolute lowest cost, which—as noted earlier—is not
4 required by OAR 860-035-0035(2) and would result in less system reliability.

5 Sunthurst also argues that installing a 48-fiber cable is excessive, and therefore PacifiCorp
6 should share the cost of installation or install a 12-fiber cable instead.¹⁰⁷ However, the 48-fiber
7 cable PacifiCorp proposed for PRS1 is the standard fiber optic cable the Company uses across its
8 system.¹⁰⁸ Using standard equipment allows PacifiCorp to more efficiently design, procure, and
9 construct upgrades to its system. Besides, even Sunthurst acknowledges the need for spare fibers
10 in a fiber optic link.¹⁰⁹ Thus, Sunthurst would have to pay for any spare 12-count fiber optic cables
11 PacifiCorp would purchase for maintaining a unique, 12-count fiber line for the PRS1 project.
12 This special procurement of 12-fiber count cable would also increase installation costs because of
13 lost efficiencies with PacifiCorp’s standard 48-fiber count purchasing agreements. Given that
14 Sunthurst estimates savings of roughly \$2,376 from using 12-count fiber, its costs would likely be
15 higher after accounting for spares.¹¹⁰

16 Finally, Sunthurst argues that PacifiCorp will benefit independently from installing a fiber
17 optic cable to PRS1 and PRS2 and should therefore pay for the cable’s installation.¹¹¹ Once again,
18 Sunthurst misunderstands what qualifies as the reasonable costs of interconnection under the
19 Commission’s rules.¹¹² Because PacifiCorp would not install this particular fiber optic link but

¹⁰⁶ Sunthurst/211, Beanland/13.

¹⁰⁷ Sunthurst/200, Beanland/29.

¹⁰⁸ PAC/200, Patzkowski, Taylor, Vaz/25.

¹⁰⁹ Sunthurst/200, Beanland/29.

¹¹⁰ PAC/300 at 3 (12-count fiber about 50 cents/foot less than 48-count fiber).

¹¹¹ Sunthurst/200, Beanland/29.

¹¹² See OAR 860-082-0035(2).

1 for Sunthurst’s interconnection requests, its installation is a reasonable interconnection cost.¹¹³
2 PacifiCorp customers cannot, as Sunthurst desires, pay for expenses that would not be incurred
3 but for PRS1 and PRS2’s interconnection requests.

4 **4. Dead-line checking is required to maintain PacifiCorp’s current level**
5 **of service.**

6 PacifiCorp utilizes a system called “high-speed reclosing” to quickly restore power after a
7 temporary fault in an overhead line as part of its effort to minimize service interruption to its
8 customers.¹¹⁴ High-speed reclosing is an automatic control function applied to circuit breakers
9 connected to transmission and distribution lines.¹¹⁵ To ensure that PacifiCorp’s existing customers
10 continue to receive the same level of service that existed before the interconnection of PRS1 and
11 PRS2, the Company has included the cost of a dead-line checking system to maintain high-speed
12 reclosing as part of its proposed interconnection costs.¹¹⁶ The dead-line checking system monitors
13 the voltage at the Pilot Rock substation and delays automatic reclosing until there is an indication
14 that the distributed generator has disconnected.¹¹⁷

15 Sunthurst concedes that the use of dead-line checking here is consistent with PacifiCorp’s
16 interconnection policies for distributed generation.¹¹⁸ However, Sunthurst speculates that “most
17 utilities are going away from rapid reclosing” and suggests that a five-second reclosing interval
18 for circuit 5W406 “can achieve the same functionality [as dead-line checking] at minimal risk or
19 expense.”¹¹⁹ Sunthurst’s unsubstantiated conjecture about other utilities’ reclosing practices is not
20 relevant to its interconnection request with PacifiCorp. PacifiCorp has been using a 0.35-second

¹¹³ PAC/200, Patzkowski, Taylor, Vaz/24–25.
¹¹⁴ PAC/200, Patzkowski, Taylor, Vaz/26.
¹¹⁵ PAC/200, Patzkowski, Taylor, Vaz/26.
¹¹⁶ PAC/200, Patzkowski, Taylor, Vaz/26.
¹¹⁷ PAC/200, Patzkowski, Taylor, Vaz/27.
¹¹⁸ PAC/300 at 13.
¹¹⁹ Sunthurst/200, Beanland/26–27.

1 reclosing interval for feeder circuit 5W406 for many years.¹²⁰ This high-speed reclosing interval
2 allows customers to experience only a 0.35-second outage for temporary faults on the 5W406
3 circuit.¹²¹ Because ninety percent of all faults are temporary, this interval minimizes the extent of
4 most power outages.¹²² In contrast, Sunthurst’s suggestion of a five-second reclosing interval
5 would mean that PacifiCorp’s customers would experience a five-second outage for all temporary
6 faults on the circuit.¹²³

7 Under the Commission’s rules, Sunthurst is required to pay for all interconnection costs to
8 maintain the same level of service other PacifiCorp customers have enjoyed before its
9 interconnection requests.¹²⁴ Sunthurst’s proposal to change PacifiCorp’s reclosing policy and
10 significantly increase the length of power outages for other Company customers is inapposite to
11 its duty to pay reasonable interconnection costs. The dead-line checking system makes it possible
12 to maintain the same level of service for PacifiCorp’s customers and still accommodate the
13 interconnection of PRS1 and PRS2.¹²⁵ As such, these modifications are reasonable costs of
14 interconnection that Sunthurst must pay.

15 **5. Sunthurst must pay for the 0.3-mile line extension to PRS1 and PRS2**
16 **because the line would not be constructed but for Sunthurst’s**
17 **interconnection requests.**

18 To interconnect PRS1 and PRS2, PacifiCorp must install a 0.3-mile distribution line
19 extension to place a switch and meter at the POI between Sunthurst’s projects and the Company’s
20 5W406 circuit. The line extension will be installed on new poles and will be owned and maintained

¹²⁰ PAC/200, Patzkowski, Taylor, Vaz/28.

¹²¹ PAC/200, Patzkowski, Taylor, Vaz/28.

¹²² PAC/200, Patzkowski, Taylor, Vaz/28.

¹²³ PAC/200, Patzkowski, Taylor, Vaz/27.

¹²⁴ See OAR 860-082-0035(2).

¹²⁵ PAC/200, Patzkowski, Taylor, Vaz/28.

1 by PacifiCorp.¹²⁶ Even though this new distribution line serves no purpose except to interconnect
2 PRS1 and PRS2, Sunthurst baselessly contends that PacifiCorp should pay for the cost of installing
3 the new line because it will allow the Company “to serve new loads where it previously did not.”¹²⁷
4 But no new customers exist on the 0.3-mile extension line required to interconnect Sunthurst’s
5 projects. In fact, the 0.3-mile line is a detriment to PacifiCorp’s system because it adds more
6 exposure to faults, which increases stress on the local substation breaker.¹²⁸ Sunthurst’s prior
7 consulting engineer agreed that “[t]here are no suggested methods for reducing or reallocating
8 costs” of the line extension.¹²⁹

9 Sunthurst tries to argue that the line has value to PacifiCorp because they will own the
10 poles and lines.¹³⁰ This assertion ignores the requirement under the Commission’s small generator
11 interconnection rules that the interconnection customer “must pay the reasonable costs of the
12 interconnection facilities,” even though the “public utility constructs, owns, operates, and
13 maintains the interconnection facilities.”¹³¹ Moreover, PacifiCorp does not place any particular
14 value on this distribution line. PacifiCorp would not install the Company-owned metering and
15 switch equipment required at the POI on customer-owned poles because it would create disputes
16 for maintenance and access of PacifiCorp’s metering property.¹³² If Sunthurst had not requested
17 interconnection for PRS1 and PRS2, PacifiCorp would not construct this distribution line.¹³³ It is
18 thus a reasonable cost of interconnection, and Sunthurst must pay for its construction.

¹²⁶ See OAR 860-082-0035(2) (“The public utility constructs, owns, operates, and maintains the interconnection facilities.”).

¹²⁷ Sunthurst/200, Beanland/30.

¹²⁸ PAC/200, Patzkowski, Taylor, Vaz/35.

¹²⁹ Sunthurst/211, Beanland/13.

¹³⁰ Sunthurst/200, Beanland/30.

¹³¹ OAR 860-035-0035(2).

¹³² PAC/200, Patzkowski, Taylor, Vaz/35.

¹³³ PAC/200, Patzkowski, Taylor, Vaz/34.

1 **6. Direct transfer trip is required to interconnect PRS1 and PRS2 safely.**

2 PacifiCorp has included a Direct Transfer Trip (“DTT”) system to ensure the Company can
3 disconnect the projects from the circuit in the event of a fault.¹³⁴ PacifiCorp must include DTT as
4 part of the interconnection costs of PRS1 because DTT is essential for restoring power after an
5 electrical fault and protecting transformers during these faults.¹³⁵ In particular, PacifiCorp requires
6 a DTT system for PRS1 because the system will: (1) disconnect PRS1 quickly for any faults that
7 occur on the Company’s 12.5 kV feeder line; (2) maintain a rapid reclosing cycle for the 5W406
8 circuit; and (3) minimize the potential for damage to the Company’s Pilot Rock transformer.¹³⁶

9 Sunthurst has questioned the inclusion of DTT for the project by claiming that “most
10 utilities do not require DTT for projects under 2 MW” if the smart inverters comply with the
11 Institute of Electrical and Electronics Engineers (“IEEE”) 1547 requirements.¹³⁷ Sunthurst’s
12 assertions are incorrect. Inverters meeting the IEEE 1547 standards will not adequately protect
13 the 5W406 circuit.¹³⁸ To that end, IEEE 1547 lists DTT as an appropriate system to ensure
14 automatic reclosing in the case of any faults on the circuit. Notably, the only support Sunthurst
15 musters for its claim is hearsay from an unnamed “consultant” hired by Sunthurst; Sunthurst’s
16 claim, therefore, has no evidentiary support in the record.¹³⁹ Because Sunthurst’s inverters cannot
17 provide the required level of protection, DTT is a reasonable interconnection cost for PRS1.¹⁴⁰

¹³⁴ PAC/100, Bremer/28.

¹³⁵ PAC/200, Patzkowski, Taylor, Vaz/39–40.

¹³⁶ PAC/200, Patzkowski, Taylor, Vaz/41.

¹³⁷ Sunthurst/100, Hale/6.

¹³⁸ PAC/200, Patzkowski, Taylor, Vaz/40.

¹³⁹ Sunthurst/100, Hale/6.

¹⁴⁰ The addition of a DTT system for PRS1 will also serve the same benefits for PRS2. PAC/200, Patzkowski, Taylor, Vaz/41–42. Therefore, only PRS1’s interconnection costs include a DTT system.

1 Sunthurst also requests the ability to install DTT itself and claims that PacifiCorp’s
2 discovery responses did not identify any legal basis to preclude Sunthurst from installing the
3 equipment itself.¹⁴¹ PacifiCorp indicated that because the DTT equipment will be installed on
4 PacifiCorp facilities, standard practice requires PacifiCorp to install the equipment.¹⁴² This
5 approach is consistent with OAR 860-082-0060, which allows utilities to contract with a third-
6 party consultant to construct interconnection facilities *at the discretion of the utility* and subject to
7 the utility’s “oversight and approval.”¹⁴³ PacifiCorp policy requires Company installation of DTT
8 equipment under the Commission’s rules.¹⁴⁴

9 **7. Sunthurst’s costs to install telemetry equipment are reasonable.**

10 The Commission’s small generator interconnection rules do not allow a utility to require
11 telemetry for projects with less than 3 MW of nameplate capacity.¹⁴⁵ But if “an applicant proposes
12 to interconnect multiple small generator facilities to [a] public utility’s transmission or distribution
13 system *at a single point of interconnection,*” the public utility must evaluate the interconnection
14 request “based on the combined total nameplate capacity.”¹⁴⁶ These rules are consistent with
15 PacifiCorp’s interconnection Policy 138, which also requires telemetry if multiple generators using
16 a single POI exceed 3 MW.¹⁴⁷

¹⁴¹ Sunthurst/300, Hale/4.

¹⁴² PAC/100, Bremer/28.

¹⁴³ OAR 860-082-0060(8)(f); *see also Sandy River Solar, LLC v. Portland Gen. Elec. Co.*, Docket No. UM 1967, Order No. 19-218, at 20 (June 24, 2019) (determining that OAR 860-082-0060(8)(f) “does not require a utility to consent to a small generator’s request to hire a third-party consultant to complete interconnection facilities and system upgrades, and does not authorize [the Commission] to require a utility to do so”).

¹⁴⁴ *See* OAR 860-082-0060(8)(f).

¹⁴⁵ OAR 860-082-0070(I)(2).

¹⁴⁶ OAR 860-082-0025(4) (emphasis added).

¹⁴⁷ Sunthurst/405, Beanland/4 (“When multiple generators are connected at a single PacifiCorp Point of Delivery that is aggregated at a nameplate rating of 3 MW and above, additional real-time telemetry metering is required at the point of delivery to the PacifiCorp system.”).

1 Here, Sunthurst purposefully sized its projects to avoid having to pay for necessary
2 telemetry equipment. Yet, because PRS1 and PRS2 have the same POI, their interconnection
3 should be evaluated as a single 4.97 MW facility under the Commission’s rules and Policy 138.¹⁴⁸
4 PacifiCorp has significant concerns regarding Sunthurst’s obvious gaming of the interconnection
5 rules to try to avoid costs for telemetry despite Sunthurst proposing to interconnect 4.97 MW of
6 generation at a single POI because PRS1 and PRS2 will impact the Company’s ability to provide
7 the same level of reliable service to its retail customers on the circuit.

8 Despite the combined 4.97 MW size and common POI of PRS1 and PRS2, as well as the
9 Company’s concerns with Sunthurst’s gaming of the Commission’s rules, PacifiCorp agreed—in
10 order to accommodate the interconnection of PRS1 and PRS2—to remove the costs of installing
11 telemetry equipment on PacifiCorp’s system.¹⁴⁹ What remains is the estimated costs to install
12 certain equipment on Sunthurst’s facilities to enable the installation of telemetry equipment if
13 PacifiCorp chooses to install such equipment.¹⁵⁰

14 **8. Sunthurst’s request for low-side metering is contrary to standard**
15 **practice.**

16 PacifiCorp’s standard metering practice for generators like PRS1 and PRS2 is to install
17 meters on the high-side of the transformer, which coincides with the point where PacifiCorp takes
18 ownership of electricity. Metering on the low side of the transformer requires the Company to
19 estimate losses occurring across the transformer, which leads to inherently inaccurate metering.¹⁵¹
20 For this reason, low-side metering is contrary to standard utility practice. Indeed, the Commission
21 recognized this fact when it approved low-side metering in limited circumstances for small CSP

¹⁴⁸ See OAR 860-082-0025(4); Sunthurst/405, Beanland/4.

¹⁴⁹ PAC/100, Bremer/10–11. As noted earlier, the removal of these costs was significant at \$525,000.

¹⁵⁰ PAC/100, Bremer/30-31.

¹⁵¹ Sunthurst/401, Beanland/82.

1 generators that are less than 360 kW, where the losses are less material.¹⁵² Similarly, in
2 Order No. 20-122, the Commission approved “CSP Interconnection Procedures” for PacifiCorp,
3 which state that any CSP that is 360 kW or less will be eligible for low side metering.¹⁵³

4 Sunthurst requests the Commission set aside its approval of low-side metering for small
5 CSP generators and allow PRS1 and PRS2 to utilize low-side metering.¹⁵⁴ Sunthurst has failed to
6 meet its burden to show low-side metering is reasonable for PRS1 and PRS2. Sunthurst’s direct
7 testimony provided no justification for the use of low-side metering and mentioned it once and
8 only in passing.¹⁵⁵ Then, in its rebuttal testimony, Sunthurst presented evidence *for the first time*
9 supporting its request for low-side metering. By withholding its affirmative case until rebuttal
10 testimony and thereby depriving PacifiCorp of an opportunity to respond, Sunthurst’s evidence
11 should be given no weight; Sunthurst has therefore failed to meet its burden of proof.¹⁵⁶

12 Moreover, Sunthurst cannot dispute that low-side metering is contrary to standard practice,
13 as memorialized in Order Nos. 19-392 and 20-122. In testimony, Sunthurst claimed that low-side
14 metering is the “most common type of metering used for electric service metering.”¹⁵⁷ But
15 Mr. Beanland admitted in discovery that his testimony was not referring to metering associated

¹⁵² Cf. Order No. 19-392, App’x A at 13.

¹⁵³ PacifiCorp CSP Interconnection Procedures at Section J(2).

¹⁵⁴ Sunthurst/400, Beanland/18-21.

¹⁵⁵ Sunthurst/200, Beanland/33.

¹⁵⁶ See, e.g., *In re Portland Gen. Elec. Co. Application for Deferral of Incremental Administrative Costs Associated with the Trojan Refund*, Docket No. UM 1402, Order No. 11-315, at 2 (Aug. 17, 2011) (“We will not consider arguments that are raised for the first time in a reply brief when those arguments are not directly in response to arguments made in another party’s response. We therefore will not consider those arguments that URP attempts to incorporate by reference.”); *Two Two v. Fujitec Am., Inc.*, 355 Or 319, 325-26, 325 P3d 707 (2014) (parties may not raise new arguments in a reply memorandum at summary judgment); *Fox v. Gov’t of Dist. of Columbia*, 794 F3d 25, 30 (D.C. Cir. 2015) (“[W]here a litigant has forfeited an argument by not raising it in the opening brief, we need not reach it.”).

¹⁵⁷ Sunthurst/400, Beanland/18.

1 with distributed energy resources like PRS1 and PRS2.¹⁵⁸ Indeed, Sunthurst was able to identify
2 only two instances where PacifiCorp approved low-side metering for distributed generation
3 resources, but each case is easily distinguished.

4 First, Sunthurst relies on two *net metering* projects that used low-side metering.¹⁵⁹
5 Sunthurst failed to explain, however, that low-side metering is standard for net metering projects
6 because those projects tie into PacifiCorp-owned transformers, and PacifiCorp takes ownership of
7 the generation on the low side of the transformer.¹⁶⁰ Accordingly, PacifiCorp placed the meter
8 where the Company accepts delivery of the generator’s output. Here, PacifiCorp accepts delivery
9 of the output of PRS1 and PRS2 on the high-side of the transformer. Therefore, metering at the
10 high side is reasonable and comparable to the *net metering* example cited by Sunthurst.

11 Second, Sunthurst relies on two non-net metering projects—interconnection
12 Queue Nos. 0918 and 0919 (“Q0918” and “Q0919”, respectively)—and claims that they are
13 essentially the same as PRS1 and PRS2.¹⁶¹ PacifiCorp explained in discovery, however, that
14 Q0918 and Q0919 are not the same as PRS1 and PRS2 for purposes of low-side metering.¹⁶² Each
15 of those projects interconnect to a single step-up transformer with two secondaries, and each
16 generator interconnects to a separate step-up transformer secondary.¹⁶³ Therefore, low-side
17 metering was the only feasible solution to meter each project independently.

¹⁵⁸ PAC/300 at 8.

¹⁵⁹ Sunthurst/400, Beanland/20.

¹⁶⁰ Sunthurst/401, Beanland/106.

¹⁶¹ Sunthurst/400, Beanland/20.

¹⁶² Sunthurst/401, Beanland/77.

¹⁶³ Sunthurst/401, Beanland/77.

1 Sunthurst also claims that low-side metering is more accurate, even though it requires the
2 utility to estimate the losses across the transformer.¹⁶⁴ Sunthurst’s testimony, however, is
3 unpersuasive and does not provide a reasonable basis to depart from standard utility practice.
4 Mr. Beanland’s testimony included calculations purporting to show that there is a larger error when
5 using high-side metering.¹⁶⁵ But when asked in discovery to support and verify his calculations,
6 Mr. Beanland changed his calculations without explanation.¹⁶⁶ Mr. Beanland also could not verify
7 the accuracy of the error he assigned to the estimated losses that PacifiCorp must impute when
8 using low-side metering.¹⁶⁷

9 Finally, departing from standard utility practice and implementing low-side metering will
10 result in relatively small savings—Sunthurst estimates cost savings of only \$6,000 (excluding
11 labor costs).¹⁶⁸ Based on the above, Sunthurst has failed to meet its burden to show low-side
12 metering is reasonable for PRS1 and PRS2.

13 **9. PacifiCorp has removed any costs associated with the necessary PI-**
14 **111 Annunciator Panel from its most recent cost estimates for Q0666.**

15 During its negotiations with Sunthurst over the summer of 2020, PacifiCorp agreed to pay
16 for a PI-111 annunciator panel that the Company will install as part of PRS1’s interconnection.¹⁶⁹
17 PacifiCorp’s operations personnel use this annunciator panel to diagnose problems and as an
18 aggregation point for substation alarms to bring any subset of station alarms into the Company’s
19 24/7 dispatch monitoring center.¹⁷⁰ While the panel is needed to interconnect PRS1 into
20 PacifiCorp’s system, PacifiCorp has worked extensively and in good faith to address Sunthurst’s

¹⁶⁴ Sunthurst/400, Beanland/20-21.

¹⁶⁵ Sunthurst/400, Beanland/20-21.

¹⁶⁶ PAC/300 at 10-11.

¹⁶⁷ PAC/300 at 10-11.

¹⁶⁸ PAC/300 at 9.

¹⁶⁹ PAC/100, Bremer/10.

¹⁷⁰ PAC/200, Patzkowski, Taylor, Vaz/28–29.

1 interconnection costs concerns. PacifiCorp has assumed the PI-111 annunciator panel costs as part
2 of this effort even though it believes that the Company could reasonably charge the panel to
3 Sunthurst as part of its interconnection costs. PacifiCorp initially removed the \$15,000 cost
4 estimate for the PI-111 annunciator panel.¹⁷¹ As explained in its response testimony, the cost
5 estimates for the PI-111 annunciator panel were updated to remove \$54,321.¹⁷²

6 **10. PacifiCorp has refined and reduced avian protection costs in its most**
7 **recent estimates for Q0666.**

8 PacifiCorp has also refined its cost estimate for avian protection.¹⁷³ Sunthurst challenged
9 the estimated costs for avian protection included in the August 2020 estimate for PRS1.¹⁷⁴ While
10 this prior estimate was in line with other similarly situated CSP projects, the most recent estimated
11 costs for avian protection reflect the cost of 120 feet of grey hose and three VT bushing covers
12 only.¹⁷⁵ This refinement represents a further cost reduction of \$5,610 from the latest detailed
13 expenditure report for PRS1.¹⁷⁶

14 **11. PacifiCorp's junction box costs are reasonable.**

15 In PacifiCorp's September 2020 expenditure report for PRS1, the Company included the
16 cost of several junction boxes as part of the project's interconnection costs.¹⁷⁷ Sunthurst
17 challenged this estimate and argued that the price PacifiCorp quoted for junction boxes is
18 unreasonably high.¹⁷⁸ Based on prices for junction boxes from the internet, Sunthurst asserted that
19 the price for junction boxes should be around \$100.¹⁷⁹ But the prices Sunthurst found for junction

¹⁷¹ Sunthurst/200, Beanland/15.

¹⁷² PAC/201 Patzkowski, Taylor, Vaz/5; PAC/200, Patzkowski, Taylor, Vaz/42.

¹⁷³ PAC/200, Patzkowski, Taylor, Vaz/31.

¹⁷⁴ Sunthurst/200, Beanland/27.

¹⁷⁵ PAC/200, Patzkowski, Taylor, Vaz/31.

¹⁷⁶ PAC/201 Patzkowski, Taylor, Vaz/5; PAC/200, Patzkowski, Taylor, Vaz/31.

¹⁷⁷ PAC/200, Patzkowski, Taylor, Vaz/32–33.

¹⁷⁸ Sunthurst/200, Beanland/27.

¹⁷⁹ PAC/203, Patzkowski, Taylor, Vaz/4.

1 boxes online only include the box without the assembled and installed terminal blocks, fuse blocks,
2 fuses, and ground bar.¹⁸⁰ Furthermore, the boxes quoted by Sunthurst do not meet PacifiCorp's
3 standards for electronic enclosures.¹⁸¹ The more robust junction boxes PacifiCorp uses are also
4 more resistant to corrosion, increasing their lifespan and ensuring a safe and secure electronic
5 enclosure.¹⁸²

6 Even though Sunthurst's cost estimates did not accurately reflect the costs of junction
7 boxes that meet PacifiCorp standards, the Company has now completed its final engineering
8 drawings for PRS1's interconnection.¹⁸³ These drawings have allowed PacifiCorp to update and
9 revise the junction boxes' cost in its latest expenditure report, reducing the final costs by an
10 additional \$17,000.¹⁸⁴ Because Sunthurst has delayed interconnection, these costs continue to be
11 estimated until PacifiCorp can complete the competitive bidding process.¹⁸⁵ Regardless, this
12 further cost reduction continues to demonstrate: (1) PacifiCorp's commitment to reducing
13 interconnection costs where possible without requiring its customers to subsidize Sunthurst's
14 interconnections or degrade the quality of service; and (2) that as the interconnection customer
15 progresses through the interconnection study process, the estimate of costs becomes more refined.

¹⁸⁰ PAC/200, Patzkowski, Taylor, Vaz/33.

¹⁸¹ PAC/200, Patzkowski, Taylor, Vaz/33.

¹⁸² PAC/200, Patzkowski, Taylor, Vaz/33.

¹⁸³ PAC/200, Patzkowski, Taylor, Vaz/32.

¹⁸⁴ PAC/201, Patzkowski, Taylor, Vaz/5; PAC/200, Patzkowski, Taylor, Vaz/32.

¹⁸⁵ PAC/200, Patzkowski, Taylor, Vaz/32.

1 **12. PacifiCorp has removed cost responsibility for the POI meter.**

2 As a further accommodation to Sunthurst and to narrow the disputed issues in this case,
3 PacifiCorp has agreed that Sunthurst will no longer be obligated to pay for the meter at the POI.
4 Sunthurst must still pay for the meters located at each generating facility, but PacifiCorp will bear
5 the cost of the POI meter.

6 **B. Sunthurst's interconnection costs would be the same if the Commission**
7 **applied FERC's non-QF cost allocation policies.**

8 Sunthurst argues that if PRS1 and PRS2 were interconnected subject to FERC's cost
9 allocation policies for non-QFs, their interconnection costs would have been lower. Sunthurst is
10 wrong. FERC requires interconnection customers like PRS1 and PRS2 to pay for all
11 interconnection facilities and distribution upgrades.¹⁸⁶ FERC's non-QF cost allocation policy
12 differs only for network upgrades. But neither PRS1 nor PRS2 require network upgrades to
13 interconnect.¹⁸⁷ Therefore, Sunthurst's interconnection costs would be the same even if the
14 Commission applied FERC's cost allocation policy for non-QFs to Sunthurst's projects.¹⁸⁸

15 **C. Sunthurst's reliance on general interconnection study costs from other**
16 **projects is misplaced.**

17 Sunthurst makes general assertions that the interconnection costs of PRS1 and PRS2 are
18 unreasonably high compared to the interconnection costs of similarly situated projects connecting
19 to other utilities. Sunthurst's claims miss the mark, and the bases for its assertions are feeble.

20 First, Sunthurst relies on a 2018 NREL study to claim the interconnection costs for PRS1
21 and PRS2 are too high.¹⁸⁹ That study, however, provides no insight into the specific
22 interconnection costs for PRS1 and PRS2. When Commission Staff previously cited this same

¹⁸⁶ See *Pro Forma* Small Generator Interconnection Agreement, Articles 4.2 and 5.2.

¹⁸⁷ PAC/100, Bremer/25.

¹⁸⁸ PAC/100, Bremer/25.

¹⁸⁹ Sunthurst/100, Hale/7.

1 NREL study, they expressly recognized that the “cost and type of upgrades (distribution or
2 transmission) estimated for a generator are specific to the generator’s location, project design, the
3 makeup of other generators in the area or in queue, and additional characteristics of the generator
4 and utility system.”¹⁹⁰ Staff further noted that the study was “purely illustrative and limited by the
5 wildly variable nature of interconnection upgrades.”¹⁹¹

6 Second, Sunthurst relies on improper hearsay from unnamed and unverifiable sources that
7 claim other projects interconnecting in other locations to other utilities have had lower
8 interconnection costs than the estimates for PRS1 and PRS2.¹⁹² Not only is the hearsay from
9 anonymous sources unreliable, but even taking the statements at face value, they say nothing about
10 the interconnection costs for PRS1 and PRS2. One unnamed source compared Sunthurst’s projects
11 to a single project interconnecting to PGE, and the other described the information in his email as
12 “quick and random.”¹⁹³

13 Drawing blanket comparisons from any individual study, unnamed sources, or inapposite
14 interconnection costs from other utilities does not meet Sunthurst’s burden to demonstrate that
15 PacifiCorp’s interconnection costs for PRS1 and PRS2 are unreasonable. Sunthurst’s assertions
16 that PacifiCorp’s cost estimates are unreasonable based on its comparisons to other small solar
17 projects are unhelpful to determine reasonable interconnection costs for PRS1 and PRS2.

¹⁹⁰ *In re Pub. Util. Comm’n of Or., Community Solar Program Implementation*, Docket No. UM 1930, Order No. 19-392, App’x A at 43 (Nov. 8, 2019); *see also* PAC/100, Bremer/16–17, 19–20.

¹⁹¹ Order No. 19-392, App’x A at 43.

¹⁹² PAC/100, Bremer/17–19.

¹⁹³ PAC/100, Bremer/18–19.

1 **D. Sunthurst must bear the costs resulting from its siting decision.**

2 Sunthurst argues that PacifiCorp is “bootstrapping” upgrades that would have to be made
3 anyway into Sunthurst’s interconnection studies.¹⁹⁴ This claim is untrue. Indeed, Sunthurst does
4 not specifically identify any upgrade that purportedly falls into this category, except perhaps the
5 voltage regulators addressed above. With regard to the latter, Sunthurst claims that its
6 interconnection costs are excessive because the Pilot Rock substation “is at the end of its useful
7 life and in need of significant repairs.”¹⁹⁵ This outlandish claim has no support in the record.
8 Indeed, the only evidence Sunthurst can muster to support this claim is the fact that PacifiCorp
9 recently rebuilt a fence and replaced several components because of degradation or failure.¹⁹⁶
10 None of this work demonstrates that the Pilot Rock substation is at the end of its useful life or in
11 need of “significant repairs.” PacifiCorp testified that the substation was performing well and met
12 all the applicable reliability and performance standards.¹⁹⁷ Sunthurst provided no evidence to
13 dispute these facts.

14 Sunthurst also complains that there was no way for it to know that its interconnection costs
15 would be higher because of the Pilot Rock substation’s age.¹⁹⁸ However, Sunthurst submitted the
16 interconnection request for PRS2 (Q1045) after it had received numerous interconnection studies
17 related to Q0666 and Q0747. Sunthurst cannot claim ignorance of the costs required to
18 interconnect its projects to the Pilot Rock substation.

¹⁹⁴ Sunthurst/300, Hale/4-5.

¹⁹⁵ Sunthurst/300, Hale/4.

¹⁹⁶ Sunthurst/300, Hale/4; PAC/300 at 7.

¹⁹⁷ PAC/100, Bremer/29.

¹⁹⁸ Sunthurst/300, Hale/3.

1 Sunthurst also misleadingly quotes a PacifiCorp discovery response to imply there was no
2 way to learn about the equipment in the Pilot Rock substation before requesting interconnection.
3 Specifically, Mr. Hale testified that PacifiCorp indicated in a discovery response that there are no
4 “official mechanisms” available to interconnection customers to determine the age and/or
5 functional capabilities of major substation components.¹⁹⁹ However, Mr. Hale omits from his
6 testimony the complete discovery response, which paints a very different picture. PacifiCorp noted
7 that there was no “official mechanism” but explained that it “offers products like pre-application
8 reports or informational interconnection requests in which interconnection customers can obtain
9 useful information to assist in siting decisions.”²⁰⁰ The discovery response also stated that
10 PacifiCorp responds to requests from prospective interconnection customers seeking information
11 pertaining to the age or functional capabilities of its substation equipment.²⁰¹ Had Sunthurst
12 availed itself of the available resources identified by PacifiCorp, it may have better understood the
13 potential costs associated with its chosen interconnection site.

V. CONCLUSION

14 The Commission’s rules require Sunthurst to pay the reasonable costs to interconnect its
15 projects and require PacifiCorp’s customers to remain indifferent both from a financial and service
16 quality standpoint as a result of its interconnection requests. This means that Sunthurst should
17 bear the costs required to ensure that after its projects interconnect, PacifiCorp’s system
18 performance is not adversely impacted, and customers continue to receive the same safe and
19 reliable service they received before interconnection. PacifiCorp’s most recent detailed cost
20 estimates for PRS1 and PRS2 reflect the lowest estimated interconnection costs the Company can

¹⁹⁹ Sunthurst/300, Hale/3.

²⁰⁰ Sunthurst/401, Hale/71.

²⁰¹ Sunthurst/401, Hale/71.

1 provide without degrading service to its existing customers. Accordingly, all costs included in
2 these estimates are reasonable interconnection costs that Sunthurst must pay to interconnect its
3 projects.

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