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December 11, 2020

VIA ELECTRONIC FILING

Attention: Filing Center
Public Utility Commission of Oregon
201 High Street SE, Suite 100
P.O. Box 1088
Salem, Oregon 97308-1088

Re: Docket UM 2032 – Investigation into the Treatment of Network Upgrade Costs for Qualifying Facilities

Attention Filing Center:

Attached for filing in the above-captioned docket is the Joint Utilities' Reply Testimony of Michael G. Wilding, Robert Macfarlane, and Alison Williams (Joint Utilities/300-301), and Richard A. Vail, Kris Bremer, Shaun Foster, Sean Larson, and Jared Ellsworth (Joint Utilities/400-401).

Please contact this office with any questions.

Sincerely,

Alisha Till
Paralegal

Attachments

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

DOCKET NO. UM 2032

Joint Utilities' Reply Testimony

Joint Utilities: PacifiCorp d/b/a Pacific Power, Portland General Electric Company, and Idaho Power Company

JOINT UTILITIES EXHIBIT 300

Joint Reply Testimony of Michael G. Wilding, Robert Macfarlane, and Alison Williams

December 11, 2020

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I. PURPOSE AND SUMMARY OF TESTIMONY

Q. What is the purpose of your testimony?

A. Our testimony responds to testimony from Public Utility Commission of Oregon (Commission) Staff; the Interconnection Customers' Coalition (ICC)[1]; and NewSun Energy LLC (NewSun) regarding the appropriate allocation of interconnection costs associated with a Qualifying Facility (QF) directly interconnecting with a utility's system in connection with a mandatory purchase obligation imposed by the Public Utility Regulatory Policies Act of 1978 (PURPA).

Q. Are there other witnesses providing reply testimony on behalf of the Joint Utilities?

A. Yes. Richard A. Vail, Kris Bremer, Shaun Foster, Sean Larson, and Jared Ellsworth (Joint Utilities' Transmission Witnesses) provide testimony responding to Staff, ICC, and NewSun on specific interconnection and transmission issues. They also address Issue 2 in this docket—whether a QF should be required to interconnect with Network Resource Interconnection Service (NRIS)—and clarify some minor points regarding the Joint Utilities' understanding of the scope of this docket.

Q. Please summarize your testimony.

A. The Joint Utilities continue to believe that the Commission's policies for allocation of QF Network Upgrade costs should be governed by the standards established by PURPA and state regulatory policy and that the Commission's current policies appropriately require QFs to pay for the costs of their interconnection, including Network Upgrades, and protect retail customers. We agree with Staff that application of FERC's cost-allocation policies to state-jurisdictional QF interconnections would shift costs to retail customers and is

[1] The Renewable Energy Coalition, the Community Renewable Energy Association, and the Northwest Intermountain Power Producers Coalition have identified themselves collectively as the ICC.

therefore inappropriate. The Joint Utilities also support Staff's recommendations that any questions regarding avoided costs be addressed in docket UM 2000 and that the Commission's "quantifiable system-wide benefits" standard be further discussed in Phase II. However, we strongly disagree with the ICC and NewSun recommendations that the Commission should assume that all system users actually benefit from all system upgrades as a matter of fact (rather than policy)—an assumption for which these parties provide no factual support—and that all QF-driven Network Upgrades should therefore be paid by all users of the system, regardless of their costs.

With respect to the other issues raised by NewSun's witnesses, none of their arguments provide a valid basis for overturning the Commission's current cost-allocation policy and imposing additional costs on retail customers. NewSun's testimony that Oregon's current interconnection policies uniquely disadvantage QFs is unpersuasive because the witnesses have failed to provide any support for their statements and have not acknowledged the precedent in other states that contradicts their assertions. NewSun's allegation that the Commission's current policy is flawed because it can result in QFs bearing prohibitively expensive costs is similarly unpersuasive. The Commission's policy appropriately incentivizes economical siting decisions and does not require retail customers to subsidize QFs that site in locations with prohibitively expensive costs. Maintaining the Commission's current cost-allocation policy will ensure that the Joint Utilities' retail customers bear only those costs that are prudent, economically justified, consistent with PURPA, and that result in just and reasonable retail rates.

Q. How is your testimony organized?

A. We first provide a brief overview of the parties' position on Issue 1 in this docket—who

should be required to pay for Network Upgrades necessary to interconnect the QF to the host utility. Second, we briefly address the issue of avoided interconnection costs, an issue raised by Staff. Third, on the question of interpreting the Commission's "quantifiable system-wide benefits" standard, we (a) address Staff's, NewSun's, and ICC's positions on this issue; (b) provide additional information about the Joint Utilities' position on this issue; and (c) identify key issues the Joint Utilities believe will be important for consideration in Phase II of this docket should the issue of quantifiable system-wide benefits be addressed there. Finally, we respond to various additional arguments raised by the parties.

II. QFS SHOULD PAY THE COSTS OF THEIR INTERCONNECTIONS

A. Overview of Parties' Positions Regarding Issue 1

Q. Please summarize your prior testimony on Issue 1.

A. The Commission's current generator interconnection policies allocate to interconnecting generators the costs caused by their interconnection, including the costs of Network Upgrades.[2] In doing so, these policies appropriately attempt to ensure that a utility's retail customers remain indifferent to whether a utility purchases power from a QF or from some other source. Further, the Commission's current policies demonstrate sound state regulatory policy and the discharge of the Commission's statutory duties because they ensure that utility ratepayers are not forced to pay for potentially unlimited and unnecessary transmission system upgrades. Moreover, they provide a critical financial incentive for QFs and other generators to site their projects in economically efficient locations, and thus

[2] As Joint Utilities' Transmission Witnesses explain, the Commission's QF Large Generator Interconnection Procedures (QF-LGIP) defines Network Upgrades as upgrades at or beyond the point of interconnection with a transmission provider's transmission system. *In re Pub. Util. Comm'n of Oregon Investigation into Interconnection of PURPA Qualifying Facilities with Nameplate Capacity Larger than 20 Megawatts to a Pub. Utility's Transmission or Distribution System*, Docket UM 1401, Order No. 10-132, Appendix A (QF-LGIP) at 11 (Apr. 7, 2010).

are a critical element of customer protection. In addition, the Commission's treatment of QF interconnection costs is consistent with the Commission's general interconnection policies, which allocate the costs of interconnection to the interconnecting generators that cause them. Finally, allocating QF interconnection-driven Network Upgrade costs to QFs, rather than utility customers, ensures that customer rates are just and reasonable.

Q. After reviewing the parties' response testimony, has your position changed?

A. No.

Q. Please summarize your understanding of Staff's position on this issue.

A. Staff believes the Commission's existing policies are appropriate under PURPA, as they recognize that a QF should be responsible for the cost of the Network Upgrades required by its interconnection to the extent those costs exceed a utility's avoided cost or the value of any "quantifiable system-wide benefits" created by the Network Upgrades.[3]

Q. Why does Staff support the Commission's existing policies?

A. According to Staff, allocating to QFs the cost of Network Upgrades caused by a QF's interconnection "is important both for conforming to PURPA and for protecting ratepayers from potentially significant costs."[4] Moreover, Staff agrees that "ratepayers should be held indifferent [to the purchase of QF power] and that QFs should be encouraged to make economical siting decisions."[5] In Staff's view, the Commission's current QF interconnection policies are consistent with these principles.[6]

Q. Does Staff believe the Commission should apply FERC's interconnection cost

[3] Staff/100, Moore/15 (citing Order No. 10-132 at 3); Joint Utilities/301, Wilding-Macfarlane-Williams/36, 43 (Staff Response to PGE DR 4, Staff Response to PacifiCorp DR 1).
[4] Staff/100, Moore/15.
[5] Staff/100, Moore/16.
[6] Staff/100, Moore/6, 35.

allocation policy to Oregon QF interconnections?

A. No. Staff does not support the application of FERC's interconnection cost allocation policy or its associated presumption of "system-wide benefits" in Oregon.[7] Staff recognizes the simplicity of FERC's test, but states that it would be likely to shift QF costs to ratepayers "above avoided costs and additional benefits to the system."[8] Moreover, Staff agrees that FERC's policy does not encourage efficient siting of QFs "from a Network Upgrade perspective."[9] Staff appears to support a state-specific approach to application of a "system benefits" test.

Q. Does Staff have any concerns about the Commission's existing policies?

A. Yes. While Staff currently supports the Commission's existing policies (and the principles underlying them), Staff believes that implementation of those policies should be further refined.[10]

Q. Please explain Staff's recommendations for refinement of the Commission's current policies.

A. First, Staff is concerned that avoided interconnection costs may not be adequately captured in the utilities' current avoided-cost calculations and recommends reviewing this issue in docket UM 2000.[11] Second, Staff questions whether QFs are being properly credited for "quantifiable system-wide benefits" created by their interconnection-driven Network Upgrades and recommends that the Commission address this issue in Phase II of this docket.[12]

[7] Staff/100, Moore/23.
[8] Staff/100, Moore/23.
[9] Staff/100, Moore/23; Joint Utilities/301, Wilding-Macfarlane-Williams/44 (Staff Response to PacifiCorp DR 3).
[10] Staff/100, Moore/6, 35.
[11] Staff/100, Moore/35.
[12] Staff/100, Moore/35.

Q. Do the Joint Utilities support Staff's recommendations?

A. Generally, yes. The Joint Utilities agree with Staff that the Commission's existing policies are necessary to ensure compliance with PURPA and to protect ratepayers from potentially significant costs. The Joint Utilities also agree that any issues regarding avoided-cost calculations should be addressed in docket UM 2000. Finally, we generally support Staff's recommendation that the Commission's "quantifiable system-wide benefits" standard be taken up in Phase II of this docket.

However, the Joint Utilities do have some disagreements with the merits of Staff's positions on these issues. Although the Joint Utilities anticipate addressing the merits of these issues more fully in docket UM 2000 (avoided interconnection costs) and in Phase II of this proceeding (quantifiable system benefits), we nevertheless detail some of these issues in our testimony.

Q. Please summarize ICC's and NewSun's position on Issue 1.

A. ICC witness John Lowe argues that the Commission should assume that all system users benefit from system upgrades, and that all Network Upgrades should be paid by all users of the system.[13] NewSun witnesses Brian Rahman and David Bunge take the same position.[14] NewSun witness Brittany Andrus recommends that QFs should be reimbursed for all system upgrades other than those that "demonstrably benefit only a single facility," and that Oregon should adopt a process similar to the FERC process.[15]

Q. Do the Joint Utilities agree with the QF parties' positions?

A. No. First, the Joint Utilities do not believe there is any factual basis for presuming that

[13] ICC/100, Lowe/7.
[14] NewSun/100, Rahman/4, 10-11; NewSun/300, Bunge/5; Joint Utilities/301, Wilding-Macfarlane-Williams/14, 17 (NewSun Response to PGE DR 24, 26).
[15] NewSun/200, Andrus/18-19.

system upgrades benefit all users of the system—nor have these parties attempted to demonstrate a factual basis, despite conducting significant discovery regarding the Joint Utilities' interconnection study results. Second, the Joint Utilities believe there are significant legal issues with the parties' position and will address them in legal briefing.[16]

As a practical matter, ICC's and NewSun's policy position would require utility ratepayers to subsidize QF generation, rather than ensuring that ratepayers remain indifferent to the purchase of QF generation. Moreover, their proposed policy would create a real risk that significant costs will be added to utility customer rates without meaningful Commission review or approval. The Joint Utilities' Transmission Witnesses address this issue.

B. Staff's Proposed Refinements to Commission Policy Implementation

1. Identification of Avoided Network Upgrade Costs to Be Included in Avoided Costs

Q. Staff has raised concerns about whether QFs are being compensated in avoided cost prices for avoided Network Upgrades.[17] Please explain how the Commission's PURPA policies currently address the issue of avoided utility interconnection costs.

A. Under the Commission's rules, "avoided cost" means "the electric utility's incremental costs of electric energy or capacity or both which, but for the purchase from the qualifying facility or qualifying facilities, the electric utility would generate itself or purchase from another source, including any costs of interconnection of such resource to the system."[18] A utility's avoided cost thus includes interconnection costs. The Commission currently

[16] Mr. Lowe reprises the arguments made by the Industrial Customers of Northwest Utilities in docket UM 1401—arguments that were explicitly considered and rejected by the Commission.
[17] Staff/100, Moore/6, 16, 18.
[18] OAR 860-029-0010; *see also*, *In the Matter of Pub. Util. Comm'n of Oregon Staff's Investigation Relating to Elec. Util. Purchases from Qualifying Facilities*, Docket UM 1129, Order No. 07-360 at 26 (Aug. 20, 2007).

uses an administratively-determined avoided cost methodology based on a proxy resource in a utility's integrated resource plan (IRP) to develop a utility's avoided costs.

In Order No. 07-360, the Commission agreed with Staff that, "[t]ransmission and distribution (T&D) system upgrades that can be avoided or deferred as a result of the QF's location relative to the utility proxy plant" should be included in avoided costs.[19] The Commission also stated that, on the other hand, transmission system upgrades needed to accept the QF's power should be charged to the QF separately in the interconnection process and should not affect avoided cost.[20] This policy is currently implemented by including the cost of network upgrades in the costs of the utility's proxy resource used to develop avoided cost rates, on the one hand, and charging the QF for any additional incremental cost for interconnecting and integrating its generation through an interconnection agreement, on the other.

Q. Staff questions whether utilities are properly including avoided Network Upgrade costs in their avoided cost calculations.[21] Please explain.

A. Staff testifies that the customer-indifference standard should take into account the interconnection costs the utility avoids by virtue of a QF purchase.[22] According to Staff, the utilities' avoided cost assumptions fail to "capture the cost to ratepayers of reimbursing non-QF generators for Network Upgrades."[23]

Q. Do you agree with Staff's position?

A. We agree that under the Commission's current avoided-cost methodology, an appropriate

[19] Order No. 07-360 at 26-27.
[20] Order No. 07-360 at 26-27.
[21] Staff/100, Moore/18-20.
[22] Staff/100, Moore/16-18; Joint Utilities/301, Wilding-Macfarlane-Williams/32-33 (Staff Response to PGE DR 1-2).
[23] Staff/100, Moore/19-20.

measure of Network Upgrades associated with delivery of the proxy resources should be included in avoided cost pricing, assuming the utility anticipates such costs. But we otherwise disagree with a number of assumptions Staff appears to make on this issue.

Q. Please explain.

A. First, as a general matter, the Joint Utilities disagree with Staff's characterization of the interconnection costs associated with a utility's proxy resources included in each utility's IRP.

Q. Can you provide examples?

A. Yes. For example, Staff testifies that the assumptions in PGE's avoided cost rates do not "capture the cost to ratepayers of reimbursing non-QF generators for Network Upgrades."[24] Because PGE's proxy resource is not interconnected with PGE's system, PGE disagrees with Staff's suggestion that PGE's avoided cost rates should capture the cost to PGE ratepayers of reimbursing non-QF generators for Network Upgrades. As noted above, current Commission policy requires PGE to calculate standard avoided cost prices based on a proxy resource.[25] PGE's proxy resource is located off-system in BPA's balancing authority area. PGE's avoided cost rates include the cost of Network Upgrades required to interconnect the proxy resource to BPA and refunds *from BPA* for the Network Upgrade costs. Therefore, by purchasing from QFs—as opposed to the proxy resource—PGE's ratepayers do not avoid reimbursing a non-QF generator for Network Upgrades. In other words, PGE's avoided costs already take into account the costs of interconnection the utility is avoiding by purchasing from the QF (both Network Upgrade costs and associated

[24] Staff/100, Moore/20.
[25] PGE's non-standard avoided cost prices are based on its standard avoided cost prices.

credits), but PGE's avoided Network Upgrade costs are not material because of the reimbursements from BPA. In sum, PGE appropriately includes the costs of interconnection.

Q. Do PacifiCorp's avoided cost prices account for Network Upgrades?

A. Yes. The 2026 Naughton Simple Cycle Combustion Turbine that sets the deficiency period for non-renewable rates is located at the site of a retiring coal plant and is not expected to incur any Network Upgrades. PacifiCorp's renewable proxy resource likewise was not considered to require incremental network upgrades that could be avoided or deferred as a result of Oregon QF resources being added to the Company's resource portfolio.

Q. Staff also testifies that Idaho Power's avoided cost methodology does not include avoided Network Upgrade costs associated with the proxy resource.[26] Is that correct?

A. No. Staff's testimony appears to be based on a misunderstanding of how Idaho Power calculates its avoided cost prices. For Idaho Power's standard avoided costs, the avoided capacity cost is based on the full fixed cost of a proxy combined cycle combustion turbine (CCCT) plant, less capitalized energy costs. The cost of the proxy CCCT includes capital costs associated with transmission-system investments required to interconnect the plant to Idaho Power's system, which are functionally Network Upgrade costs.

Q. Please explain.

A. The cost assumptions for the current proxy CCCT are taken from Idaho Power's 2019 IRP. For a CCCT, as described on page 23 of Appendix C to the Amended 2019 IRP,[27] the IRP assumes a "Plant Capital" cost of $1,096 per kW and a "Transmission Capital" cost of $102

[26] Staff/100, Moore/18-20.
[27] *In the Matter of Idaho Power Co., 2019 Integrated Resource Plan*, Docket LC 74, Idaho Power Company's Amended IRP Application (Oct. 2, 2020).

per kW, for a "Total Capital" cost of $1,198 per kW. The $1,198 per kW is the figure used to calculate the capacity component of Idaho Power's avoided costs.

Q. What is included in the "Plant Capital" component of the "Total Costs" used to determine Idaho Power's avoided cost prices?

A. The "Plant Capital" cost of $1,096 per kW was sourced from the National Renewable Energy Laboratory's (NREL) Annual Technology Baseline (ATB) and includes engineering development costs, generating and ancillary equipment purchase, and installation costs, as well as balance of plant construction. NREL refers to these costs as the "overnight cost of capital," which NREL describes as the cost of constructing a plant, including onsite electrical equipment (e.g., switchyard), a nominal-distance spur line, and necessary upgrades at a transmission substation. In other words, the "Plant Capital" costs reflect the costs of the interconnection facilities required to interconnect the proxy CCCT plant.

Q. What is included in the "Transmission Capital" component of the "Total Costs" used to determine Idaho Power's avoided cost prices?

A. The "Transmission Capital" cost of $102 per kW reflects the transmission system improvements needed to interconnect the proxy CCCT. In other words, the "Transmission Capital" cost is the cost of Network Upgrades required to interconnect the proxy resource. What this means is that roughly nine percent of Idaho Power's avoided capacity costs represent Network Upgrades that are assumed to be avoided by virtue of the QF interconnection. If retail customers are required to pay a QF's actual Network Upgrade costs, as some parties recommend, then retail customers will effectively pay for the Network Upgrades twice. That is, they will pay the QF for the avoided Network Upgrades

of the proxy resource and then pay for the QF's actual Network Upgrades.

Q. Do Idaho Power's non-standard avoided cost prices also account for Network Upgrades?

A. Yes. Although the proxy resource for non-standard avoided cost prices is a simple cycle combustion turbine (SCCT) plant, Idaho Power assumes that the SCCT capital costs include the cost of Network Upgrades.

Q. Staff testifies that PGE did not identify any on-system QFs with Network Upgrades.[28] Is this correct?

A. No, the PGE data response that Staff cites shows that PGE *did* identify one QF seeking to interconnect to PGE that caused Network Upgrades,[29] the costs of which would be shifted to PGE's ratepayers if the Commission's policy changed. However, it appears Staff may have been confused about the location of the QF for which PGE identified Network Upgrades.[30] In addition, since providing the original data response, PGE has issued an additional QF interconnection study that contains Network Upgrades.[31]

Q. Do you have other concerns about Staff's testimony addressing "avoided interconnection costs"?

A. Yes. Staff's testimony identifies various Network Upgrades built by utilities and describes them as "context" for the Joint Utilities' avoided Network Upgrade costs.[32] Staff provides

[28] Staff/100, Moore/24.
[29] Staff/104, Moore/3.
[30] Staff's exhibit summarizing Network Upgrades PGE has identified for Oregon interconnection requests states that the Network Upgrade costs PGE has identified for QFs in Oregon are all "associated with a single off-system generator, interconnecting with PacifiCorp." Staff/105, Moore/2. This is not accurate; the QF in question is not interconnected to PacifiCorp. Rather, the QF is interconnected directly to a PGE-owned transmission line in Central Oregon. The QF is outside PGE's service territory and remote from PGE's load, but it is interconnected directly to PGE.
[31] Joint Utilities/301, Wilding-Macfarlane-Williams/28-29 (PGE Supplemental Response to Staff DR 1).
[32] Staff/100, Moore/10-11.

a chart detailing Network Upgrades constructed by utilities and notes, for example, that PacifiCorp has constructed approximately $143,915,425 in Network Upgrades from 2010 to 2019.[33] Staff observes that PacifiCorp has proposed and constructed significant transmission lines in connection with the recent acquisition of renewable resources, as well. For some of these investments, Staff identifies the "avoided network upgrades" as approximately $43,000 per MW.[34] For two additional projects, Staff identifies the avoided Network Upgrades as approximately $99,000 and $125,000 per MW, respectively.[35] The implication of this testimony is not entirely clear, but Staff seems to be suggesting that utilities construct Network Upgrades or make other transmission system investments that they are able recover from retail customers, while QFs are somehow denied the opportunity to have their interconnection-driven Network Upgrades recovered in rates. It appears that Staff may be using past utility Network Upgrade costs to propose a hypothetical "adder" to be added to avoided cost prices.

Q. Do you agree with this position?

A. No. First, the Joint Utilities disagree with Staff's conclusions about the utilities' avoided cost rates. To the extent Staff is proposing some alternative methodology based on a review of past utility Network Upgrade construction, the proposal is not sound. The cost of past Network Upgrades a utility has constructed is not necessarily reflective of the cost of upgrades it will construct in the future. For example, PGE has not constructed a Network Upgrade on its transmission system associated with generator interconnection since 2010.[36] However, PGE recently issued interconnection studies for multiple generators that

[33] Staff/100, Moore/20.
[34] Staff/100, Moore/20.
[35] Staff/100, Moore/21.
[36] Joint Utilities/301, Wilding-Macfarlane-Williams/30 (PGE Response to Staff DR 12).

identified millions of dollars of Network Upgrades necessary for the generator to interconnect—suggesting that PGE will likely construct Network Upgrades in the future.[37]

More importantly, Staff's identification of possible "avoided Network Upgrades" looks at utility transmission system investment in isolation and thus conceptually fails to quantify the overall cost associated with utility acquired resources—thereby failing to capture the appropriate measure of avoided cost. Because a utility can negotiate competitive power purchase agreement (PPA) pricing with non-QF generators, the interrelated dynamic between PPA pricing and deliverability costs means that both must be considered in any calculation of the overall avoided cost of non-QF resources. A utility might accept a higher PPA price for a generator with low delivery costs, whereas it might insist on lower PPA prices or greater operational flexibility for a generator with higher delivery costs.

One example is the $680 million Aeolus to Bridger/Anticline 500 kV Transmission Project constructed by PacifiCorp as part of an effort to develop, in Staff's words, "at least 1,150 MW of least cost, least risk renewable generation."[38] Although the costs of the project were significant, PacifiCorp explained in both its acknowledged IRP and in its rate case seeking rate recovery for this project that PacifiCorp analyzed both the power costs and the delivery costs for its IRP action items and determined that, when considered together, they presented the least-cost least-risk resources for utility customers that would result in a relatively small rate impact. The analysis was based on a combined analysis of the favorable economics of the generation projects as well as the transmission construction

[37] Joint Utilities/301, Wilding-Macfarlane-Williams/28-29 (PGE Supplemental Response to Staff DR 1).
[38] Staff/100, Moore/20.

projects needed to make those projects deliverable.[39] The line was also identified during PacifiCorp's transmission planning efforts as critical to reliability.

Contrast this with obligations incurred by a utility as part of the QF must-take obligation, where the PPA price remains the same regardless of whether interconnection costs are minimal or astronomical, and whether the location of the transmission system investments driven by the QF play any role in improving system reliability or low-cost power delivery whatsoever.[40] Simply identifying the transmission-system investments associated with past utility acquisitions and tacking them onto a QF's avoided cost as a representation of "avoided Network Upgrades" is conceptually flawed.

Q. Does Staff recognize the challenges associated with this approach?

A. Yes. Staff acknowledges that this type of approach would have issues, because avoided Network Upgrade costs "are site-and queue-specific and vary dramatically depending on a range of factors."[41] Given that Staff does not actually seem to be recommending this approach, however, the Joint Utilities will simply note their disagreement with this methodology.

Q. Do you have any additional observations about the Network Upgrades identified by Staff as examples of avoided interconnection Network Upgrades?

A Yes. The $680 million Aeolus to Bridger/Anticline 500 kV Transmission Project is an example of a project that was identified by PacifiCorp Transmission as an integral part of PacifiCorp's long-term transmission plan. As the Joint Utilities' Transmission Witnesses explain,[42] this has two implications: First, a QF purchase will not allow PacifiCorp to

[39] Staff/100, Moore/21.
[40] And where the utilities can negotiate no operational flexibility for economic dispatch of QF resources.
[41] Staff/100, Moore/21.
[42] Joint Utilities/400, Vail-Bremer-Foster-Larson-Ellsworth/21, 24-25.

"avoid" the project. It has been identified for inclusion in PacifiCorp's long-term transmission plan not only because it allows for the economical purchase of renewable resources to serve retail load, but also because it is important for reliability. A QF interconnecting with PacifiCorp's system in Oregon will not help PacifiCorp avoid the project. Second, if a QF's interconnection study were to identify the Aeolus to Bridger/Anticline Project as necessary for the QF's own interconnection, PacifiCorp would not assess the QF any cost responsibility for Network Upgrades associated with the project.[43] PacifiCorp's interconnection study methodology recognizes that projects included in PacifiCorp Transmission's long-term transmission plan provide "system-wide benefits" to retail customers. PacifiCorp thus exempts QFs from cost responsibility for any part of a project included in its long-term transmission plan, even when a QF's interconnection requires construction of the project.[44]

As the Joint Utilities' Transmission Witnesses explain, utilities identify and invest in prudent Network Upgrades for various reasons.[45] Including investments like the Aeolus to Bridger/Anticline 500 kV Transmission Project in a list of avoidable Network Upgrades misunderstands the purpose of such projects and further illustrates the issues associated with using past utility transmission system investments to identify avoidable utility Network Upgrade costs.

Q. How should a utility's "avoided Network Upgrades" be identified?

A. To the extent the Commission continues to use an administratively-determined avoided cost methodology based on a proxy resource in a utility's IRP, the Commission should

[43] Joint Utilities/400, Vail-Bremer-Foster-Larson-Ellsworth/21.
[44] *Id.*
[45] Joint Utilities/400, Vail-Bremer-Foster-Larson-Ellsworth/17-20.

ensure that both generation and interconnection costs—including Network Upgrades—are included in such administratively-determined avoided cost calculations.

Q. Do the Joint Utilities agree with Staff that this issue should be addressed in docket UM 2000?

A. To the extent the Commission wishes to address this issue, the Joint Utilities agree that the issue should be addressed in docket UM 2000. We understand that the Commission anticipates addressing avoided cost issues in docket UM 2000 and that all parties would presumably have an opportunity to develop a full record should the Commission find it appropriate to take up this issue.

Q. Do you have any other responses to Staff's testimony on "avoided interconnection costs"?

A. Not at this time. Like Staff, we understand the issue of avoided cost (including the question of what Network Upgrades to assume are avoided by a proxy resource as a result of a QF purchase) to be appropriately within the scope of docket UM 2000, rather than an issue to be litigated in this docket. To the extent the Commission wishes to address this issue in further detail, it would presumably be addressed there.

2. Development of a Quantifiable System-Wide Benefits Test

Q. Please describe the Commission's "quantifiable system benefits" test.

A. The Commission stated in docket UM 1401 that, although a QF is responsible for the costs of its interconnection-driven Network Upgrades, a QF may nevertheless be reimbursed for some portion of its interconnection-driven Network Upgrade costs if the QF can demonstrate that the Network Upgrades caused by its interconnection provide "quantifiable

system-wide benefits."[46] If a QF can do so, the Commission stated, the QF would be eligible for refunds in the amount of the demonstrated benefit.[47]

Q. How did the Commission define "quantifiable system-wide benefits"?

A. The Commission did not define the phrase "quantifiable system-wide benefits." In fact, it is our understanding that the phrase "quantifiable system-wide benefits" was inserted by the Commission into the proceeding at the eleventh hour with very little commentary or explanation.[48] To our knowledge, the Commission has not provided guidance on what this phrase means or how a QF (or any other party) might demonstrate "quantifiable system benefits."[49]

Q. Do the Joint Utilities have a position on how "quantifiable system-wide benefits" should be defined?

A. At a very basic level, yes. In our view, any state regulatory definition of "system-wide benefits" that provides for QF reimbursement must ensure that the overall cost of QF power does not exceed the utility's avoided cost, even with that reimbursement. The Joint Utilities believe that a utility's avoided cost represents an overall cap on the costs associated with the purchase of QF power that may be passed through to retail customers.[50] We will address the legal aspects of this issue in legal briefing in this docket.

Q. Do the Joint Utilities have a position on how "quantifiable system-wide benefits"

[46] Order No. 10-132 at 3.
[47] Order No. 10-132 at 3.
[48] *See generally* Comments filed in Docket UM 1401 (some parties advocated for adoption of FERC's cost-allocation policy) *and* Order No. 10-132 at 3-4 (declining to adopt FERC's cost-allocation policy and adopting instead the "quantifiable system-wide benefit" standard, which had not been previously discussed in the docket).
[49] Joint Utilities/301, Wilding-Macfarlane-Williams/3-4, 34-35, 37 (ICC Response to PGE DR 11; Staff Response to PGE DR 3, 5) (admitting that the Commission has not provided guidance).
[50] The Joint Utilities have described this as a "but for" test. While this description appears to have created some confusion, it is derived from PURPA's definition of avoided cost, which is "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." 16 U.S.C. §824a-3(d) (emphasis added).

should be identified or quantified?

A. To the extent the Commission anticipated that a QF would identify and quantify with precision the financial value of a particular Network Upgrade associated with its interconnection, no. The Joint Utilities' Transmission Witnesses explain that it is unclear how system-wide benefits associated with any particular Network Upgrade would be identified, quantified, or allocated to any specific beneficiaries with any precision.[51]

The Joint Utilities believe, however, that the Commission could appropriately identify whether a particular Network Upgrade provides system-wide benefits that justify their inclusion in retail rates by, for example, determining whether the utility has identified through its existing processes that the construction of the Network Upgrade is necessary. To the extent the utility has already determined through its transmission planning process that a particular Network Upgrade is necessary for reliability purposes or for transmission capacity expansion to allow for cost-effective load service, the Commission could reasonably presume that the Network Upgrade would provide system-wide benefits that justify their inclusion in utility rate base. Thus, a QF should be entitled to cost recovery for that particular Network Upgrade from retail customers.[52] Parties have criticized the Joint Utilities' approach to this issue as too narrow,[53] but the Joint Utilities are unaware of any other reasonable or legally appropriate process for determining whether a QF should be exempted from some element of cost responsibility for a Network Upgrade caused by its interconnection.

[51] *See* Joint Utilities/400, Vail-Bremer-Foster-Larson-Ellsworth/10.
[52] In Phase II the parties will need to consider the circumstance where the use of a previously-identified Network Upgrade by a QF then necessitates the construction of another Network Upgrade to address the need originally identified in the utility's transmission plan—as ultimately utility customers must remain indifferent to the purchase of QF generation.
[53] *See* Staff/100, Moore/22; ICC/100, Lowe/16-18.

The Joint Utilities also believe it may be possible in certain circumstances for the cost of QF interconnection-driven Network Upgrades to be shared among state-jurisdictional interconnection customers, though it is unclear how the Commission might create a workable mechanism for implementation of such a policy.[54]

Q. What does Staff recommend?

A. Staff recommends the Commission address the issue of "quantifiable system benefits" in the next phase of this docket.[55]

Q. Do the Joint Utilities support this recommendation?

A. The Joint Utilities believe the Commission's "quantifiable system-wide benefits" test is underdeveloped in significant ways and has the potential to create significant challenges depending on how it is interpreted or applied. Given the number of remaining open questions about the test, we are comfortable with Staff's recommendation that the Commission address this issue in Phase II of the docket.[56] In the issues list adopted by the ALJ in this docket, Issue 1 asked who should pay for Network Upgrades necessary to connect the QF to the host utility (the question currently under consideration).[57] The ALJ also adopted a contingent Issue 3 for a possible subsequent phase of this docket, which states as follows:

> If the answer to Issue No. 1 is that users and beneficiaries of Network Upgrades (which typically are primarily utility customers) should pay for the Network Upgrades necessary to interconnect the QF to the host utility, how should that policy be implemented? For example, should utility customers, and other beneficiaries and/or users, fund the cost of the Network Upgrades upfront, or should the QF provide the funding for the Network Upgrade subject to reimbursement from utility customers? Should

[54] As Staff recognizes, PacifiCorp's cluster-study process already allows interconnection customers to share Network Upgrade costs. *See* Joint Utilities/301, Wilding-Macfarlane-Williams/38 (Staff Response to PGE DR 7).
[55] Staff/100, Moore/28.
[56] *See, e.g.*, Joint Utilities/301, Wilding-Macfarlane-Williams/39-41 (Staff Response to PGE DR 8-10).
[57] ALJ Ruling, Issues List Adopted at 2 (May 22, 2020).

the QF, utility customers, and other beneficiaries and users, if any, share the costs of Network Upgrades?[58]

If the Commission adopts Staff's recommendation to (1) retain the Commission's current cost-allocation policies and (2) address the quantifiable system-wide benefits standard in Phase II, Issue 3 should be revised to reflect that Phase II should address the Commission's "quantifiable system-wide benefits" standard.

Q. Have other parties addressed the issue of quantifiable system-wide benefits?

A. Yes. NewSun and ICC both raise the issue of "quantifiable system benefits." Both ICC and NewSun argue that utilities and their ratepayers should be presumptively responsible for the cost of Network Upgrades unless the utility proves otherwise.[59]

Q. How do you respond to this recommendation?

A. As noted above, we disagree with the notion that the appropriate application of the Commission's "quantifiable system-wide benefits" test is to simply presume that such benefits exist. This same standard was proposed by intervenors in docket UM 1401 and rejected by the Commission.[60]

From a state regulatory policy perspective, we would observe that, aside from broad assertions that all Network Upgrades benefit the transmission owner, no matter what they cost or where they are located,[61] neither the ICC nor NewSun offers any insight into how the value of a Network Upgrade to a retail ratepayer might be quantified or allocated to any particular beneficiary. Nor do they acknowledge any legal or operational differences between QFs and non-QFs.

[58] ALJ Ruling, Issues List Adopted at 2.
[59] ICC/100, Lowe/7; NewSun/100, Rahman/4, 10-11; NewSun/300; Bunge/5; Joint Utilities/301, Wilding-Macfarlane-Williams/2 (ICC Response to PGE DR 4).
[60] Order No. 10-132 at 3-4.
[61] *See, e.g.*, NewSun/100, Rahman/11; ICC/100, Lowe/19.

For example, NewSun witness Mr. Rahman does not make any reference whatsoever to state regulatory policy concerns. His comments on system-wide benefits of Network Upgrades are generalizations that appear to be based on federal cost-allocation policies, but FERC's policies are neither capped by the limitations of an avoided-cost rate, nor driven by the need to ensure just and reasonable retail rates. For that reason, we do not find them persuasive in the context of the state policy questions before the Commission.

However, the Joint Utilities support Staff's recommendation that the issue of "quantifiable system-wide benefits" be investigated further in Phase II of this docket.

Q. Although Staff has suggested that the issue of quantifiable system-wide benefits should be addressed in the Phase II of this proceeding, Staff raises some initial thoughts on the issue.[62] Does Staff see the quantifiable system-wide benefits issue as an avoided-cost issue?

A. It is not clear. In response to a discovery request on this issue, Staff indicated that it views the issue of avoided utility Network Upgrade costs as an avoided cost issue, but suggested that it views the issue of quantifiable system-wide benefits as a separate regulatory issue—one unrelated to avoided cost, and premised instead on the idea that beneficiaries should pay for the benefits they receive.[63]

Q. Do the Joint Utilities view the quantifiable system-wide benefits test in the same way?

A. No. We believe the key driver of Commission policy on the allocation of QF interconnection costs is the principle that customers must remain financially indifferent to the purchase of QF power. While Staff's quantifiable system-wide benefits test may

[62] Staff/100, Moore/25-28.
[63] Joint Utilities/301, Wilding-Macfarlane-Williams/40 (Staff Response to PGE DR 9).

comport with this standard once Staff has fully defined it, the Joint Utilities would simply emphasize that, in their view, the quantifiable system-wide benefits test cannot be divorced from the question of avoided cost.

Q. What kinds of "system benefits" does Staff identify as potentially warranting QF refunds?

A. Staff identifies generically "increasing the capacity" of the transmission system as a benefit of Network Upgrades for which some amount of refunds to the interconnecting QF might be appropriate.[64]

Q. Do the Joint Utilities agree with Staff that QFs should be entitled to refunds for quantifiable system benefits created by "increasing the capacity" of the transmission system?

A. No, not as a general matter. First, as the Joint Utilities' Transmission Witnesses explain, it is unclear how one would quantify the specific financial benefits to retail customers created by "increasing the capacity" of the transmission system.[65]

Second, even if the benefits of generically "increasing the capacity" of the transmission system were susceptible to precise quantification, we are aware of no state regulatory theory supporting the recovery in retail rates of the costs associated with generic transmission system capacity increases. Certainly, utilities are not guaranteed cost recovery for investments made simply because they increase the capacity of the transmission system.

Q. Please explain.

[64] Staff/100, Moore/21-22.
[65] Joint Utilities/400, Vail-Bremer-Foster-Larson-Ellsworth/10.

A. Unlike FERC-jurisdictional transmission system expansion that happens under federal law, utility transmission system expansion under the Commission's purview occurs with the Commission's acknowledgment and/or approval in two primary instances: in the context of acquiring least-cost, least-risk resources to serve customers and for reliability purposes. In order to justify inclusion of costs of transmission system expansion in customer rates, the Commission requires utilities to engage in system-planning efforts and to take specific regulatory steps to ensure resource costs are prudent. These include, for example, comprehensive integrated resource planning (for resource acquisitions), independently monitored request for proposal (RFP) processes (for resource acquisitions), and extensive local and regional transmission planning processes (for reliability investments). The Commission, and in some instances, FERC, requires utilities to undertake these cumbersome and detailed regulatory steps to ensure the utility makes prudent investment decisions on behalf of customers to ensure the provision of safe, reliable, affordable electric service. The Joint Utilities' Transmission Witnesses explain the utility transmission planning process in more detail to illustrate how utilities are tasked with studying and identifying transmission system investments that are appropriate for inclusion in rates, and how generic system capacity expansions do not meet these criteria.[66]

Even after a utility completes the extensive planning efforts required by FERC and the Commission, a utility is not guaranteed rate recovery for transmission system investments identified in those plans. The utility must continue to monitor the prudence of the identified investment until the investment is actually made and must continue to prudently operate the resource once it is operational. Once the utility constructs the

[66] Joint Utilities/400, Vail-Bremer-Foster-Larson-Ellsworth/17-20.

identified upgrade, the utility must file a general rate case seeking cost recovery for the investment and must demonstrate its prudence before the costs can be recovered in rates. Utility system investments that have not been demonstrated to be prudent are not eligible for rate recovery, even if they may provide some type of benefit.[67] Thus, if utilities themselves were to construct transmission system upgrades to increase capacity at random places on the grid (or at random times), rate recovery of those investments would likely be denied by the Commission as imprudent or rejected as system "gold plating."

In short, it is not clear to the Joint Utilities what state regulatory rationale would support including QF interconnection-driven Network Upgrades in retail rates simply because the Network Upgrades increase the capacity of the transmission system in some places.

Q. Does Staff recognize the difficulty of quantifying and allocating the hypothetical benefits provided by a particular QF-driven Network Upgrade?

A. Yes. Staff recognizes this challenge and suggests the Commission may seek to adopt a more simplified methodology for allocating costs between QFs and retail ratepayers. Staff cites one example involving a QF complaint before the Idaho Public Utilities Commission,[68] and another involving a cost-allocation methodology included in the Southwest Power Pool's (SPP) FERC-regulated tariffs.[69]

Q. Do Staff's examples provide useful guidance for developing a simplified methodology for allocating QF interconnection costs on the basis of "system-wide benefits"?

[67] *See, e.g.*, *In the Matter of Nw. Natural Gas Co., dba NW Natural, Request for a Gen. Rate Revision*, Docket UG 221, Order 12-437 (Nov. 16, 2012) (entire cost of utility reliability upgrade disallowed as imprudent where utility failed to adequately justify (1) why the upgrade was made at a particular location, rather than another location, and (2) why the investment was necessary at the time it was made).
[68] ICC witness John Lowe cites the same Idaho order cited by Staff. ICC/100, Lowe/15, n.8.
[69] Staff/100, Moore/26.

A. No. While the Joint Utilities are not opposed to including in Phase II an inquiry into whether a simple methodology for determining quantifiable system-wide benefits may be useful, we believe that development of such a mechanism would be challenging.[70] In any case, the two examples cited by Staff are not helpful in our view.

Q. Staff discusses precedent from the Idaho Public Utilities Commission (IPUC) that Staff describes as an alternative approach to allocating Network Upgrade costs.[71] Are you familiar with the IPUC precedent Staff cites?

A. Yes. Staff addresses what it describes as the "Cassia Formula," which arose from a 2007 IPUC case involving two QFs (Cassia Gulch Wind Park, LLC and Cassia Wind Farm, LLC) that were requesting interconnection with Idaho Power's system near Twin Falls, Idaho.[72]

The Interconnection Customer Coalition also addresses the "Cassia Formula" and claims that it represents a "clear and simple formula" that the Commission could apply to all QF interconnections.[73]

Q. Do you agree that the so-called "Cassia Formula" is reasonable for a generally applicable methodology for allocating Network Upgrade costs?

A. No, and according to its order, neither did the IPUC. As background, in 2006, Idaho Power received interconnection requests for up to 200 MW of new generation, most of the which were wind QFs. Idaho Power's interconnection studies indicated that in order to interconnect all of the projects it would be necessary to construct Network Upgrades to the transmission system with a total estimated cost of approximately $60 million.

[70] *See* Joint Utilities/400, Vail-Bremer-Foster-Larson-Ellsworth/10.
[71] Staff/100, Moore/25-26.
[72] *Cassia Gulch Wind Park, LLC and Cassia Wind Farm, LLC v. Idaho Power Co.*, IPUC Case No. IPC-E-06-21, Order 30414 (Aug. 28, 2007).
[73] ICC/100, Lowe/15.

In response to a complaint filed by several of the QFs, Idaho Power and the QFs entered into a settlement that required Idaho Power (and therefore its retail customers) to fund some portion of the Network Upgrades required to interconnect the QFs, as described in Staff's testimony. However, the approach reflected in the settlement was not designed as a generally applicable allocation methodology and is not a useful precedent for several reasons.

First, Idaho Power explained that a portion of the Network Upgrade costs Idaho Power agreed to fund were likely to have been required by Idaho Power to serve retail customers. In other words, the Network Upgrades would have been required even without the QF interconnection. Indeed, the IPUC explained in its order that Idaho Power had concluded that even with the allocation of some Network Upgrade costs to retail customers, those customers remained indifferent to the QF generation under the specific circumstances present in the *Cassia* case.

Second, the IPUC specifically rejected a request by its own staff to approve the "Cassia Formula" as a template for assigning cost responsibility for Network Upgrades for all QF interconnections. The IPUC instead found that the "Cassia Formula" was appropriate only under the specific circumstances and facts presented in that case and was not a reasonable methodology for allocating costs under all circumstances.

Third, the key component of the "Cassia Formula" methodology was the fact that Idaho Power had the ability to curtail the QF generation, which allowed it to avoid the need for certain Network Upgrades that would otherwise have been required. Without this curtailment provision, and the resulting change to the Network Upgrades, it is unclear if Idaho Power would have agreed to the same cost-allocation approach or if the same cost-

allocation approach would have been warranted based on the different and more extensive Network Upgrades that would have been required. Notably, the IPUC case predated FERC's *Pioneer Wind* case where FERC rejected a utility's proposal to curtail QF generation.

In short, the "Cassia Formula" is unreasonable as a generally applicable methodology for allocating Network Upgrade costs because it was adopted in a settlement agreement to address very specific factual circumstances and it relies on a curtailment provision that appears contrary to subsequent FERC guidance.

Q. To your knowledge, has the IPUC applied the "Cassia Formula" in other circumstances?

A. Yes, but only in limited cases.[74] The IPUC has never broadly applied the "Cassia Formula" to all QF interconnections. The IPUC's current policy requires QFs to pay for all Network Upgrades required because of the QF's interconnection, like the Oregon Commission.[75]

Q. How do you respond to Staff's suggestion that SPP's cost-sharing mechanism could be used to allocate the costs of a QF's interconnection-driven Network Upgrades?[76]

A. First, we would point out that the tariff Staff points to is a FERC-jurisdictional tariff for a Regional Transmission Organization (RTO). It is not a state-jurisdictional tariff grounded in state policy or PURPA, but a federal FERC-jurisdictional tariff. In any case, as the Joint Utilities' Transmission Witnesses explain,[77] contrary to Staff's assertion, SPP's tariff does

[74] *See* Staff/100, Moore/25-26 (citing the limited cases where the Cassia Formula has been applied).
[75] *See, e.g.*, Idaho Power's Schedule 72, Interconnections to Non-Utility Generation, which states: "Unless specifically agreed otherwise by written agreement between the Seller and the Company, the Seller will pay all costs of interconnecting a Generation Facility to the Company's system. Costs of interconnection include the costs of furnishing and constructing required Interconnection Facilities, *including Upgrades*." (emphasis added).
[76] Staff/100, Moore/27.
[77] Joint Utilities/400, Vail-Bremer-Foster-Larson-Ellsworth/14-15.

not require all system users to pay for Network Upgrades that increase transmission system capacity. At one point, SPP's tariff required a small subset of *new transmission customers* to pay a share of interconnection-driven Network Upgrades, to the extent those new transmission customers relied on those upgrades for their own service (users that, depending on the generator's location, might never appear).[78] Our understanding is that the limited cost-sharing mechanism provided by the SPP tariff has since been discontinued. In other words, our understanding is that SPP's tariff provided an example of a potential cost-sharing mechanism among new interconnection or transmission customers, but did not support cost sharing with a retail customer base.

In addition, the Joint Utilities' Transmission Witnesses explain why the benefits that may be associated with increasing transmission capacity in an integrated RTO with centralized economic dispatch is not a useful analogue for evaluating the benefits of generic transmission system expansion for a regulated utility in Oregon.[79] An ISO/RTO example is especially inapt for a utility with a non-contiguous system like PacifiCorp's.

Q. Is an increase in "transmission capacity" the only benefit Staff believes may be created by a QF's interconnection-driven Network Upgrades?

A. It is not clear. In response to a discovery request asking Staff to describe or identify the benefits provided by a QF's interconnection-driven Network Upgrades, Staff indicated that it had not yet developed a position on this issue.[80] Staff indicated it believes this issue should be addressed in Phase II of this proceeding.[81]

Q. Does Staff have a position on how the Commission could identify the beneficiaries of

[78] Joint Utilities/400, Vail-Bremer-Foster-Larson-Ellsworth/14-15.
[79] Joint Utilities/400, Vail-Bremer-Foster-Larson-Ellsworth/14-15.
[80] *See* Joint Utilities/301, Wilding-Macfarlane-Williams/34-35 (Staff Response to PGE DR 3).
[81] *See* Joint Utilities/301, Wilding-Macfarlane-Williams/34-35 (Staff Response to PGE DR 3).

a QF's interconnection-driven Network Upgrades?

A. Not yet. The Joint Utilities asked Staff whether the "beneficiaries" of QF interconnection-driven Network Upgrades are retail customers, state-jurisdictional interconnection customers, FERC-jurisdictional interconnection customers, transmission customers, wholesale power customers, or others. Staff indicated that it had not yet developed a position on this issue, but believed it was appropriate to address this issue in Phase II of this docket.[82]

Q. Do the Joint Utilities have an opinion about who benefits from a QF's interconnection-driven Network Upgrades?

A. Yes. The Joint Utilities believe that the interconnecting QF is the beneficiary of the QF's interconnection-driven Network Upgrades.

Q. Did Staff identify other specific issues related to the concept of "quantifiable system-wide benefits" that it believes should be addressed in Phase II?

A. Yes. In response to discovery requests, Staff explained that it has not yet developed a position on how the system-wide benefits of a QF's interconnection-driven Network Upgrades could be measured or quantified, or *when* such benefits should be measured or quantified.[83] Staff indicated that it anticipates addressing these issues in Phase II of this docket.[84]

Q. Are you surprised that Staff has identified so many foundational issues related to "quantifiable system-wide benefits" for discussion in Phase II of this docket?

A. No. The issues Staff recommends be addressed in Phase II are complex and important

[82] *See* Joint Utilities/301, Wilding-Macfarlane-Williams/34-35 (Staff Response to PGE DR 3).
[83] *See* Joint Utilities/301, Wilding-Macfarlane-Williams/34-35 (Staff Response to PGE DR 3).
[84] *See* Joint Utilities/301, Wilding-Macfarlane-Williams/34-35 (Staff Response to PGE DR 3).

questions that must be answered before the Commission can adopt policies implementing a "quantifiable system-wide benefit" standard. As noted above, it is unclear to the Joint Utilities what the Commission meant when it stated that a QF that could demonstrate quantifiable system-wide benefits would be entitled to a refund in the amount of the quantified benefit. The Joint Utilities do not know precisely what the Commission meant by a "benefit," or how that benefit was meant to be identified, quantified, or recovered. In fact, given the complete dearth of briefing or discussion of this issue in docket UM 1401, and the fact that the specific standard ultimately adopted by the Commission was not briefed by the parties before it appeared in a final order, it is unclear to the Joint Utilities whether the Commission gave significant consideration to any of these same issues. While it is clear that the Commission rejected the application of FERC's standard to Oregon QFs, it is not evident how parties should interpret the standard that took its place.

Q. Mr. Lowe faults the Joint Utilities for failing to explain how a QF could demonstrate that a Network Upgrade provided quantifiable system-wide benefits and suggests that the Joint Utilities' failure to provide such explanation indicates that they will not comply with the Commission's policy.[85] Please respond.

A. The Joint Utilities strongly disagree with the unsupported conclusions Mr. Lowe has drawn. As we explained above, the Joint Utilities cannot know precisely what the Commission intended by the phrase "quantifiable system-wide benefits," and the ICC concedes that the Commission has not provided any guidance on this subject.[86] Instead, the ICC claims that it is the utilities' responsibility to provide such guidance.[87] The ICC's

[85] ICC/100, Lowe/12-13.
[86] Joint Utilities/301, Wilding-Macfarlane-Williams/3-4 (ICC Response to PGE DR 11).
[87] Joint Utilities/301, Wilding-Macfarlane-Williams/3-4 (ICC Response to PGE DR 11).

position seems inconsistent with the Commission's statement in adopting the quantifiable system-wide benefit standard that *the interconnection customer* was responsible for establishing quantifiable system-wide benefits.[88] In any event, as we have stated, the Joint Utilities support Staff's recommendation to further examine the quantifiable system-wide benefits issue in Phase II.

Q. To the best of the Joint Utilities' knowledge, how many QFs have sought to demonstrate that a Network Upgrade provides quantifiable system-wide benefits?

A. The Joint Utilities are aware of only the single instance identified by Mr. Lowe.[89] As he notes, the litigation initiated by that QF is pending,[90] though it is currently suspended for settlement discussions.[91]

Q. Do you have any other comments on Staff's testimony regarding "quantifiable system-wide benefits"?

A. Yes. We would note that, to the extent the Commission exempts a QF from cost responsibility for the Network Upgrades required by its interconnection, the Commission should ensure the Network Upgrades are recoverable by the utility in rates. If utilities are forced by Commission policy to make investments to accommodate QF interconnections that would otherwise be deemed economically inefficient or unjustified, the recoverability of those investment costs in rates should not later be questioned.

Q. Are you suggesting that any such Network Upgrades should receive what amounts to preapproval?

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[88] Order No. 10-132 at 3.
[89] ICC/100, Lowe/14.
[90] ICC/100, Lowe/14.
[91] *Madras Solar PV1, LLC v. Portland Gen. Elec. Co.*, Docket UM 2009, ALJ Ruling Granting Madras Solar's Motion to Suspend Procedural Schedule (Feb. 20, 2020) ("Madras Solar . . . filed a motion to indefinitely suspend the procedural schedule in this proceeding to allow Madras Solar and [PGE] to hold settlement discussions.").

A. Essentially, yes. To the extent a utility is forced by the Commission PURPA policies to incur costs on behalf of customers, the costs associated with those mandatory investments should be deemed prudent.[92] Under PURPA, a utility lacks authority to control the cost of the generation, the decision to purchase the generation, and the cost of interconnecting the generation at the QF's chosen location. Thus, the Commission must ensure utilities receive full rate recovery for investments mandated by the Commission's PURPA implementation policies.

Q. Do you have any other concerns about potential cost recovery for Network Upgrades made to accommodate a mandatory QF purchase?

A. Yes. Multi-jurisdictional utilities like PacifiCorp and Idaho Power have additional cost-recovery concerns. To the extent the Commission decides to exempt QFs from cost responsibility for some portion of the costs of their interconnection-driven Network Upgrades, the Commission must ensure that multi-jurisdictional utilities will receive full cost recovery for those Network Upgrade costs from Oregon customers should other states deny cost recovery for Oregon-policy-driven transmission-system expansions.

C. Other Issues

Q. NewSun witnesses Mr. Rahman and Mr. Bunge argue that there is no rationale for treating QF interconnections differently from non-QF interconnections, and therefore QFs should not be required to pay for Network Upgrades.[93] Do the Joint Utilities agree that QF interconnections should be treated the same as non-QF interconnections?

A. No, there are many reasons that QFs must be treated differently from non-QFs, as detailed

[92] *See* Joint Utilities/301, Wilding-Macfarlane-Williams/22 (NewSun Response to PGE DR 50).
[93] NewSun/100, Rahman/10; NewSun/300, Bunge/5.

in the Joint Utilities' opening testimony.[94] In addition, both witnesses rely heavily on their experience in other states, which—they claim—treat QF interconnections differently than Oregon and similarly to non-QF interconnections.[95] However, even in jurisdictions where Mr. Rahman and Mr. Bunge appear to have experience,[96] the Joint Utilities' experiences with QF interconnection make it clear that state utility commissions have established polices under PURPA that require QFs to pay for the costs of their interconnections, in direct conflict with NewSun's testimony.

Q. On what do Mr. Rahman and Mr. Bunge base their statements that other state utility commissions allocate the costs of Network Upgrades to the QFs that cause them?

A. Mr. Rahman provides a chart listing the California ISO, four California utilities, and one Nevada utility and explains that QFs interconnecting with those entities receive refunds for Network Upgrades.[97] When asked in discovery what entities he has worked with on interconnections, Mr. Rahman also listed PacifiCorp and Northwestern Energy, among others.[98]

Mr. Bunge characterizes requiring the utility to pay for all QF Network Upgrades as a "widely applicable practice" and states that Oregon QFs are "saddled with costs that they do not face in any other state."[99] Mr. Bunge testifies regarding his experience interconnecting with PacifiCorp and also testifies that Montana is a state in which he has developed QF projects.[100]

[94] Joint Utilities/100, Vail-Bremer-Foster-Larson-Ellsworth/28-30, 32-33; Joint Utilities/200, Wilding-Macfarlane-Williams/7-8.
[95] NewSun/100, Rahman/10-13; NewSun/300, Bunge/5.
[96] NewSun/100, Rahman/2; NewSun/300, Bunge/2-3; Joint Utilities/301, Wilding-Macfarlane-Williams/12-13, 15-16, 23-26 (NewSun Response to PGE DR 22-23, 25 and Attachment 25A, 56-57).
[97] NewSun/100, Rahman/12.
[98] Joint Utilities/301, Wilding-Macfarlane-Williams/15-16 (NewSun Response to PGE DR 25 and Attachment 25A).
[99] NewSun/300, Bunge/5-6.
[100] NewSun/300, Bunge/3-4.

Q. In your view, does Mr. Rahman and Mr. Bunge's past experience in other jurisdictions support their idea that the Commission should require utilities to refund QFs for the cost of their interconnection-driven Network Upgrades?

A. No. The NewSun witnesses failed to support their assertions regarding other states' policies—either in testimony or in discovery—and in fact their sweeping statements are incorrect.[101] First, California entities operate under an ISO, and thus very differently from Oregon utilities, as the Joint Utilities' Transmission Witnesses explain.[102] Thus, the witnesses' experience in California and in other organized markets is not instructive.

Second, as the Joint Utilities will explain in our legal briefing, while many state public utility commissions in the West have not yet taken up the policy question that currently confronts the Commission, state public utility commissions that have addressed the issue on the merits have, in fact, concluded that QFs should bear responsibility for their Network Upgrades.[103] Importantly, however, despite their past experience, neither Mr. Rahman nor Mr. Bunge appears to be aware that state public utility commissions that have taken up this issue on the merits have supported the Joint Utilities' position, which undermines their claims that Oregon's current policy uniquely disadvantages QFs and should be changed.

Q. Mr. Rahman suggests that it is not necessary to charge QFs for Network Upgrades because, rather than using QF output to serve native load, the utility could instead

[101] *See* Joint Utilities/301, Wilding-Macfarlane-Williams/6-9, 10-16, 18, 23-26 (NewSun Response to PGE DR 9-11, 17, 19, 22-25, Attachment 25A, 27, 56-57).
[102] Joint Utilities/400, Vail-Bremer-Foster-Larson-Ellsworth/16.
[103] *See, e.g.*, *In the Matter of the Application of Rocky Mountain Power for Approval of the Power Purchase Agreement between PacifiCorp and Glen Canyon Solar A, LLC, et al.*, Utah PSC Docket No. 17-035-26 et al., Consolidated Order (Dec. 22, 2017); *In the Matter of the Petition of CED Wheatland Wind, LLC to set Terms and Conditions for Qualifying Small Power Production Facility Pursuant to M.C.A. § 69-3-603*, Montana PSC Docket No. 2019.10.076, Final Order No. 7702b at ¶¶ 67-74 (Apr. 22, 2020).

sell QF power in the market "or otherwise dispose of it."[104] Please respond.

A. Mr. Rahman's suggestion does not present a viable solution for avoiding transmission constraints and would likely impose additional costs on customers for several reasons. First, as the Joint Utilities' Transmission Witnesses explain,[105] the very transmission constraints that prevent delivering a QF's output to load would likely also make it challenging to transmit the QF's output to a market. Even if transmission were available, the utility would need to expend its resources to locate a buyer and then acquire one or more transmission reservations to transmit the QF power to the buyer. Finally, the utility would need to accept whatever market price were available at the time the QF generated—which in times of negative pricing could mean paying a buyer to accept the QF output. Because QF avoided cost prices include capacity payments, the utility would almost certainly be selling the QF output at a loss. In short, utilities should not be required to "dispose" of QF power through means other than serving the utility's load because the utility's avoided costs are intended to compensate QFs for serving load.

Q. NewSun witness Brittany Andrus states that the Commission's QF interconnection policies have resulted in "prohibitively high system upgrade cost for many renewable generators, making those proposed projects uneconomic."[106] Do you agree?

A. In some instances, yes. From a regulatory policy perspective, however, we would observe that a QF siting in an area with "prohibitively high system upgrade cost[s]" should, in fact, be uneconomic. While Ms. Andrus characterizes the high costs of interconnection for certain projects as somehow unfair, we would argue that if a QF sites its project in an area

[104] Joint Utilities/301, Wilding-Macfarlane-Williams/20-21 (NewSun Responses to PGE DR 31 and 34).
[105] Joint Utilities/400, Vail-Bremer-Foster-Larson-Ellsworth/30-31.
[106] NewSun/200, Andrus/12; *see also* Joint Utilities/301, Wilding-Macfarlane-Williams/19 (NewSun Response to PGE DR 28).

that requires "prohibitively high system upgrade cost[s]" to interconnect and deliver the project's generation to the utility's customers, the solution is not for utility customers to subsidize those projects such that they become "economic" for the QF. Such a policy would discourage the economically efficient development of QFs and shift significant costs to customers in violation of the avoided-cost limitation and sound regulatory policy. We would also observe that if a utility were to acquire or build generation resources in an area with "prohibitively high system upgrade cost[s]," the utility itself would face rate disallowances unless the project as a whole were economically justified by other factors, such as a low PPA price, operational flexibility, or the fact that the Network Upgrades needed for the project were necessary for other reasons.

Q. Ms. Andrus states that utilities are motivated to discourage QFs because utilities "do not receive a return on investment for QF power purchase agreements, as they do for their own energy resources."[107] How do you respond?

A. We have two comments. First, while it is true that utilities do not receive a return on investment for QF PPAs, utilities do not receive a return on investment for non-QF PPAs, either. Nevertheless, utilities regularly enter into PPAs with non-QF generators. However, consistent with sound regulatory policy, utilities decline to acquire non-QF resources with high interconnection or delivery costs unless those projects are otherwise economically or operationally justified.

For example, PacifiCorp is currently conducting an RFP for the acquisition of new renewable resources. Consistent with a typical RFP process, PacifiCorp will select the winning bidders from the pool of eligible bidders based on their competitive pricing. Each

[107] NewSun/200, Andrus/15.

of those bidders must *also* demonstrate that they have reasonable interconnection and transmission costs through interconnection and transmission studies before PacifiCorp will actually commit to any purchases. Similarly, PGE's RFPs typically require bidders to demonstrate that they have arrangements to interconnect and to transmit their output to PGE's system, in the case of off-system bidders. The utilities cannot be blind to interconnection and delivery costs because it is the utility's obligation to ensure all *voluntary* resource acquisitions are prudent and just and reasonable for ratepayers. One element of ensuring that resource acquisitions are prudent and just and reasonable is to ensure the total costs of the project, including interconnection and delivery costs, are reasonable.

For *involuntary* resource acquisitions like QF purchases, utility customers rely on the Commission, not the utility, to protect them from unjust and unreasonable rates, and to ensure they remain financially indifferent to the purchase of QF power. Utilities must purchase power from QFs at avoided cost prices at locations selected by the QFs and are thus powerless to ensure that QF project costs are prudent, economically justified, or just and reasonable. The customer protection function is thus committed entirely to the Commission's discretion through its development of PURPA policies. Given this context, the fact that Commission policy renders some QFs with "prohibitively high interconnection costs" uneconomic is not, in our view, an indictment of that policy.

Second, while the Joint Utilities disagree with Ms. Andrus' oversimplified assertion that a utility's policy proposals are driven by a motivation to increase rate base, we would note the irony in the fact that NewSun's proposed solution to this problem is for a utility to make potentially unlimited, uneconomic transmission system investments to accommodate

QF power and roll them into the utility's rate base. The Joint Utilities' opposition to NewSun's proposals is not based on concerns about rate base, which would not suffer under NewSun's proposal, but on a recognition that utilities should acquire resources for retail customers that are prudent, economically justified, consistent with PURPA, and that result in just and reasonable retail rates.

Q. Do you have any additional comments on this issue?

A. Yes. We would simply reiterate the point made in our opening testimony that, to the extent there is a barrier to generator interconnections, that barrier is the actual cost of interconnection in a given location.[108] As Joint Utilities' Transmission Witnesses have explained, the actual cost of upgrading a utility's system to accommodate a new generator interconnection can be very expensive in some geographic areas, particularly when 100 percent of that generator's output must be taken and delivered to retail load.[109] The actual barrier to interconnection is the cost of engineering and safety measures needed to interconnect such a generator at a particular location on the utility's system—not the utilities' actions, and not the Commission's policies.

Fundamentally, the fact that interconnection costs can be incredibly expensive in a given location does not justify throwing out the Commission's interconnection cost-allocation policies that are firmly grounded in PURPA and state policy.

Q Does this conclude your testimony?

A. Yes.

[108] Joint Utilities/100, Vail-Bremer-Foster-Larson-Ellsworth/13.
[109] Joint Utilities/100, Vail-Bremer-Foster-Larson-Ellsworth/13.

BEFORE THE PUBLIC UTILITY COMMISSION OF OREGON

UM 2032

Joint Utilities Exhibit 301

to

Reply Testimony of Michael G. Wilding, Robert Macfarlane, and Alison Williams

Data Responses

December 11, 2020

ICC Data Responses to PGE

Oregon Public Utility Commission
OPUC Dockets UM 2032
November 19, 2020
Interconnection Customer Coalition's Response to PGE Data Request 4

PGE Data Request 4

Define the term "system wide benefits" or "system benefits" as used in Mr. Lowe's testimony.

Response to PGE Data Request 4

As stated in Mr. Lowe's testimony, Mr. Lowe's testimony uses and understands the terms "system wide benefits" and "system benefits" as those terms are used in the Commission's Order No. 10-132 and Order No. 09-196. *See* Interconnection Customer Coalition/100, Lowe/8-9. Additionally, as Mr. Lowe further testified, Mr. Lowe concludes that the "presumption should be that all Network Upgrades benefit all users of the system." Interconnection Customer Coalition/100, Lowe/12.

Mr. Lowe's view, and the position of the Interconnection Customer Coalition, is that the presumption should be that all Network Upgrades benefit all users of the system and produce system wide benefits. In the rare circumstance in which there is no system-wide benefit, the utilities should have to prove that ratepayers or other users are *not* beneficiaries of a given Network Upgrade. Mr. Lowe's conclusion is based on his understanding that Network Upgrades are upgrades beyond the point of interconnection, and his logical reasoning that such upgrades are upgrades to parts of the integrated, cohesive transmission system that benefit that system and its users.

Please also refer to Response to PGE Data Request 10.

Oregon Public Utility Commission
OPUC Dockets UM 2032
November 19, 2020
Interconnection Customer Coalition's Response to PGE Data Request 11

PGE Data Request 11

Refer to the Response Testimony of John Lowe (Interconnection Customer Coalition/100), page 13, lines 6-10, where Mr. Lowe testifies that, "After a decade, the Joint Utilities have not developed any policies or internal procedures on how a QF might establish quantifiable system-wide benefits because none of the utilities believe that QF interconnections can ever provide system-wide benefits, and the utilities apparently never intended to ever even consider whether any QF could provide a systemwide benefit."

a. Does Mr. Lowe agree that it was the Commission, not the utilities, that adopted the standard whereby a QF might establish a quantifiable system-wide benefit resulting from a Network Upgrade? If not, please explain the basis for Mr. Lowe's disagreement.

b. Has the Commission established any policies or procedures on how a QF might establish a quantifiable system-wide benefit?

c. Is Mr. Lowe aware of any QF not referenced in his testimony that attempted to demonstrate that a Network Upgrade provided a quantifiable system-wide benefit?

d. How would Mr. Lowe recommend that a QF demonstrate that a Network Upgrade provides a quantifiable system-wide benefit?

Response to PGE Data Request 11

a. The Interconnection Customer Coalition objects that this Data Request inappropriately worded.

   Notwithstanding this objection, the Interconnection Customer Coalition responds as follows:

   Mr. Lowe agrees that the Commission approved interconnection procedures wherein an interconnecting utility is required to refund a QF that establishes quantifiable system-wide benefits.

b. The Interconnection Customer Coalition objects that this Data Request inappropriately worded.

   Notwithstanding this objection, the Interconnection Customer Coalition responds as follows:

The Commission does not generally establish policies or procedures when issuing an order directing the utilities to take specific actions. It is the responsibility of the utilities to comply with the Commission's orders, including explaining how QFs can establish quantifiable system-wide benefits where applicable and establishing policies or procedures to comply with the law.

c. No.

d. The Interconnection Customer Coalition objects that this Data Request seeks a policy recommendation not offered by the referenced Testimony. The Interconnection Customer Coalition will provide policy and legal recommendations in legal briefing and declines to provide them here.

Notwithstanding this objection, the Interconnection Customer Coalition responds as follows:

Please see Interconnection Customer Coalition/100, Lowe/21:4-10.

NewSun Data Responses to PGE

Request No. 9:

9. Refer to the Response Testimony of David Bunge (NewSun/300), page 3, lines 1-2. Please identify the "other states where [Mr. Bunge has] developed projects" where the "QF's obligation is merely to deliver power to the Point of Interconnection." Please provide all evidence relied on by Mr. Bunge to support this statement, including, but not limited to the following:

a. Identify each state.

b. Specific citation to the state statute, administrative rule, commission order, or other applicable policy statement demonstrating what each state has established as the "QF's obligation [to] merely [] deliver power to the Point of Interconnection."

Response:

NewSun objects to the extent that production of the data requested would be unduly burdensome, that the request is overly broad, and that the request would require NewSun or Mr. Bunge to develop information or prepare a study or analysis and/or conduct research for another party. NewSun further objects to the extent that the request calls for legal conclusions, that PGE's attempts to have NewSun and its witnesses do legal research on its behalf, and that it requires a non-lawyer to state a legal opinion regarding the requirements of other state statutes, administrative rules, commission orders or other applicable policy statements. NewSun further objects to this request to the extent that it requests information and documents which are publicly available.

Notwithstanding the foregoing, NewSun responds as follows: Mr. Bunge is not making a statement about what each and every states' statutes, administrative rules, commission orders, or other applicable policy statements require in specificity, but rather speaking as an experienced power professional who has worked extensively in the development, acquisition, sales, and financing of solar projects throughout the country, particularly QF projects, which was a core focus of his former employer and Mr. Bunge's work. To that end, Mr. Bunge's testimony provided a rough reference list of states in which he has developed or engaged in transactions related to solar projects, particularly QFs, and his general understanding of the practical, on-the-ground effect of the conditions that existed at the time that he worked in those states.

The point of Mr. Bunge's testimony was simply to provide broader context for Oregon's abnormal interconnection outcomes relative to his broad experience as a developer and QF professional. The issues that came up in Oregon did not come up in other states, and the net effect of Oregon's interconnection issues resulted in frustration and delay in developing QF projects in Oregon. To the extent that other states might have had NRIS options or QF-specific NRIS interconnection requirements under the state-jurisdictional QF interconnection and/or PPA process, Mr. Bunge is not aware of there being such a practice. Mr. Bunge's does not recall any interconnection practices requiring NRIS-only for QFs and

non-refundability of Network Upgrades, combining with the interconnection realities in such a way that had the net effect of frustrating or obstructing QF development, as it did in Oregon.

It would be unduly burdensome for NewSun to develop a comprehensive state-by-state study of interconnection procedures for Portland General Electric Company (PGE) with specific citations to each state statute, administrative rule, commission order or other applicable policy statement where those documents are publicly available, and PGE is equally able to perform its own legal research.

Request No. 10:

10. Refer to the Response Testimony of David Bunge (NewSun/300), page 3, lines 1-2 where Mr. Bunge testifies that, "In other states where I have developed projects, the QF's obligation is merely to deliver power to the Point of Interconnection."

a. For each state referenced in this testimony, please explain whether the state requires QFs to interconnect using ERIS, NRIS, something else, or has no specific policy governing the interconnection service applicable to QF interconnections.

b. For each state referenced in this testimony, please explain whether the state requires QFs to pay for Network Upgrades required as a result of the QF's interconnection and provide specific citation to the state statute, administrative rule, commission order, or other applicable policy statement supporting Mr. Bunge's understanding of each state's cost allocation policies for QF interconnections.

Response:

See response to Portland General Electric's Data Request No. 9.

Request No. 11:

11. Refer to the Response Testimony of David Bunge (NewSun/300), page 3, lines 3-9. Please provide all evidence relied on by Mr. Bunge to support his testimony that, "In states such as North Carolina, South Carolina, Indiana, Montana and Michigan, the question of whether the utility can support a new QF resource at a given location was not an operational calculation based on load in a given part of the utility's network, rather the calculation was based on the technical constraints of the physical infrastructure in the area (i.e. does the line or substation for the proposed POI have a sufficient MVA rating to support the project capacity and related reliability and communications issues)." Please provide evidentiary support for Mr. Bunge's claims, including but not limited to, specific citation to the state statute, administrative rule, commission order, or other applicable policy statement supporting Mr. Bunge's understanding of each state's requirements.

Response:

See response to Portland General Electric's (PGE) Data Request No. 9.

Notwithstanding the foregoing, NewSun responds as follows: The language quoted by PGE regarding interconnection studies for QFs being "based on the technical constraints of the physical infrastructure in the area. . . i.e. [whether] a line or substation. . . [can] support the project capacity" is consistent with the basic purpose and methods of interconnection studies. PGE seems to be suggesting that analysis of system capacity to study a potential interconnection is not the purpose of interconnection studies, which is not how most industry professionals would understand the interconnection process.

Request No. 17:

17. Refer to the Response Testimony of David Bunge (NewSun/300), page 5, lines 3-9. Please identify all of the "other states" that Mr. Bunge is referring to on line 4. For each state, please provide all of the evidence Mr. Bunge relied on for his understanding of the state's interconnection policies applicable to QF interconnections, including but not limited to specific citation to the state statute, administrative rule, commission order, or other applicable policy statement.

Response:

NewSun objects to the extent that production of the data requested would be unduly burdensome, that the request is overly broad, and that the request would require NewSun to develop information or prepare a study for another party. NewSun further objects to the extent that the request calls for legal conclusions, that Portland General Electric Company's (PGE's) attempts to have NewSun and its witnesses do legal research on its behalf, and that it requires a non-lawyer to state a legal opinion regarding the requirements of other state statutes, administrative rules, commission orders or other applicable policy statements. NewSun further objects to this request to the extent that it requests information and documents which are publicly available.

Notwithstanding the foregoing, NewSun responds as follows: Mr. Bunge is not making a statement about what each of those states' statutes, administrative rules, commission orders, or other applicable policy statements require, but rather Mr. Bunge's testimony provided a list of states in which he has developed projects and his understanding of the practical, on-the-ground effect of the conditions that existed at the time that he worked in those states. The point of Mr. Bunge's testimony was simply to state that the issues that came up in Oregon did not come up in other states and those issues resulted in frustration and delay in developing the projects in Oregon.

It would be unduly burdensome for NewSun to develop a comprehensive state-by-state study of interconnection procedures for PGE with specific citations to each state statute, administrative rule, commission order or other applicable policy statement where those documents are publicly available, and PGE can perform its own legal research. Further, to produce "all evidence" Mr. Bunge relied upon for his understanding of each of those states interconnection policies, would effectively require Mr. Bunge to produce all of data on all interconnections he has worked on since 2007 since Mr. Bunge's understanding is based on his experience working in the industry in each of those states during that time period.

Bunge

Request No. 19:

19. Refer to the Response Testimony of David Bunge (NewSun/300), page 5, line 23 to page 6, line 1, where Mr. Bunge testifies that, "Without these reforms, QFs will continued [sic] to be saddled with costs that they do not face in *any other state* . . ." (emphasis added). Is it Mr. Bunge's position that no other states require QFs to obtain NRIS and/or require QFs to pay for Network Upgrades required to interconnect the QF? Please provide all of the evidence Mr. Bunge relied on for his understanding of every state's interconnection policies applicable to QF interconnections, including but not limited to specific citation to the state statute, administrative rule, commission order, or other applicable policy statement.

Response:

See response to Portland General Electric's Data Request No. 17.

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November 20, 2020
NewSun's Response to PGE's First Set of Data Requests

Request:

22. Refer to the Response Testimony of Brian S. Rahman (NewSun/100), page 10, lines 6-11, where Mr. Rahman testifies that, "with the exception of how QF's are treated within Oregon, the utility is always the ultimate beneficiary of the increased capacity associated with network or reliability upgrades and either funds these upgrades directly or, if initially funded in some cases by the interconnection customer, provides a refund to the generator who finances or secures the funding for upgrades after the energization of the associated facilities." Please specifically identify every other state that does not require QFs to fund Network Upgrades required because of the QF's interconnection. For each state identified, please include all evidence relied on by Mr. Rahman to support his conclusions, including but not limited to specific citation to the state statute, administrative rule, commission order, or other applicable policy statement.

Response:

NewSun objects to the extent that production of the data requested would be unduly burdensome and that the request is overly broad and calls for legal conclusions. NewSun further objects to this request to the extent that it requires a non-lawyer to state a legal opinion regarding the requirements of other state statutes, administrative rules, commission orders or other applicable policy statements. It would be unduly burdensome for NewSun to provide Portland General Electric Company (PGE) with specific citations to each state statute, administrative rule, commission order or other applicable policy statement where those documents are publicly available, and PGE can perform its own legal research. Further, to produce "all evidence" Mr. Rahman relied upon for his understanding of each of those states interconnection policies, would effectively require Mr. Rahman to produce all of data on all interconnections he has worked on over the course of his 30-year career since Mr. Rahman's understanding is based on his experience working in the industry in each of the states listed during that time period.

The point of Mr. Rahman's testimony is that the Oregon policy on non-refundability of Network Upgrades for only QFs, and *only* QFs selling exclusively and wholly under mandatory purchase obligation to a single in-state utility, is inconsistent the commonly understood and implemented practice of utilities refunding network upgrades to all types of interconnection customers. Oregon's policy discriminates against QFs and is anomalous based on Mr. Rahman's broad experience and expertise in the field.

Mr. Rahman's testimony provided a list of states in which he has worked on generator interconnections and his understanding of the practical, on-the-ground impact in those states.

Notwithstanding the foregoing, Mr. Rahman is not aware of any other state that implements its state jurisdictional interconnections in the same manner as Oregon.

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NewSun's Response to PGE's First Set of Data Requests

Request:

23. Refer to the Response Testimony of Brian S. Rahman (NewSun/100), page 10, lines 14-16, where Mr. Rahman testifies that, "Given how the balance of transmission owners within the WECC treat the cost responsibility for Network Upgrades, it is befuddling why Oregon would implement a separate tariff and treat state jurisdictional interconnections differently than others." Please specifically identify every other state and/or transmission owner that does not require QFs to fund Network Upgrades required because of the QF's interconnection. For each state and/or transmission provider identified, please include all evidence relied on by Mr. Rahman to support his conclusions, including but not limited to specific citation to the state statute, administrative rule, commission order, or other applicable policy statement.

Response:

See response to Portland General Electric Data Request No. 22. NewSun also objects to PGE's attempts to have NewSun and its witnesses do legal research on its behalf. The witness is stating its experience, as a professional with 30 years of experience in the field, noting Oregon's policy is abnormal relative to that experience. Notwithstanding the foregoing, Mr. Rahman is not aware of any other state that implements its state jurisdictional interconnections in the same manner as Oregon.

The question misstates Mr. Rahman's testimony (in multiple ways), which is that most states require QFs (consistent with all other generators seeking transmission capacity) to fund Network Upgrades, but require the transmission provider to refund those upgrades.

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November 20, 2020
NewSun's Response to PGE's First Set of Data Requests

Request:

24. Refer to the Response Testimony of Brian S. Rahman (NewSun/100), page 10, lines 17-18. Please provide all evidentiary support for Mr. Rahman's statement that, "Network Upgrades to the transmission system benefit all system users, not just the QF in question, and increase the value of the transmission system 'asset'." As part of this response, please describe in detail the methodology used by Mr. Rahman to assess whether a particular Network Upgrade provides broader system benefits.

Response:

NewSun objects to the extent that production of the data requested would be unduly burdensome and that the request is overly broad. It would be unduly burdensome for NewSun to provide Portland General Electric Company (PGE) with "all evidence" Mr. Rahman relied upon for his understanding that Network Upgrades to the transmission system benefit all system users since it is based on his expert opinion and would effectively require Mr. Rahman to produce all of data on all interconnections he has worked on over the course of his 30-year career since Mr. Rahman's understanding is based on his experience working in the industry in each of the states listed during that time period.

NewSun further objects to the extent that production of the data requested is not relevant to this phase of the proceeding. It is NewSun's understanding that the question of the appropriate methodology to determine the allocation of Network Upgrade costs is an issue to be addressed in Phase II of this docket.

Notwithstanding the foregoing, Mr. Rahman believes based on his long experience in the industry and his training and experience as a licensed professional electrical engineer that because of the physics of the transmission system, which operates as a single large system, network upgrades benefit all users of the system. Given that electrons flow everywhere across the system, it would be essentially impossible to isolate any network upgrade and limit its use to one specific transmission user.

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NewSun's Response to PGE's First Set of Data Requests

Request:

25. Refer to the Response Testimony of Brian S. Rahman (NewSun/100), page 11, lines 1-2. Please identify all the "other transmission owners and planning entities" that Mr. Rahman has worked with on interconnections.

Response:

NewSun objects to the extent that production of the data requested would be unduly burdensome and that the request is overly broad. Mr. Rahman's testimony provided a list of states in which he has worked on generator interconnections and some specific examples. It would be unduly burdensome for NewSun to provide Portland General Electric Company (PGE) with each and every transmission owner or planning entity within each of those states on which Mr. Rahman has worked over the course of his thirty-year career. Notwithstanding these objections, a list is attached as Attachment 25A, which reflects the transmission providers Mr. Rahman has worked with to the best of his recollection.

Transmission Owners and Planning Entities Brian Rahman has Worked with on Interconnections
California Independent System Operator
Los Angeles Department of Water and Power
Imperial Irrigation district
NV Energy
Sierra Pacific Power prior to NV Energy Acquisition
PacifiCorp
Pacific Gas and Electric
Southern California Edison
San Diego Gas and Electric
PNM (Public Service of New Mexico)
Northwestern Energy
Sacramento Municipal Utility District

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NewSun's Response to PGE's First Set of Data Requests

Request:

26. Refer to the Response Testimony of Brian S. Rahman (NewSun/100), page 11, lines 8-11. Does Mr. Rahman believe that a Network Upgrade that increases system capacity will always create a system wide benefit even if there is no need for increased system capacity?

a. Does Mr. Rahman believe that the cost of a Network Upgrade is relevant to determining whether it provides a system wide benefit?

b. Please explain how, if at all, the cost of Network Upgrades should be considered when assessing whether the Network Upgrades provide a system wide benefit.

Response:

See response to Portland General Electric Data Request No. 22. In addition, NewSun objects to this data request on the ground that it is unduly vague. Notwithstanding these objections, NewSun answers as follows: (1) PGE seems to be suggesting that an upgrade to the transmission system's benefit might be related to the price of the upgrade. This is confusing as the electrical function of hardware does not know what it costs; and, (2) expansion of a system creates an expansion of the system. The system as a whole increases in capacity. Increases in capacity increase the capabilities of the system and reduce the stresses on the system due to additional capacity to perform services, provide capacity, and manage system stresses. Increased ability to do such things are beneficial. Yes, improvements to systems are beneficial to the applicable systems.

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NewSun's Response to PGE's First Set of Data Requests

Request:

27. Refer to the Response Testimony of Brian S. Rahman (NewSun/100), page 12, line 1. In addition to the host utilities described on line 10 of page 12, please identify all other "host utilities and transmission owners" that "provide a refund to the generator developer for the cost of Network Upgrades."

a. For all of the host utilities and transmission owners identified on page 12 and in response to this data request, does the refund policy for Network Upgrades apply to both QF and non-QF generators?

b. Please provide specific citations to each host utility's and/or transmission owner's applicable tariffs, or state statute, administrative rule, or commission policy, if applicable, that require refunds of Network Upgrade costs for QF interconnections.

Response:

NewSun objects to the extent that production of the data requested would be unduly burdensome and that the request is overly broad and calls for legal conclusions. NewSun further objects to this request to the extent that it requires a non-lawyer to state a legal opinion regarding the requirements of tariffs, statutes, administrative rules, commission orders or other applicable policy statements. It would be unduly burdensome for NewSun to provide Portland General Electric Company (PGE) with specific citations to each state statute, administrative rule, commission order or other applicable policy statement where those documents are publicly available, and PGE can perform its own legal research.

Mr. Rahman's testimony provided several examples of interconnection authorities that, based on his understanding of the practical, on-the-ground effects of their policies, provide a refund to the generator developer for the cost of Network Upgrades.

Notwithstanding the foregoing, Mr. Rahman states that, in his experience, the examples cited in his testimony are consistent with the approach taken across the industry for larger generators, with the exception of QFs subject to OPUC-jurisdiction interconnection rules. If there are other utilities that follow the OPUC approach, Mr. Rahman has not encountered them in his decades of experience working with interconnections. None of the utilities cited in Mr. Rahman's testimony treat QFs differently than non-QF interconnections. For example, California does not treat QFs differently from other interconnecting generators. The same is true for NV Energy, which is owned by a common parent as Pacific Power. For these two entities, CAISO and NVE, network upgrades are refunded to the generator, QF or not. For NVE, they have even adopted policies which do not require the interconnecting generator to pre-fund the upgrades, but rather they are directly funded by the utility, with the interconnection customer merely providing a financial security which is not drawn on unless the interconnection is not completed by the customer.

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November 20, 2020
NewSun's Response to PGE's First Set of Data Requests

Request:

28. Refer to the Response Testimony of Brian S. Rahman (NewSun/100), page 13, lines 2-4. Please explain what Mr. Rahman means when he says that "the QF would need a higher cost for the energy produced to absorb the cost of the network upgrade." Is Mr. Rahman testifying that avoided cost prices would need to be increased?

Response:

Mr. Rahman is testifying that if Network Upgrades are unnecessarily imposed on a QF, it can render the QF uneconomical since the QF cannot increase the amount it collects for the energy it produces.

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NewSun's Response to PGE's First Set of Data Requests

Request:

31. Refer to the Response Testimony of Brian S. Rahman (NewSun/100), page 13, lines 20-21, where Mr. Rahman testifies that, "ERIS is used by generators that can operate and deliver energy utilizing the existing system capacity on an as-available basis." What is Mr. Rahman's understanding of a utility's ability to use as-available transmission service for QF generation? Please provide a detailed explanation for Mr. Rahman's understanding, including citations to all applicable regulatory requirements that allow the use of as-available transmission service for QF generation.

Response:

NewSun objects to the extent that production of the data requested would be unduly burdensome and that the request is overly broad and calls for legal conclusions. NewSun further objects to this request to the extent that it requires a non-lawyer to state a legal opinion regarding regulatory requirements. It would be unduly burdensome for NewSun to provide Portland General Electric Company (PGE) with specific citations to each regulatory requirement where those documents are publicly available, and PGE can perform its own legal research. Additionally, PGE misstates Mr. Rahman's testimony, which did not speak to "transmission service" but interconnection type (ERIS).

Notwithstanding the foregoing, Mr. Rahman understands the utilities are not required to deliver QF to native load, but can resell the energy on wholesale markets or otherwise dispose of it. Accordingly, there is no reason that a purchasing utility could not use as available transmission capacity to deliver QF power to an alternative buyer where transmission constraints prevent delivery to the purchasing utility's native load.

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November 20, 2020
NewSun's Response to PGE's First Set of Data Requests

Request:

34. Refer to the Response Testimony of Brian S. Rahman (NewSun/100), page 14, lines 20-21. Does Mr. Rahman agree that utilities are obligated to use firm transmission service to deliver QF generation to load? If Mr. Rahman does not agree, please provide a detailed explanation of the basis for his disagreement, including citation to all relevant statutes, administrative rules, or state or federal regulatory commission orders or policy statements supporting Mr. Rahman's disagreement.

Response:

NewSun objects to the extent that production of the data requested would be unduly burdensome and that the request is overly broad and calls for legal conclusions. NewSun further objects to this request to the extent that it requires a non-lawyer to state a legal opinion regarding statutes, administrative rules, or state or federal regulatory commission orders or policy statements. It would be unduly burdensome for NewSun to provide Portland General Electric Company (PGE) with specific citations to each statutes, administrative rules, or state or federal regulatory commission orders or policy statements where those documents are publicly available, and PGE can perform its own legal research.

Notwithstanding the foregoing, Mr. Rahman cannot state a position regarding whether or how statutes, administrative rules, or state or federal regulatory commission orders or policy statements impact the transmission service that a utility may use to deliver power to load because this calls for a legal conclusion. In any event, the question is irrelevant because utilities are not required to deliver QF power to their load.

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NewSun's Response to PGE's First Set of Data Requests

Request:

50. Refer to the Response Testimony of Brittany Andrus (NewSun/200), p. 15, lines 1-2, where Ms. Andrus observes that: "Utilities do not receive a return on investment for QF power purchase agreements, as they do for their own energy resources." To the extent that a utility was required to refund or otherwise pay for the costs of Network Upgrades constructed to interconnect a QF, would the utility earn a return on that investment?

Response:

NewSun objects to the extent the data requested is not relevant.

Yes. At this time, Ms. Andrus knows of no reason that most or all network upgrades should not be included in a utility's rate base when the utility refunds or otherwise pays for the cost of those network upgrades, but no network upgrade costs should be included in a utility's rate base unless and until the utility actually pays those costs (which, for clarity, they should be required to do).

This question should be examined in Phase II.

Rahman

Request No. 56:

56. Please see NewSun Response to PGE Data Request No. 22, stating, "Mr. Rahman's testimony provided a list of states in which he has worked on generator interconnections and his understanding of the practical, on-the-ground impact in those states. Notwithstanding the foregoing, Mr. Rahman is not aware of any other state that implements its state jurisdictional interconnections in the same manner as Oregon." And please see NewSun/100, Rahman/2, stating, "Over the past 15 years with ZGlobal I have worked on hundreds of large and small generator interconnections across the Western United States including projects in Oregon, Washington, Montana, Nevada, Arizona, California, Utah, and New Mexico."

a. Please confirm that Mr. Rahman's testimony stating that "with the exception of how QF's are treated within Oregon, the utility is always the ultimate beneficiary of the increased capacity associated with network or reliability upgrades and either funds these upgrades directly or, if initially funded in some cases by the interconnection customer, provides a refund to the generator who finances or secures the funding for upgrades after the energization of the associated facilities," NewSun/100, Rahman/10:6-11, is based on his understanding that Washington, Montana, Nevada, Arizona, California, Utah, and New Mexico do not require a QF to pay for Network Upgrades caused by its interconnection.

b. Please confirm that Mr. Rahman's testimony quoted in part (a) is not based on his understanding of or experience in any states other than those listed in part (a).

c. If part (a) or (b) is denied, please explain what additional states' policies or requirements Mr. Rahman's testimony is based on.

d. Please see NewSun Attachment 25-A, referencing Northwestern as a utility Mr. Rahman has worked with on interconnections. Is Mr. Rahman's testimony quoted in part (a) based on his understanding that Montana does not require a QF to pay for Network Upgrades caused by its interconnection?

Response:

See response to Portland General Electric Company's Data Request No. 22.

Notwithstanding the foregoing, including Mr. Rahman's caveats in No. 22 as relates the general experience of Mr. Rahman, and not intending to comment exhaustively on the requirements of each state statute, administrative rule, commission order or other applicable policy statement, NewSun responds as follows:

NewSun does not confirm the statement in part (a) above. To the extent that the other states might have required a QF to pay for Network Upgrades *without a refund*, Mr. Rahman is not aware of there being such a practice.

The testimony quoted in part (a) is based on Mr. Rahman's 30 years of experience in the field and experience in the states listed in part (a) at the time Mr. Rahman worked in those states and the *net effect* of the policies in those markets as relates these aspects of policies as contrasted with the net effect for Oregon's policies.

Rahman

Request No. 57:

57. Please see NewSun Response to PGE Data Request No. 23 (referencing NewSun Response to PGE Data Request No. 22) and NewSun Response to PGE Data Request No. 22, stating, "Mr. Rahman's testimony provided a list of states in which he has worked on generator interconnections and his understanding of the practical, on-the-ground impact in those states. Notwithstanding the foregoing, Mr. Rahman is not aware of any other state that implements its state jurisdictional interconnections in the same manner as Oregon." And please see NewSun/100, Rahman/2, stating, "Over the past 15 years with ZGlobal I have worked on hundreds of large and small generator interconnections across the Western United States including projects in Oregon, Washington, Montana, Nevada, Arizona, California, Utah, and New Mexico."

    a. Please confirm that Mr. Rahman's testimony stating that "Given how the balance of transmission owners within the WECC treat the cost responsibility for Network Upgrades, it is befuddling why Oregon would implement a separate tariff and treat state jurisdictional interconnections differently than others." NewSun/100, Rahman/10:14-16, is based on his understanding that Washington, Montana, Nevada, Arizona, California, Utah, and New Mexico do not treat state jurisdictional QF interconnections differently than other interconnections.

    b. Please confirm that Mr. Rahman's testimony quoted in part (a) is not based on his understanding of or experience in any states other than those listed in part (a).

    c. If part (a) or (b) is denied, please explain what additional states' policies or requirements Mr. Rahman's testimony is based on.

    d. Please see NewSun Attachment 25-A, referencing Northwestern as a utility Mr. Rahman has worked with on interconnections. Is Mr. Rahman's testimony quoted in part (a) based on his understanding that Montana does not treat state jurisdictional QF interconnections differently than other interconnections?

Response:

See response to Portland General Electric Company's Data Requests Nos. 22 and 23.

Notwithstanding the foregoing NewSun responds as follows:

NewSun does not confirm the statement in part (a) above. Mr. Rahman's quoted testimony is based on his understanding that the states within the WECC besides Oregon do not treat state jurisdictional interconnections differently than other interconnections with regard to the cost responsibility for Network Upgrades. To the extent that the other states might have treated state jurisdictional interconnections differently than other interconnections in other respects, Mr. Rahman is not aware of there being such a practice.

The testimony quoted in part (a) is based on Mr. Rahman's 30 years of experience in the field and experience in the states listed in part (a) at the time Mr. Rahman worked in those states and the net effect of the policies in those markets as relates these aspects of policies as contrasted with the net effect for Oregon's policies. Of concern however, it appears that PGE is trying entrap Mr. Rahman, rather than reading the general response he provided that he is not intending to comment exhaustively on the requirements of each state statute, administrative rule, commission order or other applicable policy statement.

PGE Data Responses to Staff

December 9, 2020

TO: Caroline Moore
Public Utility Commission of Oregon

FROM: Robert Macfarlane
Manager, Pricing and Tariffs

PORTLAND GENERAL ELECTRIC
UM 2032
PGE Supplemental Response to OPUC Data Request No. 001
Dated July 7, 2020

Request:

In an electronic, Excel format with formulae intact, please identify the cost of deliverability driven network upgrades identified in the system impact study for each Oregon-sited interconnection applicant between the period of January 1, 2014 to present that received a system impact study:

a. Queue #
b. Date of interconnection request
c. Interconnection request status
d. Service type (NR/ER)
e. Generator type (state or federal, large or small)
f. Nameplate capacity in MW
g. County location (in OR)
h. Generator technology type
i. Point of interconnection
j. Network Upgrade costs assigned to generator ($)
k. Network Upgrade costs assigned to higher queued generators identified in the system impact study ($)
l. Whether the network upgrade was constructed or is under construction.

Supplemental Response:

Please see Supplemental Attachment 001A. Rows 2-10 contain information regarding PGE's large generator interconnection requests that have received a System Impact Study (SIS). Rows 9 and 10 are new, and information in other rows has been updated.

"Deliverability driven" is not defined and could be subject to multiple interpretations, but PGE interprets this phrase to refer to upgrades that were identified in a Network Resource Interconnection Service (NRIS) study that were not, or would not have been, identified in an Energy Resource Interconnection Service (ERIS) study. Using this interpretation, PGE has two additional large generator interconnection requests—for a total of four requests (highlighted in green)—that have received SISs that identify deliverability driven Network Upgrades (shown in Column O). In addition, PGE interpreted item K in the Request, "Network Upgrade costs assigned to higher queued generators," to be inquiring about Contingent Facilities, as that term is defined in the OATT. However, Contingent Facilities are not always associated with higher-queued interconnection requests, and PGE has been clear about the source of the Contingent Facilities in Column Q.

Rows 11-163 contain information about PGE's small generator interconnection requests, as of August 7, 2020, the date of the original response. Although PGE is not updating the small generator information at this time, PGE confirms that it still has not had a small generator interconnection request receive an SIS identifying the functional equivalent of Network Upgrades, as that term is defined in the OATT and the QF-LGIP.

Response:

Please see Attachment 001A. Rows 2-8 contain information regarding PGE's large generator interconnection requests that have received a System Impact Study (SIS). "Deliverability driven" is not defined and could be subject to multiple interpretations, but PGE interprets this phrase to refer to upgrades that were identified in an Network Resource Interconnection Service (NRIS) study that were not, or would not have been, identified in an Energy Resource Interconnection Service (ERIS) study. Using this interpretation, PGE has only two large generator interconnection requests (highlighted in green) that have received SISs that identify deliverability driven Network Upgrades (shown in Column O). In addition, PGE interpreted item K in the Request, "Network Upgrade costs assigned to higher queued generators," to be inquiring about Contingent Facilities, as that term is defined in the OATT. However, Contingent Facilities are not always associated with higher-queued interconnection requests, and PGE has been clear about the source of the Contingent Facilities in Column Q.

Rows 9-161 contain information about PGE's small generator interconnection requests. None of PGE's small generator interconnection requests to-date have received SISs identifying the functional equivalent of Network Upgrades, as that term is defined in the OATT and the QF-LGIP, but PGE is providing information about the system upgrades identified for its small generator interconnection requests to ensure Staff has complete information. To be clear, all of the system upgrades identified in Column P are upgrades to the distribution system—not the transmission system—and PGE's understanding is that upgrades to the distribution system are not within the scope of this docket. Because small generator interconnection studies do not separately identify Contingent Facilities, PGE is not providing information in Column Q for Rows 9-161. Finally, please note that for a few of the older small generator interconnection requests, PGE was unable to locate the SIS and so instead provided information from the Facilities Study or the Interconnection Agreement, as reflected in the Key.

October 2, 2020

TO: Caroline Moore
Public Utility Commission of Oregon

FROM: Robert Macfarlane
Manager, Pricing and Tariffs

PORTLAND GENERAL ELECTRIC
UM 2032
PGE Response to OPUC Data Request No. 012
Dated September 10, 2020

Request:

12. Please refer to Vail-Bremer-Foster-Larson-Ellsworth/7 of the Joint Utility Opening Testimony, which provides the FERC definition of Network Upgrades, " [T]he additions, modifications, and upgrades to the Transmission Provider's Transmission System required at or beyond the point at which the Interconnection Facilities connect to the Transmission Provider's Transmission System to accommodate the interconnection of the Large Generating Facility to the Transmission Provider's Transmission System." Please list all Network Upgrades that the Company has constructed since 2010. Please also include Network Upgrades that would match this definition if not for the reference to large generating facility. Please include the following information for each year since the upgrade was in service through 2019 inclusive:

    a. Interconnection queue number of the generator(s) that triggered the upgrade.
    b. Whether the generator(s) are owned by the Company.
    c. Cost of the upgrade borne by the generator(s).
    d. Cost of the upgrade borne by ratepayers.
    e. Cost of the upgrade borne by other transmission customers.
    f. Transmission revenues generated by the upgrade.

Response:

PGE has not constructed any Network Upgrades on its transmission system associated with a generator interconnection since 2010.

Staff Data Responses to PGE

Date: November 24, 2020

TO:

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FROM: Caroline Moore
Chief Analyst
Energy Resources and Planning Division

OREGON PUBLIC UTILITY COMMISSION
Docket No. UM 2032- PGE 1st Set Data Request filed November 10, 2020

PGE Data Request No 01:

1. See Staff/100, Moore/16.

   a) When Staff refers to the "avoided interconnection costs of purchasing energy and capacity from some other source," is Staff referring to avoided interconnection costs from the proxy resource identified in the interconnecting utility's IRP?
   b) If the answer to subpart (a) of this data request is no, then what "avoided interconnection costs" is Staff referring to?

OPUC Response No 01:

1. a) Yes, Staff is referring to avoided costs of a proxy resource, but we are not referring to or otherwise specifying whether the utilities are properly modeling these costs in their IRPs or if the IRP is the appropriate source for this information.

OREGON PUBLIC UTILITY COMMISSION
Docket No. UM 2032- PGE 1st Set Data Request filed November 10, 2020

Date: November 24, 2020

TO:

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FROM: Caroline Moore
Chief Analyst
Energy Resources and Planning Division

OREGON PUBLIC UTILITY COMMISSION
Docket No. UM 2032- PGE 1st Set Data Request filed November 10, 2020

PGE Data Request No 02:

2. See Staff/100, Moore/18-19.

a) Should QFs be responsible for any interconnection costs caused by their projects that are in excess of the interconnection costs avoided by the utility by virtue of the purchase of the QF's output? If not, why not?

b) Should the interconnection costs avoided by the utility by virtue of the purchase of the QF's output be based on the interconnection costs associated with the proxy resource on which the other avoided cost components are based? If not, why not?

OPUC Response No 02:

2 a) Staff objects to this data request because it is asking for information outside of the scope of this docket (i.e., interconnection costs other than Network Upgrade costs). However, Staff is not aware of a reason that avoided Network Upgrade costs should be treated differently than other avoided interconnection costs.

2 b) Staff objects to this data request because it is asking for information outside of the scope of this docket (i.e., interconnection costs other than Network Upgrade costs). However, Staff is not aware of a reason that avoided Network Upgrade costs should be treated differently than other avoided interconnection costs.

Date: November 24, 2020

TO:

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FROM: Caroline Moore
Chief Analyst
Energy Resources and Planning Division

OREGON PUBLIC UTILITY COMMISSION
Docket No. UM 2032- PGE 1st Set Data Request filed November 10, 2020

PGE Data Request No 03:

3. Throughout Staff/100, Staff uses the term "system benefits."

a) Please define "system benefits."

b) FERC does not analyze whether a specific Network Upgrade creates system benefits, but instead applies a generic policy presumption that all Network Upgrades create system benefits. Does Staff agree with this description of FERC's policy? If not, how would Staff describe FERC's method of determining whether a Network Upgrade creates system benefits?

c) Do you agree that it is within the Oregon PUC's authority to define "system benefits" differently from FERC?

d) In determining whether system benefits are created by a Network Upgrade, does Staff agree that the cost of the Network Upgrade must also be considered? If the response is anything other than an unconditional "yes," please explain fully.

e) Under Staff's view of "system benefits" created by the construction Network Upgrades:

i. Who is the beneficiary of the Network Upgrade? (e.g. retail customers, state- jurisdictional interconnection customers, FERC-jurisdictional interconnection customers, transmission customers, wholesale power customers, others?)

ii. What is the benefit? (e.g., financial benefit, reliability benefit, specific state or federal policy benefit, etc.)

iii. How can the benefit be measured or quantified?

iv. When should the benefit be measured or quantified?

OPUC Response No 03:

3 a) Staff is not aware of a definition of system benefits that has been adopted by the Commission. Staff proposes that a mechanism to identify and compensate QFs for the system benefits of any Network Upgrade above the QF's avoided Network Upgrade be addressed in Phase II.

3 b) Yes.

3 c) Yes. Staff believes that the Commission can determine a different cost allocation for QF interconnection costs (and has), and that the Commission can define system benefits to the extent that they are part of this cost allocation.

3 d) Staff does not understand what the Company means by "considered". However, Staff does not believe that the cost of a Network Upgrade determines the benefits to users of the system. Staff does think that the relationship between the cost of an upgrade and the benefit of an upgrade should be considered when allocating the costs of upgrades to a QF.

3 e) Staff believes that these are all good questions that Staff foresees addressing in Phase II of this investigation. Staff has not yet developed a position on these questions.

Date: November 24, 2020

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FROM: Caroline Moore
Chief Analyst
Energy Resources and Planning Division

OREGON PUBLIC UTILITY COMMISSION
Docket No. UM 2032- PGE 1st Set Data Request filed November 10, 2020

PGE Data Request No 04:

4. How do "benefits" provided to a wholesale transmission customer translate to a cost "avoided" by a retail customer under PURPA?

OPUC Response No 04:

4. Staff's proposed cost allocation has two separate parts (avoided costs and system benefits) and does not attempt to translate system benefits into avoided costs.

Date: November 24, 2020

TO:

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FROM: Caroline Moore
Chief Analyst
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OREGON PUBLIC UTILITY COMMISSION
Docket No. UM 2032- PGE 1st Set Data Request filed November 10, 2020

PGE Data Request No 05:

5. Does Staff agree that the Commission has never defined the term "system benefits" as it applies to Network Upgrades incurred to interconnect QFs? If the response is anything other than an unconditional "agree," please explain fully including providing citations to Commission decisions.

OPUC Response No 05:

5. Agree

Date: November 24, 2020

TO:

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FROM: Caroline Moore
Chief Analyst
Energy Resources and Planning Division

OREGON PUBLIC UTILITY COMMISSION
Docket No. UM 2032- PGE 1st Set Data Request filed November 10, 2020

PGE Data Request No 07:

7. Does Staff agree that Oregon investor owned utilities, as a matter of practice, currently exempt QFs from cost responsibility for Network Upgrades needed to interconnect a QF but identified in a higher-queued interconnection customer's study?

OPUC Response No 07:

7. Staff understands that utilities identify, but do not directly assign, these costs for the lower queued generators in a system impact or facilities study performed in serial order. In addition, we understand these costs could be assigned to the lower queued generator if the higher queued generator withdraws from the interconnection queue, which is one reason that these costs are identified in the lower queued generator's serial interconnection studies.

We understand that a Network Upgrade cost can be shared across multiple generators in a cluster study process.

Date: November 24, 2020

TO:

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FROM: Caroline Moore
Chief Analyst
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OREGON PUBLIC UTILITY COMMISSION
Docket No. UM 2032- PGE 1st Set Data Request filed November 10, 2020

PGE Data Request No 08:

8. See Staff/100, Moore/28, lines 4-7 where Staff has recommended that Phase II of this investigation adopt a mechanism or process of reimbursement of "system benefits."

   a) Should the term "system benefits" be defined by the Commission before a mechanism for recovery of such can be implemented? If not, why not?
   b) If the response to subpart (a) of this data request is "yes," should a mechanism for identifying and quantifying such benefits also be developed? If not, why not?

OPUC Response No 08:

8 a) This is a question that Staff believes should be investigated in Phase II
8 b) Staff believes that this is a question that should be addressed in Phase II.

Date: November 24, 2020

TO:

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FROM: Caroline Moore
Chief Analyst
Energy Resources and Planning Division

OREGON PUBLIC UTILITY COMMISSION
Docket No. UM 2032- PGE 1st Set Data Request filed November 10, 2020

PGE Data Request No 09:

9. PURPA requires utilities to provide QFs with avoided cost pricing within defined intervals after requesting a Power Purchase Agreement. In addition, the Commission has indicated that the utilities should provide QFs with certainty about the costs of developing their projects as early as possible in the contracting process.[1]

a) Assuming the Commission defines "system benefits" in a manner that allows quantification of such benefits for a specific Network Upgrade, when does Staff envision this analysis occurring?
b) Does Staff envision the analysis of system benefits taking place during avoided-cost development, and if so, would QFs be required to obtain interconnection studies before obtaining avoided cost pricing?
c) Does Staff envision the analysis of system benefits taking place as part of the QF's interconnection cost development, rather than avoided cost development?

OPUC Response No 09:

9 a) Staff can see this being part of the interconnection study process, but believes that this is a question that should be investigated in Phase II.
9 b) No.
9 c) Staff can see this being part of the interconnection study process, but believes that this is a question that should be investigated in Phase II.

1

[1] *See Blue Marmot V LLC v. Portland General Electric Co.*, Docket UM 1829, Order No. 19-322 at 16 (Sept. 30, 2019) ("We generally consider it reasonable for electric companies to complete the due diligence process before sending final draft executable contracts for signature by QFs. A utility should review significant proposed QF delivery terms as early as possible, and ideally well before providing a final draft executable contract.).

Date: November 24, 2020

TO:

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FROM: Caroline Moore
Chief Analyst
Energy Resources and Planning Division

OREGON PUBLIC UTILITY COMMISSION
Docket No. UM 2032- PGE 1st Set Data Request filed November 10, 2020

PGE Data Request No 10:

10. See Staff/100, Moore/21.

a) Does Staff agree that the value of "increasing the capacity of the transmission system" (however that value is defined) depends on the location of that capacity expansion? If not, why not?
b) Does Staff assert that "increasing the capacity of the transmission system" benefits retail ratepayers as a general matter? If so, how would Staff characterize those retail benefits?
c) If the benefits are related to serving retail load more efficiently or effectively, how would those benefits be identified or quantified? Please explain fully.
d) How would Staff's approach to valuing any increase in the "capacity of the transmission system" created by Network Upgrades relate to the evaluation of transmission system investments made by utilities in their IRPs?

OPUC Response No 10:

10 a) Staff can't speculate on that. It can be a factor, but staff understands that the benefit of an upgrade depends on more than just the location of the capacity expansion.
10 b) Staff has not yet made that assertion, however, the utilities have explained some of these benefits in other proceedings. For example, UE 374, PAC/100, Vail/17-18.
10 c) Staff has not made this assertion. This is a question that Staff believes should be investigated in Phase II.
10 d) This is a great question that Staff believes should be investigated in Phase II.

Staff Data Responses to PacifiCorp

Date: December 9, 2020

TO:
DATA REQUEST RESPONSE CENTER
PACIFICORP
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PORTLAND, OR 97232
datarequest@pacificorp.com

FROM: Caroline Moore
Chief Analyst
Energy Resources and Planning Division

OREGON PUBLIC UTILITY COMMISSION
Docket No. UM 2032 - PacifiCorp 1st Set Data Request filed November 24, 2020

PAC Data Request No 01:

1. Staff: Staff/100 Moore/17 – The utilities do not acknowledge that the OR-SGIP only assigns *reasonable* interconnection costs to generators or the Commission's discussion of what reasonable should mean." What does Staff believe "reasonable" means in this context, and how should it be defined.

OPUC Response No 01:

1. In general, Staff supports a definition of reasonable that allocates costs of upgrades to the beneficiaries of the upgrades. Staff notes that the Commission's guidance in adopting the OR-SGIP provides some helpful context for "reasonable":

   "The proposed rules, however, include language that is meant to strictly limit a public utility's ability to require one small generator facility to pay for the cost of system upgrades that primarily benefit the utility or other small generator facilities, or that the public utility planned to make regardless of the small generator interconnection."

   Staff also reiterates that its general proposal for reasonable upgrade costs for a QF is two-fold:
   a. Costs above the avoided upgrade costs;
   b. Costs above the system-wide benefits of the upgrade.

Date: December 9, 2020

TO:
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FROM: Caroline Moore
Chief Analyst
Energy Resources and Planning Division

OREGON PUBLIC UTILITY COMMISSION
Docket No. UM 2032 - PacifiCorp 1st Set Data Request filed November 24, 2020

PAC Data Request No 03:

3. At Staff/100, Moore/27, Staff states as a benefit of the SPP cost allocation methodology as follows: "[C]ost sharing balances the competing need to site efficiently from a transmission capacity perspective with the need to site efficiently from a renewable resource perspective."
    a. Please explain what Staff means by "siting efficiently from a transmission capacity perspective."
    b. Please explain what Staff means by "siting efficiently from a renewable resource perspective."

OPUC Response No 03:

a. Staff means siting in an area that is relatively cost-effective from a transmission upgrade perspective.
b. Staff means siting in an area that is relatively cost-effective from resource generation standpoint.

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

DOCKET NO. UM 2032

Joint Utilities' Reply Testimony

Joint Utilities: PacifiCorp d/b/a Pacific Power, Portland General Electric Company, and Idaho Power Company

JOINT UTILITIES EXHIBIT 400

Joint Reply Testimony of Richard A. Vail, Kris Bremer, Shaun Foster, Sean Larson, and Jared Ellsworth

December 11, 2020

Table of Contents

I. PURPOSE AND SUMMARY OF TESTIMONY

Q. What is the purpose of your testimony?

A. Our testimony responds to the response testimony filed by Public Utility Commission of Oregon (Commission) Staff, the Interconnection Customers Coalition (ICC), and NewSun Energy, LLC (New Sun).

Q. Are there other witnesses providing reply testimony on behalf of the Joint Utilities in this docket?

A. Yes. Mr. Michael G. Wilding, Mr. Robert MacFarlane, and Ms. Alison Williams (Joint Utilities' Regulatory Witnesses) provide reply testimony addressing regulatory issues raised by Staff, ICC, and NewSun.

Q. Please summarize your testimony.

A. We continue to believe that the Commission's current policies, which allocate the costs of QF-driven Network Upgrades to the QFs that cause them, are consistent with the customer indifference standard and are critical to ensure the economically efficient development of QFs. We also continue to support our view that Network Resource Interconnection Service (NRIS) is the only appropriate interconnection service type for QFs. Absent some additional action by the Commission, allowing a QF to obtain Energy Resource Interconnection Service (ERIS) would remove the financial incentive for the economically efficient development of QF power and would shift costs to retail customers.

In our testimony, we first clarify the Joint Utilities' view that the policies at issue in this docket are intended to apply to Network Upgrades caused by the interconnection of any QF, whether large or small. Next, we explain that the Joint Utilities support Staff's

recommendation that the Commission's "quantifiable system-wide benefits" test be addressed in Phase II of this docket, but we take issue with Staff's assertions about the potential system-wide benefits of QF-driven Network Upgrades. We also disagree with ICC and NewSun that Network Upgrades presumptively provide system-wide benefits for retail customers. Transmission planners engage in comprehensive transmission system planning precisely because not all transmission system upgrades have equivalent value and not all benefit retail customers. The Commission's quantifiable system-wide benefits test presents a number of difficult questions that are appropriate for discussion in Phase II.

With respect to the issue of whether a QF should be required to obtain NRIS or ERIS, NewSun's and ICC's witnesses make a number of misstatements regarding this issue, none of which undermines our original conclusion that NRIS is the only appropriate interconnection service for QFs.

II. SCOPE OF THIS DOCKET

Q. As an initial matter, Staff appears to disagree with the Joint Utilities' description of the scope of this docket as it applies to small QFs.[1] How do you respond?

A. We believe Staff and the Joint Utilities have the same understanding of the scope of this docket, and we will attempt to clarify our prior testimony on this issue. Our understanding is that this docket is scoped to address the cost allocation for a QF's interconnection-driven Network Upgrades—regardless of the size of the QF. If the interconnection involves a QF's interconnection-driven Network Upgrades, this docket will inform the cost allocation of those Network Upgrades. This docket also addresses the type of interconnection service

[1] Staff/100, Moore/6.

a QF may receive.

Q. Is there a dispute about the definition of a Network Upgrade?

A. We do not believe so. At this point, all parties in this proceeding have defined Network Upgrades in their testimony,[2] and all agree that Network Upgrades are defined as:

> [T]he additions, modifications, and upgrades to the Transmission Provider's Transmission System required at or beyond the point at which the Interconnection Facilities connect to the Transmission Provider's Transmission System to accommodate the interconnection of the Large Generating Facility to the Transmission Provider's Transmission System.[3]

The definition of Network Upgrades does not include upgrades to a utility's distribution system.[4] Thus, it seems clear to the Joint Utilities that upgrades made to a utility's distribution system are outside the scope of this docket.

Q. Why is there confusion about the Joint Utilities' position?

A. We are not certain but will address our understanding of the applicability of this docket to small QFs once more. In our opening testimony,[5] we noted that the Oregon small generator interconnection rules do not use the term "Network Upgrades," but instead use the term "system upgrades." System upgrades are not the equivalent of Network Upgrades because system upgrades can include a broader range of upgrades. More specifically, a small generator's interconnection may trigger: (1) upgrades to the utility's distribution system at or beyond the point of interconnection; (2) upgrades to the utility's transmission system at

[2] Staff/100, Moore/7; ICC/100, Lowe/8; NewSun/100, Rahman/6; *see also* Joint Utilities/401, Vail-Bremer-Foster-Larson-Ellsworth/2, 12, 48 (ICC Response to PGE DR 1; NewSun Response to PGE DR 1, 41).
[3] *See In re Pub. Util. Comm'n of Oregon Investigation into Interconnection of PURPA Qualifying Facilities with Nameplate Capacity Larger than 20 Megawatts to a Pub. Utility's Transmission or Distribution System*, Docket UM 1401, Order No. 10-132, Appendix A (QF-LGIP) at 11 (Apr. 7, 2010).
[4] Moreover, upgrades to a distribution system have very different attributes than upgrades to a transmission system.
[5] Joint Utilities/100, Vail-Bremer-Foster-Larson-Ellsworth/12-13.

or beyond the point of interconnection (i.e., Network Upgrades under the QF LGIP); or (3) both.[6] We explained that, although the term "Network Upgrades" is not used in the Commission's small generator interconnection rules, upgrades to the transmission system at or beyond the point of interconnection caused by small QFs' interconnection are nevertheless "the *functional equivalent* of 'Network Upgrades,' as they are defined in the QF-LGIP," and that the policy decisions in this docket would likely apply to those upgrades, as well.

The point of making this distinction was to emphasize that certain small-generator distribution-level system upgrades are *not* at issue in this docket, nor are numerous other issues that ICC has raised that the Commission has scoped for docket UM 2111. But we agree with Staff that the policies adopted by the Commission on the issues scoped for this docket logically apply to all QF Network Upgrades (or the functional equivalent thereof), whether the QF is large or small.

Q. Given that all parties agree on the definition of Network Upgrades, is there agreement on the scope of this docket?

A. That is unclear. ICC witness John Lowe states in his testimony that he does not have personal knowledge of whether the scope of this docket includes upgrades to the distribution system.[7] Mr. Lowe states that distribution-level system upgrades provide system-wide benefits and should be treated the same as transmission-level Network Upgrades, but fails to provide any support for this assertion.[8]

[6] OAR 860-082-0015(34).
[7] ICC/100, Lowe/10.
[8] ICC/100, Lowe/10-11; Joint Utilities/401, Vail-Bremer-Foster-Larson-Ellsworth/6 (ICC Response to PGE DR 9).

Q. Do you agree with Mr. Lowe's view?

A. No. Upgrades made to a utility's distribution system are by definition outside the scope of this docket. Moreover, we are aware of no basis for Mr. Lowe's assertion that upgrades to a utility's distribution system provide any sort of system-wide benefits, nor does he provide one.[9]

III. ISSUE 1: COST ALLOCATION FOR NETWORK UPGRADES

A. Summary of Parties' Positions

Q. Please summarize your prior testimony on this issue.

A. The primary issue raised in this docket is who should pay for Network Upgrades necessitated by a QF's interconnection. Our opening testimony explained that the extent of Network Upgrades triggered by both NRIS and ERIS—and the associated costs—are driven by a QF's siting choice. The Commission's current policies, which allocate the costs of a QF's interconnection-driven Network Upgrades to the QF that causes them, are consistent with the customer indifference standard and critical to ensure the economically efficient development of QFs.

Q. After reading the parties' response testimony, has your position changed?

A. No.

Q. Please summarize your understanding of Staff's position on this issue.

A. Staff believes the Commission's cost-allocation and NRIS policies are appropriate under PURPA, as they recognize that a QF should be responsible for the cost of the Network

[9] *See* ICC/100, Lowe/10-11; Joint Utilities/401, Vail-Bremer-Foster-Larson-Ellsworth/6 (ICC Response to PGE DR 9).

Upgrades required by its interconnection to the extent those costs exceed a utility's avoided cost or the value of any "quantifiable system-wide benefits" created by the Network Upgrades.[10] Among other things, Staff agrees that "ratepayers should be held indifferent [to the purchase of QF power] and that QFs should be encouraged to make economical siting decisions."[11] In Staff's view, the Commission's current QF interconnection policies are consistent with these principles.[12]

Q. Does Staff have concerns about how the Commission's policies are currently being implemented?

A. Yes. Although Staff agrees with the principles underlying the Commission's current policies, Staff is concerned that avoided interconnection costs may not be adequately captured in the utilities' current avoided-cost calculations and recommends reviewing this issue in docket UM 2000.[13] Staff also questions whether QFs are being properly credited for any "quantifiable system benefits" created by their interconnection-driven Network Upgrades and recommends that the Commission address this issue in Phase II of this docket.[14]

Q. How do you respond?

A. The regulatory policy implications of Staff's recommendations are addressed by the Joint Utilities' Regulatory Witnesses.[15] We address additional points associated with

[10] Staff/100, Moore/6.
[11] Staff/100, Moore/16.
[12] Staff/100, Moore/6.
[13] Staff/100, Moore/35.
[14] Staff/100, Moore/28, 35.
[15] Joint Utilities/300, Wilding-Macfarlane-Williams/17-33.

implementing Staff's recommendations from a Transmission Provider's perspective.

Q. Do ICC and NewSun agree with the Commission's current cost-allocation policy?

A. No. ICC and NewSun argue that the Network Upgrades necessitated by a QF's interconnection should be presumed to benefit all utility customers, and that utility customers should bear the costs of QF-caused Network Upgrades unless the utility demonstrates that the Network Upgrades do not provide such benefits.[16]

Q. Do you agree with ICC and NewSun?

A. No. We discuss this issue in more detail later in our testimony, but in our view, ICC's and NewSun's proposals would be inconsistent with the limitations of the avoided cost rate and would result in uneconomical siting choices by QFs. The Joint Utilities' Regulatory Witnesses discuss how these proposals would result in customers paying more than the avoided cost rate and would be inconsistent with the Commission's duty to ensure retail rates are just and reasonable.[17]

Q. NewSun witness David Rahman states that he is aware of no reason that QFs and non-QFs should be treated differently from each other from a cost allocation standpoint.[18] How do you respond?

A. Our opening testimony and the opening testimony of the Joint Utilities' Regulatory Witnesses discuss the differences between QFs and non-QFs.[19] These include PURPA's must-take obligation, the limitation of the avoided-cost rate, the requirement for a utility to

[16] ICC/100, Lowe/7, 11-12; NewSun/100, Rahman/4, 10-11; NewSun/300, Bunge/5.
[17] Joint Utilities/300, Wilding-Macfarlane-Williams/21-22.
[18] NewSun/100, Rahman/4, 10.
[19] Joint Utilities/100, Vail-Bremer-Foster-Larson-Ellsworth/28-30, 32-33; Joint Utilities/200, Wilding-Macfarlane-Williams/7-8.

deliver QF power on firm transmission to load, and the fact that the QF interconnections at issue in this docket fall within the Commission's jurisdiction, not the Federal Energy Regulatory Commission's (FERC).[20]

Q. Mr. Rahman states that, in his experience, utilities always fund a QF's interconnection-driven Network Upgrades.[21] How do you respond?

A. Mr. Rahman's testimony on this point is somewhat baffling. Despite the fact that Mr. Rahman has apparently worked on interconnection issues in multiple Western states, his testimony is inconsistent with our understanding that state utility commissions that have actually grappled with this question, including Oregon, Utah, and Montana, have decided to allocate costs of QF interconnection to the QFs that cause them.[22] Moreover, utility interconnection practices have been different for QFs and non-QFs in all of PacifiCorp's and Idaho Power's states for many years now. Both PacifiCorp and Idaho Power interconnect QFs using NRIS consistently across their service territories and require QFs to fund the cost of Network Upgrades without reimbursement.

Even FERC has recognized the different cost-allocation treatment afforded Oregon-jurisdictional QFs and FERC-jurisdictional generators. In 2012, PacifiCorp sought and

[20] Outside of his testimony, in response to data requests, Mr. Rahman acknowledges there are limitations on curtailing QFs. *See* Joint Utilities/401, Vail-Bremer-Foster-Larson-Ellsworth/41-42, 44, 54-55 (NewSun Response to PGE DR 32-33, 35, 59). Moreover, as we will explain in legal briefing, FERC itself has explicitly acknowledged differences between QFs and non-QFs and the different treatment accorded QFs and non-QFs.
[21] NewSun/100, Rahman/11.
[22] *See, e.g.*, *In the Matter of the Application of Rocky Mountain Power for Approval of the Power Purchase Agreement between PacifiCorp and Glen Canyon Solar A, LLC, et al.,* Utah PSC Docket No. 17-035-26 et al., Consolidated Order (Dec. 22, 2017); *In the Matter of the Petition of CED Wheatland Wind, LLC to set Terms and Conditions for Qualifying Small Power Production Facility Pursuant to M.C.A. § 69-3-603*, Montana PSC Docket No. 2019.10.076, Final Order No. 7702b at ¶¶ 67-74 (Apr. 22, 2020); *see also* Joint Utilities/401, Vail-Bremer-Foster-Larson-Ellsworth/36-37, 38, 49-52 (NewSun Response to PGE DR 22-23, 27, 56-57).

received FERC approval to discontinue paying a small generator refund credits for its interconnection-service upgrade after the QF switched from a FERC-jurisdictional interconnection agreement to a state-jurisdictional QF interconnection agreement to maintain customer indifference.[23] FERC noted that once the QF switched to a state-jurisdictional interconnection, PacifiCorp's obligation to refund the QF for Network Upgrades through FERC transmission credits ended.[24] FERC approved a repayment agreement reflecting the fact that, consistent with Oregon policy, the QF's Network Upgrades should have been directly assigned to the QF.[25]

Q. NewSun witness David Bunge states that in Oregon, QFs face "costs that they do not face *in any other state . . .*"[26] How do you respond?

A. Like Mr. Rahman's statements, Mr. Bunge's statements about Oregon's status as an outlier state are simply incorrect. When PGE asked Mr. Bunge for support for his assertion that QFs are not required to interconnect with NRIS and/or pay for their Network Upgrades in any other state, NewSun could provide none, and instead responded as follows:

> Mr. Bunge is not making a statement about what each of those states' statutes, administrative rules, commission orders, or other applicable policy statements require, but rather Mr. Bunge's testimony provided a list of states in which he has developed projects and his understanding of the practical, on-the-ground effect of the conditions that existed at the time that he worked in those states.[27]

Mr. Bunge also provided other responses to data requests making it clear that he could not

[23] *PacifiCorp*, FERC Letter Order, Docket No. ER 12-2223 (Sept. 6, 2012).
[24] *PacifiCorp*, FERC Letter Order, Docket No. ER 12-2223 (Sept. 6, 2012).
[25] *See PacifiCorp*, FERC Letter Order, Docket No. ER 12-2223 (Sept. 6, 2012).
[26] NewSun/300, Bunge/5 (emphasis added).
[27] *See* Joint Utilities/401, Vail-Bremer-Foster-Larson-Ellsworth/32, 34 (NewSun Response to PGE DR 17, 19).

support his testimony with factual evidence.[28]

B. Quantifiable System-Wide Benefits

Q Staff is concerned that QFs are not being properly compensated for the system benefits created by their interconnection-driven Network Upgrades.[29] Staff identifies "increasing the capacity" of the transmission system as such a benefit.[30] Do you have thoughts about how a utility should value "increasing the capacity" of the transmission system when a Network Upgrade is constructed?

A. It is unclear to us how any party would quantify a specific financial benefit of a Network Upgrade or allocate financial benefits from most upgrades to specific parties. As we will explain, utilities do not decide where and when to make transmission system investments by ascribing a quantifiable value to increased capacity of the system and using that quantification to drive investment decisions. Instead, the utility's integrated resource planning (IRP) group engages in least-cost, least-risk planning in order to evaluate the best way to meet the load needs of utility customers, which may include consideration of cost-effective transmission system investment estimates associated with supply options—estimates that are supplied by the utility's transmission function and supported by regular, extensive study work performed to identify investments needed for reliability.[31] Investments made in connection with both of these processes are reviewed by the Commission in a rate case.

[28] *See* Joint Utilities/401, Vail-Bremer-Foster-Larson-Ellsworth/13-18, 22-31 (NewSun Response to PGE DR 6, Attachment 6A, 7, Attachment 7A, 9-16).
[29] Staff/100, Moore/16-18.
[30] Staff/100, Moore/21.
[31] *See* Joint Utilities/300, Wilding-Macfarlane-Williams/24-25.

Q. Do you agree with ICC and NewSun that all Network Upgrades should be presumed to benefit retail customers unless and until the utility proves otherwise?

A. No. Transmission planners engage in transmission system planning precisely because all upgrades are not created equal, and, therefore, not all warrant identification in a transmission plan or study, much less inclusion in rates. We discuss this point later in our testimony.

Q. Mr. Lowe seems to believe the benefit of any given Network Upgrade is equal to its cost and that the only question is how to allocate the costs to those who receive the benefits.[32] How do you respond?

A. In our view, Mr. Lowe's analysis of this issue has a number of flaws. One critical flaw is Mr. Lowe's assumption that the total *value* of the Network Upgrade is equal to the total *cost* of the Network Upgrade, no matter what that cost is. For example, he seems to be saying that if a 20 MW QF sited in a constrained area requires a $20 million Network Upgrade, that Network Upgrade—even if it is simply reconductoring a radial line—automatically creates $20 million in benefits for retail customers. The only thing left to do, per Mr. Lowe's testimony, is to have retail customers pay for all of those benefits.[33] Under Mr. Lowe's same construct, another 20 MW QF sited in an *unconstrained* area that requires $2 million in Network Upgrades has created $2 million in benefits for retail customers. Mr. Lowe does not differentiate between the overall value or the costs of these

[32] ICC/100, Lowe/11-12.
[33] ICC/100, Lowe/12.

resources to retail customers.[34]

Aside from the legal issues raised by Mr. Lowe's position, which the Joint Utilities will address in briefing, we would note the logical fallacies in his position. There is no basis for assuming that the cost of any Network Upgrade is equal to its value, let alone that that value accrues to retail customers. The fact that all system investments are not equivalent in value is, in our view, a key reason that transmission providers are required to engage in significant planning efforts to determine where making investments in the transmission system is the most useful and cost-effective.[35]

Q. What concerns do you have about ICC's and NewSun's suggestion that all Network Upgrades, no matter how expensive, should be presumed to benefit customers unless the interconnected utility demonstrates otherwise?[36]

A. Aside from its impracticality, ICC's and NewSun's proposal to shift the burden of proof to utilities to demonstrate the value of QF-driven Network Upgrades raises problematic questions about process and cost recovery.

Q. Please explain.

A. If the Network Upgrades triggered by a QF's interconnection are presumed to provide quantifiable system-wide benefits commensurate with their cost unless the utility demonstrates otherwise, the Commission would need to provide guidance to the utilities about how the Commission's prudence standard would apply to this construct. The

[34] Consider as well that the goal of both transactions is to bring on 20 MW of power to serve utility load; the cost of obtaining this 20 MW for retail customers is very different.
[35] *See* Joint Utilities/300, Wilding-Macfarlane-Williams/23-25.
[36] ICC/100, Lowe/7, 11-12; NewSun/100, Rahman/4, 10-11; NewSun/300, Bunge/5.

question is whether the Commission would require the utility to litigate this issue each time the utility had concerns about the benefits of QF Network Upgrades in order to protect the utility's ability to ensure cost recovery for constructing those Network Upgrades. As we will explain, we would have concerns that the cost of constructing Network Upgrades not already identified in a utility's transmission plan or identified as necessary for previous service requests would be considered imprudent.

If, on the other hand, the Commission determined that its prudence standard did *not* require a utility to challenge the benefits provided by QF interconnection costs, utilities could simply construct transmission system upgrades that were neither cost effective nor justified for reliability or other reasons, and pass the costs through to retail ratepayers. Given the magnitude of QF interconnection costs in QF interconnection studies, such a policy would likely have significant impacts on customer rates.[37]

Q. Would such a policy give rise to other concerns?

A. Yes. If utility customers, rather than QFs, were responsible for paying the cost of QFs' interconnection-driven Network Upgrades, multi-jurisdictional utilities like PacifiCorp and Idaho Power could face a cost-recovery risk if other states declined to impose on their own retail customers a share of the Network Upgrade costs created by Oregon's policy. As the Joint Utilities' Regulatory Witnesses explain,[38] if the Commission adopts ICC's and NewSun's policy recommendation, it should also ensure that the costs of QF Network Upgrades will be fully recoverable from Oregon customers.

[37] *See, e.g.*, Staff/100, Moore/24.
[38] Joint Utilities/300, Wilding-Macfarlane-Williams/32-33.

Q. Staff acknowledges the challenges associated with proving quantifiable system-wide benefits and suggests that a simpler methodology used by the Southwest Power Pool (SPP) could be a helpful model.[39] Please address this issue.

A. According to Staff, SPP's tariff allows interconnecting generators to be reimbursed for the costs of their Network Upgrades so long as the Network Upgrades "increase the power-flow capacity" of the transmission system.[40] Staff suggests that the increased capacity of the transmission system is a basis upon which to provide QF reimbursements, and that some type of methodology similar to SPP's might be simpler to implement than other methodologies.[41]

Although we are not experts in SPP's tariffs or operations, we believe Staff misconstrues SPP's crediting policy as one that automatically leads to credits to the generator as long the Network Upgrades create incremental capacity. We, on the other hand, read the policy to require a demonstration that the incremental capacity created is actually used by other transmission customers.

More specifically, as Staff notes, certain types of Network Upgrades may later be eligible for credits under SPP's tariff, including Network Upgrades that "increase the power-flow capacity of a circuit on the Transmission System."[42] These are referred to as

[39] Staff/100, Moore/27-28.
[40] Staff/100, Moore/27.
[41] Staff/100, Moore/27-28. Staff also provides an example of an Idaho QF complaint settlement as an example of a simplified methodology the Commission might adopt. Staff/100, Moore/25-27. The inapplicability of this methodology is addressed by the Joint Utilities' Regulatory Witnesses. Joint Utilities/300, Wilding-Macfarlane-Williams/26-28.
[42] Staff/100, Moore/27. Moreover, our understanding is that SPP has recently revised its tariff and no longer provides credits for newer qualifying Network Upgrades, but instead provides only a benefit in the form of incremental long-term congestion rights. *See Southwest Power Pool, Inc.*, 171 FERC ¶ 61,272 (June 30, 2020).

"Creditable Upgrades." Our understanding, however, is that these credits are not paid by users of SPP's system as a whole. The only parties responsible for providing these credits to the interconnecting generator are new transmission customers taking new transmission service that could not have been provided "but for" the Creditable Upgrade. Thus, if no new transmission customers seek transmission service over the facilities funded by the interconnecting generator, the generator does not receive credits. If too few new transmission customers seek transmission service over the facilities funded by the interconnecting generator, the generator will not receive full credit.[43]

Q. Does SPP's methodology support a policy requiring all retail customers to pay a share of Network Upgrade costs caused by a QF, simply because those Network Upgrades increase the capacity of the transmission system?

A. No. In addition, we believe SPP has since discontinued its crediting policy.[44]

Q. With these clarifications, do you believe SPP's crediting mechanism could provide a useful model for crediting QFs for certain costs of their Network Upgrades?

A. No. Because FERC has authority over pricing and cost allocation for transmission service, it is unclear to us how a state commission could require specific transmission customers to pay state-jurisdictional interconnecting generators "credits" for Network Upgrades. As we discuss later in our testimony, however, it may be appropriate to include in Phase II of this docket consideration of whether it would be possible to implement a cost-sharing mechanism among Oregon-jurisdictional interconnection customers for certain

[43] *See Southwest Power Pool, Inc.*, 171 FERC ¶ 61,272.
[44] *Southwest Power Pool, Inc.*, 171 FERC ¶ 61,272.

interconnection costs.[45]

Q. Do you have any other thoughts about using SPP as a model for Commission interconnection policy?

A. We would simply note that there are significant differences between independent system operators (ISOs) and regional transmission organizations (RTOs), on the one hand, and vertically integrated utilities outside of organized markets, on the other. First, SPP's tariff is a FERC-jurisdictional tariff, not a state-jurisdictional tariff. Second, RTOs and ISOs operate very differently from vertically integrated utilities in Oregon. SPP members have turned over operational control of their transmission facilities to the independent entity, SPP, who in turn controls the centralized economic dispatch of resources across a contiguous footprint that stretches from North Dakota to Texas. Compare this with PacifiCorp, the utility that has garnered the most attention in this docket due particularly to interconnection costs in its load pockets. PacifiCorp's Oregon footprint is largely rural and non-contiguous, characterized by disparate load pockets scattered across the state. The operational characteristics of an RTO with centralized dispatch that operates across a wide swath of the American Heartland are quite different from the operational characteristics of any single Oregon utility, and each utility, whether PGE, Idaho Power, or PacifiCorp, has its own unique footprint.

[45] As Staff notes, PacifiCorp's recent cluster study process allows for cost-sharing for interconnection-driven Network Upgrades. Staff/100, Moore/27-28.

1. Utility Identification of Transmission System Upgrades

Q. Staff has stated that utilities determine where to make reliability upgrades "in a piecemeal fashion between transmission planning forums, IRP[s], competitive procurement, and interconnection and transmission service."[46] Do the Joint Utilities agree?

A. No. Staff's statement implies that a utility performs siloed transmission system study work focused on a single purpose that is disconnected from a broader process. This is not the case. The reality is that transmission providers are subject to significant federal reliability obligations—including the continued provision of firm, reliable load service and compliance with mandatory reliability standards—that drive routine, extensive study work to identify necessary transmission system improvements. That study work then informs other utility transmission system evaluations and processes.

Q. Can you provide examples of this type of routine, reliability-based study work?

A. Using PacifiCorp's transmission business unit as an example, it must perform: (1) operations planning assessments on a 0-1 year horizon; (2) annual NERC reliability compliance studies on 1, 5, and 10 year horizons; (3) local area studies on 5-10 year horizons, with areas updated on a 2-5 year cycle; (4) annual network transmission adequacy assessments on a 10 year horizon; (5) the OATT Attachment K local area transmission plan on a 10 year horizon; (6) a bi-annual regional transmission plan on a 10 year horizon; (7) an annual load and resource plan on a 10 year horizon; (8) routine updates to major transmission path ratings to account for new facilities or material changes; (9) an annual

[46] Joint Utilities/401, Vail-Bremer-Foster-Larson-Ellsworth/61-62 (Staff Response to PacifiCorp DR 2).

assessment of WECC-rated and internal transmission paths; and (10) a seasonal review of system operating limits.

Q. Is this type of study work performed in a silo?

A. No. A transmission provider's routine, reliability-based study work feeds into other highly regulated, methodical transmission system evaluations and processes, including all of the processes mentioned by Staff. While each utility might not follow an identical process, the following description of PacifiCorp's processes offers an example: First, the study work is evaluated to determine whether a particular upgrade is appropriate for identification in PacifiCorp's federal transmission planning process. Second, the study work informs the high-level transmission system information provided to PacifiCorp's IRP team, which in turn uses endogenous transmission modeling features to analyze the estimated costs, benefits, and timing associated with specific transmission upgrades to ultimately identify transmission action items necessary to support the reliable integration of PacifiCorp's preferred portfolio selections. Third, those high-level estimates are formalized when specific requests for service are submitted and studied under the PacifiCorp OATT process—a process that results in the issuance of studies that identify detailed transmission improvements necessary to reliably interconnect or transmit a specific generator. Fourth, those formal interconnection and transmission service studies are then evaluated by PacifiCorp's competitive procurement arm (or by a third party) seeking to factor the transmission improvements associated with a specific incremental resource into its overall economic evaluation.

Q. So is it fair to say that a utility decides when and where to make investments in the

transmission system primarily through a rigorous set of intertwined, highly regulated processes?

A. Yes. While these regulated processes do not result in a single, unified study, that does not mean they are performed in a "piecemeal" fashion. Collectively, the transmission system improvements identified in these study processes are comprehensive and systematic, and they inform a range of transmission system investment decisions made by utilities.

Q. And would it also be fair to say that the cost-effectiveness of the investment decisions resulting from those planning processes are reviewed by the Commission for prudence?

A. Yes. And that prudence review, coupled with the established study processes, leaves no room for ad hoc or unsupported decision-making about where to spend ratepayer dollars.[47]

Q. But doesn't increasing the capacity of the transmission system provide some value?

A. As the highly regulated, methodical process described above highlights, transmission providers do not engage in random investments in transmission system capacity simply to increase overall system capacity. As the Joint Utilities' Regulatory Witnesses explain, to do so would be antithetical to the Commission's regulatory scheme for determining when and where a utility should make investments to its system.[48] There are countless upgrades that could theoretically improve the operational characteristics of the transmission system in some generalized fashion. However, utilities are expected to make prudent decisions about which upgrades are necessary for system reliability and to serve retail load. Indeed,

[47] Other investments are made to accommodate FERC-jurisdictional requests from third-parties over which the Commission has no authority.
[48] Joint Utilities/300, Wilding-Macfarlane-Williams/24-25.

requiring utility customers to bear the cost of any upgrade that provides some theoretical benefit, simply because that upgrade results from a QF interconnection request, could completely undermine the utility's rigorous study and planning processes, and ultimately require customers to bear unreasonable costs.

Q. You noted that utilities build transmission for cost-effective load service. Can you explain?

A. The obligation to identify and purchase least-cost, least-risk resources to serve customers falls on the utility's IRP and resource acquisition groups, not its transmission function. As the Joint Utilities Regulatory Witnesses explain, a utility's IRP group considers both the generation and estimated delivery costs of a resource as part of its least-cost, least-risk analysis.[49] Once a specific request for generator interconnection service or transmission service is submitted, formal studies conducted for a resource inform what the actual interconnection and deliverability costs associated with the particular resource will be and whether pursuing that acquisition is still cost-effective with the additional Network Upgrade costs included in rate base.

2. The Joint Utilities' View of the Quantifiable System-Wide Benefits Test

Q. A number of parties have criticized the Joint Utilities' articulation of the Commission's quantifiable system-wide benefits test as too narrow.[50] How did the Joint Utilities previously describe their view of this test?

A. In opening testimony, the Joint Utilities Regulatory Witnesses explained the Joint Utilities'

[49] Joint Utilities/300, Wilding-Macfarlane-Williams/14-15, 24-25, 37-38.
[50] *See* Staff/100, Moore/22; ICC/100, Lowe/16-18.

view that the Commission's quantifiable system-wide benefits test established a "but-for" standard, consistent with PURPA's customer indifference principle.[51] It appears that the use of the phrase "but for" has engendered much confusion, and perhaps we should give this concept another name. But the phrase is simply derived from the "but for" language associated with PURPA's definition of avoided cost.

Q. Do you agree that the Joint Utilities' view is too narrow?

A. As the Joint Utilities Regulatory Witnesses explain, the test exempts a QF from the obligation to pay for construction of any Network Upgrades identified through the rigorous study process described above and included in either a utility's transmission plan or as a necessary upgrade in the study of a previous service request.[52] This has meaningful benefits. First, it encourages a QF to site its project in a location where the utility has already identified the need for additional transmission upgrades. Second, it provides a significant financial benefit to the QF. Third, it assures the Commission that customers pay only for those upgrades that have been determined to be prudent and necessary and will not pay for upgrades that are relatively useless to the system.

Q. Is it currently the practice of the Joint Utilities to charge a QF for the cost of the Network Upgrades triggered by the QF's interconnection, if the Network Upgrades have already been identified in the utility's transmission plan?

A. No. QFs are not currently allocated cost responsibility in their interconnection studies or agreements for Network Upgrades already identified in a utility's transmission plan or as

[51] Joint Utilities/200, Wilding-Macfarlane-Williams/11.
[52] Joint Utilities/200, Wilding-Macfarlane-Williams/11-12; Joint Utilities/300, Wilding-Macfarlane-Williams/19.

necessary for a previous service request.

Q. Is this exemption from cost responsibility described anywhere in the Commission's rules or generator interconnection procedures?

A. No. However, the utilities believe it would be consistent with the system-wide benefits test to exempt a QF from paying for upgrades the utility has already deemed sufficiently beneficial to customers that the utility was planning to build them, even if requiring the QF to share in the cost of those Network Upgrades would benefit customers.

Q. Mr. Lowe argues the test is unreasonable because even if a QF's Network Upgrades were "planned in the utility's IRP," the QF would not be refunded for its Network Upgrades because the QF was already being paid its full avoided cost.[53] How do you respond?

A. We are not sure we understand Mr. Lowe's argument. To the extent the Network Upgrades that Mr. Lowe is referring to are part of the utility's transmission plan and integrated into the IRP, the QF would not be charged for those Network Upgrades in the first place.

Q. Mr. Rahman states that "a relatively small upgrade to a transmission line, even in [a] remote section of the grid," will likely benefit the transmission owner.[54] How do you respond?

A We disagree. Mr. Rahman states that a small upgrade in a remote area

> will likely improve the voltage profile of the remote area which in turn will improve the voltage profile of less remote segments of the interconnected grid, improving overall performance, resulting in lower system losses, and increased transfer capability to serve customer demand. This is certainly a

[53] ICC/100, Lowe/17.
[54] NewSun/100, Rahman/11.

system wide benefit to the transmission owner.[55]

We disagree that a "small upgrade" on a transmission line is likely to provide the benefits Mr. Rahman identifies. As we explained previously, while it is theoretically possible that random transmission system expansions built to accommodate the needs of a particular QF may provide some benefits to customers, there is no reason to believe that investments in such system expansions are cost-effective or appropriately prioritized because the location of the upgrades is dictated by the QF's siting choice, not an assessment of transmission system need. There are theoretically any number of upgrades that can be made anywhere on the grid. Making every possible investment in the grid would drive up retail rates, making it critical for utilities to target necessary or cost-effective upgrades. For example, a multi-million-dollar rebuild of a radial line needed to interconnect a QF in rural Oregon may provide very little or no benefit to other grid users. Moreover, many upgrades made to accommodate QF power are not small upgrades, but large upgrades. As Staff notes, the Network Upgrade costs needed to accommodate QF power can be exorbitant relative to the amount of QF generation they allow a utility to interconnect.[56]

Q. Mr. Lowe states that he hopes the Commission can provide some useful guidance on the quantifiable system-wide benefits standard in this docket.[57] How do you respond?

A. We agree with Mr. Lowe that further Commission guidance would be useful, and we support Staff's recommendation that this issue be addressed in Phase II of this docket.

[55] NewSun/100, Rahman/11.
[56] Staff/100, Moore/23-25.
[57] ICC/100, Lowe/19-20.

Q. Do you have other thoughts about the quantifiable system-wide benefits test?

A. Yes. To this point we have been discussing potential benefits of Network Upgrades to retail customers. The Commission has also previously considered the possibility of a cost-sharing mechanism among state-jurisdictional interconnection customers for certain interconnection costs on the basis that a QF's Network Upgrades may benefit other state-jurisdictional interconnection customers.[58] While it is unclear to the Joint Utilities whether a workable mechanism for this type of cost-sharing could be developed, we believe it is an issue worthy of discussion in Phase II of this docket.

C. Avoided Network Upgrades

Q. Staff raised the issue of avoided Network Upgrades and suggested the Commission address this issue in docket UM 2000.[59] Is it reasonable to assume that, if a transmission provider identifies a certain portion of the transmission system in need of upgrades for reliability purposes, a QF's interconnection somewhere else on the system will help the utility avoid that Network Upgrade?

A. No. If a QF interconnects with a utility's transmission system in one location, there is no reason to believe that interconnection will diminish the need for the reliability-driven transmission system upgrade in another location, in most cases.

Q. What if the QF interconnects in the same location the transmission provider has identified as in need of reliability upgrades?

A. If a QF interconnects at a location where the Network Upgrades triggered by its

[58] *See In the Matter of a Rulemaking to Adopt Rules Related to Small Generator Interconnection*, Docket AR 521, Order No. 09-196 (June 8, 2009).
[59] Staff/100, Moore/35.

interconnection have already been identified by the Transmission Provider as necessary for reliability purposes, the QF's interconnection will not help *avoid* the need for the reliability upgrades, but the QF should not be financially responsible for sharing in the costs of those Network Upgrades that have already been identified in the utility's transmission plan as providing benefits to customers sufficient to warrant their construction.[60]

IV. ISSUE 2: NRIS IS THE ONLY APPROPRIATE INTERCONNECTION SERVICE FOR QFS

A. Summary of Parties' Positions

Q. Please summarize your prior testimony on this issue.

A. First, NRIS is the appropriate interconnection service for QFs, assuming that utilities are required to effectuate firm delivery of a QF's output under PURPA. Second, allowing a QF to obtain ERIS, rather than NRIS, would shift costs caused by the QF to retail customers. Third, there are differences between QFs and FERC-jurisdictional interconnection customers that bear on the question of why FERC-jurisdictional interconnection customers should get a choice between ERIS and NRIS, while QFs should not. Finally, there is no straightforward regulatory alternative to requiring NRIS that will ensure customers remain unharmed by a QF's interconnection in all instances.

Q. After reading the parties' response testimony on this issue, has your position changed?

A. No.

Q. Please describe you understanding of Staff's position on this issue.

[60] In Phase II, the parties will need to consider the circumstance where the use of a previously-identified Network Upgrade by a QF then necessitates the construction of another Network Upgrade to address the need originally identified in the utility's transmission plan—as ultimately utility customers must remain indifferent to the purchase of QF generation.

A. While Staff understands that NRIS is not the only way to deliver a generator's output to network load on a firm basis, Staff believes "it is likely the most practical interconnection service for QFs."[61] According to Staff, NRIS is "the cleanest way to manage the cost allocation of deliverability-driven Network Upgrades for QFs."[62]

Q. Do you agree with Staff's conclusion?

A. Yes.

Q. What is ICC's and NewSun's position on this issue?

A. Both ICC and NewSun argue that a QF should be able to connect with ERIS.[63]

Q. ICC and NewSun suggest that requiring a QF to interconnect with NRIS creates a significant barrier to QF development.[64] Please respond.

A. As we explained in our opening testimony, in areas with sufficient load to sink additional generation and/or no transmission constraints to load, there is very little difference in the requirements for interconnecting with ERIS and NRIS.[65] This means that in locations with high NRIS costs, those costs are driven by delivery constraints that must be addressed before a utility can take and deliver power. In other words, the barrier to QF development in this instance is transmission constraints due to inefficient project siting, not the Commission's NRIS requirement.

Q. ICC and NewSun argue that NRIS is not a prerequisite for a generator to obtain firm

[61] Staff/100, Moore/32.
[62] Staff/100, Moore/33.
[63] ICC/100, Lowe/22-26; NewSun/100, Rahman/18; NewSun/200, Andrus/3, 16, 18; NewSun/300, Bunge/5.
[64] ICC/100, Lowe/22-26; NewSun/100, Rahman/16-17, 19; NewSun/300, Bunge/2-5.
[65] Joint Utilities/100, Vail-Bremer-Foster-Larson-Ellsworth/20.

network transmission service.[66] **Do you agree**?

A. ICC and NewSun are correct that the OATT does not require a customer requesting firm transmission service to secure NRIS as a prerequisite. However, the OATT process does not consider the customer indifference principles of PURPA and is therefore blind to the practical reality that allowing a QF to interconnect with ERIS would have significant cost-shifting implications for retail customers. Whether an interconnecting QF receives ERIS or NRIS, the utility's merchant function will later submit a transmission service request (TSR) seeking to make the generator a designated network resource or otherwise eligible for delivery using firm transmission service under the OATT process. As we explained in our opening testimony, however, if the QF has sited its project in a constrained area, allowing a QF to interconnect using ERIS simply shifts the identification of deliverability-driven Network Upgrades to the TSR study process and the burden of paying for those Network Upgrades to retail customers.[67]

Q. Mr. Rahman states that "NRIS is used by generators that require dedicated firm system capacity to satisfy a power purchase agreement or otherwise require or desire firm capacity to avoid curtailments and financial deficiencies."[68] Do you agree?

A. Yes, when the power purchase agreement (PPA) is to serve load on the Transmission Provider's transmission system.

Q. Then why doesn't Mr. Rahman believe a QF should be required to interconnect with NRIS?

[66] ICC/100, Lowe/24; NewSun/100, Rahman/16-17.
[67] Joint Utilities/100, Vail-Bremer-Foster-Larson-Ellsworth/20-21.
[68] NewSun/100, Rahman/14.

A. Mr. Rahman suggests he does not agree that utilities are required to take all of a QF's power, that utilities are prohibited from economically curtailing QF power, or that a utility is required to use a QF's power to serve load.[69] In short, while he does not appear to dispute the Joint Utilities' view of the purpose of NRIS, he appears to dispute the existence of the PURPA obligations that the Joint Utilities believe make NRIS critical for the QF interconnection process.[70]

Q. Do you agree with Mr. Rahman's view of a utility's obligations under PURPA?

A. Absolutely not. As we noted previously, our opening testimony and the opening testimony of the Joint Utilities' Regulatory Witnesses discuss the differences between QFs and non-QFs.[71] These include PURPA's must-take obligation, the limitation of the avoided-cost rate, the requirement for a utility to deliver QF power on firm transmission to load, and the fact that the QF interconnections at issue in this docket fall within the Commission's jurisdiction, not FERC's.[72]

B. ICC and NewSun's Proposed Alternatives to NRIS Do Not Work

Q. Mr. Lowe suggests that a QF could interconnect with ERIS if the QF agreed to voluntary curtailment of its output to avoid interconnection costs.[73] How do you respond?

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[69] NewSun/100, Rahman/16; Joint Utilities/401, Vail-Bremer-Foster-Larson-Ellsworth/40, 43, 47, 56 (NewSun Response to PGE DR 31, 34, 40, 60).
[70] *See* Joint Utilities/401, Vail-Bremer-Foster-Larson-Ellsworth/35, 39 (NewSun Response to PGE DR 21, 29).
[71] Joint Utilities/100, Vail-Bremer-Foster-Larson-Ellsworth/28-30, 32-33; Joint Utilities/200, Wilding-Macfarlane-Williams/7-8.
[72] Outside of his testimony, in response to data requests, Mr. Rahman acknowledges there are limitations on curtailing QFs. *See* Joint Utilities/401, Vail-Bremer-Foster-Larson-Ellsworth/41-42, 44, 54-55 (NewSun Response to PGE DR 32-33, 35, 59). Moreover, as we will explain in legal briefing, FERC itself has explicitly acknowledged differences between QFs and non-QFs and the different treatment accorded QFs and non-QFs.
[73] ICC/100, Lowe/25.

A. The Joint Utilities interpret Mr. Lowe's suggestion to mean that a QF agreeing to voluntary curtailment would be delivered on non-firm transmission service, which would prevent the need for the transmission provider to perform a deliverability analysis or identify deliverability-related Network Upgrades. However, Mr. Lowe's theory suffers from operational and legal flaws. From an operational perspective, even if a utility secured non-firm transmission service to deliver a QF's power, the periods when that non-firm transmission service is unavailable will be driven by system conditions, not interconnection customer choice, and therefore may not always coincide with the periods when a QF is agreeing to voluntary curtailment. From a legal perspective, after FERC's issuance of the *Pioneer Wind* decision, we do not understand delivering QF power on non-firm transmission to be a viable option under FERC precedent. The Joint Utilities will address this further in briefing.

Q. NewSun witness Mr. Rahman testifies that a QF should be allowed to select ERIS depending on its "business plan."[74] How do you respond?

A. Mr. Rahman's testimony does not appear to recognize that PURPA obligates a utility to take all of a QF's net output, or the fact that a utility may not economically curtail a QF. In response to discovery requests, Mr. Rahman appears to recognize at least some limitations on QF curtailment, but he otherwise fails to recognize the obligations PURPA puts on a purchasing utility.[75] As a consequence, we believe his assertions are simply incorrect.

[74] NewSun/100, Rahman/16.
[75] *See* Joint Utilities/401, Vail-Bremer-Foster-Larson-Ellsworth/41-42, 44, 54-55 (NewSun Response to PGE DR 32-33, 35, 59).

Q. What is your response to Mr. Rahman's argument that a QF should not be required to obtain NRIS because a utility is not required to deliver QF power to load?[76]

A. The Joint Utilities disagree with Mr. Rahman's premise that a utility is not required to deliver QF power to load, but will address this issue in briefing.

Q. Mr. Rahman states in response to discovery requests that if QF power cannot be delivered to load due to delivery constraints, the utility can simply sell the QF power in the market.[77] How do you respond?

A. We disagree. For one thing, if a utility has designated a QF (or non-QF) as a network resource, it must sign an attestation stating that the resource is being used to serve load.[78] To the extent the utility seeks to do something other than serve load with that resource, like sell to the market, it would need to follow the strict OATT process for seeking permission to undesignate the resource and to secure point-to-point transmission service. Even putting aside the OATT process that Mr. Rahman ignores, the Joint Utilities Regulatory Witnesses address the question of whether retail customers should be forced to purchase power at avoided cost that must be then dumped at prevailing market prices in a constrained area.[79]

For our part, we would note that, in most cases, constraints that prevent a QF's power from being delivered to load without the construction of Network Upgrades will also prevent delivery to hypothetically available "markets" without the construction of Network Upgrades. Moreover, an overabundance of non-curtailable resources in a

[76] NewSun/100, Rahman/19.
[77] Joint Utilities/401, Vail-Bremer-Foster-Larson-Ellsworth/40 (NewSun Response to PGE DR 31).
[78] *See, e.g.*, PacifiCorp OATT Section 29.2(viii).
[79] Joint Utilities/300, Wilding-Macfarlane-Williams/35-36.

constrained area, such as generation in a load pocket that cannot be exported out, could create conditions that threaten reliability, not just on the utility's system but potentially on adjacent transmission provider systems, unless the utility makes investments to ensure the generation can, in fact, be exported out of the area. As a practical matter, this requires a utility to address delivery constraints associated with the need to move QF power in any event.

Q. Another option suggested by Mr. Lowe is the possibility of a utility using point-to-point transmission service, rather than firm network transmission service, to deliver the QF's power to load.[80] According to Mr. Lowe, this would avoid the need for NRIS.[81] Is this a practical solution?

A. No. Mr. Lowe's proposal solves neither the deliverability nor cost-shifting issues associated with siting in a constrained area. If transmission constraints prevent the delivery of the QF's power to load from the QF's point of interconnection, those constraints will show up in a transmission service study for firm point-to-point transmission service, just as they would show up in a study for firm network transmission service. Deliverability constraints do not simply disappear because a utility chooses a different form of firm transmission service. Mr. Lowe's proposal would simply shift delivery costs from the QF's interconnection process to the utility's TSR study process.

Q. Mr. Rahman points to examples of solar generators in California that, according to

[80] ICC/100, Lowe/25.
[81] ICC/100, Lowe/25.

Mr. Rahman, interconnect using ERIS and are frequently curtailed.[82] Does this provide a blueprint for the operation of Oregon QFs?

A. No. Mr. Rahman acknowledges that California and Oregon are "fundamentally different" in terms of power supply.[83] Moreover, our understanding is that California has sought and received an exemption from FERC from the PURPA must-take obligation for QFs over 20 MW.[84] In any case, Mr. Rahman has not specified whether the solar generators he has identified are QFs or not, and if they are, whether they are selling to a utility under a must-purchase obligation or simply selling into the California Independent System Operator (CAISO) market. If the latter, it is our understanding that no PURPA must-take obligation attaches to a decision to sell into a market, and thus no utility is obligated to take the power at a specific location and deliver it to the utility's load.[85] Moreover, a state utility commission's jurisdiction over QF interconnections attaches only when the QF is selling 100 percent of its output to the directly interconnected utility. In other words, Mr. Rahman's examples appear inapplicable to the issues before this Commission.

Q. Mr. Rahman cites a "CREA Study" for the proposition that projects interconnecting with PacifiCorp's system in a constrained area had higher interconnection costs under NRIS than ERIS.[86] How do you respond?

A. It is logical that QFs siting in a constrained area would see higher interconnection costs

[82] NewSun/100, Rahman/17-18; s*ee also* Joint Utilities/401, Vail-Bremer-Foster-Larson-Ellsworth/45, 53 (NewSun Response to PGE DR 36, 58).
[83] NewSun/100, Rahman/17.
[84] *In re Pacific Gas & Elec. et al*., 135 FERC P61,234 (June 16, 2011) (granting PURPA Section 210(m) exemption for California utilities).
[85] We note, in any case, that CAISO manages economic dispatch of resources within its footprint and entirely different transmission access considerations apply in an area with an ISO.
[86] NewSun/100, Rahman/18.

under NRIS than ERIS. This appropriately reflects that fact that NRIS studies are scoped to identify delivery constraints, whereas ERIS studies are not. As we have noted, in areas where there are no significant deliverability issues associated with QF interconnection, NRIS and ERIS studies would be expected to show similar or identical interconnection results.

Q. NewSun witness Mr. Bunge complains that projects he attempted to develop in Oregon confronted the same problem—issues with deliverability costs.[87] How do you respond?

A. We do not dispute the fact that the two projects referenced by Mr. Bunge may have been sited in areas with deliverability-related constraints that rendered the projects uneconomic. But the fact that the Commission's policies encourage the efficient, cost-effective development of QFs is not, in our view, an indictment of those policies—as the Joint Utilities' Regulatory Witnesses explain in depth.[88]

Q. According to Mr. Rahman, requiring a QF to obtain NRIS may require system upgrades that are unnecessary to accommodate the QF's power because the generators are not generating at all times.[89] Do you agree?

A. No. An NRIS study is scoped to identify both the non-deliverability and deliverability-driven Network Upgrades needed to reliably integrate the QF's generation, under the assumption that a utility is required to take the QF's power whenever it is delivered.[90] Mr.

[87] NewSun/300, Bunge/2-4.
[88] Joint Utilities/300, Wilding-Macfarlane-Williams/36-37.
[89] NewSun/100, Rahman/13-15.
[90] Joint Utilities/100, Vail-Bremer-Foster-Larson-Ellsworth/8.

Rahman's testimony suggests a utility should ignore this must-take requirement and simply curtail the QF when the QF generates more power than the system can move out of its chosen location, an action we do not understand to be appropriate under PURPA.[91]

Q. Staff states that it remains open to the idea of exploring how allowing ERIS service could impact Network Upgrade costs if compelling data becomes available in the Commission's Community Solar Program (CSP), docket UM 1930.[92] Do you believe the CSP docket could provide data that would demonstrate the appropriateness of allowing a QF to interconnect using ERIS?

A It is not clear to us how the CSP data could lead to this conclusion. For one thing, the CSP program includes some unique protections intended to mitigate the risk that interconnecting generators would trigger significant deliverability-driven Network Upgrades.[93] These include applying location-specific generator size caps, as well as additional protections to limit cost shifting to retail customers should the size caps prove insufficient.[94] It is not clear to us whether Staff would contemplate importing such protections to QF interconnections generally, or whether Staff is envisioning some other solution to manage deliverability costs. Moreover, even if CSP generators do not happen to trigger significant deliverability-driven Network Upgrades, the location-specific nature of constraints and the

[91] Joint Utilities/401, Vail-Bremer-Foster-Larson-Ellsworth/46 (NewSun Response to PGE DR 37); *see also* Joint Utilities/401, Vail-Bremer-Foster-Larson-Ellsworth/41-42, 44, 54-55 (NewSun Response to PGE DR 32-33, 35, 59) (recognizing QFs cannot be economically dispatched or curtailed).
[92] Staff/100, Moore/35; Joint Utilities/401, Vail-Bremer-Foster-Larson-Ellsworth/59 (Staff Response to PGE DR 14).
[93] This cap is still a work-in-progress, and its effectiveness at risk mitigation was altered when the cap was raised in accordance with a Staff recommendation. *In the Matter of Pub. Util. Comm'n of Oregon, Community Solar Program Implementation*, Docket UM 1930, Order No. 19-392, Appendix A at 8-9 (Nov. 8, 2019).
[94] This has been referred to as the "Conditional DNR" language. *See, e.g.*, Docket UM 1930, Staff Report at 12 (July 20, 2020).

fact that constraints change over time would not guarantee that QF projects sited elsewhere would see the same results. In general, we question how data from the CSP could yield the conclusion Staff suggests.

C. Other Issues

Q. ICC witness Mr. Lowe argues that the utilities are to blame for QFs' siting decisions because they do not provide QFs with helpful siting information.[95] How do you respond?

A. First, we would note that it is very difficult for anyone—QF developers, non-QF developers, and even transmission providers—to know with specificity what costs a generator interconnection request will trigger until interconnection studies are complete. While there are certain areas of utilities' transmission systems that are known to be constrained, as well as known issues with siting in load pockets, in general it is difficult to ascertain with certainty what engineering studies will show until interconnection studies are complete. This is because there are many unknown variables that can affect how a proposed generator may impact the transmission system.

To provide just one example, it is our understanding that PacifiCorp's resource acquisition group will not commit to purchase power from a generator that wins an RFP until PacifiCorp sees both the generator's interconnection studies and the resulting transmission service studies, simply because the results of those studies are hard to predict.[96] Interconnection costs depend on many complex factors, and those factors can

[95] ICC/100, Lowe/21-22.
[96] PGE also requires interconnection and transmission study information before making procurement decisions.

change over time—sometimes quickly. This is a challenging issue for all interconnecting generators, not just QFs.

Second, the utilities provide the same transmission system information to QFs on their OASIS sites that they provide to all interconnection and transmission customers, including their own merchant functions.[97] FERC ordered utilities to provide this information in a uniform fashion to all potential interconnection and transmission customers, and QFs are among those customers. This information includes prior studies for generation interconnection requests as well as the base case model files used by transmission providers to perform studies. QFs have the ability to use this information to perform their own analyses prior to submitting an interconnection request, analyses that may help with siting decisions. Moreover, utilities offer several products to assist interconnection customers with siting, such as pre-application reports and informational studies.

Finally, to the extent a generator is interconnecting with a utility's distribution system, rather than a utility's transmission system, the utilities publicly post detailed distribution system data that was developed in consultation with Staff and QF stakeholders in docket UM 2001 to assist QFs in making siting decisions.[98] We would also note that the Commission and stakeholders are in the process of developing a framework for utility

[97] *See* Open Access Same-Time Information System (Formerly Real-Time Information Network) and Standards of Conduct, Order No. 889, 61 FR 21737 (May 10, 1996), FERC Stats. & Regs., Regulations Preambles January 1991-June 1996 P 31,035 (1996) at P21740; Order No. 889-A, order on reh'g, 62 FR 12484 (Mar. 14, 1997), FERC Stats. & Regs., Regulations Preambles July 1996 - December 2000 P 31,049 (1997); Order No. 889-B, reh'g denied, 62 FR 64715 (Dec. 9, 1997), 81 FERC P 61,253 (1997) (collectively, Order No. 889).

[98] *See In the Matter of Pub. Util. Comm'n of Oregon, Investigation Into Interim PURPA Action*, Docket UM 2001, Order No. 19-217 and Appendix A at 2-3 (June 21, 2019).

distribution system planning in docket UM 2005. While utilities, the Commission, and stakeholders are just beginning that effort, the expectation is that utilities will ultimately produce distribution system planning reports that are expected to become more robust over time and that may provide more of the information at the distribution system level that Mr. Lowe is seeking.

Q. Mr. Lowe believes utilities should "be responsible for determining when a QF's interconnection helps a utility to avoid costs."[99] Do you agree?

A. As a practical matter, it is unclear how a utility could accomplish this. Mr. Lowe presumes the utility has this information at the ready or could easily generate it, but this is not the case.

Q. Mr. Lowe also states that utilities have "weaponized" the interconnection process in an attempt to disadvantage QFs.[100] Please respond.

A. We dispute this allegation. The Joint Utilities study interconnection requests before them in a fair and impartial manner, consistent with the study parameters required for those interconnection studies. While utilities sometimes make mistakes, the Joint Utilities strive to perform interconnection studies fairly, impartially, and accurately for all interconnection customers, whether those customers are QFs or non-QFs.

Q. How does Mr. Lowe support his allegation of utility "weaponization" of the interconnection process?

A. In response to discovery requests, the ICC cited a list of issues ostensibly supporting Mr.

[99] ICC/100, Lowe/20.
[100] ICC/100, Lowe/5.

Lowe's language, including a list of QF complaints filed against utilities, many of which were dismissed and others of which are still unresolved.[101] For example, ICC provided a list of 11 complaints that the ICC's counsel has filed against PGE and two others against PacifiCorp. However, those complaints are simply evidence of complainants' allegations—nothing more. None has resulted in a Commission determination that PGE or PacifiCorp acted improperly, "weaponized" the interconnection process, or otherwise treated a QF in an unfair, unreasonable, or discriminatory way. Specifically, of the PGE complaints on which the ICC relies, eight have been dismissed (one after the Commission granted partial summary judgment for PGE); two are currently stayed for settlement discussions; and one is currently being litigated. Importantly, PGE denied liability in each instance. The PacifiCorp complaint dockets are still ongoing, and PacifiCorp strongly disputes the QFs' allegations in those proceedings. In any case, we find Mr. Lowe's reference to QF complaint dockets filed by members of the ICC to be self-serving.

Q. Did Mr. Lowe provide other examples that ostensibly support his allegations?

A. Mr. Lowe made a number of other assertions that the Joint Utilities find equally self-serving and conclusory. For example, Mr. Lowe states that PacifiCorp has proposed excessive and unreasonable interconnection upgrades for existing projects when they renew their power purchase agreements. Mr. Lowe did not provide further information to assist PacifiCorp with identification of these projects, but PacifiCorp believes Mr. Lowe is referring to legacy QF PPAs—mostly vintage hydro projects from the 1980s and 1990s—with interconnection

[101] Joint Utilities/401, Vail-Bremer-Foster-Larson-Ellsworth/3-5, 10 (ICC Response to PGE DR 6, 7; ICC Response to PacifiCorp DR 1).

agreements commingled in their PPAs. Upon PPA renewal, the majority were required to upgrade their interconnections to bring them up to current standards, typically with respect to modern requirements for supervisory control and data acquisition (SCADA) or communications. PacifiCorp did not view the requirement to bring the interconnection facilities up to industry standards as unreasonable, nor was it trying to "weaponize" the QF interconnection process. In fact, utilities are required to meet IEEE standards for generators interconnecting with its system. Mr. Lowe provides similar additional examples; we will not address them all here, but will instead repeat our disagreement with Mr. Lowe on this point.

Q. Mr. Lowe also questions whether the utilities "only study QFs using NRIS."[102] Mr. Lowe states that only Idaho Power indicated that it consistently required QFs to interconnect using NRIS.[103] How do you respond?

A. Mr. Lowe is mistaken; the Joint Utilities consistently study QFs using NRIS. PacifiCorp began consistently requiring QFs in all of its states to secure NRIS beginning in February 2016. PacifiCorp began doing so consistently for two reasons: First, its system was becoming more constrained, which meant the interconnection and transmission of additional generation was triggering significant deliverability issues more than it had historically, and (2) on December 16, 2013, FERC issued its decision in *Pioneer Wind*,[104] rejecting PacifiCorp's proposal to address deliverability issues present at a QF's chosen location through PPA curtailment provisions. PacifiCorp took additional steps to address

[102] ICC/100, Lowe/23.
[103] ICC/100, Lowe/23.
[104] *Pioneer Park Wind I, LLC,* 145 FERC ¶ 61,215 (Dec. 16, 2013).

this issue with existing and prospective QFs, including posting a business practice to OASIS for comment on November 24, 2015, which became effective on February 1, 2016.

Q. What about PGE? Mr. Lowe testifies that PGE has not designated any QFs as network resources since April 2018.[105] Is this accurate?

A. No. First, Mr. Lowe appears to be conflating interconnecting a QF with NRIS with designating a QF as a Network Resource for purposes of transmission service. Like PacifiCorp and Idaho Power, PGE interconnects all QFs using NRIS.

Moreover, Mr. Lowe's statement about PGE designating QFs as Network Resources is incorrect and appears to be based on a misinterpretation of PGE's data response on which he relies.[106] In that response, PGE provided QF project names, whether the project has been designated as a Network Resource, and the date on which the PPA was executed and terminated, if applicable.[107] Mr. Lowe appears to have confused the PPA execution date with the date on which PGE designated the QF as a Network Resource. PGE designates QFs as Network Resources on an ongoing basis—most recently in November 2020. PGE typically designates QFs shortly after receiving notice that the QF has achieved commercial operation. At the time PGE responded to the data request, the QFs with which PGE executed PPAs after April 2018 had not yet achieved commercial operation, and therefore PGE had not yet requested to designate those QFs as Network Resources.

Q. According to Staff, utilities are only allowed to charge QFs for the "reasonable" costs

[105] ICC/100, Lowe/24.
[106] ICC/104, Lowe/6-8.
[107] ICC/104, Lowe/6-8.

associated with their interconnection, and Staff states that the Joint Utilities have not addressed what the Commission meant by the term "reasonable."[108] How would you respond?

A. Our understanding is that the Commission intended to scope interconnection studies such that the studies identified costs actually caused by the generator's interconnection, but no more, and that costs that met this description would be deemed "reasonable." So long as the studies are performed correctly, it is our understanding that the actual costs of the upgrades triggered by the generator's interconnection to the utility are meant to be deemed "reasonable." In our view, utility interconnection studies are appropriately designed to accomplish this.

Q. Staff notes that one rationale for FERC's policy regarding cost allocation for Network Upgrades is that a generator should not be required to pay twice for an upgrade, first through interconnection, then as a transmission customer.[109] Is this a risk with QFs?

A. No. QFs are not responsible for making their own transmission arrangements, but instead pass that obligation on to utilities. This means there is no risk of QFs interconnecting under the Commission's jurisdiction paying twice for a Network Upgrade.

Q. Does this conclude your testimony?

A. Yes.

[108] Staff/100, Moore/14, 17-18.
[109] Staff/100, Moore/13.

BEFORE THE PUBLIC UTILITY COMMISSION OF OREGON

UM 2032

Joint Utilities Exhibit 401

to

Reply Testimony of Richard A. Vail, Kris Bremer, Shaun Foster, Sean Larson, and Jared Ellsworth

Data Responses

December 11, 2020

ICC Data Responses to PGE

Oregon Public Utility Commission
OPUC Dockets UM 2032
November 19, 2020
Interconnection Customer Coalition's Response to PGE Data Request 1

PGE Data Request 1

Define the term "Network Upgrade" as used in Mr. Lowe's testimony.

Response to PGE Data Request 1

"Network Upgrades are upgrades to the transmission provider's transmission system at or beyond the point of interconnection." Order No. 19-254 at App. A, p. 20.

Oregon Public Utility Commission
OPUC Dockets UM 2032
November 19, 2020
Interconnection Customer Coalition's Response to PGE Data Request 6

PGE Data Request 6

Refer to the Response Testimony of John Lowe (Interconnection Customer Coalition/100), page 5, lines 6-13. Please provide all evidence supporting Mr. Lowe's allegation that "some utilities appear to have 'weaponized' interconnection as a way of mitigating or eliminating competition from non-utility generation." In particular, please cite all specific QF examples where a utility has "weaponized" interconnection and provide the following for each example:

a. Project name.

b. Interconnecting utility.

c. Purchasing utility.

d. Copies of all relevant interconnection studies and agreements.

e. Description of how the interconnection utility "weaponized" the interconnection process.

Response to PGE Data Request 6

The Interconnection Customer Coalition objects that this Data Request is overly broad, unduly burdensome, and subject to the attorney-client and attorney work product privileges.

Notwithstanding these objections, the Interconnection Customer Coalition responds as follows:

The Commission has acknowledged that barriers exist in the interconnection process. *See In Re Investigation into Interconnection Process and Policies*, Docket No. UM 2111, Order No. 20-211 (July 6, 2020) (opening general investigation into interconnection). Commission Staff and stakeholders have also recognized the existence of interconnection barriers to non-utility generation. *See In re Community Solar Program Implementation*, Docket No. UM 1930, Staff Report (July 23, 2020) (reporting on interconnection barriers).

PacifiCorp has proposed to charge interconnection customers excessive and unreasonable interconnection costs. *See, e.g.*, *In re PacifiCorp Updates Standard Avoided Cost Purchases from Eligible Qualifying Facilities*, Docket No. UM 1729, Natel Energy's Comments (June 1, 2018) and Houtama Hydropower's Comments (July 9, 2018).

Between October 2015 and April 2020, PacifiCorp did not enter into new solar power purchase agreements, in part because of interconnection issues.

The Commission approved PacifiCorp's queue reform proposal, which has imposed a de facto prohibition on new QFs obtaining power purchase agreements in PacifiCorp's service territory.

PacifiCorp has proposed excessive and unreasonable interconnection upgrades for existing projects when they renew their power purchase agreements.

PGE's weaponizing of the interconnection process is self-evident based on a cursory review of publicly available complaint filings.

For publicly available examples *see, e.g., Pac. Nw. Solar, LLC (Amity Project) v. PGE,* Docket No. UM 1902, Complaint at 1-3 (Oct. 9, 2017); *Butler Solar*, Docket No. UM 1903, Complaint at 1-3 (Oct. 9, 2017); *Pac. Nw. Solar, LLC (Duus Project) v. PGE*, Docket No. UM 1904, Complaint at 1-3 (Oct. 9, 2017); *Pac. Nw. Solar, LLC (Stringtown Project) v. PGE,* Docket No. UM 1907, Complaint at 1-3 (Oct. 9, 2017); *Pac. Nw. Solar, LLC (Starlight Project) v. PGE*, Docket No. UM 1906, Complaint at 1-3 (Oct. 9, 2017); *Dunn Rd. Solar v. PGE*, Docket No. UM 1963, Complaint at 1-3 (July 26, 2018); *Sandy River, LLC v. Portland General Electric Company*, Docket No. UM 1967, Complaint at 1-5 (Aug. 24, 2018); *Madras PV1, LLC v. Portland General Electric Company*, Docket No. UM 2009, Complaint at 1-3 (May 22, 2019) and Madras Solar's Response to PGE's Motion to Strike at 6 (Nov. 26, 2019) (explaining PGE initially estimated the cost of interconnection at $343.7 million but then reduced it to less than a tenth of that amount, $27 million); *Waconda Solar, LLC v. PGE*, Docket No. UM 1971, First Amended Complaint at 1-4 (July 31, 2019); *St. Louis Solar, LLC v. PGE*, Docket No. UM 2057, Complaint at 1-4 (Feb. 3, 2020); *Zena Solar, LLC v. PGE*, Docket No. UM 2074, Complaint at 1-5 (Mar. 27, 2020); *Sunthurst Energy, LLC v. PacifiCorp*, Docket No. UM 2118, Complaint at 1 (Sept. 29, 2020); *Dalreed Solar LLC v. PacifiCorp*, Docket No. UM 2125, Complaint at 1-8 (Nov. 3, 2020).

Oregon Public Utility Commission
OPUC Dockets UM 2032
November 19, 2020
Interconnection Customer Coalition's Response to PGE Data Request 7

PGE Data Request 7

Refer to the Response Testimony of John Lowe (Interconnection Customer Coalition/100), page 5, lines 22-23. Please provide all evidence relied on by Mr. Lowe to support his allegation that Oregon utilities do not have a "strong track record of acting fairly, reasonably, and in a nondiscriminatory manner." In particular, please cite all specific QF examples where a utility acted unfairly, unreasonably, or in a discriminatory manner and include a narrative description explaining how the utility acted unfairly, unreasonably, or in a discriminatory manner.

Response to PGE Data Request 7

The Interconnection Customer Coalition objects that this Data Request is overly broad, unduly burdensome, and subject to the attorney-client and attorney work product privileges.

Notwithstanding these objections, the Interconnection Customer Coalition responds as follows:

Please refer to Response to PGE Data Request 6.

Oregon Public Utility Commission
OPUC Dockets UM 2032
November 19, 2020
Interconnection Customer Coalition's Response to PGE Data Request 9

PGE Data Request 9

Refer to the Response Testimony of John Lowe (Interconnection Customer Coalition/100), page 10, lines 21-22. Please provide all evidentiary support relied on by Mr. Lowe to support his belief that "distribution interconnections generally provide system wide benefits and benefit all users."

Response to PGE Data Request 9

The Interconnection Customer Coalition objects that this Data Request is unduly burdensome.

Notwithstanding this objection, the Interconnection Customer Coalition responds as follows:

Mr. Lowe's beliefs are based upon his years of experience working on distribution interconnections for PacifiCorp, and with individual Renewable Energy Coalition members on their interconnections. He provides his expertise as an expert opinion.

Evidentiary support should be available in PacifiCorp's files, which Mr. Lowe does not have access to.

Oregon Public Utility Commission
OPUC Dockets UM 2032
November 19, 2020
Interconnection Customer Coalition's Response to PGE Data Request 11

PGE Data Request 11

Refer to the Response Testimony of John Lowe (Interconnection Customer Coalition/100), page 13, lines 6-10, where Mr. Lowe testifies that, "After a decade, the Joint Utilities have not developed any policies or internal procedures on how a QF might establish quantifiable system-wide benefits because none of the utilities believe that QF interconnections can ever provide system-wide benefits, and the utilities apparently never intended to ever even consider whether any QF could provide a systemwide benefit."

a. Does Mr. Lowe agree that it was the Commission, not the utilities, that adopted the standard whereby a QF might establish a quantifiable system-wide benefit resulting from a Network Upgrade? If not, please explain the basis for Mr. Lowe's disagreement.

b. Has the Commission established any policies or procedures on how a QF might establish a quantifiable system-wide benefit?

c. Is Mr. Lowe aware of any QF not referenced in his testimony that attempted to demonstrate that a Network Upgrade provided a quantifiable system-wide benefit?

d. How would Mr. Lowe recommend that a QF demonstrate that a Network Upgrade provides a quantifiable system-wide benefit?

Response to PGE Data Request 11

a. The Interconnection Customer Coalition objects that this Data Request inappropriately worded.

   Notwithstanding this objection, the Interconnection Customer Coalition responds as follows:

   Mr. Lowe agrees that the Commission approved interconnection procedures wherein an interconnecting utility is required to refund a QF that establishes quantifiable system-wide benefits.

b. The Interconnection Customer Coalition objects that this Data Request inappropriately worded.

   Notwithstanding this objection, the Interconnection Customer Coalition responds as follows:

The Commission does not generally establish policies or procedures when issuing an order directing the utilities to take specific actions. It is the responsibility of the utilities to comply with the Commission's orders, including explaining how QFs can establish quantifiable system-wide benefits where applicable and establishing policies or procedures to comply with the law.

c. No.

d. The Interconnection Customer Coalition objects that this Data Request seeks a policy recommendation not offered by the referenced Testimony. The Interconnection Customer Coalition will provide policy and legal recommendations in legal briefing and declines to provide them here.

Notwithstanding this objection, the Interconnection Customer Coalition responds as follows:

Please see Interconnection Customer Coalition/100, Lowe/21:4-10.

ICC Data Responses to PacifiCorp

Oregon Public Utility Commission
OPUC Dockets UM 2032
December 8, 2020
Interconnection Customer Coalition's Response to PacifiCorp Data Request 1

PacifiCorp Data Request 1

Please see ICC's response to PGE DR 6. With respect to the following statement: "PacifiCorp has proposed excessive and unreasonable interconnection upgrades for existing projects when they renew their power purchase agreements," please:

a. Identify each project Mr. Lowe is aware of meeting this description;
b. Provide the date each project received its first PURPA PPA;
c. Provide the date of the power purchase agreement renewal reference in ICC's response; and
d. Describe the upgrades at issue;
e. Provide documentation supporting Mr. Lowe's response.

Response to PacifiCorp Data Request 1

The Interconnection Customer Coalition objects on the basis of attorney-client privilege. The Interconnection Customer Coalition also objects because it is concerned that PacifiCorp may propose additional excessive and unreasonable upgrades or discriminate against these existing projects.

NewSun Data Responses to PGE

Bunge

Request No. 1:

1. Define the term "Network Upgrade" as used in Mr. Bunge's testimony.

Response:

NewSun objects to the extent that production of the data requested would be unduly burdensome, overbroad and to the extent the request calls for legal conclusions.

Notwithstanding the foregoing, the definition of "Network Upgrade" as used in Mr. Bunge's testimony is the standard definition of "Network Upgrade" as used by the Federal Energy Regulatory Commission, i.e. in a manner consistent with the power industry's general understanding.

Request No. 6:

6. Refer to the Response Testimony of David Bunge (NewSun/300), page 2, line 7. Please identify the "roughly a dozen QF projects" referenced on line 7. For each project, please provide the following:

a. Project name.

b. Nameplate capacity.

c. Interconnecting utility.

d. Purchasing utility.

e. Copies of all power purchase agreements applicable to the project.

f. Copies of all interconnection studies and agreements applicable to the project.

g. In-service date.

Response:

NewSun objects to the extent that production of the data requested would be unduly burdensome, that the request is overly broad, and that the request would require NewSun to develop information or prepare a study for another party. NewSun further objects to this request to the extent that it requests information and documents which are within the control of Portland General Electric Company (PGE), PacifiCorp, and Idaho Power Company, to the extent that the information and documents are not within NewSun's possession or control, and to the extent the documents are publicly available.

It is unclear whether PGE is attempting to challenge that indeed Mr. Bunge's former employer was involved in "roughly a dozen QF projects" that were constructed in Oregon. This is curious given that a majority of them were with PGE, including some of those listed in Attachment 6A.

Mr. Bunge is no longer employed by the company he worked for at that time and does not have access to those files. Mr. Bunge's reference to the roughly one dozen projects in Oregon was based on Mr. Bunge's memory.

Notwithstanding the foregoing, NewSun provides Attachment 6A, which contains a list of projects on which public information indicates Mr. Bunge's former employer worked as a developer in Oregon. This list was derived from publicly available information and may be incomplete.

NewSun also does not have possession or control of the power purchase agreements or interconnection agreements. Rather, Portland General Electric Company, PacifiCorp, and Idaho Power Company have possession and control of any power purchase agreements and

interconnection agreements for these projects, and at least the standard PPAs and non-standard QF large generator interconnection agreements (QF-LGIAs) are publicly available from the OPUC in Docket Nos. RE 141 (Idaho Power standard PPAs), RE 142 (PacifiCorp standard PPAs), RE 143 (PGE standard PPAs), and UM 1401 (QF-LGIAs).

Project Type	Project Name	State	Country	Capacity	Unit	Developers	Partners	Operating Status	Year
Solar	NorWest Energy 3 (Pilot Rock)	OR		9900	KW	Cypress Creek Renewables	PacifiCorp	Approved	
Solar	NorWest Energy 9 (Pendleton)	OR	Umatilla	6000	KW	Cypress Creek Renewables	PacifiCorp	Approved	
Solar	NorWest Energy 5 (Arlington)	OR	Gilliam	2990	KW	Cypress Creek Renewables	PacifiCorp	Approved	
Solar	Neff Solar	OR	Deschutes	10000	KW	Cypress Creek Renewables	PacifiCorp	Operating	2016
Solar	NorWest Energy 1 (Culver)	OR	Jefferson	9900	KW	Cypress Creek Renewables	PacifiCorp	Approved	
Solar	NorWest Energy 4 (Bonanza)	OR	Klamath	6000	KW	Cypress Creek Renewables	PacifiCorp	Approved	
Solar	Merrill Solar	OR	Klamath	10000	KW	Cypress Creek Renewables	PacifiCorp	Approved	
Solar	NorWest Energy 12 (Falvey)	OR	Klamath	8000	KW	Cypress Creek Renewables	PacifiCorp	Approved	
Solar	SP Solar 2 – Eagle Creek	OR	Clackamas	2200	KW	Cypress Creek Renewables	PGE	Approved	
Solar	SP Solar 4 – Compton Rd	OR	Clackamas	2200	KW	Cypress Creek Renewables	PGE	Approved	
Solar	Sp Solar 6 – Colton	OR	Clackamas	2200	KW	Cypress Creek Renewables	PGE	Operating	2018
Solar	NorWest Energy 7 (Eagle Point)	OR	Jackson	9900	KW	Cypress Creek Renewables	PacifiCorp	Operating	2017
Solar	SP Solar 1 – Gervais	OR	Marion	2200	KW	Cypress Creek Renewables	PGE	Approved	
Solar	SP Solar 7 – Amity-Dayton Hwy	OR	Yamhill	2200	KW	Cypress Creek Renewables	PGE	Approved	

https://renewablenw.org/renewable-project-map/?w2dc_action=search&controller=listings_controller&include_categories_children=1&directories=1&field_type_of_resource%5B%5D=2&submit=
Accessed 11/6/2020

Request No. 7:

7. Refer to the Response Testimony of David Bunge (NewSun/300), page 2, line 8-9. Please identify the "number of QF projects that were not ultimately constructed." For each project, please provide the following:

a. Project name.

b. Nameplate capacity.

c. Interconnecting utility.

d. Purchasing utility.

e. Copies of all power purchase agreements applicable to the project, if any.

f. Copies of all interconnection studies and agreements applicable to the project.

g. Reason the project was not ultimately constructed, including all supporting evidence demonstrating why the project was not ultimately constructed.

Response:

NewSun objects to the extent that production of the data requested would be unduly burdensome, that the request is overly broad, and that the request would require NewSun to develop information or prepare a study for another party. NewSun further objects to this request to the extent that it requests information and documents which are within the control of Portland General Electric Company (PGE), PacifiCorp, and Idaho Power Company, to the extent that the information and documents are not within NewSun's possession or control, and to the extent the documents are publicly available. Mr. Bunge is no longer employed by the company he worked for at that time and does not have access to those files. Mr. Bunge's reference to the number of QF projects that were not ultimately constructed (leastwise as QFs seeking power sales under the PURPA mandatory purchase obligation) in Oregon was based on Mr. Bunge's memory and based on his understanding of where projects stood at the time of his departure from the company.

Notwithstanding the foregoing, NewSun provides Attachment 7A, which contains a list of additional projects generated from publicly available information and may be incomplete. While NewSun is not certain, these projects appear to not have been constructed because they are not in the list in Attachment 6A. PGE was party to a contested case docket with these projects and has associated these projects with Mr. Bunge's former employer in a public filing before the Commission,[1] so PGE may have additional information about their current status.

[1] Docket No. UM 1877 et. al., PGE's Motion for Summary Judgment at 6 n.8 (Jan. 24, 2018).

Mr. Bunge did not personally work on each and every project that his former employer undertook in the State of Oregon and is not aware of the reasons for each project's failure or success. Further, Mr. Bunge has not been privy to conversations about each projects' ultimate failure or success since he left the company.

PGE, PacifiCorp, and Idaho Power Company are in a better position to know the exact number of projects that Mr. Bunge's former employer worked on as a developer with each of the utilities, but which were ultimately not constructed. NewSun also does not have possession or control of any power purchase agreements or interconnection agreements. Rather, PGE, PacifiCorp, and Idaho Power Company have possession and control of any power purchase agreements and interconnection agreements for these projects, if any exist, and at least the standard PPAs and non-standard QF large generator interconnection agreements (QF-LGIAs) are publicly available from the OPUC in Docket Nos. RE 141 (Idaho Power standard PPAs), RE 142 (PacifiCorp standard PPAs), RE 143 (PGE standard PPAs), and UM 1401 (QF-LGIAs).

As the utilities possess all of these materials, including records on the full history of QFs that requested contractions and filed interconnection requests, NewSun anticipates filing its own Data Requests for all of these relevant materials.

Project Name	Capacity	Utility
Valhalla	2.2 MW	PGE
Skyward	2.2 MW	PGE
Bottlenose	2.2 MW	PGE
Whipsnake	2.2 MW	PGE
Leatherback	2.2 MW	PGE
Pika	2.2 MW	PGE

Source: Docket No. UM 1877 et. al., PGE's Motion for Summary Judgment at 6 n.8 (Jan. 24, 2018).

Request No. 8:

8. Refer to the Response Testimony of David Bunge (NewSun/300), page 2, lines 16. Please identify the "other generators proposed on the same system as ERIS[.]" For each project, please provide the following:

a. Project name.

b. Project developer.

c. Nameplate capacity.

d. Generation type (e.g., wind, solar, etc.).

e. Whether the project was developed as a Qualifying Facility.

f. Interconnecting utility.

g. Purchasing utility.

h. Copies of all power purchase agreements applicable to the project, if any.

i. Copies of all interconnection studies and agreements applicable to the project.

j. The basis for Mr. Bunge's understanding that the project received ERIS.

Response:

NewSun objects to the extent that production of the data requested would be unduly burdensome, that the request is overly broad, and that the request would require NewSun or Mr. Bunge to develop information or prepare a study or analysis and/or conduct research for another party. NewSun further objects to this request to the extent that it requests information and documents which are within the control of Portland General Electric Company (PGE), PacifiCorp, and Idaho Power Company, to the extent that the information and documents are not within NewSun's possession or control, and to the extent the documents are publicly available. Mr. Bunge is no longer employed by the company he worked for at that time and does not have access to those files.

Notwithstanding the foregoing, NewSun responds as follows: Mr. Bunge's statement refers to a utility system where some NRIS requests received significant Network Upgrades but where some ERIS requests did not receive the same significant Network Upgrades.

NewSun has not done a comprehensive review of the Oregon utilities' interconnection queues to determine which specific projects may have switched from NRIS to ERIS but provides the below list of PacifiCorp queue numbers in Crook County which NewSun understands were at one point designated as a QF or otherwise had selected NRIS or had been studied for NRIS, but which switched to not being a QF or otherwise to ERIS or otherwise withdrew or were removed from the queue. All of these projects are of a similar

size to QF projects. The queue numbers, company names, nameplate capacity, generation type, whether the project was developed as a QF or not, and whether the project is receiving ERIS can be accessed from PacifiCorp's OASIS website. http://www.oasis.oati.com/ppw/

399
434
435
443
447
448
594
621
629
635
726
734
738
739
740
746
755
761
824
850

The below are a few examples:

- Queue number 734, a 67.62 MW project, was studied for both ERIS and NRIS but subsequently dropped the NR requirement thereby avoiding a $251,148,000 upgrade. That project is now listed on PacifiCorp's OASIS as having ERIS and has an executed interconnection agreement.
- Queue numbers 738 and 739, 78.296 MW and 58.5 MW projects respectively, were each also studied for both ERIS and NRIS and provided studies indicating that a transmission line to Yakima would be required for NRIS. Both of these projects a no longer in the queue.
- Queue number 740, a 40 MW QF project studied for NRIS, was provided a study indicating that its NRIS was contingent upon the completion of a higher-queued project Q718 requiring $822,108,000 worth of network upgrades. This project has since withdrawn from the queue.
- Queue number 824, a 40 MW project, was originally designated as a QF in its Feasibility Study yielding a NRIS network upgrade requirement of $250,000,000. This project is now listed as ERIS and has an executed interconnection agreement.

All of this information is publicly available from the interconnection studies available on PacifiCorp's OASIS page.

NewSun does not have possession or control of the power purchase agreements or interconnection agreements. PacifiCorp is in possession of any interconnection agreements and any Oregon non-standard QF interconnection agreements are publicly available in UM 1401. The ultimate purchaser likely has possession of any power purchase agreements, which could also be PacifiCorp or one of the other Oregon utilities who are party to this docket, or could be another third party.

Request No. 9:

9. Refer to the Response Testimony of David Bunge (NewSun/300), page 3, lines 1-2. Please identify the "other states where [Mr. Bunge has] developed projects" where the "QF's obligation is merely to deliver power to the Point of Interconnection." Please provide all evidence relied on by Mr. Bunge to support this statement, including, but not limited to the following:

a. Identify each state.

b. Specific citation to the state statute, administrative rule, commission order, or other applicable policy statement demonstrating what each state has established as the "QF's obligation [to] merely [] deliver power to the Point of Interconnection."

Response:

NewSun objects to the extent that production of the data requested would be unduly burdensome, that the request is overly broad, and that the request would require NewSun or Mr. Bunge to develop information or prepare a study or analysis and/or conduct research for another party. NewSun further objects to the extent that the request calls for legal conclusions, that PGE's attempts to have NewSun and its witnesses do legal research on its behalf, and that it requires a non-lawyer to state a legal opinion regarding the requirements of other state statutes, administrative rules, commission orders or other applicable policy statements. NewSun further objects to this request to the extent that it requests information and documents which are publicly available.

Notwithstanding the foregoing, NewSun responds as follows: Mr. Bunge is not making a statement about what each and every states' statutes, administrative rules, commission orders, or other applicable policy statements require in specificity, but rather speaking as an experienced power professional who has worked extensively in the development, acquisition, sales, and financing of solar projects throughout the country, particularly QF projects, which was a core focus of his former employer and Mr. Bunge's work. To that end, Mr. Bunge's testimony provided a rough reference list of states in which he has developed or engaged in transactions related to solar projects, particularly QFs, and his general understanding of the practical, on-the-ground effect of the conditions that existed at the time that he worked in those states.

The point of Mr. Bunge's testimony was simply to provide broader context for Oregon's abnormal interconnection outcomes relative to his broad experience as a developer and QF professional. The issues that came up in Oregon did not come up in other states, and the net effect of Oregon's interconnection issues resulted in frustration and delay in developing QF projects in Oregon. To the extent that other states might have had NRIS options or QF-specific NRIS interconnection requirements under the state-jurisdictional QF interconnection and/or PPA process, Mr. Bunge is not aware of there being such a practice. Mr. Bunge's does not recall any interconnection practices requiring NRIS-only for QFs and

non-refundability of Network Upgrades, combining with the interconnection realities in such a way that had the net effect of frustrating or obstructing QF development, as it did in Oregon.

It would be unduly burdensome for NewSun to develop a comprehensive state-by-state study of interconnection procedures for Portland General Electric Company (PGE) with specific citations to each state statute, administrative rule, commission order or other applicable policy statement where those documents are publicly available, and PGE is equally able to perform its own legal research.

Request No. 10:

10. Refer to the Response Testimony of David Bunge (NewSun/300), page 3, lines 1-2 where Mr. Bunge testifies that, "In other states where I have developed projects, the QF's obligation is merely to deliver power to the Point of Interconnection."

a. For each state referenced in this testimony, please explain whether the state requires QFs to interconnect using ERIS, NRIS, something else, or has no specific policy governing the interconnection service applicable to QF interconnections.

b. For each state referenced in this testimony, please explain whether the state requires QFs to pay for Network Upgrades required as a result of the QF's interconnection and provide specific citation to the state statute, administrative rule, commission order, or other applicable policy statement supporting Mr. Bunge's understanding of each state's cost allocation policies for QF interconnections.

Response:

See response to Portland General Electric's Data Request No. 9.

Request No. 11:

11. Refer to the Response Testimony of David Bunge (NewSun/300), page 3, lines 3-9. Please provide all evidence relied on by Mr. Bunge to support his testimony that, "In states such as North Carolina, South Carolina, Indiana, Montana and Michigan, the question of whether the utility can support a new QF resource at a given location was not an operational calculation based on load in a given part of the utility's network, rather the calculation was based on the technical constraints of the physical infrastructure in the area (i.e. does the line or substation for the proposed POI have a sufficient MVA rating to support the project capacity and related reliability and communications issues)." Please provide evidentiary support for Mr. Bunge's claims, including but not limited to, specific citation to the state statute, administrative rule, commission order, or other applicable policy statement supporting Mr. Bunge's understanding of each state's requirements.

Response:

See response to Portland General Electric's (PGE) Data Request No. 9.

Notwithstanding the foregoing, NewSun responds as follows: The language quoted by PGE regarding interconnection studies for QFs being "based on the technical constraints of the physical infrastructure in the area. . . i.e. [whether] a line or substation. . . [can] support the project capacity" is consistent with the basic purpose and methods of interconnection studies. PGE seems to be suggesting that analysis of system capacity to study a potential interconnection is not the purpose of interconnection studies, which is not how most industry professionals would understand the interconnection process.

Request No. 12:

12. Refer to the Response Testimony of David Bunge (NewSun/300), page 3, line 18. Please identify the "multiple non-standard contract QF projects" that Mr. Bunged worked on. For each project, please provide the following:

a. Project name.

b. Nameplate capacity.

c. Interconnecting utility.

d. Purchasing utility.

e. Copies of all power purchase agreements applicable to the project, if any.

f. Copies of all interconnection studies and agreements applicable to the project.

g. If the project achieved commercial operation, provide the in-service date.

h. If the project did not achieve commercial operation, explain the reason including all supporting evidence demonstrating why the project was not ultimately constructed.

i. For each project, please identify the Network Upgrades required for NRIS and the Network Upgrades required for ERIS.

Response:

NewSun objects to the extent that production of the data requested would be unduly burdensome, that the request is overly broad, and that the request would require NewSun or Mr. Bunge to develop information or prepare a study or analysis and/or conduct research for another party. NewSun further objects to this request to the extent that it requests information and documents which are within the control of Portland General Electric Company, PacifiCorp, and Idaho Power Company, to the extent that the information and documents are not within NewSun's possession or control, and to the extent the documents are publicly available. Mr. Bunge is no longer employed by the company he worked for at that time and does not have access to those files.

Notwithstanding the foregoing, NewSun responds as follows: Mr. Bunge's testimony states that he worked on "multiple non-standard contract QF projects in PacifiCorp's Oregon service territory, above 10 MWac, particularly those listed above, that faced substantial barriers due to PacifiCorp's (and the state's) insistence that they be studied as network resources rather than an energy resources, which resulted in PacifiCorp studies requiring the construction of (otherwise unnecessary for ERIS service) multi-hundred million dollar network upgrades for massive new transmission projects to achieve NRIS service."

See response to Portland General Electric's (PGE) Data Request No. 8.

Mr. Bunge's reference to the multiple non-standard QF projects in PacifiCorp's Oregon service territory on which Mr. Bunge worked was based on Mr. Bunge's memory and Mr. Bunge does not recall the details of each of the non-standard projects he worked on in Oregon and which projects faced substantial barriers due to Oregon's interconnection practices. Further, Mr. Bunge has not been privy to conversations about each projects' ultimate failure or success since he left the company.

Request No. 13:

13. Refer to the Response Testimony of David Bunge (NewSun/300), page 3, line 14-15. Please identify the "multiple cases" referred to on line 15. For each "case," please provide the following:

a. Project name.

b. Nameplate capacity.

c. Interconnecting utility.

d. Purchasing utility.

e. Copies of all power purchase agreements applicable to the project, if any.

f. Copies of all interconnection studies and agreements applicable to the project.

g. If the project achieved commercial operation, provide the in-service date.

h. If the project did not achieve commercial operation, explain the reason including all supporting evidence demonstrating why the project was not ultimately constructed.

Response:

See response to Portland General Electric's Data Request Nos. 9 and 12.

Request No. 14:

14. Refer to the Response Testimony of David Bunge (NewSun/300), page 4, lines 1. Please identify the "other nearby similarly sized (or larger) ERIS solar projects having only smaller, multi-million dollar direct interconnection costs[.]" For each project, please provide the following:

a. Project name.

b. Nameplate capacity.

c. Interconnecting utility.

d. Purchasing utility.

e. Whether the project was a QF.

f. Copies of all power purchase agreements applicable to the project, if any.

g. Copies of all interconnection studies and agreements applicable to the project.

h. If the project achieved commercial operation, provide the in-service date.

i. If the project did not achieve commercial operation, explain the reason including all supporting evidence demonstrating why the project was not ultimately constructed.

Response:

See response to Portland General Electric's Data Request No. 8.

Request No. 15:

15. Refer to the Response Testimony of David Bunge (NewSun/300), page 4, lines 8-11. Please identify the projects that were "forced to convert to ERIS interconnections." Are these the same projects referenced on line 12 of page 4?

a. Were these projects ultimately developed after being "forced to convert to ERIS interconnections?"

Response:

See response to Portland General Electric's Data Request No. 8.

Notwithstanding the foregoing, NewSun responds as follows: There were a number of projects in the development pipeline at that time referenced in Mr. Bunge's testimony that were impacted by this interconnection practice in Oregon, but Mr. Bunge does not recall all of the projects that were impacted or all of the details of all of the projects that were impacted. Rather his statement was a general statement about his understanding of the practical effect of Oregon's interconnection practices on projects. Mr. Bunge is not privy to information concerning whether or what progress has been made on the Oregon projects since he last worked on them or whether any of the projects were ultimately developed.

Bunge

Request No. 16:

16. Refer to the Response Testimony of David Bunge (NewSun/300), page 4, line 14. Please define what Mr. Bunge means when he refers to requiring QFs to "obtain restrictive network resource designation."

a. Is this testimony meant to refer to NRIS? If not, what does it mean?

b. Is it NewSun's position that QFs should not be Designated Network Resources for purposes of transmission service?

Response:

NewSun objects to the extent that the request calls for legal conclusions. Notwithstanding this objection, NewSun responds as follows: the statement "restrictive network resource designation" is meant to refer to the different way that QFs are treated in Oregon as opposed to Mr. Bunge's general experience in other states as it practically applies to QF project development.

Request No. 17:

17. Refer to the Response Testimony of David Bunge (NewSun/300), page 5, lines 3-9. Please identify all of the "other states" that Mr. Bunge is referring to on line 4. For each state, please provide all of the evidence Mr. Bunge relied on for his understanding of the state's interconnection policies applicable to QF interconnections, including but not limited to specific citation to the state statute, administrative rule, commission order, or other applicable policy statement.

Response:

NewSun objects to the extent that production of the data requested would be unduly burdensome, that the request is overly broad, and that the request would require NewSun to develop information or prepare a study for another party. NewSun further objects to the extent that the request calls for legal conclusions, that Portland General Electric Company's (PGE's) attempts to have NewSun and its witnesses do legal research on its behalf, and that it requires a non-lawyer to state a legal opinion regarding the requirements of other state statutes, administrative rules, commission orders or other applicable policy statements. NewSun further objects to this request to the extent that it requests information and documents which are publicly available.

Notwithstanding the foregoing, NewSun responds as follows: Mr. Bunge is not making a statement about what each of those states' statutes, administrative rules, commission orders, or other applicable policy statements require, but rather Mr. Bunge's testimony provided a list of states in which he has developed projects and his understanding of the practical, on-the-ground effect of the conditions that existed at the time that he worked in those states. The point of Mr. Bunge's testimony was simply to state that the issues that came up in Oregon did not come up in other states and those issues resulted in frustration and delay in developing the projects in Oregon.

It would be unduly burdensome for NewSun to develop a comprehensive state-by-state study of interconnection procedures for PGE with specific citations to each state statute, administrative rule, commission order or other applicable policy statement where those documents are publicly available, and PGE can perform its own legal research. Further, to produce "all evidence" Mr. Bunge relied upon for his understanding of each of those states interconnection policies, would effectively require Mr. Bunge to produce all of data on all interconnections he has worked on since 2007 since Mr. Bunge's understanding is based on his experience working in the industry in each of those states during that time period.

Bunge

Request No. 18:

18. Refer to the Response Testimony of David Bunge (NewSun/300), page 5, lines 20-22. Is it Mr. Bunge's understanding that requiring NRIS "force[s] QFs to assume the utility's obligation for ultimate delivery of that power?" If so, please provide a detailed explanation for the basis of this belief, including citation to all applicable statutory or regulatory policies.

Response:

The request misstates Mr. Bunge's testimony. In context the quoted text above states: "Similarly, Oregon should require QFs to deliver power to the point of interconnection with the purchasing utility, but should not force QFs to assume the utility's obligation for ultimate delivery of that power."

To clarify, Mr. Bunge does not understand NRIS to require the QF to assume responsibility for serving the utility's load, but that NRIS requires the utility to study and construct Network Upgrades as if they were needed to serve native load customers. Hence, the effect of the Oregon policy is to effectively force QFs to assume and pay for the utility's obligation to deliver power to its native load customers.

Bunge

Request No. 19:

19. Refer to the Response Testimony of David Bunge (NewSun/300), page 5, line 23 to page 6, line 1, where Mr. Bunge testifies that, "Without these reforms, QFs will continued [sic] to be saddled with costs that they do not face in *any other state* . . ." (emphasis added). Is it Mr. Bunge's position that no other states require QFs to obtain NRIS and/or require QFs to pay for Network Upgrades required to interconnect the QF? Please provide all of the evidence Mr. Bunge relied on for his understanding of every state's interconnection policies applicable to QF interconnections, including but not limited to specific citation to the state statute, administrative rule, commission order, or other applicable policy statement.

Response:

See response to Portland General Electric's Data Request No. 17.

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Request:

21. Refer to the Response Testimony of Brian S. Rahman (NewSun/100), page 4, lines 12-14, where Mr. Rahman testifies that the "interconnection process of the host utility should provide the QF with the cost for both NRIS and ERIS and allow the QF the option to select the service that best meets the QF business objectives." Does Mr. Rahman agree that the cost impact on retail customers resulting from a QF's selection of NRIS or ERIS should be considered in this case, or just the QF's business objectives?

Response:

NewSun objects to the extent the request calls for legal conclusions.

PGE misstates Mr. Rahman's testimony. Mr. Rahman's testimony's intention is to highlight that a QF, like any other generator or interconnection customer, should have the ability to select the type of interconnection service which it believes suits it, and should not subject to discriminatory treatment as compared to non-QF generation. Mr. Rahman is also not aware of why a NRIS interconnection would be necessary for a QF to offer the sale of its power to a utility to which it proposes to directly interconnect with or why it should be prevented from evaluating all available options to it in order to, consistent with the study process's purpose of identifying interconnection viability and costs for proposed interconnection types and locations, assess the proposed interconnection, project, and so forth. Mr. Rahman is unaware of retail customer cost impact preventing, or being part of, other competitive generation seeking access to the market as part of their interconnection process, as that would confer utility influence and discretion against its competitors which is considered inappropriate. Finally, Mr. Rahman notes that Network Upgrades generally expand the capacity of the transmission system, resulting in greater throughput that results in lower per-unit rates for all transmission customers, including retail customers to the extent transmission costs are reflected in their rates.

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Request:

22. Refer to the Response Testimony of Brian S. Rahman (NewSun/100), page 10, lines 6-11, where Mr. Rahman testifies that, "with the exception of how QF's are treated within Oregon, the utility is always the ultimate beneficiary of the increased capacity associated with network or reliability upgrades and either funds these upgrades directly or, if initially funded in some cases by the interconnection customer, provides a refund to the generator who finances or secures the funding for upgrades after the energization of the associated facilities." Please specifically identify every other state that does not require QFs to fund Network Upgrades required because of the QF's interconnection. For each state identified, please include all evidence relied on by Mr. Rahman to support his conclusions, including but not limited to specific citation to the state statute, administrative rule, commission order, or other applicable policy statement.

Response:

NewSun objects to the extent that production of the data requested would be unduly burdensome and that the request is overly broad and calls for legal conclusions. NewSun further objects to this request to the extent that it requires a non-lawyer to state a legal opinion regarding the requirements of other state statutes, administrative rules, commission orders or other applicable policy statements. It would be unduly burdensome for NewSun to provide Portland General Electric Company (PGE) with specific citations to each state statute, administrative rule, commission order or other applicable policy statement where those documents are publicly available, and PGE can perform its own legal research. Further, to produce "all evidence" Mr. Rahman relied upon for his understanding of each of those states interconnection policies, would effectively require Mr. Rahman to produce all of data on all interconnections he has worked on over the course of his 30-year career since Mr. Rahman's understanding is based on his experience working in the industry in each of the states listed during that time period.

The point of Mr. Rahman's testimony is that the Oregon policy on non-refundability of Network Upgrades for only QFs, and *only* QFs selling exclusively and wholly under mandatory purchase obligation to a single in-state utility, is inconsistent the commonly understood and implemented practice of utilities refunding network upgrades to all types of interconnection customers. Oregon's policy discriminates against QFs and is anomalous based on Mr. Rahman's broad experience and expertise in the field.

Mr. Rahman's testimony provided a list of states in which he has worked on generator interconnections and his understanding of the practical, on-the-ground impact in those states.

Notwithstanding the foregoing, Mr. Rahman is not aware of any other state that implements its state jurisdictional interconnections in the same manner as Oregon.

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Request:

23. Refer to the Response Testimony of Brian S. Rahman (NewSun/100), page 10, lines 14-16, where Mr. Rahman testifies that, "Given how the balance of transmission owners within the WECC treat the cost responsibility for Network Upgrades, it is befuddling why Oregon would implement a separate tariff and treat state jurisdictional interconnections differently than others." Please specifically identify every other state and/or transmission owner that does not require QFs to fund Network Upgrades required because of the QF's interconnection. For each state and/or transmission provider identified, please include all evidence relied on by Mr. Rahman to support his conclusions, including but not limited to specific citation to the state statute, administrative rule, commission order, or other applicable policy statement.

Response:

See response to Portland General Electric Data Request No. 22. NewSun also objects to PGE's attempts to have NewSun and its witnesses do legal research on its behalf. The witness is stating its experience, as a professional with 30 years of experience in the field, noting Oregon's policy is abnormal relative to that experience. Notwithstanding the foregoing, Mr. Rahman is not aware of any other state that implements its state jurisdictional interconnections in the same manner as Oregon.

The question misstates Mr. Rahman's testimony (in multiple ways), which is that most states require QFs (consistent with all other generators seeking transmission capacity) to fund Network Upgrades, but require the transmission provider to refund those upgrades.

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Request:

27. Refer to the Response Testimony of Brian S. Rahman (NewSun/100), page 12, line 1. In addition to the host utilities described on line 10 of page 12, please identify all other "host utilities and transmission owners" that "provide a refund to the generator developer for the cost of Network Upgrades."

a. For all of the host utilities and transmission owners identified on page 12 and in response to this data request, does the refund policy for Network Upgrades apply to both QF and non-QF generators?

b. Please provide specific citations to each host utility's and/or transmission owner's applicable tariffs, or state statute, administrative rule, or commission policy, if applicable, that require refunds of Network Upgrade costs for QF interconnections.

Response:

NewSun objects to the extent that production of the data requested would be unduly burdensome and that the request is overly broad and calls for legal conclusions. NewSun further objects to this request to the extent that it requires a non-lawyer to state a legal opinion regarding the requirements of tariffs, statutes, administrative rules, commission orders or other applicable policy statements. It would be unduly burdensome for NewSun to provide Portland General Electric Company (PGE) with specific citations to each state statute, administrative rule, commission order or other applicable policy statement where those documents are publicly available, and PGE can perform its own legal research.

Mr. Rahman's testimony provided several examples of interconnection authorities that, based on his understanding of the practical, on-the-ground effects of their policies, provide a refund to the generator developer for the cost of Network Upgrades.

Notwithstanding the foregoing, Mr. Rahman states that, in his experience, the examples cited in his testimony are consistent with the approach taken across the industry for larger generators, with the exception of QFs subject to OPUC-jurisdiction interconnection rules. If there are other utilities that follow the OPUC approach, Mr. Rahman has not encountered them in his decades of experience working with interconnections. None of the utilities cited in Mr. Rahman's testimony treat QFs differently than non-QF interconnections. For example, California does not treat QFs differently from other interconnecting generators. The same is true for NV Energy, which is owned by a common parent as Pacific Power. For these two entities, CAISO and NVE, network upgrades are refunded to the generator, QF or not. For NVE, they have even adopted policies which do not require the interconnecting generator to pre-fund the upgrades, but rather they are directly funded by the utility, with the interconnection customer merely providing a financial security which is not drawn on unless the interconnection is not completed by the customer.

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Request:

29. Refer to the Response Testimony of Brian S. Rahman (NewSun/100), page 13, lines 5-6. Please explain what Mr. Rahman means when he says that it is "discriminatory" for Oregon to require QFs to pay for the costs of Network Upgrade caused by the QF's interconnection.

Response:

Mr. Rahman is saying that it appears to be discriminatory to require QFs to pay for the costs of Network Upgrades where other generators, even if substantially identical, are not required to pay the same costs without reimbursement.

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Request:

31. Refer to the Response Testimony of Brian S. Rahman (NewSun/100), page 13, lines 20-21, where Mr. Rahman testifies that, "ERIS is used by generators that can operate and deliver energy utilizing the existing system capacity on an as-available basis." What is Mr. Rahman's understanding of a utility's ability to use as-available transmission service for QF generation? Please provide a detailed explanation for Mr. Rahman's understanding, including citations to all applicable regulatory requirements that allow the use of as-available transmission service for QF generation.

Response:

NewSun objects to the extent that production of the data requested would be unduly burdensome and that the request is overly broad and calls for legal conclusions. NewSun further objects to this request to the extent that it requires a non-lawyer to state a legal opinion regarding regulatory requirements. It would be unduly burdensome for NewSun to provide Portland General Electric Company (PGE) with specific citations to each regulatory requirement where those documents are publicly available, and PGE can perform its own legal research. Additionally, PGE misstates Mr. Rahman's testimony, which did not speak to "transmission service" but interconnection type (ERIS).

Notwithstanding the foregoing, Mr. Rahman understands the utilities are not required to deliver QF to native load, but can resell the energy on wholesale markets or otherwise dispose of it. Accordingly, there is no reason that a purchasing utility could not use as available transmission capacity to deliver QF power to an alternative buyer where transmission constraints prevent delivery to the purchasing utility's native load.

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Request:

32. Refer to the Response Testimony of Brian S. Rahman (NewSun/100), page 13, lines 21-23, where Mr. Rahman testifies that the "decision to go with ERIS as opposed to NRIS is generally a decision left to the generator based on many factors including: cost of the network upgrade, risk of curtailment, power purchase agreement provision . . ." What is Mr. Rahman's understanding of a utility's ability to curtail QF generation? Please provide a detailed explanation for Mr. Rahman's understanding, including citations to all applicable regulatory requirements that allow curtailment of QF generation.

Response:

NewSun objects to the extent that production of the data requested would be unduly burdensome and that the request is overly broad and calls for legal conclusions. NewSun further objects to this request to the extent that it requires a non-lawyer to state a legal opinion regarding regulatory requirements. It would be unduly burdensome for NewSun to provide Portland General Electric Company (PGE) with specific citations to each regulatory requirement where those documents are publicly available, and PGE can perform its own legal research.

Notwithstanding the foregoing, Mr. Rahman states that, based on his experience in the industry, he understands the purchasing utility is permitted to curtail the QF's output only in limited circumstances and cannot curtail QF output before it curtails output from its own resources.

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Request:

33. Refer to the Response Testimony of Brian S. Rahman (NewSun/100), page 14, lines 1-3, where Mr. Rahman testifies that, "In the case of renewable generation such as solar, ERIS is often found to be acceptable when economic dispatch is considered." What is Mr. Rahman's understanding of a utility's ability to economically dispatch QF generation? Please provide a detailed explanation for Mr. Rahman's understanding, including citations to all applicable regulatory requirements that allow economic dispatch of QF generation.

Response:

NewSun objects to the extent that production of the data requested would be unduly burdensome and that the request is overly broad and calls for legal conclusions. NewSun further objects to this request to the extent that it requires a non-lawyer to state a legal opinion regarding regulatory requirements. It would be unduly burdensome for NewSun to provide Portland General Electric Company (PGE) with specific citations to each regulatory requirement where those documents are publicly available, and PGE can perform its own legal research.

Notwithstanding the foregoing, see response to Request No. 32.

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Request:

34. Refer to the Response Testimony of Brian S. Rahman (NewSun/100), page 14, lines 20-21. Does Mr. Rahman agree that utilities are obligated to use firm transmission service to deliver QF generation to load? If Mr. Rahman does not agree, please provide a detailed explanation of the basis for his disagreement, including citation to all relevant statutes, administrative rules, or state or federal regulatory commission orders or policy statements supporting Mr. Rahman's disagreement.

Response:

NewSun objects to the extent that production of the data requested would be unduly burdensome and that the request is overly broad and calls for legal conclusions. NewSun further objects to this request to the extent that it requires a non-lawyer to state a legal opinion regarding statutes, administrative rules, or state or federal regulatory commission orders or policy statements. It would be unduly burdensome for NewSun to provide Portland General Electric Company (PGE) with specific citations to each statutes, administrative rules, or state or federal regulatory commission orders or policy statements where those documents are publicly available, and PGE can perform its own legal research.

Notwithstanding the foregoing, Mr. Rahman cannot state a position regarding whether or how statutes, administrative rules, or state or federal regulatory commission orders or policy statements impact the transmission service that a utility may use to deliver power to load because this calls for a legal conclusion. In any event, the question is irrelevant because utilities are not required to deliver QF power to their load.

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Request:

35. Refer to the Response Testimony of Brian S. Rahman (NewSun/100), page 16, lines 13-18, where Mr. Rahman testifies that, "For example, If [sic] QF generation is more efficient (less expensive) than an existing utility generation asset, then under a constrained transmission system the less expensive generation should be dispatched. However, if transmission capacity has been increased on the back of the QF, then there is reduced incentive for the host utility to perform economic dispatch and possibly curtail the more expensive utility asset." In the example discussed in Mr. Rahman's testimony, does Mr. Rahman believe that in an unconstrained system, a utility can curtail QF generation instead of a utility asset? If so, please provide a detailed explanation of the basis for Mr. Rahman's belief that a utility can economically curtail QF generation, including citation to all relevant statutes, administrative rules, or state or federal regulatory commission orders or policy statements supporting Mr. Rahman's belief.

Response:

NewSun objects to the extent that production of the data requested would be unduly burdensome and that the request is overly broad and calls for legal conclusions. NewSun further objects to this request to the extent that it requires a non-lawyer to state a legal opinion regarding statutes, administrative rules, or state or federal regulatory commission orders or policy statements. It would be unduly burdensome for NewSun to provide Portland General Electric Company (PGE) with specific citations to each statutes, administrative rules, or state or federal regulatory commission orders or policy statements where those documents are publicly available, and PGE can perform its own legal research.

Notwithstanding the foregoing, see response to Request No. 32.

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NewSun's Response to PGE's First Set of Data Requests

Request:

36. Refer to the Response Testimony of Brian S. Rahman (NewSun/100), page 16, lines 22-23. Please describe the specific "delivery requirements" that may make ERIS acceptable for a solar QF.

Response:

Because a solar generator generally only produces at its full capacity during certain hours in the season of maximum insolation, there is not necessarily reason to conclude that the solar generator would require for itself, in order to sell power, access to unconstrainted transmission for the many hours of the year when it is not operating at maximum capacity. ERIS can thus be a sensible alternative for many solar generators because the generator may never need the Network Upgrades that would be required under an NRIS interconnection.

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Request:

37. Refer to the Response Testimony of Brian S. Rahman (NewSun/100), page 16, line 7 to page 17, line 3. Does the CAISO process described by Mr. Rahman apply to QF interconnections?

Response:

NewSun assumes that Portland General Electric Company intends to refer to page 17, line 7 to page 18, line 3 in this request.

NewSun objects to the extent that production of the data calls for legal conclusions.

Notwithstanding the foregoing, see response to Request No. 27.

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NewSun's Response to PGE's First Set of Data Requests

Request:

40. Refer to the Response Testimony of Brian S. Rahman (NewSun/100), page 19, lines 3-4. If a generator does require firm transmission service, does Mr. Rahman agree that NRIS is appropriate for that generator?

Response:

NewSun objects to the extent that production of the data calls for legal conclusions.

Notwithstanding the foregoing, Mr. Rahman answers as follows: No. NRIS is necessary only for firm delivery to a utility's native load using Network Interconnection Service. A utility's obligation to purchase power from a QF is not contingent upon the power being delivered as "firm", but merely delivered to its system. A generator has other alternatives, such as point-to-point transmission service, to assure deliveries, firm or otherwise.

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Andrus

Request:

41. Define the term "Network Upgrade" as used in Ms. Andrus's testimony.

Response:

NewSun objects to the extent that production of the data requested would be unduly burdensome, overbroad and to the extent the request calls for legal conclusions.

Notwithstanding the foregoing, the definition of "Network Upgrade" as used in Ms. Andrus' testimony is the standard definition of "Network Upgrade" as used by the Federal Energy Regulatory Commission, i.e. in a manner consistent with the power industry's general understanding.

Rahman

Request No. 56:

56. Please see NewSun Response to PGE Data Request No. 22, stating, "Mr. Rahman's testimony provided a list of states in which he has worked on generator interconnections and his understanding of the practical, on-the-ground impact in those states. Notwithstanding the foregoing, Mr. Rahman is not aware of any other state that implements its state jurisdictional interconnections in the same manner as Oregon." And please see NewSun/100, Rahman/2, stating, "Over the past 15 years with ZGlobal I have worked on hundreds of large and small generator interconnections across the Western United States including projects in Oregon, Washington, Montana, Nevada, Arizona, California, Utah, and New Mexico."

    a. Please confirm that Mr. Rahman's testimony stating that "with the exception of how QF's are treated within Oregon, the utility is always the ultimate beneficiary of the increased capacity associated with network or reliability upgrades and either funds these upgrades directly or, if initially funded in some cases by the interconnection customer, provides a refund to the generator who finances or secures the funding for upgrades after the energization of the associated facilities," NewSun/100, Rahman/10:6-11, is based on his understanding that Washington, Montana, Nevada, Arizona, California, Utah, and New Mexico do not require a QF to pay for Network Upgrades caused by its interconnection.

    b. Please confirm that Mr. Rahman's testimony quoted in part (a) is not based on his understanding of or experience in any states other than those listed in part (a).

    c. If part (a) or (b) is denied, please explain what additional states' policies or requirements Mr. Rahman's testimony is based on.

    d. Please see NewSun Attachment 25-A, referencing Northwestern as a utility Mr. Rahman has worked with on interconnections. Is Mr. Rahman's testimony quoted in part (a) based on his understanding that Montana does not require a QF to pay for Network Upgrades caused by its interconnection?

Response:

See response to Portland General Electric Company's Data Request No. 22.

Notwithstanding the foregoing, including Mr. Rahman's caveats in No. 22 as relates the general experience of Mr. Rahman, and not intending to comment exhaustively on the requirements of each state statute, administrative rule, commission order or other applicable policy statement, NewSun responds as follows:

NewSun does not confirm the statement in part (a) above. To the extent that the other states might have required a QF to pay for Network Upgrades *without a refund*, Mr. Rahman is not aware of there being such a practice.

The testimony quoted in part (a) is based on Mr. Rahman's 30 years of experience in the field and experience in the states listed in part (a) at the time Mr. Rahman worked in those states and the *net effect* of the policies in those markets as relates these aspects of policies as contrasted with the net effect for Oregon's policies.

Rahman

Request No. 57:

57. Please see NewSun Response to PGE Data Request No. 23 (referencing NewSun Response to PGE Data Request No. 22) and NewSun Response to PGE Data Request No. 22, stating, "Mr. Rahman's testimony provided a list of states in which he has worked on generator interconnections and his understanding of the practical, on-the-ground impact in those states. Notwithstanding the foregoing, Mr. Rahman is not aware of any other state that implements its state jurisdictional interconnections in the same manner as Oregon." And please see NewSun/100, Rahman/2, stating, "Over the past 15 years with ZGlobal I have worked on hundreds of large and small generator interconnections across the Western United States including projects in Oregon, Washington, Montana, Nevada, Arizona, California, Utah, and New Mexico."

    a. Please confirm that Mr. Rahman's testimony stating that "Given how the balance of transmission owners within the WECC treat the cost responsibility for Network Upgrades, it is befuddling why Oregon would implement a separate tariff and treat state jurisdictional interconnections differently than others." NewSun/100, Rahman/10:14-16, is based on his understanding that Washington, Montana, Nevada, Arizona, California, Utah, and New Mexico do not treat state jurisdictional QF interconnections differently than other interconnections.

    b. Please confirm that Mr. Rahman's testimony quoted in part (a) is not based on his understanding of or experience in any states other than those listed in part (a).

    c. If part (a) or (b) is denied, please explain what additional states' policies or requirements Mr. Rahman's testimony is based on.

    d. Please see NewSun Attachment 25-A, referencing Northwestern as a utility Mr. Rahman has worked with on interconnections. Is Mr. Rahman's testimony quoted in part (a) based on his understanding that Montana does not treat state jurisdictional QF interconnections differently than other interconnections?

Response:

See response to Portland General Electric Company's Data Requests Nos. 22 and 23.

Notwithstanding the foregoing NewSun responds as follows:

NewSun does not confirm the statement in part (a) above. Mr. Rahman's quoted testimony is based on his understanding that the states within the WECC besides Oregon do not treat state jurisdictional interconnections differently than other interconnections with regard to the cost responsibility for Network Upgrades. To the extent that the other states might have treated state jurisdictional interconnections differently than other interconnections in other respects, Mr. Rahman is not aware of there being such a practice.

The testimony quoted in part (a) is based on Mr. Rahman's 30 years of experience in the field and experience in the states listed in part (a) at the time Mr. Rahman worked in those states and the net effect of the policies in those markets as relates these aspects of policies as contrasted with the net effect for Oregon's policies. Of concern however, it appears that PGE is trying entrap Mr. Rahman, rather than reading the general response he provided that he is not intending to comment exhaustively on the requirements of each state statute, administrative rule, commission order or other applicable policy statement.

Rahman

Request No. 58:

58. Please see NewSun's Response to PGE Data Request No. 36. Does Mr. Rahman agree that it is possible that a transmission constraint could occur during the time of year and hours in which a solar generator produces at full capacity?

Response:

PGE's question seems to be asking whether a transmission constraint might be possible at some hour during the year. Indeed, this could be possible, depending on the transmission system and the nature of the causes of such constraints, which vary on many factors. QFs are capable of generating at all hours of the day and year, depending on technology (wind, biomass, solar, hydro); similarly, the grid is capable of having transmission constraints during all hours of the year. The specifics depend on the generator and the transmission system. This is not unique to QFs nor whether a QF-eligible or -sized facility elected to complete a FERC Form 556 self-certification.

Mr. Rahman agrees that there may theoretically be such a scenario; however, the theoretical possibility of such a scenario does not mean that all solar generators will produce at full capacity at the same time as a transmission constraint or that a solar (or other non-solar QF) generator could not negotiate to not sell its output (or elect to accept curtailment or non-firm pricing, etc) during the time of year and hours in which a transmission constraint exists. Nor does it imply that there may not be other solutions available to consider, such as a purchasing utility redirecting surplus through less constrained transmission paths (particularly utilities with multiple load pockets to choose from to deliver power to), and that such dynamic solutions might not require "long-term firm" or "builds to ensure deliverability" type solutions, or even "firm" solutions at all. Indeed managing such issues might naturally be (and is) consistent with routine aspects of utilities that dynamically balance and serve their varying loads through myriad generators, market resources, and transmission solutions.

Finally, it is noteworthy that utilities' ability to rely on any non-firm resource is limited relative to variability—and the practical difference between short-term, time-to-time transmission constraints, for example which may occur only rarely, seasonally, and/or be subject to relief and/or alternatives, and a resource's variability (much less when diversified with other generators) may not likely be a material practical concern.

Policies which discriminate against QFs specifically should be a particular concern here, as relates treating generators equitably and not discriminating against or discouraging QFs in the interconnection process relative to other generators.

Request No. 59:

59. Please see NewSun's Response to PGE Data Request No. 38, and NewSun/100, Rahman/18:4-6, stating, "Q. So, should QFs have the option to select ERIS? A. Generator developers should be provided with the option to select ERIS or NRIS based on their business objectives, power purchase agreement provisions…" Please explain what power purchase agreement provisions would make it necessary or reasonable for a QF to have the option to select ERIS.

Response:

See response to Portland General Electric Company's Data Request No. 38.

Notwithstanding the foregoing NewSun responds as follows:

There might be a variety of solutions to this issue and this answer is not intended to exhaust the list of possible solutions, including all *PPA* provisions that might make it necessary or reasonable for a generator to have the option to select ERIS.

A generator should be able to be studied for both ERIS and NRIS so that it can determine whether a constraint exists, the cost for upgrades to remedy that constraint, and what level of curtailment exposures (such as "RAS" or "Remedial Action Schemes") might apply in certain system contingency events (such as N-1 or N-2 conditions). The QF should then be free to explore (and offer power sales to utilities) based on this information, whether the constraint can be contracted around resulting in a more efficient outcome, or another QF-acceptable approach or mitigation might occur. It should not be the utility's purview to decline the purchase QF's output however. Rather, the full scope of interconnection outcomes—in a manner non-discriminatory to any other prospective generator, particularly in terms of the interconnecting utility not having latitude or discretion to impose abnormal or discriminatory interconnection outcomes or costs or solution—should be available to inform the QF's contracting actions.

At the most basic level, a QF PPA—as many Oregon PPAs already provide—should merely provide—and ensure—that *the utility must take and purchase all the power delivered by the facility.* And not penalize the facility for curtailments imposed by the interconnecting utility, particularly when the QF is also interconnected to the purchasing utility. The PPA should clearly preclude the utility from imposing any economic curtailment. The utility is then in the role of merely purchasing all it receives, not discriminating or rejecting, nor having powers to discriminate or reject, the power it receives.

Thereafter, the interconnection studies and interconnection agreement (again non-discriminatingly) and, where applicable, transmission service agreements, would inform the ability of the facility to deliver output to the purchasing utility. If curtailment exposures existed, say, for certain system contingencies, such as an N-1 condition, then the QF might

not be able to deliver fully in such circumstances (as might also apply to a non-QF generator), but those would be exceptional circumstances, not normal, and presumably not materially different, in terms of variable resources innately being variable, from the fact that just like curtailments and system events happen (or likely much more so) variable resources don't always produce at full nameplate capacity.

Rahman

Request No. 60:

60. Please see NewSun's Response to PGE Data Request No. 40, stating, "A utility's obligation to purchase power from a QF is not contingent upon the power being delivered as 'firm', but merely delivered to its system." Does Mr. Rahman agree that a utility should be able to use QF output to serve the utility's load on a firm basis if the QF is being compensated for providing capacity?

Response:

NewSun objects to the requests to the extent that the data requested is not relevant to the issues identified in this proceeding. Avoided costs and the impact of any decision in this docket on avoided costs are not part of the issues list in this docket.

Notwithstanding the foregoing, NewSun responds as follows: It is unclear what PGE intends by "serve the utility's load on a firm basis" relative to a variable generator (as may vary among QF types). Mr. Rahman and NewSun do, however, agree that compensation for capacity contributions is appropriate (subject to being fully compensated) for QF output, including being based on the applicable degree of facility commitment for availability, as well as, likely further increasing such capacity compensation, the extent of dispatchability of the facility, firmness during certain windows, and/or ability to respond to certain calls on it and its output. (In other words, subject to being "fairly" compensated per full avoided value.). However, the ability of a QF to "serve the utility's load on a firm basis" is not a condition of the utility to purchase the output offered or delivered by a QF under PURPA, as Mr. Rahman understands PURPA in his non-legal capacity.

NOTE: NewSun would be willing to further discuss the concepts in this, PGE's Second Set of Data Requests, to determine if there might be common ground around which certain mutual agreements and/or issue settlements might occur.

Staff Data Responses to PGE

Date: November 24, 2020

TO:

LISA RACKNER
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ATTORNEYS FOR PGE
lisa@mrg-law.com

JORDAN SCHOONOVER
MCDOWELLO RACKNER GIBSON PC
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jordan@mrg-law.com

FROM: Caroline Moore
Chief Analyst
Energy Resources and Planning Division

OREGON PUBLIC UTILITY COMMISSION
Docket No. UM 2032- PGE 1st Set Request filed November 10, 2020

PGE Data Request No 11:

11. Does Staff agree that utilities have an obligation to continue to serve load in their service territories, and to build facilities necessary to serve that load, under Oregon law?

OPUC Response No 11:

11. Yes

Date: November 24, 2020

TO:

LISA RACKNER
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ATTORNEYS FOR PGE
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JORDAN SCHOONOVER
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FROM: Caroline Moore
Chief Analyst
Energy Resources and Planning Division

OREGON PUBLIC UTILITY COMMISSION
Docket No. UM 2032- PGE 1st Set Data Request filed November 10, 2020

PGE Data Request No 14:

14. See Staff/100, Moore/35.

a) Does Staff agree that Oregon CSP projects have location-specific size caps designed to limit deliverability related Network Upgrades?
b) Given the location specific nature of interconnection costs, as well the changing nature of the transmission system and system constraints at any given location, as well as the fact that the CSP interconnections are subject to location-specific project size cap, how will data from the CSP interconnection process provide insight into whether QFs should be permitted to interconnect with ER interconnection service?
c) What would "compelling data" show in this regard?

OPUC Response No 14:

14 a) Staff agrees that CSP generators interconnecting through the CSP interconnection process have location-specific size caps. These eligibility limits were proposed by the utilities to reduce the likelihood of deliverability driven Network Upgrades being identified in the TSR process. Staff originally proposed to allow any CSP generator to interconnect under ERIS for the purpose of facilitating CSP interconnections and gathering valuable data about the ratepayer impacts of interconnecting QFs under ERIS.

14 b) Data from the CSP interconnection process will help parties understand what happens when QFs interconnect under ERIS and the extent to which NRIS upgrades that would have been identified in the interconnection study process will be identified and required in the TSR process. It will also help parties understand if location-specific size limits can impact either of the previous two insights.

14 c) Compelling data would show that allowing QFs to interconnect as ERIS or interconnect as ERIS with size limits does not always simply defer identification and construction of upgrades to the TSR process.

Staff Data Responses to PacifiCorp

Date: December 9, 2020

TO:
DATA REQUEST RESPONSE CENTER
PACIFICORP
825 NE MULTNOMAH STREET STE 2000
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datarequest@pacificorp.com

FROM: Caroline Moore
Chief Analyst
Energy Resources and Planning Division

OREGON PUBLIC UTILITY COMMISSION
Docket No. UM 2032 - PacifiCorp 1st Set Data Request filed November 24, 2020

PAC Data Request No 02:

2. Please see Staff's response to PGE DR 10(b), as well as Staff/100, Moore/27, where Staff states, "Drawing a line at power flow capacity is also in line with how utilities have discussed the benefits of upgrading the transmission system."
    a. How does Staff believe a utility currently evaluates *where* to upgrade the "power flow capacity" of its transmission system and *how much* to increase that capacity?
    b. Footnote 72 of the Staff's testimony notes that PacifiCorp increased the capacity of its system "for purposes of reliability and NERC compliance." How does Staff believe a utility determines where to make reliability upgrades, and how much investment to make for that purpose?
    c. Does Staff believe a utility should receive automatic rate recovery for the costs of increasing the capacity of its system anywhere, for any reason? If not, what standard should apply to utility rate recovery for the costs of voluntary transmission system expansion?
    d. Is it Staff's understanding that the Commission currently applies a prudence standard for evaluating whether to allow a utility rate recovery for planned (i.e. not FERC mandated) investments that "increase the capacity of the transmission system"?
    e. Does Staff believe the value of expanded transmission facilities used for broad system dispatch in an RTO like SPP is the same as the operational value of such facilities in a single utility with a non- contiguous Oregon footprint like PacifiCorp?
    f. Does Staff agree that competitive markets with Locational Marginal Pricing provide price signals intended to encourage resources to site and build generation in non-congested areas? If the answer is yes, does Staff agree that a standard avoided cost price does *not* provide any such signal?

OPUC Response No 02:

a. Staff is not aware of a singular activity though which PacifiCorp determines where to conduct upgrades and how much to increase capacity by. Staff's observation is that such determination occurs in a piecemeal fashion between transmission planning forums, IRP, competitive procurement, and interconnection and transmission service.
b. Staff believes that PacifiCorp's process for this occurs in a piecemeal fashion between transmission planning forums, IRP, competitive procurement, and interconnection and transmission service
c. No. Staff does not take a position on cost recovery standards as it is out of scope for the docket.
d. Yes, Staff is aware that this occurs for the investments identified in an IRP.
e. Staff does not understand what the Company means by "broad system dispatch" and cannot speculate on the value of an upgrade to SPP. Staff notes that PacifiCorp has stated in other dockets that expanding the power flow capacity of its system benefits ratepayers.
f. Staff believes that LMP sends price signals that can encourage efficient siting. As far as Staff is aware, the avoided cost does not currently contemplate locational value.