ITEM NO. RA4

PUBLIC UTILITY COMMISSION OF OREGON
STAFF REPORT
PUBLIC MEETING DATE: August 11, 2020

REGULAR X CONSENT ____ EFFECTIVE DATE N/A

DATE: August 3, 2020

TO: Public Utility Commission

FROM: Caroline Moore

THROUGH: Bryan Conway and JP Batmale **SIGNED**

SUBJECT: PACIFIC POWER:
(Docket No. UM 2108)
Request to implement a cluster study process by modifying the Qualifying Facility Large Generator Interconnection Procedures and Qualifying Facility Large Generator Interconnection Agreement, waiving requirements for Small Generator Interconnection Procedures under Oregon Administrative Rules 860-082-0035 and 860-082-0060, and adopting additional Small Generator Interconnection Procedures requirements.

STAFF RECOMMENDATION:

Approve PacifiCorp's d/b/a Pacific Power's (Company or PAC) request for approval of queue reform proposal, with modifications and conditions.

DISCUSSION:

Issue

On May 12, 2020, the Federal Energy Regulatory Commission (FERC) approved PAC's request to modify its Open Access Transmission Tariff (OATT) for the purpose of interconnection queue reform. This proposal moves FERC-jurisdictional interconnection requests from a first come, first served serial process to a first ready, first served Cluster Study process. Following FERC approval, the Company requests approval to include Oregon-jurisdictional interconnections in the first ready, first served cluster process. Specifically, PAC requested that the Oregon Public Utility Commission (OPUC or Commission) approve the following:

- Approve the proposed modifications to the Qualifying Facility Large Generator Interconnection Procedures and Qualifying Facility Large Generator Interconnection Agreement to implement a move from serial to cluster interconnection studies for all generators greater than 10 megawatts (MW);

- Approve the proposal to similarly move from serial to cluster interconnection studies for small generators subject to Tier 4 interconnection review under OAR 860-082-0060 and grant a waiver for good cause of the small generator interconnection rules set forth in OAR Chapter 860, Division 82 as necessary to implement cluster studies;

- Approve the proposed modifications to the Facilities Study Agreement for small generators subject to Tier 4 interconnection review;

- Approve the proposed process for transitioning from serial to cluster studies (Transition Process);

- Approve the proposed withdrawal penalties for large generators that withdraw during the interconnection study process; and

- Make the proposed reforms effective July 15, 2020.[1]

Applicable Rule or Law

OPUC has adopted rules and policies for how large and small Oregon-jurisdictional generators, i.e., Qualifying Facilities (QFs), interconnect under the Public Utility Regulatory Policies Act (PURPA) and Oregon law.

On September 8, 2009, the Commission adopted administrative rules for how QFs with a nameplate capacity of 10MW or less interconnect with utilities. OAR Division 82 of Chapter 860 Small Generator Interconnection Rules (OR-SGIP). OAR 860-082-0010 details the waiver requirements for the OR-SGIP. The Commission may grant a waiver of any of the Division 82 rules for good cause shown.

As part of the investigation into interconnection of PURPA Qualifying Facilities (QFs), the Commission issued Order No. 10-132 in Docket No. UM 1401, in which the Commission established standard large generator interconnection procedures (OR-LGIP) for generators 20 MW and larger and adopted a standard Large Generator Interconnection Agreement (OR-LGIA).

[1] See Docket No. UM 2108, PacifiCorp Application for an Order Approving Queue Reform Proposal, June 15, 2020 (hereinto referred to as "PAC Application").

On January 31, 2020, the Company submitted proposed revisions to modify its FERC-jurisdictional Large Generator Interconnection Procedures (LGIP) and Small Generator Interconnection Procedures (SGIP), including the Large Generator Interconnection Agreement (LGIA) and Small Generator Interconnection Agreement (SGIA). On May 12, 2020, FERC accepted the Company's proposed revisions subject to conditions.

On June 15, 2020, the Company submitted proposed modifications to its OR-LGIP and OR-SGIP to align Oregon procedures with the FERC-jurisdictional reforms approved on May 12, 2020.

Analysis

Background

In 2019, PAC initiated a queue reform process to overcome major issues preventing a functional generator interconnection process. As of February 2020, over 219 interconnection requests sat in its queue – equaling approximately 39,500 MW of generators awaiting interconnection.[2] The Company states that this volume is more than three times the amount of energy demand on the Company's system, demonstrating the impact of the backlog on generators system-wide.[3] In addition, roughly 14 percent of the total generators in PAC's queue are located in Oregon and less than one percent have indicated Oregon-jurisdictional interconnection (on a per MW basis).[4]

The Company attributes this backlog to processing interconnection requests in first come, first served serial queue order.[5] The cost and timing that is associated with each higher-queued request has an impact on the lower-queued request, resulting in a high volume of withdrawals from the queue.[6] Withdrawals often cause a restudy of projects that are lower in the queue because the study assumptions change when the project assumptions of higher-queued projects change, creating additional uncertainty for projects that have studies that assume the projects ahead of them would be online.[7] Having a high volume of serially processed interconnection requests has not only resulted in high costs and delayed timing for lower queued projects, but also has had a negative impact on the timing of study results. PAC initiated a stakeholder process to identify remedies to these conditions in 2019.

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[2] PAC Application, p. 2.
[3] *Id*.
[4] Reflects PAC's OASIS Queue as of July 24, 2020, accessed here: https://www.oasis.oati.com/ppw/.
[5] *Id*.
[6] *Id.*
[7] *Id*. at 3.

FERC Queue Reform Process

After an informal stakeholder process in 2019, PAC submitted proposed revisions of its FERC LGIP and SGIP and the associated appendices to FERC on January 31, 2020.[8] The revisions included modifications to the Company's LGIA and SGIA in the Company's OATT. The FERC process involved several rounds of notices and responsive pleadings, with robust involvement from Oregon stakeholders.[9] The Renewable Energy Coalition (REC), the Community Renewable Energy Association (CREA), the Northwest and Intermountain Power Producers Association (NIPPC), Solar Energy Industries Association (SEIA), Renewable Northwest, and NewSun Energy (NewSun) all applied for, and were granted, intervener status in the FERC proceeding.[10] REC, CREA, Renewable Northwest, NewSun, and the Oregon Commission filed comments on the Company's filing with FERC.[11] Additionally, NewSun, CREA, SEIA, and NIPPC filed protests with the FERC proceeding.[12]

On March 6, 2020, FERC notified the Company that its filing was deficient and requested additional information.[13] The additional information included:

- Details of how the Company's revised interconnection procedures would comply with the requirements of PURPA;[14]
- How the Company plans to coordinate its upcoming and future Requests for Proposals with the timing of its interconnection process;[15]
- A description of what would constitute "comparable evidence" and "reasonable evidence" for the purpose of demonstrating readiness;[16]
- Clarification of whether interconnection customers would be able to be studied for both Energy Resource and Network Resource Interconnection service;[17]
- Explanation of how the Company was implementing Business Practice 73, and how that Business Practice would be implemented under the revised

[8] *See generally* FERC Docket No. ER20-924-000, PacifiCorp Tariff Filing, January 31, 2020.
[9] *See* FERC Docket No. ER20-924-000, Order No. 171 FERC ¶ 61,112 (May 12, 2020), *generally* and at 2.
[10] *Id*. at 2.
[11] *Id*. at 2.
[12] *See* FERC Docket No. ER20-924-000.
[13] *See* FERC Docket No. ER20-924-000, Deficiency Letter, Office of Energy Market Regulation (March 6, 2020).
[14] *Id*. at 1
[15] *Id*. at 2.
[16] *Id*.
[17] *Id*.

interconnection procedures, including any limitations on availability of Network Resource Interconnection Service.[18]

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The Company responded to the deficiency letter on March 13, 2020, along with responses to issues raised by commenters to the proceeding.[19] On April 12, 2020, FERC approved the Company's proposal and deficiency letter response, subject to conditions. The conditions included directing the Company to:

File an informational report with FERC within two years of the effective date of the order, including:

  - An analysis of the commercial readiness criteria and whether improvements can, or should, be made to the revised process;[20]
  - An analysis of whether the Company's reforms have improved study timelines for interconnection customers;[21]
  - Information on withdrawals from the interconnection queue.[22]
- File a compliance filing within 45 days of the date of the order that includes revised provisions that:
  - Allow customers to be studied for both NRIS and ERIS in the initial Cluster Study.[23]
  - Expand the ability to demonstrate readiness by submitting a site-specific purchase order for generating equipment or a signed statement attesting that the facility will be supplied with generating equipment from only Load Serving Entities to all interconnection customers.[24]
  - Extend the Transition Readiness Deadline up to October 31, 2020, to provide flexibility to generators.

SEIA filed an expedited request for partial rehearing on May 15, 2020. CREA, SEIA, and NewSun filed requests for rehearing on June 11, 2020. The Company filed a response to these requests on June 26, 2020.[25] FERC issued an Order Granting

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[18] *Id*. at 3.
[19] *See* FERC Docket No. ER20-924-000, PacifiCorp Response to Deficiency Letter and Request for Shortened Comment Period (March 13, 2020).
[20] [20] *See* FERC Docket No. ER20-924-000, Order No. 171 FERC ¶ 61,112 (May 12, 2020) at 17.
[21] *Id*.
[22] *Id*.
[23] *Id*. at 21.
[24] *Id*. at 30.
[25] *See* FERC Docket No. ER20-924-000, PacifiCorp Motion for Leave to Answer and Answer of PacifiCorp, June 26, 2020.

Rehearing for Further Consideration on June 15, 2020.[26] However in absence of an order addressing the requests for rehearing on the merits, Staff believes the requests for rehearing may be deemed denied.[27]

Oregon Queue Reform Proposal

On June 15, 2020, the Company submitted an application for proposed modifications to its Oregon interconnection procedures to the Oregon Commission.[28] The purpose of this filing is to include Oregon-jurisdictional interconnection requests in PAC's first ready, first served Cluster Study process approved by FERC. Following the filing, the Company held a stakeholder workshop on June 24, 2020. Rather than move to comments as suggested by Staff, participants at the workshop requested additional discussion with PAC. As a result, PAC hosted two additional workshops. The first workshop, held on July 6, 2020, addressed the technical details of the Company's proposal.[29] The second workshop, held on July 7, 2002, addressed the relationship between the Company's proposal and the Company's PURPA implementation. After the workshops concluded, Staff proposed a docket scheduled to allow Stakeholders to submit written comments, and for the Company to apply to written comments in kind.[30]

NIPPC, CREA, Oregon Solar Energy Industries Association (OSEIA), NewSun, and REC filed comments on the Company's proposal (referred to collectively as "QF Parties").[31] Staff appreciates the Stakeholder engagement in the Company's filing, as well as the engagement in the FERC proceeding, to inform Staff's analysis. Stakeholder comments will be addressed in the analysis section of the memo.

The remainder of this report summarizes the changes that PAC proposes to make to the existing OR-LGIP and OR-SGIP, reviews the benefits and risks of moving Oregon generators to PAC's first ready, first served Cluster Process, and proposes modifications and conditions for approval of PAC's proposal.

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[26] *See* FERC Docket No. ER20-924-000, Order Granting Rehearings for Further Consideration, Docket No. ER20-924-002 (June 15, 2020).
[27] *Allegheny Defense Project v. FERC*, No. 17-1098 (D.C. Cir. June 30, 2020).
[28] PAC Application.
[29] *See* Docket No. UM 2108, Notice of PacifiCorp's Oregon Queue Reform Workshops on July 6 and 7 (June 29, 2020).
[30] *See* Docket No. UM 2108, Staff's Notice of Next Steps (July 10, 2020).
[31] *See* Docket No. NIPPC's Comments, June 17, 2020; REC, CREA, and OSEIA's Joint Comments of the Interconnection Coalition, July 17, 2020 (hereinto referred to as "Joint Coalition Comments"); Joint Comments of NewSun Energy LLC and Oregon Solar Energy Industries Association (OSEIA), July 17, 2020, (hereinto referred to as "NewSun and OSEIA Comments").

Requested Changes to Oregon LGIP and SGIP
Joining PAC's Cluster Study process requires several changes to Oregon's LGIP and SGIP. These changes are summarized below.

Applicability. PAC proposes to apply its FERC approved queue reforms to all Oregon-jurisdictional Large Generators (>10 MW – 80 MW) and Small Generators interconnecting under the Tier 4 process set forth in the OR-SGIP (25 kW – 10 MW).[32,33]

Study Process. Rather than studying each interconnection request sequentially in the order received, PAC's Cluster Process studies interconnection requests in clusters of geographically and/or electrically relevant generators (Cluster Areas).[34] The following are elements in PAC's Cluster Study Process that differ from existing Oregon Processes:

- Cluster System Impact Study (Cluster Study): A single Cluster System Impact Study will be performed for each Cluster Area. The Cluster Study considers all new generators in the Cluster Area with equal priority and allocates upgrades across generators through established criteria described further in this report.[35] PAC does not propose to modify the System Impact Study analysis, including the power flow, stability and short circuit analyses that are currently used.

- Annual Cluster Study Cycle: The Cluster Study process operates on a fixed annual cycle. The process includes a 45 day application window and requires increasing levels of commitment from generators after that. The increasing levels of commitment are on a fixed timeline, as well, to prevent delays and uncertainty for all cluster participants. PAC intends the annual process to allow sufficient time to finalize the outcome of the prior to launching the next.[36]

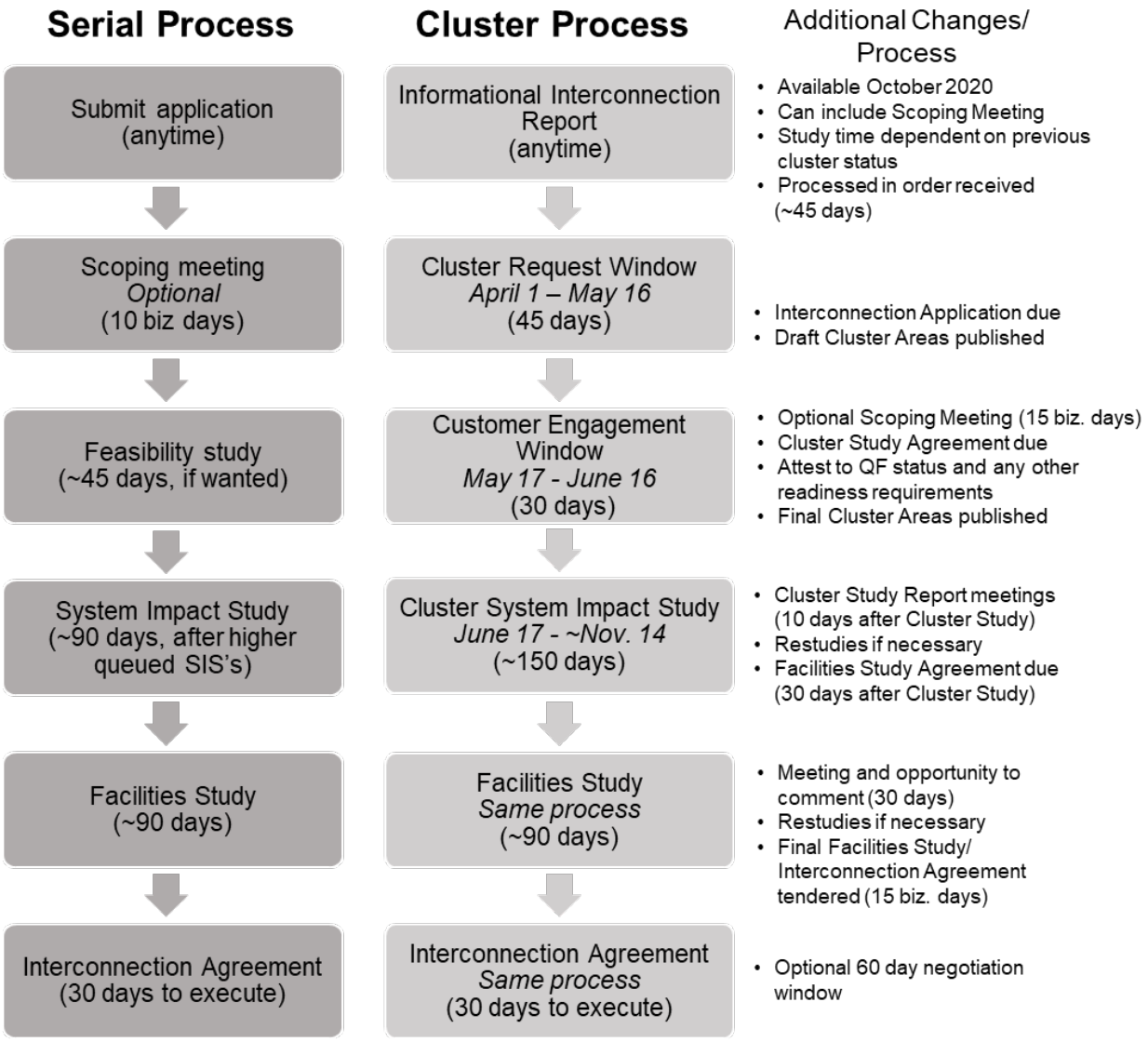
- Informational Interconnection Report: Generators may request Informational Interconnection Reports prior to submitting an Interconnection Application and committing to participate in the Cluster Study.[37] This study takes the

[32] PAC Application, p. 1.
[33] Tier 4 OR- SGIP interconnections are outlined in OAR 860-082-0060 and apply to Oregon jurisdictional generators 25 kW – 10 MW, that export power past the point of interconnection and do not pass the screening criteria for minimal system impacts under Tier 2 (OAR 860-082-0050).
[34] PAC Application, p. 25.
[35] *Id*, at 25-26.
[36] *Id* at 22.
[37] *Id* at 35.

place of the Feasibility Study, which is currently provided after the generator applies for interconnection and is provided a place in the interconnection queue.

Other timelines and processes are modified to accommodate the annual cluster process as summarized in Figure 1 below and detailed in Attachment A.

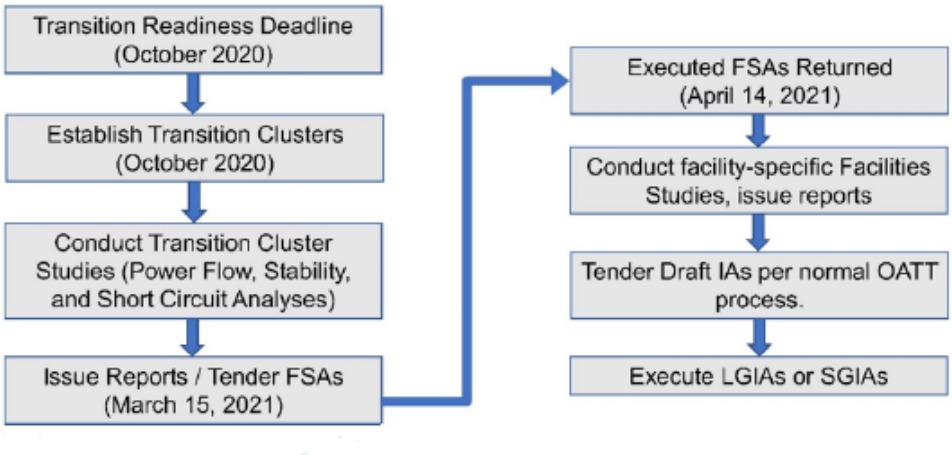
Figure 1. Overview of Proposed Study Process Changes



Transition Process. PAC proposes to conduct a Transitional Cluster Study Process before implementing what it describes as the "Prospective Cluster Study Process" that begins in April 1 of each year.[38] This transition process is intended to clear the backlog of non-commercially ready interconnection requests and align with the timing of PAC's 2020 RFP.[39]

The Transitional Cluster Study will be restricted to active generators in the interconnection queue at the time that PAC filed for queue reform with FERC (January 31, 2020).[40] However, generators with an Interconnection Agreement executed prior to April 1, 2020, will proceed under that serial interconnection. Late stage projects that have a facilities study as of April 1, 2020, can chose either path.[41] Eligible projects that wish to participate in the Transition Cluster Study must provide notice to PAC by August 15, 2020.[42] This includes confirmation that the generator will interconnect as a state-jurisdictional QF. Eligible generators that do not elect to participate in the Transitional Cluster or do not remedy deficiencies will be withdrawn from the queue.

Figure 2. Transition Cluster Process[43]



[38] *Id* at 6.
[39] *Id* at 15.
[40] *Id* at 6.
[41] Late-stage projects are those that have executed a Facilities Study Agreement by April 1, 18 2020. PAC Application, pp. 41-45.
[42] PAC Application, p. 41.
[43] *Id* at 43.

Cost Allocation. In serial queue processing, the cost to perform each study and all interconnection upgrades triggered by that generator are borne by that single generator. Under queue reform, PAC proposes to assign the costs to perform the Cluster System Impact Study and the required upgrades through a combination of per capita and pro rata allocations based on MW size.[44] All other costs remain borne by solely by the generator, although withdrawal penalties will be used to cover certain restudy costs.

Readiness Requirements and Withdrawal Penalties. PAC's FERC queue reform proposal includes commercial readiness requirements to enter the queue, a different deposit structure, and increasing withdrawal penalties for generators exiting the queue after committing to participate in the Cluster Study. PAC proposes these modifications to increase certainty and facilitate efficient operation of the clusters. PAC's Oregon proposal does not modify the deposit requirements or impose withdrawal penalties on Oregon-jurisdictional Small Generators. However, Oregon Large Generators would be subject to a different deposit structure and withdrawal penalties that mirror the requirements for FERC-jurisdictional Large Generators.[45] Oregon-jurisdictional generators are currently required to demonstrate site control before entering the queue. PAC has not proposed to modify that requirement, but proposes a stricter definition of site control for Oregon Large Generators.[46]

Oregon Interconnection Request Landscape

Table 1 provides a snapshot of the landscape of existing or potential Oregon-jurisdictional interconnections in PAC's queue (generators that have or could elect to become Oregon QFs based on size and interconnection service type). These figures offer context for the scope of PAC's proposed queue reforms in Oregon. Ultimately, a small number of existing interconnection applicants in Oregon will be directly impacted by the Oregon Commission's decision. Detailed information about the Oregon generators in the table below is provided in Attachment B.

[44] *Id* at 20, 30.
[45] *Id* at 17-20.
[46] *Id* at 20-21.

Table 1. Approx. Landscape of Potential Oregon-Jurisdictional Generators[47]

Type of Active Interconnection Application	Size *Large: >10 - 80 MW* *Small: ≤10 MW*	Specify Oregon Jurisdiction		Specify FERC Jurisdiction		Total	
		#	MW	#	MW	#	MW
Eligible for Transition Queue[48]	Large[49]	-	-	17	1,179	17	1,179
	Small	17	42	-	-	17	42
Ineligible for Transition Cluster[50]	Large	1	80	4	100	5	180
	Small	-	-	-	-	-	-
TOTAL		18	122	21	1279	39	1,401

Potential Oregon Generators: Generators that interconnect under OR-LGIP and OR-SGIP are under 80 MW and have Network Resource Interconnection Status. There are 39 active generators in PAC's existing queue without an interconnection agreement that are able to do this, totaling roughly 1,400 MW. This is a relatively small number of generators when considering PAC's total queue of active interconnection requests exceeds 200 generators and 40,000 MW.[51] While 21 of these 39 potential Oregon generators currently plan to interconnect under the FERC process (91 percent on a MW basis), all of these generators could still elect to interconnect under the Oregon SGIP or LGIP.

Generators 11 – 80 MW: Over a GW of 11 MW – 80 MW Oregon generators are eligible for the Transition Cluster, representing roughly 3.5 percent of PAC's active interconnection requests on a MW basis. None of these generators have specified an intention to interconnect under the Oregon LGIP, but three quarters of these generators have left the door open by requesting Network Resource Interconnection Service (NRIS) or NR/ER Interconnection Service (13 out of 17).

Generators ≤10 MW: Adopting PAC's queue reform will immediately impact 17 existing generators 10 MW and under in Oregon, totaling 42 MW. In total, these Oregon-

[47] Reflects PAC's OASIS Queue as of July 24, 2020, accessed here: https://www.oasis.oati.com/ppw/.
[48] This includes generators specifying NR, ER and Oregon and FERC jurisdictional, as these generators have not been studied and can still notify PAC of an intent to interconnect as Oregon QFs. Staff also identified one Late-Stage Project that can proceed with its serial study results or participate in the Transition Cluster.
[49] Staff identified one Late-Stage Project that can proceed with its serial study results or participate in the Transition Cluster.
[50] Includes generators submitting interconnection requests after January 31, 2020.
[51] Reflects PAC's OASIS Queue as of July 24, 2020, accessed here: https://www.oasis.oati.com/ppw/.

jurisdictional Small Generators represent one tenth of one percent of PAC's active interconnection requests on a MW basis.

Ineligible for Transition Cluster: Five large generators entered PAC's queue following the January 31, 2020, cut-off date (0.3 percent on a MW basis). Only one of these generators has specified an intention to interconnect under Oregon's procedures.

Threshold Issue: Whether to include Oregon-jurisdictional interconnection requests in PAC's Cluster Study process

The first ready, first served cluster process has already been approved by FERC and will occur under the timelines codified in the Company's OATT. Therefore, the heart of the decision before Oregon's Commission is whether to include Oregon generators in this process, including the 39 potential Oregon-jurisdictional generators currently in queue.

The following section reviews the implications, benefits, and risks of moving Oregon-jurisdictional generators to this process, rather than continuing to process Oregon-jurisdictional generators under the current serial LGIP and SGIP.

Option 1: Move Oregon-jurisdictional generators to the first ready, first served cluster process.

If the Commission decides to accept PAC's proposed queue reforms, Oregon-jurisdictional generators would be required to follow the FERC-approved interconnection process. First, existing Oregon-jurisdictional interconnection applicants would be held to the Transition Cluster Process and the associated timelines. Those not electing to participate in the Transition Cluster, or that cannot meet the requirements, will be withdrawn from the queue. Moving forward, applicable generators would be required to abide by the Prospective Cluster Process, including the annual study window, cost sharing provisions, and requirements for additional skin in the game.

Option 2: Continue to process Oregon-jurisdictional generators under the existing first come, first served serial interconnection process.

Prior to FERC's approval of PAC's queue reforms, PAC operated a single serial queue for interconnections under both FERC and Oregon procedures (large and small). If the Commission does not adopt PAC's queue reforms, PAC will process the majority of interconnection requests in clusters (FERC), with a small portion of interconnection requests serially within the same queue (Oregon).

As PAC explains in its Reply Comments, interconnection studies rely on assumptions about which generators have already connected to the system.[52] These assumptions include generators that are planning to connect to the system[53] Cluster and serial studies cannot occur in parallel without using conflicting assumptions.[54] This means that PAC will need to position each annual cluster and each Oregon-jurisdictional interconnection in a serial order. Because the FERC Cluster Study dates are fixed, PAC will process serial Oregon-jurisdictional interconnections in between cluster studies.[55]

The first Prospective Cluster begins very soon after the Transition Cluster ends.[56] Therefore, PAC will not begin to process Oregon jurisdictional interconnections (in serial order) until the interval between the first and second Prospective Clusters. This interval is expected to no earlier than November 2021.

PAC asserts that restudies in the Cluster Process could limit the time available to process many serial studies PAC between clusters.[57] Staff finds that there is too much uncertainty surrounding the makeup of the Transition Cluster and subsequent Prospective Clusters to draw contrary conclusions about the time between clusters.

Regardless of whether Oregon participates in the cluster process, Oregon generators will benefit from PAC's efforts to clear its system-wide backlog and establish a more efficient queue through commercial readiness standards and withdrawal penalties. However, if Oregon does not participate, Staff has concerns about whether Oregon generators would be able to take advantage of the some of these benefits given PAC's obligation to follow the timelines in its FERC-approved OATT.

Benefits of adopting Queue Reform

Staff finds that moving applicable Oregon-jurisdictional generators to the first ready, first served cluster process offers several benefits, as described below.

[52] *See* Docket No. 2108, PacifiCorp Reply Comments, July 24, 2020, p. 5, (hereinto referred to as "PAC Reply Comments").
[53] *Id.*
[54] *Id.*
[55] *Id.*
[56] *Id* at 6.
[57] *Id.*

Benefit #1: Alignment across generator types

PAC argues that aligning the Oregon interconnection procedures with the recently adopted FERC LGIP and SGIP will mitigate the risk of confusion and create practical efficiencies in the interconnection process.[58] Further, PAC cautions against maintaining an "Oregon-only queue" and states that a mismatch between policies could advantage Oregon QFs over Oregon generators participating in the 2020 Request for Proposals (RFP) and vice versa.[59]

The QF Parties argue that the stability of Oregon's interconnection policies has benefitted generators with a long-term understanding of their rights and obligations and that PAC's that there is no pressing need to align state and federal processes.[60]

However, the Oregon SGIP docket reflects that the parties that collaborated on draft rules intended to depart as little as possible from FERC SGIP and did so only when necessary to accommodate specific Oregon laws or rules.[61] Review of the LGIP order shows the Commission departed very minimally from the LGIP adopted by FERC. This history supports moving toward SGIP and LGIP adopted by FERC.[62]

Further, Staff finds that operating a serial queue and Cluster Study process in tandem will increase confusion, Oregon-jurisdictional study timelines, and disparity between the interconnection service different generators in the same queue receive.

Benefit #2: Reduced interconnection costs through cost-sharing

PAC's queue reforms allow generators to share the cost of interconnection upgrades. PAC's cost allocation policy includes the following:

- Station upgrades: Upgrades at the point of interconnection substation will be allocated on a per capita basis.[63] PAC explains that these station facilities are driven by the number of interconnecting generators, not the size of the interconnecting generators.[64, 65]

[58] PAC Application, pp. 47-49.
[59] *Id* at 48.
[60] Joint Coalition Comments, pp. 7, 10, NewSun and OSEIA Comments, pp. 1-5.
[61] See Docket No. AR 521.
[62] See Docket No. UM 1401.
[63] PAC Application, p. 30.
[64] PAC Reply Comments, p. 17.
[65] Station upgrades may include physical equipment such as circuit breakers, switches and instrument transformers along with their associated foundations, structures, bus and wire connections. The station upgrades also may include protective relays, shared communications infrastructure and other shared facilities such as fencing, ground grid, gravel, etc. See Attachment C.

- Other upgrades: All other upgrades will be assigned on a pro rata basis first on the type of interconnection service requested (ERIS or NRIS) and thereafter on the proportional size of each generator (per MW).
- One percent floor: Generators that comprise 1 percent of less of the cluster on a MW basis will not be responsible for upgrade costs in that cluster (past the point of interconnection).[66]

The QF Parties argue PAC's station upgrade policy disadvantages smaller generators.[67] In comments, the QF Parties explain that it is unreasonable to assign equal shares of a $25 million substation upgrade to a 3 MW and a 500 MW generator, for example.[68] This unfairness is exacerbated by the FERC generator's ability to receive reimbursement for the network upgrade costs.[69]

However, PAC notes that very small generators and very large generators will not interconnect to the same substations.[70] Further, the 1 percent floor is included to protect a generator under the circumstances that the QF Parties raise.

The QF Parties also recommend raising the 1 percent floor to 10 percent to reduce the cost burden on small generators. PAC explains that setting the floor as high as 10 percent introduces converse issues that could burden mid-size Oregon-jurisdictional generators.[71] For example, if a 200 MW Cluster Area includes two 50 MW generators and five 20 MW generators, each 20 MW generator will qualify for the 10 percent floor and force two similarly sized generators to bear 100 percent of the upgrade costs.

Staff shares the QF Parties' interest in protecting small generators from overly burdensome cost allocation, but finds that the potential disadvantages raised are not severe enough to reject a cost allocation that FERC has deemed reasonable to protect small generators. Particularly, they do not outweigh the burden that network upgrade costs already place on small Oregon-jurisdictional generators in the serial queue.[72]

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[66] PAC Application, p. 30.
[67] Joint Coalition Comments, pp. 34 – 35.
[68] Joint Coalition Comments, p. 34.
[69] *Id*.
[70] PAC Reply Comments, p. 18.
[71] Joint Coalition Comments, pp. 38 - 39; NewSun and OSEIA Comments, p. 8.
[72] In the serial queue, generators can attempt to size under the threshold that will trigger an upgrade and secure the required queue position to take advantage of the head room. Generators can also attempt to rely on a higher queued generator to bear the full cost of an upgrade that is required for their interconnection, as well. Without these opportunities, Oregon QFs in the Cluster Study process may or may not be assigned costs that they would not have in serial order. However, Staff notes that relying on upgrades assigned to a single higher queued generator in serial order holds its own risks and contributed to the frustrations, uncertainty, and delays plaguing PAC's queue in recent years.

As PAC implements the Cluster Studies, the appropriateness of PAC's station allocation methodology and 1 percent floor policies should be tracked in dockets such as UM 2111 and UM 2005. These dockets should consider the impacts of these policies and how these learnings fit into broader interconnection reform and system planning efforts.

Staff also acknowledges QF Parties' concerns that Oregon QFs are not reimbursed for network upgrades. These matters will be resolved in the context of UM 2032.

Benefit #3: Improved planning and efficiency for generators

Standardized study windows and the ability to study all requests simultaneously increase the certainty and speed of interconnection study timelines. This can help generators plan for other milestones, such as permitting and QF Power Purchase Agreements (PPAs). In addition, departing from the serial process removes the incentive for generators to seek queue priority for speculative projects to the harm of lowered queued generators that may be ready to commit to interconnection.

Clearing the queue through the Transition Cluster and increased skin in the game will also provide commercially ready generators with a more efficient process and higher likelihood of success. These changes to the FERC process will benefit Oregon QFs regardless of the Commission's decision in this docket. However, implementing the Transition Cluster and increased skin in the game for Oregon QF's will increase these benefits for all generators.

The QF Parties assert that new requirements in PAC's proposal could be burdensome and may deter interconnection. Of particular concern is limiting QF's freedom to choose when to act, including:

- Limiting the time in which a generator can request an interconnection study to once per year;[73]
- The 45-day window for submitting a request for interconnection, which does not necessarily provide generators enough time to fix any infirmities in the application before the Cluster Study window closes;[74]
- Limiting the generator's ability to downsize by 60 percent prior to executing a Cluster System Impact Study agreement;[75] and
- The 30-day window after the Cluster Study is finished in which generators must choose whether to proceed with interconnection and if proceeding, provide a deposit for upgrades, which is not sufficient opportunity for generators to provide

[73] Joint Coalition Comments, pp. 28-30; NewSun and OSEIA Comments, p. 7.
[74] Joint Coalition Comments, p. 40; NewSun and OSEIA Comments, p. 7.
[75] NewSun and OSEIA Comments, pp. 6-7.

> an independent study, assess the results, make a business decision on whether to move forward, and procure the necessary deposit for moving forward.[76]

PAC responds that, although the queue reforms will take away some of the generators' flexibility of when to apply for interconnection and when it can make modifications and withdraw, it will provide more certainty about when generators' interconnection studies will be complete.[77] Staff adds that, even if PAC continued to study Oregon generators' applications serially, PAC will be limited by the timing of cluster studies specified in its OATT.

Staff agrees with PAC that the current serial process can be unpredictable and subjects generators to the timing and decisions of higher queued projects. Although there is still the possibility of restudies and delays, there are also well established timelines for each annual Cluster Study process that generators can rely on. There are also multiple touchpoints in which generators can explore optionality, like changing the point of interconnection that do not harm other generators in the cluster.[78] Staff also notes that restudies in the FERC cluster will impact Oregon-jurisdictional generators regardless of participation in the cluster.

Staff appreciates the QF Parties' efforts to identify opportunities to improve PAC's OR-LGIP and OR-SGIP that are not directly related to queue reform. Examples include the additional opportunities to vet utility studies, utilizing third-party analyses, and making additional updates the OR-LGIP to reflect changes PAC has made to its FERC LGIP over the past decade. Staff looks forward to addressing these matters in UM 2111 and other related interconnection reform efforts.

Finally, QF Parties claim that queue reform is unnecessary and network upgrade constraints leading to interconnection issues are due to PAC's faulty power flow studies.[79] As mentioned previously, FERC's decision to adopt PAC's queue reform proposal is outside of the scope of this docket. The issue at hand is whether to move Oregon generators to this process.

> *Staff Recommendation on Threshold Question*
>
> Staff recommends that the Oregon Commission adopt PAC's proposal to align the OR-LGIP and OR-SGIP with the FERC first ready, first served cluster process. Staff finds that efficiency, certainty, and cost sharing benefits of PAC's

[76] *Id* at 7-8.
[77] PAC Reply Comments, pp. 15-17.
[78] For example, the scoping meeting during the customer engagement window.
[79] NewSun and OSEIA Comments, p. 4; NIPPC Comments, p. 4; Joint Comments, p. 7-9.

proposal outweigh the generators' desire to apply for interconnection at any time or enter the interconnection process without a commercially ready project.

Nevertheless, Staff acknowledges that there are risks and implementation issues associated with PAC's proposal. The following section discusses these issues and provides recommendations to modify or add conditions to PAC's proposal, as necessary.

Recommendations for implementation

While Staff recommends moving Oregon QFs to the FERC Cluster Study, risks and other issues related to implementation warrant consideration. The following section outlines Staff and QF Parties' additional issues with the changes PAC proposes. Staff recommends modifications to PAC's proposal and additional conditions where applicable.

Issue #1: Requirements for 10 – 20 MW generators

QF Parties recommend that the Commission treat generators between 10 and 20 MW as small generators subject to the SGIP, rather than large generators subject to the LGIP.[80] PAC has exempted small generators from some of the requirements imposed on large generators in the queue reform proposal, and the QF Parties believe these exemptions should apply to generators up to 20 MW, as in FERC jurisdictional interconnections.

In Reply Comments, PAC disagrees that it is appropriate to apply to treat generators above 10 MW and up to 20 MW as small generators. PAC notes that the Commission's original framework was to treat generators greater than 10 MW as large generators.[81] PAC also notes that generators larger than 10 MW are almost always going to interconnect to the Company's transmission system and are if they withdraw are more likely to trigger a restudy. For these reasons, PAC asserts it is appropriate that the LGIP applies to generators greater than 10 MW and up to 20 MW.[82]

Staff response: Staff disagrees with PAC's reliance on the Commission's "original framework." The Staff Report asking the Commission to open an investigation into the interconnection of PURPA Qualifying Facilities with a nameplate capacity greater than 10 MW noted that stakeholders and utilities "supported the concept of using FERC's small generator interconnection procedures and agreements for

[80] Joint Coalition Comments, p. 52; NewSun and OSEIA Comments, p. 6.
[81] PAC Reply Comments, p. 35.
[82] *Id*.

QFs between 10 MW and 20 MW, and FERC's large generator interconnection procedures and agreements for QFs over 20 MW."[83]

More importantly, PAC is implementing new queue reforms with uncertain impacts on Oregon-jurisdictional generators, and in a queue that is predominantly large FERC jurisdictional interconnections. It is reasonable and fair to align the OR-SGIP with the FERC rules.

Staff recommends modifying PAC's proposal to treat all Oregon QFs 20 MW as Small Generators.

Issue #2: Tier 4 SGIP generators

The QF Parties propose that Small Generators interconnecting under Tier 4 procedures should be exempt from the requirement to participate in the Cluster Study process.[84] They argue that Oregon Small Generators should have the same ability to proceed in a serial queue as CSP and net metering generators.[85] Further, the QF Parties argue that it is not reasonable to waive thoughtfully developed administrative rules for a single utility, and exempting Tier 4 Small Generators from queue reform would avoid the need to do so.[86]

PAC notes that Commission already addressed this issue when approving the separate CSP interconnection process.[87] Further, PAC points out that the CSP queue is for differently situated generators, and includes eligibility requirements to minimize system impacts and protections to ensure that only CSP generators participate.[88]

Staff Response: Staff agrees that the Commission has already established that CSP and net metering generators are differently situated than the Tier 4 Small Generators subject to PAC's queue reform proposal. Further, the CSP interconnection process consists of interim relief measures that the Commission required PAC to implement in the absence of broader queue reform.[89] As noted in the 6 month check-in, these CSP measures are effective in terms of producing timely studies, but have not yet demonstrated the ability to overcome the cost responsibility and uncertainty barriers associated with serial processing.[90]

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[83] Docket No. UM 1401 Staff Report, QF Interconnection Investigation, p. 2 (October 29, 2008).
[84] Joint Coalition Comments, p.19.
[85] *Id* at 20.
[86] *Id* at 20.
[87] PAC Reply Comments, pp. 11-12.
[88] *Id*.
[89] See UM 1930, Staff Report for the October 22, 2019 Public Meeting.
[90] *See* UM 1930, Staff Report for the July 28, 2020 Public Meeting, pp. 6-13.

Issue #3: Transition Cluster eligibility and optionality

The QF Parties claim that QFs were not provided sufficient notice of queue reforms and propose several adjustments to expand optionality for QFs:

- Allow new generators to request participation in the Transition Cluster for 30 days following Commission approval of PAC's queue reforms.
- Allow Oregon-jurisdictional generators with pending requests to proceed to serial study.
- Allow new requests made in 2020 to proceed with serial studies.[91]

PAC responds this first proposal is counter to the purpose of the Transition Cluster: clearing the backlog of existing interconnection requests. [92] In response to the second and third proposal, PAC explains that pending or new interconnection request entering the first Prospective Cluster would receive studies faster than the current serial timeframe.[93] Staff notes that participating in the first Prospective Cluster will return study results prior a serial studies performed between the first and second cluster, as well.

> *Staff response*: The QF Parties' reforms will not help to clear the queue or provide more flexibility for QFs. Allowing serial processing will only restrict the serial studies to the time period between cluster studies. However, Staff recognizes that the August 15, 2020, timeline for generators to indicate participation in the Transition Cluster (as a QF) may be overly burdensome. Therefore, Staff recommends the following modifications to PAC's proposal:
>
> - Give Oregon-jurisdictional generators a reasonable amount of additional time to indicate participation in the Transition Cluster. Staff proposes changing the deadline to September 15, 2020.
> - Send a communication to all eligible Oregon-jurisdictional generators to ensure they are aware of the changes and the deadlines. Staff proposes sending the communication by August 20, 2020.

Issue #4: Defining cluster areas

QF Parties express concern that PAC has not clearly defined how Cluster Areas will be established.[94] In Reply Comments, PAC clarifies that it "cannot precisely define Cluster Study areas until the requests are submitted and the study participants are known," but,

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[91] Joint Coalition Comments, p. 22.
[92] PAC Reply Comments, p. 23.
[93] *Id* at 23-24.
[94] Joint Coalition Comments, pp. 47-48.

"PacifiCorp will define Cluster Study areas by discrete electrical boundaries (e.g. transmission line and substation interfaces)." [95]

Staff response: Staff agrees that additional clarity about Cluster Areas will benefit generators and help facilitate the first ready, first served approach. While PAC's proposal includes a Draft Cluster Area report at the end of the Cluster Request Window and Final Cluster Area Report by the end of the Customer Engagement Window, Staff encourages to PAC to codify and continue to refine these criteria as much as possible for generators.

At minimum, Staff recommends that the Commission require PAC to submit a detailed description of its criteria for defining a Cluster Area in this docket and to file updates as this criteria evolves.

Issue #5: Informational Interconnection Studies

The QF Parties request that PAC process the Informational Interconnection Studies in the order received and use reasonable efforts to complete the studies in 45 days.[96] PAC agrees to these modifications.[97]

Staff response: Staff recommends that PAC update its revised OR-LGIP and OR-SGIP documents to clarify that it will process the Informational Interconnection Studies in the order receive and use reasonable efforts to complete the studies in 45 days.

Issue #6: Burdensome readiness requirements

The QF Parties assert that new readiness and withdrawal requirements could be burdensome and may deter interconnection.[98] The QF Parties also raised concerns about increased interconnection study costs.[99]

With respect to the heightened site control requirement, PAC explains that at the time of application a generator would be required to either demonstrate site control of a site of "sufficient size" as part of their interconnection request submission, or to provide a $10,000 deposit in lieu of showing site control.[100] With respect to the subjectivity of the "sufficient size" requirement, PAC notes that it has posted the size requirements to

[95] PAC Reply Comments, p. 42.
[96] NewSun and OSEIA Comments, p. 8.
[97] PAC Reply Comments, p. 49.
[98] Joint Coalition Comments, pp. 24-25; NewSun and OSEIA Comments, pp. 7-8.
[99] Joint Coalition Comments, pp. 34-35; NewSun and OSEIA Comments, p. 7-8.
[100] PAC Reply Comments, pp. 32-33.

OASIS.[101] To provide project developers with flexibility, PAC will also permit customers to propose alternative specifications for site size to those posted on OASIS.[102] PAC believes the site control requirement is important because Oregon Large Generators are not subject to the commercial readiness requirement applicable to FERC jurisdictional large generators.

PAC also disagrees that the withdrawal penalties should be reduced. PAC notes that these penalties only apply to large generators and only in certain circumstances. There are no penalties if the withdrawal does not negatively affect the timing or cost of other projects within the same cluster; the generator withdraws after receiving the most recent Cluster Study report and the costs assigned to the generator have increased by more than 25 percent compared to last Cluster Study report; or the generator withdraws after receiving the individual Facilities Study report and the costs assigned to the generator increase by more than 100 percent compared to the most recent Cluster Study.[103]

Table 2. Withdrawal Penalties for Large Generators[104]

Point of Withdrawal	Withdrawal Penalty	Penalty Cap
Receipt of Cluster Study Report	2x actual study costs	$1 million
Receipt of Re-Study Reports	3x actual study costs	$1.5 million
Receipt of Facilities Study Report	5x actual study costs	$2 million
After LGIA Execution	9x actual study costs	No Cap

PAC disagrees with the QF Parties that the loss of study deposits is a sufficient deterrent to withdrawal and that penalties are unnecessary. PAC observes that this has not proven to be true in the past and that withdrawals and the need to restudy have presented significant challenges in the serial queue process.[105]

With respect to the requirement that Large Generators post security equal to 100 percent of the allocated network upgrade costs determined in the Cluster Study, PAC notes this requirement was relatively uncontroversial during the FERC proceeding and that there is no reason to treat large FERC jurisdictional generator differently than Oregon jurisdictional generators.[106] PAC also notes that its queue reform proposal does not change the types of security a generator may provide and that these remain as they are in the OR-LGIP.[107]

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[101] *Id* at 32.
[102] *Id*.
[103] *Id* at 29.
[104] *Id* at 32.
[105] *Id* at 30.
[106] *Id* at 28.
[107] *Id*.

With respect to the increased study costs, PAC notes the study costs would not increase for Oregon small generators.[108] The current LGIP requires a generator 20 MWs and above to pay a deposit of $50,000 for a System Impact Study and $100,000 for a Facilities Study. Under PAC's Queue Reform Proposal, a generator less than 50 MW would pay $75,000, a generator between 50 MW and 250 MW would pay $150,000. The only generators that will pay a higher study deposit under PAC's Queue Reform Proposal are generators larger than 200 MW, which are not subject to the Oregon Commission's jurisdiction.[109]

Table 3. Proposed Deposit Changes

Generator Size	Current Deposit	Proposed Deposit
>10 MW	Up to 50 percent of the estimated costs to perform the study or $1000[110]	Up to 50 percent of the estimated costs to perform the study or $1000[111]
>10 MW - 50 MW	$10,000 – Feasibility Study[112] $50,000 - System Impact Study[113] $100,000 – Facilities Study[114]	$75,000[115]
>50 MW - 200 MW	$10,000 – Feasibility Study[116] $50,000 - System Impact Study[117] $100,000 – Facilities Study[118]	$150,000[119]
200 MW or greater	N/A[120]	$250,000[121]

In terms of the allocation of study costs within a cluster, PAC will allocate 50 percent on a per capita basis and 50 percent on a pro rata basis (per MW). PAC argues that this approach strikes a reasonable balance because there are some study costs that are incurred regardless of how large a project may be, while others are driven by the size of the project studied. The QF Parties express concerns that small generators my bear and unreasonable level of cost, but PAC demonstrated that even in a cluster with just a

[108] *Id* at 22.
[109] *Id* at 30-31.
[110] OAR 860-082-0035.
[111] OAR 860-082-0035.
[112] PAC LGIP, Article 6.1.2.
[113] *Id* at Article 7.3.
[114] *Id* at Article 8.1.
[115] PAC Application, p. 19.
[116] PAC LGIP, Aritcle 6.1.2.
[117] *Id* at Article 7.3.
[118] *Id* at Article 8.1.
[119] PAC Application, p. 19.
[120] OAR 860-029-0010(33).
[121] PAC Application, p. 19.

very large (500 MW) and very small (3 MW) generator, the smaller generator would only bear about 26 percent of the study cost.

Staff response: Readiness requirements and withdrawal penalties are necessary in a first ready, first served cluster process. Staff does not disagree with FERC that these requirements for large generators strike a necessary balance, particularly considering Staff's recommendation to align the with FERC's definition of Small Generators up to 20 MW.

That said, these new requirements make it more important than ever for PAC to help generators anticipate upgrade costs and find suitable locations and project designs before the Cluster Request Window closes. In response to requests from the QF Parties, PAC proposed to post Informational Interconnection Studies publicly. Staff supports this and recommends the following set of conditions to limit the burden of readiness requirements and withdrawal penalties:

- Post Informational Interconnection Studies on OASIS.
- Accept interconnection applications at any point in the year for the next Cluster Study. Post the Interconnection Application data as its received, including location, point of interconnection, size, generator type, interconnection service, and applicable interconnection procedures.
- Work with Staff and Stakeholders to continue to refine the tools PAC makes available to help generators anticipate upgrade costs and find suitable locations and project designs before the Cluster Request Window closes.

Issue #7: Interactions with the QF Power Purchase Agreement Process

The QF Parties are concerned PAC's Proposal will eliminate generators' ability to time requests for PURPA power purchase agreements (PPAs) to take advantage of favorable avoided cost rates. The QF Parties assert that the Commission "allows frequent and unpredictable avoided cost price changes" by approving out-of-cycle avoided cost updates and rate changes repeatedly.[122]

The QF Parties note that PAC requires that a QF obtain a completed interconnection study before the QF can execute a PPA. If PAC's proposal is adopted, QF generators in may have to wait through multiple avoided cost price changes before they can obtain a

[122] NIPPC Comments, p. 26; NewSun and OSEIA Comments, pp. 5, 11; Joint Coalition Comments, pp. 24-33.

legally enforceable obligation to sell to PAC.[123] QFs may not know their avoided cost rate until after the time that they are required to make commitments in the Cluster Study process that carry withdrawal penalties and impact other generators.[124] The QF Parties recommend that the Commission prevent PAC from requiring QFs to execute an interconnection agreement before securing a PPA.

Further, QF Parties express uncertainty about the impact of the Cluster Study on interconnection timelines and fear that they will fail to meet Commercial Operation Date (COD) requirement in the PPA for reasons beyond their control.[125] The QF Parties recommend that PAC grant QFs additional flexibility to terminate the PPA within 30 days of receiving the Cluster Study Report and modify the COD up to five years to correspond with the Cluster Study or Facilities Study.

PAC argues that its contracting procedures are outside of the scope and would more appropriately addressed in AR 631. PAC asserts that the added certainty of the Cluster Study process will do more to help generators with these issues than harm.[126]

> *Staff response*: Staff understands the QF Parties' concerns regarding the intersection of interconnection and PURPA implementation. However, Staff disagrees with the underlying premise that the current serial queue process is a preferable alternative to PAC's proposal. Staff believes the Cluster Study offers QF developers more certainty with respect to timing of the interconnection process than the current serial process. The Cluster Study process is far more likely to eliminate the log jam in PAC's interconnection queue and possibly, will allow QFs to mitigate their interconnection costs through sharing.
>
> Staff also disagrees with the premise that a process in which a QF can obtain a PPA before knowing if it can afford to interconnection and when it can interconnect is superior to PAC's current process. Staff believes allowing QFs to enter into PPAs with no idea whether they will actually be able to interconnect necessarily results in speculative contracting. The Joint Coalition's proposal to allow QFs to enter into PPAs prior to obtaining an interconnection study and then let the QFs refresh their scheduled CODs to a later date accommodate interconnection ignores the potential harm to ratepayers associated with stale avoided cost prices.

[123] Joint Coalition Comments, pp. 26-27; NewSun and OSEIA Comments, p. 11.
[124] Joint Coalition Comments, p. 24.
[125] *Id* at 31.
[126] PAC Reply Comments, p. 46.

To the extent the QFs' concern with PAC's queue reform proposal relates to the uncertainty of avoided cost price changes, the timing of avoided cost price changes is within the Commission's control. Under the Commission's current process, avoided cost prices are updated on May 1 of each year, after IRP acknowledgement, and in out-of-cycle updates if certain criteria are satisfied. To the extent a QF believes an out-of-cycle update is inappropriate because of PAC's queue reform process, it can make that argument in opposition to the out-of-cycle update.

Furthermore, Staff agrees that the timing of the Transitional Cluster does not align with the May 1, 2021, avoided cost update. There is particular value in helping QFs make the most informed choice to commit to the Cluster Study process in this first time through. Therefore, Staff recommends that PAC move its May 1, 2021 avoided cost update to October 1, 2021.

Issue #8: Time to Review Proposal

NIPPC and the QFs recommend that the Commission take additional time to review the Proposal and conduct an investigation with workshops and opportunity for comment. The QFs propose that during the suspension and investigation, Oregon generators have the option to participate in the Transition Cluster Study, but otherwise, retain the ability to proceed in the serial interconnection queue without penalties for withdrawal of the interconnection application.[127] The Solar Advocates recommend a process for moving forward that includes two more workshops to (1) "work out specific changes which might facilitate stakeholder support and OPUC approval; and (2) address and form a pre-cluster study stakeholder process addressing the substantial-yet-basic power flow study issues identified by CREA's engineering support in its FERC filing.[128]

In response, PAC notes that its Oregon Proposal mirrors the Queue Reform Proposal adopted by FERC and that the reform efforts for the FERC proposal began over a year ago with a six-month stakeholder process that was well received and attended by numerous developers, including Oregon QF developers, trade associations, and Staff. PAC's proposal was then vetted at FERC, where it was reviewed by a wide range of interested stakeholders, including REC, CREA, NIPPC, and NewSun, who together filed over 150 pages of pleadings.[129]

Staff response: Staff understands the QF Parties' disappointment with the lack of opportunity to conduct a more robust stakeholder process for this docket. OPUC

[127] Joint Coalition Comments, p. 1.
[128] *Id*.
[129] PAC Reply Comments, p. 2.

urged PAC to align its queue reform with the 2020 RFP, making this difficult timeline necessary to ensure that Oregon generators were not left behind. The Company has demonstrated that it is better for Oregon generators to join this process than allow Oregon generators to wait until November 2021 to begin seeing the benefits of queue reform.

Issue #9: Implications for existing generators and points of uncertainty

The QF Parties assert that there is a lack of clarity about how PAC's queue reform proposal interacts with current rules and policies. QFs state it is not clear whether:

(1) A previously existing QF renewing an interconnection agreement must participate in a Cluster Study;
(2) Previously paid interconnection study deposits will be applied toward a Cluster Study;
(3) QFs will be given the opportunity to show that Network Upgrades for which it is responsible provide system benefits and that the costs should be shared with the Company;
(4) QFs will be able to provide independent interconnection studies;
(5) QFs will be able to obtain a PPA before receiving a Cluster Study report;
(6) QFs will be able to correct errors on an interconnection application after the Cluster Study window closes;
(7) QFs will be able to have more than one point of interconnection studied in a Cluster Study; or
(8) QFs will be able to change point of interconnection during the study process.

More generally, all Stakeholders are concerned about the lack of clarity on which rules are waived and exactly what is intended to take their place.

PAC responds to the following issues as follows:

(1) *Existing generators*: The SGIP are not changing except as specified in the queue reform proposal. With respect to existing generators, PAC confirms that its current and ongoing practice is that existing projects are not restudied in order to execute a new interconnection agreement unless there is a material change to the project, such as an increase in capacity. PAC further notes that the cluster process provides more certainty for the steps that the existing generators must take to renew its interconnection agreement prior to the expiration of its PPA.

(2) *Previously paid deposits*: These will be applied toward the deposit for the Cluster Study.

(3) *QF opportunity to show Network Upgrades provide system benefits and should be allocated to all ratepayers:* This opportunity remains unchanged under queue reform proposal.

(4) QF opportunity to provide independent study. The QF's ability to provide an independent study remains unchanged.

(5) *Interconnection as condition of PPA requirement*. This requirement is unchanged except now the QF must have a completed Cluster Study rather than a "system interconnection study."

(6) *Correcting errors on interconnection application after Cluster Study window:* PAC clarifies that because it is willing to accept applications for interconnection at any time, it is unnecessary to allow generators time after the Cluster Study window has closed to correct an application and that allowing this additional time could cause delays.[130]

(7) Multiple points of interconnection: A customer cannot have multiple points of interconnection studied with one application in a Cluster Study. To the extent an interconnection customer wants to test various points of interconnection, they can use the Informational Interconnection Study.[131]

(8) Changing point of interconnection during study: Generators will not be able to change the point of interconnection during the Cluster Study process because it increases the risk of restudies and undermines the certainty the Company is trying to achieve with Cluster Studies.[132]

Staff response: Staff finds PAC has addressed the points of uncertainty identified by stakeholders. Staff notes one point of uncertainty is due to a lack of clarity with the current SGIP. The SGIP are not entirely clear as to how a renewing generator with a material modification will be studied (i.e., is only the incremental change in capacity studied or the all of the generator's capacity?). PAC states that only the incremental capacity will be studied upon an application for renewal for or with a material modification.

Staff recommends that PAC file this clarification for existing generators in this docket.

[130] *Id* at 40.
[131] *Id* at 42-43.
[132] *Id*.

Issue #10: Ongoing reporting

QF Parties recommend that PAC provide ongoing reporting on the status of implementing queue reforms.[133] PAC agreed to provide a detailed report on the implementation of queue reforms to FERC within two years.[134]

> *Staff response*: Staff recommends that PAC's provide this report to the OPUC within two years.

Summary of Staff Recommendations
In this report, Staff recommends that the Commission adopt PAC's proposal to move Oregon-jurisdictional generators to PAC's Cluster Study process with modifications and additional conditions. The following section summarizes these recommendations.

Staff recommends that PAC submit a compliance filing before August 31, 2020, to implement the following modifications to its queue reform proposal:

- Treat Oregon-jurisdictional generators under 20 MW under the SGIP.
- Change the deadline to indicate participation in the Transition Cluster to September 15, 2020.
- Detail the criteria for defining a Cluster Area and update the Commission with a filing to this docket if the process or criteria are refined over time.
- Clarify that PAC will process the Informational Interconnection Studies in the order received and use reasonable efforts to complete the studies in 45 days.
- Accept interconnection applications at any point in the year, post the Interconnection Application data as received, including location, point of interconnection, size, generator type, interconnection service, and applicable interconnection procedures.
- Clarify the policy and process for existing generators.

Staff recommends that the Commission require PAC to adhere to the following additional conditions:

- Send a communication to all eligible Oregon QFs to ensure they are aware of the changes and the deadlines. Staff proposes sending the communication by August 20, 2020.

[133] NewSun and OSEIA Comments pp. 11-12.
[134] PAC Reply Comments, pp. 39-40.

- Post Informational Interconnection Studies on OASIS.
- Work with Staff and Stakeholders to continue to refine the tools PAC makes available to help generators anticipate upgrade costs and find suitable locations and project designs before the Cluster Request Window closes.
- Move PAC's May 1, 2021 avoided cost update to October 1, 2021.
- Provide a report on the status of implementing queue reform within two years.

Conclusion

On May 12, 2020, FERC approved PAC's request to modify its Open Access Transmission Tariff for the purpose of interconnection queue reform. This proposal moves FERC-jurisdictional interconnection requests from a first come, first served serial process to a first ready, first served Cluster Study process. Following FERC approval, the Company requests approval to include Oregon-jurisdictional interconnections in the first ready, first served cluster process. Specifically, PAC requested that OPUC approve the following:

- Approve the proposed modifications to the Qualifying Facility Large Generator Interconnection Procedures and Qualifying Facility Large Generator Interconnection Agreement to implement a move from serial to cluster interconnection studies for all generators greater than 10 megawatts (MW);
- Approve the proposal to similarly move from serial to cluster interconnection studies for small generators subject to Tier 4 interconnection review under OAR 860-082-0060 and grant a waiver for good cause of the small generator interconnection rules set forth in OAR Chapter 860, Division 82 as necessary to implement cluster studies;
- Approve the proposed modifications to the Facilities Study Agreement for small generators subject to Tier 4 interconnection review;
- Approve the proposed process for transitioning from serial to cluster studies (Transition Process);
- Approve the proposed withdrawal penalties for large generators that withdraw during the interconnection study process; and
- Make the proposed reforms effective July 15, 2020.[135]

[135] See Docket No. UM 2108, PacifiCorp Application for an Order Approving Queue Reform Proposal, June 15, 2020 (hereinto referred to as "PAC Application").

Staff reviewed the proposal with Stakeholder through three workshops, followed by a round of Stakeholder Comments and Reply Comments from PAC.

Staff recommends that the Commission adopt PAC's proposal to move Oregon-jurisdictional generators to PAC's Cluster Study process with modifications and additional conditions. Staff recommends that PAC submit a compliance filing before August 31, 2020, to implement these modifications.

PROPOSED COMMISSION MOTION:

Approve PAC's request for approval of queue reform proposal, with modifications and conditions.

Attachment A – Cluster Study Process

PAC will conduct the Cluster Studies annually, following this process, which was approved by FERC:

1. Informational Interconnection Study (any time). Rather than provide a Facilities Study following the submission of an interconnection request, PAC will provide the Informational Interconnection Study with the same information as the Facilities Study at any time prior to submission of an interconnection request.[136] This balances the heightened readiness and "skin in the game" practices.
2. Cluster Study Request Window (45 days): Rather than take applications at any time, PAC will accept interconnection requests during an annual 45 calendar day window, from April 1 – May 16.[137] After the window closes, PAC will post a draft Cluster Study plan to its Open Access Same-time Information System (OASIS) site.[138] The plan lists and maps the generators in each Cluster Area.[139]
3. Customer Engagement Window (30 days): PAC will conduct Scoping Meetings with generators that applied for interconnection during the 30 calendar day the Cluster Study Request Window. Generators must return an executed Cluster System Impact Study Agreement to PAC by the end of the Cluster Study Window. PAC will post a final Cluster Study plan on OASIS by no later than the end of the Customer Engagement Window, as well.[140]
    - NOTE: Generators may not receive a Cluster Study Agreement until five business days into the Customer Engagement Window.[141]
4. Cluster System Impact Study (~150 days): PAC will perform one Cluster System Impact Study (Cluster Study) per Cluster Area which includes a non-binding estimate of each generators' share of the upgrade costs.[142, 143] PAC will make reasonable efforts to complete the cluster studies in 150 calendar days of the close of the Customer Engagement Window. Upon receiving the Cluster Study Report, generators have 30 calendar days to determine whether to proceed to a Facilities Study or withdraw from the interconnection process. PAC will post Cluster Studies to OASIS.[144]

[136] PAC Application, p. 35.
[137] PAC Application, pp. 21-22.
[138] PAC Application, p. 23.
[139] PAC Application, p. 23.
[140] PAC Application, p. 24.
[141] PAC Proposed LGIP, Article 7.1.
[142] PAC Application, p. 25.
[143] PAC is not proposing to modify the analyses currently required for a System Impact Study, such as short circuit, stability, power flow. *See* LGIP Article 7.3 and OAR 860-082-0060(7)(g).
[144] PAC Application, p. 26.

- Restudy: If generators withdraw, PAC may restudy the Cluster Area.[145] Restudies will reset the Cluster Study timelines and may impact the upgrades allocated to remaining generators.[146] PAC will electronically notify generators in the Cluster and post on OASIS that a restudy is required.

5. Facilities Study (~90 days): PAC will perform a separate Facilities Study for each generator based on the findings in the Cluster Study.[147] PAC will follow the current Facilities Study process, which include: attempt to issue a draft Facilities Study Report within 90 calendar days of the Facilities Study Agreement;[148] meet with the generator to discuss; the generator will have 30 calendar days to provide comments. Following any comments, PAC will return a final Facilities Study within 15 business days.
    - Restudy: PAC will attempt to conduct Facilities Study restudies in 60 calendar days.[149]
6. Interconnection Agreement (30 days): The Facilities Study is followed by the current negotiation and interconnection agreement procedures: The generator has 30 calendar days to return the executed Interconnection Agreement, but can take 60 calendar days to negotiate with the utility prior to the 30 days.[150]

[145] PAC Application, p. 27.
[146] PAC Application, pp. 27-28.
[147] Proposed QF-LGIP Article 8.
[148] PAC Application, p. 28.
[149] PAC Application, o. 29.
[150] Proposed QF-LGIP, p. Article 11.

Attachment B– Existing OR Interconnection Queue

Below is Staff's best effort to capture potential Oregon-jurisdictional generators in PAC's interconnection queue. This data is as of July 24, 2020. Interconnection queue data and dynamic and generators are able to modify certain aspects of their interconnection request in addition to status and milestones. For example move for NR/ER interconnection service to NR or ER in order to execute and interconnection agreement.

Eligible for the Transitional Cluster

Under PAC's proposal, the following generators are eligible to participate in the Transition Cluster. Other than late-stage generators, these generators must participate in the Transition Cluster or withdraw from the interconnection queue. Because these generators have not been studied and will not affect lower queued generators by changing service type, Staff includes all generators located in Oregon, 80 MW and under in the pool of potential QFs.

NOTE: Oregon QFs that have executed a Facilities Study Agreement by April 1, 2020, (late-stage generators) can also choose to proceed according to the terms of their serial study. Staff identified one of these generators in PAC's queue: Large Generator Q# 739.

Q#	Request Date	Service Type	Specified OR Jurisdictional	Size (MW)	County	ST	Type
LARGE GENERATORS – 80 MW and under, located in OR, no Facilities Study prior to April 2020							
739	4/29/2016	ER	**late stage	59	Crook	OR	Solar
905	7/12/2017	NR		50	Klamath	OR	Solar
915	7/28/2017	ER		80	Klamath	OR	Solar & Battery Storage
916	7/28/2017	ER		80	Klamath	OR	Solar & Battery Storage
917	7/28/2017	ER		80	Klamath	OR	Solar & Battery Storage
1031	5/30/2018	NR/ER		80	Harney	OR	Solar & Battery Storage
1032	5/30/2018	NR/ER		80	Harney	OR	Solar & Battery Storage
1033	5/30/2018	NR/ER		80	Harney	OR	Solar & Battery Storage
1034	6/5/2018	NR/ER		60	Lake	OR	Solar
1087	11/26/2018	NR/ER		50	Lake	OR	Solar & Battery Storage
1133	5/7/2019	NR/ER		80	Klamath	OR	Solar & Battery Storage
1135	5/7/2019	NR/ER		80	Klamath	OR	Solar & Battery Storage
1161	9/19/2019	NR/ER		40	Crook	OR	Solar & Battery Storage
1162	9/19/2019	NR/ER		80	Crook	OR	Solar & Battery Storage
1163	9/19/2019	NR/ER		40	Crook	OR	Solar & Battery Storage

1164	9/19/2019	NR/ER		80	Crook	OR	Solar & Battery Storage
1188	11/1/2019	NR/ER		80	Crook	OR	Solar & Battery Storage
			COUNT	**17**			
			TOTAL MW	**1179**			
SMALL GENERATORS – 10 MW and under, located in OR, no Facilities Study prior to April 2020							
1043	6/26/2018	ER	X	3	Klamath	OR	Solar
1045	7/5/2018	NR	X	3	Umatilla	OR	Solar
1058	8/14/2018	ER	X	3	Klamath	OR	Solar
1059	8/14/2018	ER	X	3	Klamath	OR	Solar
1097	1/9/2019	NR	X	3	Polk	OR	Solar
1098	1/9/2019	NR	X	3	Polk	OR	Solar
1099	1/9/2019	ER	X	3	Jackson	OR	Solar
1104	1/16/2019	NR	X	3	Josephine	OR	Solar
1105	1/31/2019	ER	X	3	Klamath	OR	Solar
1120	3/11/2019	NR	X	3	Jackson	OR	Solar
1124	4/8/2019	NR	X	0	Deschutes	OR	Solar
1125	4/8/2019	NR	X	0	Deschutes	OR	Solar
1126	4/8/2019	NR	X	8	Klamath	OR	Geothermal
1147	6/25/2019	NR	X	3	Jackson	OR	Solar
1149	7/11/2019	ER	X	0	Benton	OR	Solar
1150	7/11/2019	ER	X	1	Benton	OR	Solar
1151	7/11/2019	ER	X	0	Benton	OR	Solar
			COUNT	**17**			
			TOTAL MW	**42**			

Ineligible for the Transition Cluster

Under PAC's proposal, the following generators are ineligible to participate in the Transition Cluster. These generators can participate in the first Prospective Cluster in April 2021 if they meet the commercial readiness and other requirements.

Q#	Request Date	Service Type	Specified OR Jurisdictional	Size (MW)	County	ST	Type
LARGE GENERATORS – 80 MW and under, located in OR, entered queue after Jan. 31, 2020							
1204	4/6/2020	NR	SGI	20	Crook	OR	Solar
1205	4/6/2020	NR	SGI	20	Crook	OR	Solar
1206	4/6/2020	NR	SGI	20	Crook	OR	Solar
1214	4/13/2020	NR/ER	LGI	40	Crook	OR	Solar & Battery Storage

1219	4/20/2020	NR	OLGI	80	Umatilla	OR	Solar & Battery Storage
			COUNT	**5**			
			TOTAL MW	**180**			
SMALL GENERATORS – 10 MW and under, located in OR, entered queue after Jan. 31, 2020							
None							

Attachment C – PAC Explanation of Station Upgrades

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Please explain why PacifiCorp chose to allocate station upgrades on a per capita basis.

a. Please list the upgrades that will be considered a station upgrades and explain why each upgrade will be the same per project, regardless of project size.
b. Please include whether the upgrade is anticipated to occur at the distribution or transmission substation level or both.
c. Please explanation how communications upgrades, such as running fiber to the substation, will be allocated and if it differs between the distribution and transmission level.

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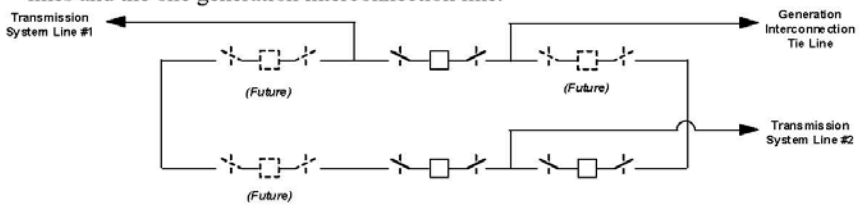
a. Station upgrades include all network upgrades at the point of interconnection substation, which may include physical equipment such as circuit breakers, switches and instrument transformers along with their associated foundations, structures, bus and wire connections. The station upgrades also may include protective relays, shared communications infrastructure and other shared facilities such as fencing, ground grid, gravel, etc.

These station facilities are designed and constructed on a per-termination basis and the specifications for equipment is determined by the voltage class and system characteristics on a whole station basis, not by the anticipated power flow of any one termination. For this reason, cost allocation on a per capita basis instead of pro rata size basis is appropriate.

As an example, the number of positions for a new 115 kV point of interconnection (POI) substation looping through an existing transmission line would be determined as follows:

Example 1: One interconnection at POI: three total bus positions arranged in a ring configuration with three circuit breakers separating the two networked transmission lines and the one generation interconnection line.



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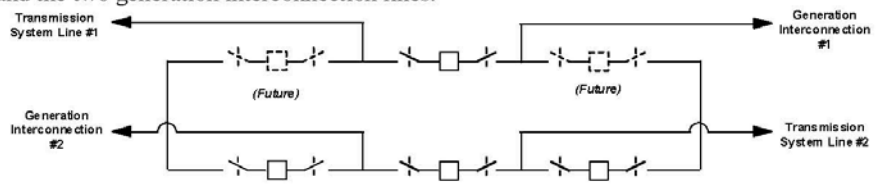
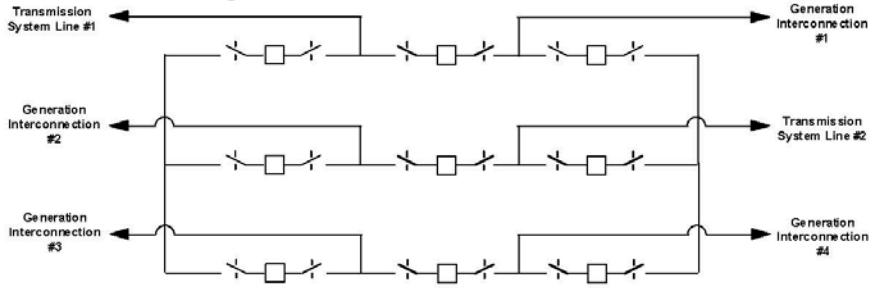
Example 2: Two interconnections at POI: four total bus positions arranged in a ring configuration with four circuit breakers separating the two networked transmission lines and the two generation interconnection lines.



Transmission substations with six or greater line terminations generally have 1.5 circuit breakers assigned per line position due to the redundancy and operability benefits associated with a standard "breaker and a half" configuration.

Example 3: Four interconnections at POI: six total bus positions arranged in a breaker-and-a-half configuration with nine circuit breakers separating the two networked transmission lines and the four generation interconnection lines.



Transmission voltage bus configurations are designed to maintain compliance with NERC reliability standards and system operating requirements, presenting different design criteria than distribution voltage bus configurations. For distribution voltage buses with radial feeders, a more standard bus configuration is a main and transfer arrangement with a single circuit breaker per feeder position.

Example 4: New generation interconnection with a POI at an existing distribution substation distribution bus, resulting in addition of a new circuit breaker position:

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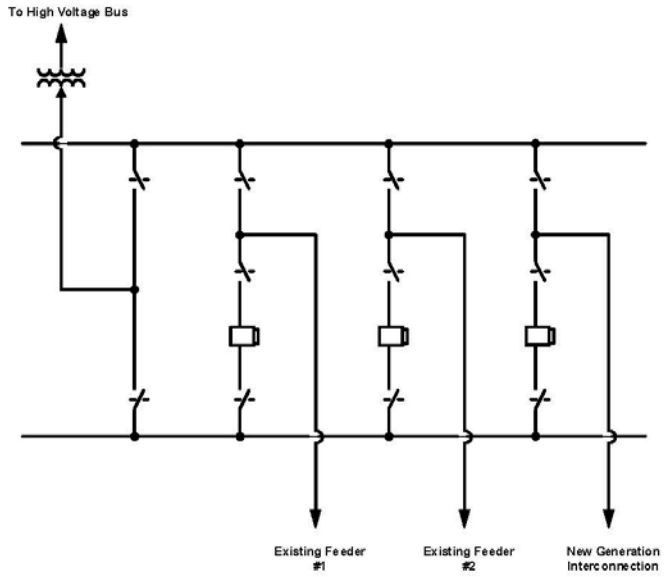

b. Upgrades may occur at both the transmission and distribution levels depending on the specifics of the interconnection request and factors such as the existing system topology, existing and requested generation nearby, system load and other characteristics of the requested point of interconnection and interconnected system. Interconnection studies will identify any and all system upgrades required to maintain a safe and reliable system, regardless of the voltage of the requested interconnection or the voltage of the impacted system facilities.
c. Communications equipment will be allocated on a per capita basis along with other station equipment The communications requirements are determined by the protection systems used (e.g. data transmission, transfer trip, remedial action schemes, etc.) and are not directly associated with the transmission or distribution voltage of interconnection.