

**PUBLIC UTILITY COMMISSION OF OREGON
STAFF REPORT
PUBLIC MEETING DATE: June 18, 2019**

REGULAR X CONSENT EFFECTIVE DATE Upon Approval

DATE: June 11, 2019

TO: Public Utility Commission

FROM: Brittany Andrus

THROUGH: Jason Eisdorfer and JP Batmale **SIGNED**

SUBJECT: OREGON PUBLIC UTILITY COMMISSION STAFF:
(Docket No. UM 2001) Investigation into Interim PURPA Action:
Interconnection Data.
(Docket No. UM 2000) Investigation into PURPA Implementation.

STAFF RECOMMENDATION:

The Oregon Public Utility Commission (OPUC or Commission) adopt Staff's proposal for interconnection data transparency actions by PacifiCorp, PGE and Idaho Power.

Adopt Staff's recommendation to establish a workgroup during the implementation of this proposal, July 1 through December 31, 2019, with a summary report to the Commission in January 2020.

DISCUSSION:

Issue

Whether the Commission should adopt the Staff proposal for interconnection data transparency, including the establishment of a temporary interconnection data workgroup.

Applicable Rule

OAR 860-082-0065 requires utilities to maintain records of small generator interconnections and to report annually to the Commission.

Order No. 19-074 directs Staff to “present a final recommendation for enhanced public information about interconnection for consideration at our June 6, 2019 Public Meeting.”

Analysis

Background

In its report to the Commission for the February 14, 2019 Public Meeting, adopted by Order No. 19-052, Staff stated, “...requiring additional transparency for QFs could be done immediately to attempt to ameliorate some of the difficulty QFs are having with the interconnection processes and also, to facilitate investigation of interconnection costs and their allocation in the upcoming investigation.”¹ Staff later described the proposal in more detail:

Interim Measure #2 - Better Understanding of Interconnection Issues

In the long-term, Staff believes a much higher level of transparency is necessary in the regulatory process related to QF interconnections. This would include highly specific geographic information related areas with high penetration rates of distributed energy resources or areas of transmission constraint. Staff also believes that the Commission's future investigation into distribution system planning will empower developers with such tools as hosting capacity analysis.

Staff believes there are interim measures that can be implemented without moving into complex jurisdictional issues and broad concerns about overhauling the interconnection process in Oregon. Staff envisions the adoption of interim interconnection process recommendations to address the need for basic information about the utility's system. Staff goals would be for information to be made available to developers that provides some insights into locations where interconnection costs (for system upgrades) may likely be required to accommodate any new generation. The provision of a limited set of data would assist the development of new projects during the broader investigation.

Staff calls for utilities to begin making available to any future QF project application the following information by May 1, 2019:

- Feeder data;
- Feeder nameplate capacity; feeder age; the capacity of currently interconnected distributed energy resources at the feeder; previously conducted studies at the feeder;

¹ Order No. 19-052, Appendix A, p. 4.

- Substation data;
- Substation nameplate capacity; substation age; the capacity of currently interconnected distributed energy resources associated with the feeder; previously conducted studies at that feeder;
- OASIS information; and
- Summary of studies available on OASIS for projects of a similar size and in the same geographic location.”²

In its report to the Commission for the February 26, 2019 Public Meeting, Staff stated,

“In terms of the second interim measure - providing interconnection data - Staff offers no changes to the data that must be provided to all QF applicants for their project and to Staff in general as described in Staff's February 14 Public Meeting memo. Rather, Staff offers a timeframe to establish this interim measure. Staff will host two stakeholder workshops in March and April to finalize issues regarding appropriate data and confidentiality. Staff's goal is to ensure this data is made available by May 31, 2019 and continues to be offered until such time as the Commission's future Distribution System Planning (DSP) docket establishes a better system for making this information more readily available.

If the stakeholders cannot work productively with Staff to make interconnection data publicly available, as envisioned in this docket, by May 31, 2019 Staff may propose issuing an RFP to hire a third party under a long-term contract to secure, publish and update this data on a regular basis, as the California Public Utility Commission has done.”³

Under existing rule, utilities are required to provide a limited set of information on small generator interconnections to the Commission annually. These reports are publicly available in Docket Nos. RE 62 for Idaho Power, RE 66 for PacifiCorp, and RE 67 for PGE. In addition, the rule requires utilities to keep certain information for at least two years, including the number of interconnection applications received, the amount of time required to review each application, and the reasons for the approval or denial of each application.⁴

² Order No. 19-052, Appendix A, p. 6.

³ Order No. 19-074, Appendix A, p. 6.

⁴ OAR 860-082-0065.

With respect to stakeholder engagement, Staff conducted two workshops, distributed a draft interim interconnection draft proposal for discussion at the second workshop, and solicited written comments on specific issues discussed at that workshop.

At the first workshop, Staff gathered input from stakeholders about the usefulness of specific information, and the difficulty of collecting and providing it. Project developers described the types of information that would facilitate the initial identification of opportunities for siting distributed energy resources (DERs). Utilities provided high-level indications about the level of effort required to compile this information and methods for making it broadly available.

On May 13, 2019, Staff distributed a draft proposal (see Appendix A) outlining three categories of interconnection-related information:

- 1) interconnection study reports;
- 2) distribution system data; and,
- 3) milestone tracking.

Staff also included a proposal to form a workgroup comprised of utilities, developers and Staff to address outstanding interconnection data issues, and a proposed schedule for implementation.

The second workshop, conducted on May 17, 2019, focused on the details of Staff's draft proposal and timeline. Staff also clarified that under its proposal, an inventory of all projects in the small generator interconnection queue was to be included with the interconnection study reports.

On May 22, 2019, Staff sent an email asking for input on specific issues that had been raised in the second workshop, by June 3, 2019, for incorporation into Staff's report for the public meeting (see Appendix B).

Stakeholder Comments

Written comments on Staff's interconnection data proposal were submitted by PacifiCorp, PGE and Idaho Power; jointly by Northwest and Independent Power Producers Coalition, the Renewable Energy Coalition, and the Community Renewable Energy Association (Joint Commenters); and by Oregon Solar Energy Industries Association (OSEIA). Conifer Energy Partners also submitted comments. Below, Staff summarizes the comments.

PacifiCorp supports some elements of Staff's proposal but believes some elements could be overly burdensome and time consuming.⁵⁵ PacifiCorp will continue to post

⁵⁵ PacifiCorp Docket No. UM 2001 Response to Staff Interconnection Data Questions (June 3, 2019).

Oregon jurisdictional interconnection studies to its Oasis website and notes historical studies are already posted. PacifiCorp does not object to posting most of the system data identified by Staff, provided those who access the data acknowledge with a disclaimer that the system information is not a substitute for interconnection studies. However, PacifiCorp believes posting information related to DER capacity connected, DER capacity in queue, daytime minimum load or other data to estimate additional DER capacity on a routine basis would be burdensome and possibly subject to redaction because it will include critical infrastructure information (CII).⁶

PacifiCorp urges the Commission to align reporting of interconnection milestones with requirements imposed under FERC Order 845.⁷ Finally, PacifiCorp supports an interconnection working group with representatives from Staff, the utilities, and a single representative for solar developers, with additional stakeholders included on an as-needed basis.⁸

PGE is willing to provide its Oregon jurisdictional interconnection queue by July 1, 2019, and to post interconnection study reports back to 2017 and on an ongoing basis on its OASIS website by the end of 2019, redacted for certain information including Critical Infrastructure Protection (CIP)⁹ or Critical Energy/Electric Infrastructure Information (CEII)^{10,11} PGE opposes posting pre-2017 interconnection study reports. PGE does not object to much of Staff's proposal regarding posting system data, but does object to posting facility communications information and loading information for all feeders because it could be CEII, and objects to providing information regarding daytime minimum load because it would be burdensome to do so.¹² PGE does not object to tracking and posting interconnection milestone data on a going-forward basis but does object to posting historical milestone data.¹³ PGE does not think aggregated interconnection cost information would be helpful because the cost information is available on the interconnection studies. Finally, PGE questions whether an interconnection working group is necessary.¹⁴

⁶ Id., pp. 2-3.

⁷ Id., pp. 3-4.

⁸ Id., p. 4.

⁹ Critical Infrastructure Protection reliability standards, approved by FERC.

¹⁰ Critical Energy/Electric Infrastructure Information (CEII) Regulations, established by FERC.

¹¹ PGE Comments on Staff's Proposal for Interconnection Data Transparency (June 3, 2019).

¹² Id., pp. 2-3.

¹³ Id., p. 4.

¹⁴ Id., p. 9.

Idaho Power does not object to the proposal to post Oregon jurisdictional interconnection study reports on its OASIS website, subject to appropriate redactions.¹⁵ Idaho Power does not object to provision of distribution system information as outlined in Staff's proposal, except for provision of daytime minimum load because producing this information would be burdensome and could include CEII that cannot be disclosed. However, Idaho Power believes that any person accessing the information should acknowledge through a disclaimer that the data is for informational purposes only. Idaho Power does not object to publishing information regarding the Company's performance relative to interconnection process milestones, but only on a going-forward basis.¹⁶ Idaho Power objects to providing aggregated cost data because it will be available in the interconnection study reports and finally, supports Staff's proposal for an interconnection data workgroup.¹⁷

NIPPC, REC, and CREA ("Joint Commenters") believe PGE and Idaho Power should immediately begin posting historical Oregon jurisdictional interconnection studies on their OASIS websites and should post all Oregon jurisdictional interconnection studies on an on-going basis.¹⁸ The Joint Commenters believe the utilities should limit redactions to those necessary to protect confidential application information and are skeptical that any redactions are necessary for CEII or CIP. However, to the extent the utilities believe such redactions are necessary, they should establish this with specificity. The Joint Commenters support Staff's proposal regarding posting of system data, specifically noting minimum daytime load data should be posted.¹⁹ The Joint Commenters think the utilities should post interconnection milestone metrics on a going-forward basis to hold utilities accountable and should post such metrics on a historic basis to inform the Commission's investigation in Docket No. UM 2000. The Joint Commenters describe other information related to the interconnection process that the utilities should provide and include a list of the requested information in Appendix A to their comments.²⁰ The Joint Commenters do not think the metric reporting has to be in synch with FERC Order 845. The Joint Commenters recommend that the three utilities provide the standards they use for interconnections and that the Commission should update the IEEE 1547 standard applicable in Oregon. Finally, the Joint Commenters support Staff's proposal for a workgroup and suggest it include representatives from NIPPC, REC, OSEIA, and two-to-three individual developers.²¹

¹⁵ Idaho Power Comments on Docket No. UM 2001, pp. 1-2.

¹⁶ Id., p. 4.

¹⁷ Id., pp. 4-5.

¹⁸ NIPPC/REC/CREA Comments on Draft Interim Interconnection Data Proposal, p. 1 (May 31, 2019).

¹⁹ Id., pp. 8-9.

²⁰ Id., pp. 14-18.

²¹ Id., pp. 19-20.

OSEIA supports Staff's proposal to post Oregon jurisdictional interconnection study reports on an ongoing and historical basis.²² OSEIA believes historical studies will help show why the interconnection study process has slowed dramatically in recent years. Staff supports Staff's proposal regarding provision of system data and specifically notes that daytime minimum load data should be provided. OSEIA supports filing of interconnection metrics and notes the utilities should provide historical interconnection metrics as well as the information listed in the Joint Commenters Appendix A. OSEIA recommends that the Commission use PacifiCorp's studies as a baseline for permissible redaction and err on the side of transparency when it comes to permissible redactions.²³ Finally, OSEIA believes the utilities' interconnection standards should be made public and updated for the recently revised IEEE 1547 standard. Conifer Energy Partners, LLC urges the Commission to use Oregon's existing laws and rules for the practice of engineering as a self-enforcement mechanism to ensure utilities are following rules. Conifer recommends seeking input from the Oregon Board of Examiners for Engineering and Land Surveying (OSBEELS) and other related engineering organizations such as Professional Engineers of Oregon.²⁴

Staff Analysis

The scope of this effort to develop an interim measure for interconnection data transparency, as described in Staff's two February public meeting memos, is limited. The intent is to provide access to utility distribution system information that could be useful in the initial steps of siting DERs. The effort is complementary, not foundational, to the broad PURPA investigation in Docket No. UM 2000.

In developing the revised proposal at the end of this section, Staff considered all stakeholder input, the objective of balancing information usefulness with ease of acquisition, and the purpose and scope of this interim measure.

Interconnection queue and study reports

Staff's proposal to post the full interconnection queue and interconnection study reports impacts PGE and Idaho Power. PacifiCorp's current practice is to post its full interconnection queue and minimally redacted interconnection study reports, and its OASIS website contains reports completed since the early 2000s. Staff proposed that "...all Oregon-jurisdictional interconnection studies be posted on the utilities' OASIS," and clarified that the recommendation includes the posting of the interconnection queue. Staff further proposed that studies be posted as they are completed beginning

²² Oregon Solar Energy Industries Association Comments on Draft Interconnection Data Proposal UM 2001 (June 3, 2019).

²³ Id., p. 1.

²⁴ Conifer Energy Partners, LLC UM 2001, Comments on Interconnection Transparency (June 7, 2019).

July 1, 2019, and that historical studies completed back to January 2017 be posted by December 31, 2019.

The Joint Commenters and OSEIA recommend that the Commission require utilities to post historical studies, five to seven years back or more, to inform Docket No. 2000 policy decisions.²⁵ As explained above, Staff has not included data elements intended to support analysis for the broader PURPA investigation in its final proposal.

Staff retains the proposed start date for posting interconnection study reports also because more recent studies will likely provide the greatest benefit to those siting DERs, in that they include more recent loads and resources than older studies. The volume of additional studies from PGE and Idaho Power will be significant; PGE states that it completed approximately 300 interconnection studies between January 2017 and the present.²⁶

With respect to redactions, Staff views PacifiCorp's current practice of redacting limited information from published interconnection studies as the model that should be adopted by PGE and Idaho Power. Any additional redactions, whether for CIP, CEII or other reasons, should be explained and justified by the utility.

Utility distribution system information

The draft Staff proposal contained two sets of distribution system data, one for publication by September 1, 2019, and a "shaded" set to be incorporated later in the implementation process:

Substations

Name

County

Voltage

Number of transformers

Transformer size

Communications

Number of feeders --> (for each feeder)

Feeder name

Peak load

Line capacity

DER connected capacity

DER capacity in queue

²⁵ NIPPC/REC/CREA Comments on Draft Interim Interconnection Data Proposal, p. 8 (May 31, 2019).

²⁶ PGE Comments on Staff's Proposal for Interconnection Data Transparency, p. 2 (June 3, 2019).

Daytime min load, or other data to estimate additional
DER capacity

Based on discussions at the second workshop, Staff revised the substation communications element to “SCADA Y/N.” This item should be expanded upon in the workgroup to address the addition of a Y/N field for fiber.

In comments, the utilities confirm that the unshaded data elements, as clarified in the final proposal list below, can be compiled and provided within the proposed timeframe. With respect to the shaded elements, Idaho Power and PGE state that DER capacity connected and in queue can be provided, but that minimum load is problematic; PacifiCorp expresses concerns with each of the three shaded items. Staff’s final proposal below assigns the task of further exploration of these items to the workgroup.

Interconnection Milestones

The draft Staff proposal contained an attachment listing milestones from the Small Generator Interconnection Rules, and proposed tracking those milestones going forward.

Staff has not amended its proposal to add historical interconnection metrics as requested by the Joint Commenters and OSEIA. Consistent with its position on posting pre-2017 interconnection studies, Staff does not include items intended to support analysis for the broader PURPA investigation in the final proposal.

With respect to comments about the timing for this item in light of FERC’s Order No. 845, Staff does not believe that it imposes a high burden for the utilities to begin tracking a limited set of interconnection milestones beginning in September. Staff recognizes that there are differences between the small generator interconnection milestones in Staff’s proposal, the data requested by the Joint Commenters and OSEIA, and the requirements in FERC Order No. 845. Staff recommends that these differences be examined in more detail during the workgroup process.

Interconnection Data Workgroup

Staff’s proposal for a temporary workgroup²⁷ on interconnection data will accomplish three things:

- **Consistency:** In order to maintain comparability, a high level of consistency across utilities is required, e.g., labeling of information in data tables, and redactions to interconnection study reports. Staff is also aware that there may be areas in which consistency would be problematic. Issues around consistent

²⁷ Future notices of workgroup meetings will be posted to Docket No. UM 2000.

implementation will be explored by the work group, and Staff may raise such issues to the Commission for decisions.

- Efficient forum: Some data elements and practices require additional discussion in order for Staff to develop further recommendations, e.g., frequency of updates to distribution system information. By charging this workgroup with exploring options, the utilities, developers and Staff can efficiently identify areas of agreement, and those issues that may need to be taken to the to the Commission for resolution.
- Visibility: Staff believes this process will help to ensure that implementation details and decisions are consistent with Staff's intent, and that it will provide visibility for developers as systems are implemented.

Staff envisions convening the first working group meeting by mid-July so as to have sufficient time to address the scope described below.

Final Proposal

The final proposal consists of the three information components, and the establishment of the workgroup, as described below.

I. Interconnection Queue and Study Reports

PGE and Idaho Power will, in a format similar to PacifiCorp's OASIS website, post the following information within the specified timeline:

Oregon-jurisdictional interconnection queue	July 1, 2019
Each interconnection study report as completed	July 1, 2019
Existing interconnection study reports completed between January 1, 2017 through June 30, 2019	December 31, 2019

II. Distribution System Information

Each utility will compile the distribution system data below and make it publicly available on its OASIS website by September 1, 2019:

For each substation:

- Name
- Approximate location/County
- Substation Voltage

- Number of transformers
- Transformer voltages
- Communications – SCADA Y/N

For each feeder:

- Identifier
- Peak load
- Line capacity at the point where it leaves the substation

The following items will be further addressed in the workgroup process:

- DER connected capacity
- DER capacity in queue
- Daytime minimum load, or other data that can be used in estimating how much additional DER could be added

III. Interconnection Milestones

The utilities will develop a system for reporting interconnection milestone dates for at a minimum the following small generator project interconnection milestones from Division 82 as applicable, by September 1, 2019:

- Date interconnection application complete
- Date of notification of whether project meets Tier 1 approval criteria
- Date scoping meeting scheduled, or waived
- Date notice of application evaluation results provided: approved, approved with modifications, not approved under Tier 2
- Date application approved after SG agrees to “minor modifications”
- Date feasibility study agreement provided
- Date system impact study agreement provided
- Date system impact study provided
- Date application approved, if applicant authorizes minor modifications
- Date facilities study agreement provided
- Date application approved, if applicant authorizes interconnection facilities and system upgrades modifications

IV. Interconnection Data Workgroup

Staff will convene an interconnection data workgroup in July 2019, with the following scope:

- Information sharing and input on the systems for making the interconnection information available, including format, and access and disclaimers;
- Information sharing and input on utility update processes for distribution system information;
- Information sharing and input on the three utility distribution system elements listed in II above, and on the fiber element; and,
- Information sharing on utility implementation plans for performance tracking in compliance with FERC Order No. 845, and further discussion of milestone tracking in this proposal.

Staff will report to the Commission after implementation of the three categories of interconnection information (queue and studies, distribution system, and milestones) has been completed, in January 2020. Staff intends to provide insight into the usefulness of the interconnection data as well as the process of acquiring and making it available, and to provide an assessment of the effectiveness of the workgroup.

Conclusion

Throughout this process, Staff sought to balance usefulness of information with the level of effort required to acquire and maintain it. Based on comments provided by the development community, Staff concludes that distribution system information will likely be useful in the early stages of siting DERs. Staff understands utility concerns regarding the potential for developers to make inappropriate assumptions about opportunities to interconnect DERs in specific areas, and the preference that those assessments be made in the pre-application process for a specific location. Staff believes that these concerns can be fully addressed in the disclaimers and acknowledgments that users must go through in order to access the information on the website.

Additionally, Staff believes that in aggregate, the actions in the final proposal do not require an “unreasonable” level of effort for utilities to collect, provide and maintain. Staff expects that utilities will look for opportunities for efficiencies in existing distribution system planning processes, and as the DSP effort is launched through Docket No. UM 2005.

Finally, Staff wishes to convey its appreciation to the developer representatives and the utilities for their engagement and contributions to Staff's efforts to develop a balanced recommendation for Commission consideration.

PROPOSED COMMISSION MOTION:

Adopt Staff's proposal for interconnection data transparency actions by PacifiCorp, PGE and Idaho Power.

Adopt Staff's recommendation to establish a workgroup during the implementation of this proposal, July 1 through December 31, 2019, with a summary report to the Commission in January 2020.

Interconnection Data Transparency (Interim Measure #2)
Docket Nos. UM 2000/2001

OPUC Staff Initial Interconnection Data Transparency Proposal
May 13, 2019

Note: This document will be the primary agenda item at the second workshop on interconnection data transparency:

May 17, 2019, 1:00 pm to 3:00 p.m.
Portland State Office Building, 1E
800 NE Oregon St, Portland, OR 97232

Audio Conference: 866-390-1828 or 216-706-7075
ACCESS CODE: 6739703

The following is Staff's proposed plan for providing increased transparency into interconnection data as directed by the Commission in Order No. 19-074¹:

"Staff should also present a final recommendation for enhanced public information about interconnection for consideration at our June 6, 2019 Public Meeting."

Staff designed this proposal using information from Docket Nos. UM 2000 and 2001, and more specifically from the April 5 workshop #1. Staff's goal is to assess the usefulness of different information elements along with the level of resources that will be required to compile and provide it. Each component indicates shows Staff's view of the relative usefulness / level of effort based on that information.

The proposal consists of three primary information components:

- I. Interconnection studies;
- II. Utility system information; and
- III. Interconnection Milestones.

A proposed interconnection data action plan is also included.

In addition to the specific items below, Staff will request that the Commission direct the establishment of a stakeholder-utility-Staff workgroup,² to coordinate efforts on data element definitions, data presentation, security, update practices, notices to users, and other aspects of the interconnection data-sharing project. The group would iterate and refine approaches as lessons are learned, and report progress periodically to the Commission. This workgroup

¹ Order No. 19-074, Docket No. 2001, <https://apps.puc.state.or.us/orders/2019ords/19-074.pdf>.

² Staff envisions this workgroup as similar in nature to the Utility Data Exchange subgroup leveraged in the community solar implementation process (Docket No. UM 1930) in that it will focus on data and systems, and different in that it will be Staff- rather than volunteer-led, and the workgroup will be assigned specific tasks by the Commission.

approach will be designed to facilitate consistency of the interconnection data elements and the process of sharing information with users, while recognizing that each utility employs different systems and internal processes.

I. Interconnection Studies

Usefulness: High

Difficulty: Medium for PGE and Idaho Power; low for PacifiCorp

Interconnection studies (feasibility, system impact, facilities) for PacifiCorp’s Oregon jurisdictional interconnection applications are publicly available via OASIS (open-access, same-time information system).³ These studies contain information such as one-line diagrams at the point of interconnection, high-level descriptions of equipment required at the primary point of interconnection, the estimated costs and schedule for installing the equipment, and other information that may be useful to developers seeking to locate small generators. PacifiCorp redacts information that it believes should not be published.

PGE and Idaho Power currently do not post their Oregon jurisdictional interconnection applications or studies; however, they do make the studies available upon request.

Current Interconnection Study Posting Practices

Category	PacifiCorp	PGE	Idaho Power
Large generator, small generator FERC-jurisdictional interconnections	Posts link to the study on OASIS	Posts in “Comments” that a study has been completed	Posts the availability of reports
QF OPUC-jurisdictional interconnections	OASIS	Upon request	Upon request

Attachment 1 contains representative sample data from each utility’s OASIS.

Staff believes that ensuring the transparency and availability of these studies provides a benefit to small generation project developers, including those seeking to develop Community Solar projects. For this reason, **Staff plans to recommend to the Commission that all Oregon-jurisdictional interconnection studies be posted on the utilities’ OASIS.**

II. Utility System Information

Usefulness: Medium

Difficulty to provide: Medium for unshaded information; potentially High for shaded

Several stakeholders express support for ensuring that basic utility system information is readily available prior to initiating the interconnection process. The utilities advocate for the

³ <https://www.oasis.oati.com/PPW/>

status quo for a variety of reasons, including compliance with Critical Infrastructure Protection (CIP) reliability standards⁴ and Critical Energy Energy/Electric Infrastructure Information requirements⁵; the level of resources required to assemble and maintain the information; and reluctance to possibly appear to indicating that DERs could actually be interconnected on a particular feeder prior to engaging in the interconnection study process.

Staff recognizes the importance of utility concerns expressed to date, and supports further definition of the issues and discussions with stakeholders. Staff continues to believe that the provision of basic distribution system information is an efficient approach to initial project location screening, and that concerns can be resolved, especially in light of the fact that many other states require availability of this type of information.⁶

Staff plans to recommend to the Commission that utilities assemble the information below in preparation for electronic posting during the second half of 2019 (shaded information compiled following the “basic” unshaded information).

Substations

Name

County

Voltage

Number of transformers

Transformer size

Communications

Number of feeders -->

Feeder name

Peak load

Line capacity

DER capacity connected capacity

DER capacity in queue

Daytime min load or other data to estimate additional DER capacity

⁴The North American Electric Reliability Corporation (NERC) develops CIP reliability standards for FERC adoption. Eleven CIP standards are currently subject to enforcement, one addressing physical security and ten addressing cybersecurity: <https://www.nerc.com/pa/Stand/pages/cipstandards.aspx>

⁵“CEII is defined as information related to or proposed to critical electric infrastructure,

- generated by or provided to the Commission or other Federal agency other than classified national security information,
- that is designated as critical electric infrastructure information by the Commission or the Secretary of the Department of Energy pursuant to section 215A(d) of the Federal Power Act.”

<https://www.ferc.gov/legal/ceii-foia/ceii.asp>

⁶ E.g., Minnesota PUC Docket No. E-002/M-15-962 adopting Hosting Capacity Report requirements for Xcel Energy

<https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPop&documentId={10EB9E5D-0000-C013-ABB5-F4FA1C04D825}&documentTitle=20178-134418-01;>

Xcel Energy Hosting Capacity Map and disclaimers

https://www.xcelenergy.com/stateselector?stateSelected=true&goto=%2Fworking_with_us%2Fhow_to_interconnect%2Fhosting_capacity_map_disclaimer

III. Interconnection Milestones

Usefulness: High

Difficulty to provide: Low going forward; high for historical

The developer community and the Commission have expressed interest in having visibility into the utility performance relative to interconnection dates and milestones as required by Division 82; developers have also requested information on changes to interconnection requirements and costs at different points in the process.

Staff believes that instituting a simple system for tracking key milestones is an important first step in increasing transparency, and will recommend that the utilities institute a process for tracking and reporting these on a prospective basis. Staff does not support creating a complete backward-looking evaluation of timeframes. With respect to the desire for information on requirements and costs across time, Staff believes this is an idea that should be addressed in the future after a basic foundation of interconnection information-sharing has been established.

Staff plans to recommend to the Commission that beginning with complete interconnections applications as of July 1, 2019, utilities track and publish dates associated with specified milestones based on requirements in OAR Division 82, Small Generator Interconnection Procedures. Milestones will begin at the point the utility “deems an application to be complete” and the application is assigned a queue position (OAR 860-082-0025(7)(b)); milestones prior to the “complete application” stage will not be required.

See Attachment 2 for proposed milestones.

Proposed Interconnection Data Action Plan

		Target Date
I. Interconnection studies	- PGE and Idaho Power begin posting interconnection studies on their respective OASIS sites as studies are completed.	July 1, 2019
	- PGE and Idaho Power prepare and post existing studies beginning with studies completed January 2017 through present.	December 31, 2019
II. Utility System Information	- Utilities compile data, beginning with unshaded data above; propose plan for compiling shaded data.	September 1, 2019
	- Propose method and systems for making the information available and for updating the data.	November 1, 2019

Proposed Interconnection Data Action Plan (continued)

III. Interconnection Milestones	- Utilities track and post interconnection milestone dates for interconnection applications complete as of July 1, 2019	September 1, 2019
Other actions	- Utilities provide information on their respective interpretations and applications of CIP and CEII with respect to 1) redacting interconnection studies, 2) availability of utility system information as described above. - Staff convenes an interconnection data workgroup with proposed scope and near-term tasks.	September 1, 2019 for both

DRAFT

Attachment 1: Sample Utility Generator Interconnection Information on OASIS

A. Idaho Power

<https://www.oasis.oati.com/ipco/index.html>

Interconnection		Status		Location			Inservice Date		Generator		Capacity (MW)			Jurisdiction	IPC Project If Blank - NO	Studies		
Queue	Application Date	Request Status (In Service, Active, Withdrawn)	GI Study Phase	County	State	Point of Interconnection	Projected InSvc Date	Known Deviation to InSvc Date	Type of Service (NR, ER, PURPA)	Fuel Type	Summer MW	Winter MW	Max MW			Available Reports (FeSR, SIS, FSR)	GIA Signed date	Deviations from Study Timeline
510	1/22/2016	Construction	GIA		Or	12.5	12/31/16		PURPA	Solar			3.00	OPUC		FeSR, SISR		
511	1/29/2016	Construction	GIA	Mahleur	Or	12.5	12/31/16		PURPA	Solar			3.00	OPUC		FeSR,		
512	1/29/2016	Construction	GIA	Mahleur	Or	12.5	12/31/16		PURPA	Solar			3.00	OPUC		FeSR		
519	10/18/2016	Construction	GIA	Baker	Or	34.5	12/31/17		PURPA	Solar			15.00	OPUC		SISR		
520	1/4/2017	Withdrawn	FeSR	Malheur	Or	12.5	12/31/17		PURPA	Solar			3.00	OPUC		FeSR		
525	8/4/2017	Construction	FSR	Malheur	Or	12.5	12/31/19		NR	Solar			3.00	OPUC		SISR		
532	5/3/2018	Active	FeSA	Malheur	Or	12.5	12/12/20		ER/NR	Solar			3.00	OPUC		N/A		
536	6/25/2018	Active	FeSA	Mahieur	Or	69	11/30/19		ER/NR	Solar			50.00	FERC		N/A		
537	06/25/18	withdrawn	FeSA	Mahlheur	Or	138	11/30/19		ER/NR	Solar			80.00	FERC		N/A		
538	07/10/18	Active	FeSA	Baker	Or	12.5	07/31/21		NR	Hydro			2.00	OPUC		N/A		
539	09/24/18	Active	FeSA	Mahleur	Or	12.5	N/A		NR	Solar			10.00	OPUC		N/A		
540	10/26/18	In Service	Review	Twin Falls	Or	12.5	11/01/19		NR	Hydro			0.15	IPUC		N/A		
541	10/29/18	Active	FeSR	Malheur	Or	12.5	N/A		NR	Solar			10.00	OPUC		N/A		
542	10/30/18	Active	Review	Twin Falls	Or	12.5	02/02/19		NR	Hydro			1.00	IPUC		N/A		
543	11/01/18	Active	Review	Twin falls	Or	12.5	02/02/19		NR	Hydro			0.29	IPCU		N/A		
544	11/20/18	Active	Review	Gooding	Or	12.5			NR	Hydro			0.15	IPUC		N/A		
545	11/23/18	Active	Review	Gooding	Or	12.5			NR	Hydro			0.89	IPUC		N/A		
546	12/03/18	Active	FeSR	Baker	Or	12.5	12/01/19		NR	Solar			3.00	OPUC		N/A		
547	02/18/19	Active	FeSR	Baker	Or	138			NR	Hydro			3.00	OPUC		N/A		

Attachment 1: Sample Utility Generator Interconnection Information on OASIS

B. PGE

<https://www.oasis.oati.com/PGE/>



Portland General Electric

This posting reflects the requirements of FERC Order 2003 for Large Generator Interconnection Procedures.

April 22, 2019

Active - Generator Interconnection Request Queue

Queue Number	Status	Request Date	Service Type (NR or ER)	Maximum Summer Output (MW)	Maximum Winter Output (MW)	Location	Interconnection Facility	Requested In-Service Date	Projected In-Service Date	Facility Type and Fuel Type (combined cycle, coal, CT, ST, fuel type)	Comments
15-057	NWMT Facilitates Process	December 9, 2015	ER	750 MW	750 MW	Rosebud and Custer County, MT	Colstrip Transmission System	9/1/2018	9/1/2018	Wind Farm	NWMT Facilitates Process
16-063	NWMT Facilitates Process	December 1, 2016	ER	450 MW	450 MW	Martinsdale, MT	Colstrip Transmission System	12/30/2020	12/30/2020	Hydro Pump Storage	NWMT Facilitates Process
17-064	NWMT Facilitates Process	February 7, 2017	ER/NR	300 MW	300 MW	Broadview, MT	Colstrip Transmission System	12/1/2020	12/1/2020	Solar PV	NWMT Facilitates Process
17-065	Application Complete	March 28, 2017	ER	400 MW	400 MW	Ft. Rock, Oregon	Ft. Rock Compensation Station	12/1/2022	12/1/2022	Solar PV	System Impact Study Issued
17-066	Application Complete	August 25, 2017	ER/NR	200 MW	200 MW	Portland, Oregon	Rivergate Substation	1/31/2020	1/31/2020	Battery	System Impact Study Issued
17-067	Application Complete	August 25, 2017	ER/NR	200 MW	200 MW	Portland, Oregon	Harborton Substation	1/31/2021	1/31/2021	Battery	System Impact Study Issued
17-068	Application Complete	October 5, 2017	ER/NR	80 MW	80 MW	Madras, OR	Pelton-Roundbutte	12/1/2019	12/1/2019	Solar PV	Feasibility Study Issued
18-071	Application Complete	July 11, 2018	ER/NR	600 MW	600 MW	Lake County, OR	Grizzly-Malin 500 kV	12/1/2021	12/1/2021	Solar PV	Scoping Meeting Held
18-072	NWMT Facilitates Process	August 27, 2018	ER	750 MW	750 MW	Prairie, Dawson, and Custer County, MT	Colstrip Transmission System	9/1/2021	9/1/2021	Wind Farm	NWMT Facilitates Process
18-073	NWMT Facilitates Process	August 27, 2018	ER	750 MW	750 MW	Prairie, Dawson, and Custer County, MT	Colstrip Transmission System	9/1/2021	9/1/2021	Wind Farm	NWMT Facilitates Process
19-074	NWMT Facilitates Process	March 14, 2019	ER/NR	600 MW	600 MW	Wheatland County, MT	Colstrip Transmission System	12/31/2021	12/31/2021	Wind Farm	NWMT Facilitates Process

* These requests are from PGE's Power Operations Department (merchant function).

Attachment 1: Sample Utility Generator Interconnection Information on OASIS

C. PacifiCorp

<https://www.oasis.oati.com/Ppw/>

PacifiCorp Generation Interconnection Queue													As of: 5/3/2019		Location of				In-Service Date		Reports					
Interconnect Request Information													Max MW Output		Generating Facility				Location of Interconnection		Commercial Operations		Reports			
Q#	Request Date	Request Status	Company Name	Service Type	Application	S	W	County	ST	Region	Point of Interconnection	Date	Agreed to Commercial Operations	Type	Feasibility Study / System Impact Study	Facilities Study	Optional Study	Schedule Deviation	Request Status Explanation							
1001	1/22/2018	Deactivated		NR	OGI	3.2	3.2	Klamath	OR	PACW	Circuit 5L37 out of Chiloquin Market	12/15/2018	TBD	Solar	Available				WITHDRAWN BY CUSTOMER							
1002	1/22/2018	Deactivated		ER	OGI	3.2	3.2	Klamath	OR	PACW	Circuit 5L14 out of Bly substation	12/15/2018	TBD	Solar	Available				WITHDRAWN BY CUSTOMER							
1007	3/6/2018	In Progress		ER	OGI	0.86	0.86	Wallowa	OR	PACW	Wallowa substation	1/1/2019	TBD	Solar	Available				0							
1011	3/19/2018	Deactivated		NR	OGI	3	3	Jefferson	OR	PACW	Circuit 5D5 out of Culver substation	12/1/2019	TBD	Solar					WITHDRAWN BY CUSTOMER							
1012	3/22/2018	In Progress	Deschutes Valley Water Distr	NR	OGI	4.3	4.3	Jefferson	OR	PACW	Madras - Redmond, Opal Springs ta	1/1/2021	TBD	Hydro	Available				IA executed 10/29/2018							
1017	3/30/2018	Deactivated		NR	OGI	3	3	Umatilla	OR	PACW	Circuit 5W602 out of Hermiston	12/1/2020	TBD	Solar					WITHDRAWN BY CUSTOMER							
1019	4/26/2018	In Progress		NR	OLGI	80	80	Linn	OR	PACW	Fry substation	12/1/2021	TBD	Solar	Available				0							
1020	5/2/2018	Deactivated		ER	OGI	3	3	Wallowa	OR	PACW	Circuit 5W26 out of Enterprise subst	12/31/2020	TBD	Solar	Available				WITHDRAWN BY CUSTOMER							
1022	5/9/2018	Deactivated		NR	OGI	2.99	2.99	Klamath	OR	PACW	Circuit 5L59 out of Henley substation	12/31/2019	TBD	Solar	Available				REMOVED-LACK OF PROGRESS							
1025	5/10/2018	Deactivated		NR	OLGI	55	55	Jefferson	OR	PACW	Cove substation	12/1/2020	TBD	Solar					WITHDRAWN BY CUSTOMER							
1029	5/29/2018	In Progress		NR/ER	LGI	400	400	Lake	OR	PACW	Hemmingway-Summer Lake transm	12/1/2021	TBD	Solar	Available				0							
1031	5/30/2018	In Progress		NR/ER	LGI	80	80	Harney	OR	PACW	Hemmingway-Summer Lake transm	12/1/2020	TBD	Solar					0							
1032	5/30/2018	In Progress		NR/ER	LGI	80	80	Harney	OR	PACW	Hemmingway-Summer Lake transm	12/1/2020	TBD	Solar					0							
1033	5/30/2018	In Progress		NR/ER	LGI	80	80	Harney	OR	PACW	Hemmingway-Summer Lake transm	12/1/2020	TBD	Solar					0							
1034	6/5/2018	In Progress		NR/ER	LGI	60	60	Lake	OR	PACW	Alturas-Mile Hi transmission line	11/30/2020	TBD	Solar					0							
1040	6/12/2018	Deactivated		NR/ER	LGI	600	600	Lake	OR	PACW	Malin-Grizzly line	12/1/2021	TBD	Solar					WITHDRAWN BY CUSTOMER							
1043	6/26/2018	In Progress		ER	OGI	3	3	Klamath	OR	PACW	Circuit 5L58 out of Henley substation	7/1/2020	TBD	Solar	Available				0							
1045	7/5/2018	In Progress		NR	OGI	3	3	Umatilla	OR	PACW	Circuit 5W406 out of Pilot Rock subs	12/31/2019	TBD	Solar					0							
1057	8/14/2018	In Progress		ER	OGI	3	3	Klamath	OR	PACW	Circuit 5L8 out of Sprague River sub	9/1/2019	TBD	Solar					0							
1058	8/14/2018	In Progress		ER	OGI	3	3	Klamath	OR	PACW	Circuit 4L16 out of Casebeer	9/1/2019	TBD	Solar					0							
1059	8/14/2018	In Progress		ER	OGI	3	3	Klamath	OR	PACW	Circuit 5L14 out of the Bly substation	9/1/2019	TBD	Solar					0							
1060	8/14/2018	In Progress		ER	OGI	3	3	Klamath	OR	PACW	Circuit 5L8 out of the Sprague River	9/1/2019	TBD	Solar					0							
1061	8/14/2018	In Progress		ER	OGI	3	3	Klamath	OR	PACW	Circuit 5L36 out of Mdoc substation	9/1/2019	TBD	Solar					0							
1062	8/15/2018	In Progress		NR/ER	LGI	240	240	Klamath	OR	PACW	Klamath Falls-Malin transmission lin	12/31/2022	TBD	Solar					0							
1064	8/22/2018	Deactivated		NR/ER	LGI	600	600	Crook	OR	PACW	Corral substation	5/30/2021	TBD	Solar					REMOVED-LACK OF PROGRESS							
1075	10/11/2018	In Progress		ER	OGI	3	3	Klamath	OR	PACW	Circuit 5L26 out of Merrill substation	9/1/2019	TBD	Solar					0							
1077	10/22/2018	Deactivated		ER	OGI	2.9	2.9	Wallowa	OR	PACW	Circuit 4W8 out of Enterprise substa	12/1/2019	TBD	Solar					WITHDRAWN BY CUSTOMER							
1087	11/28/2018	In Progress		NR/ER	LGI	50	50	Lake	OR	PACW	Alturas-Mile Hi transmission line	12/31/2020	TBD	Solar					0							
1088	11/27/2018	Deactivated		NR	OGI	3	3	Linn	OR	PACW	Circuit 5M126 out of Soio substation	11/1/2020	TBD	Solar					WITHDRAWN BY CUSTOMER							
1093	12/6/2018	In Progress		NR/ER	LGI	600	600	Crook	OR	PACW	Corral substation OR Corral-Ochoco	5/30/2021	TBD	Solar					0							
1097	1/9/2019	In Progress		NR	OGI	3	3	Polk	OR	PACW	Circuit 4M22 out of Independence su	4/15/2020	TBD	Solar					0							
1098	1/9/2019	In Progress		NR	OGI	3	3	Polk	OR	PACW	Circuit 4M22 out of Independence su	4/15/2020	TBD	Solar					0							
1099	1/9/2019	In Progress		ER	OGI	3	3	Jackson	OR	PACW	Circuit 5R239 out of Talent substat	4/15/2020	TBD	Solar					0							
1104	1/16/2019	In Progress		NR	OGI	3	3	Josephine	OR	PACW	Circuit 5R52 out of Cave Junction su	4/15/2020	TBD	Solar					0							
1105	1/31/2019	In Progress		ER	OGI	3	3	Klamath	OR	PACW	Circuit 5L116 out of Texum substat	11/1/2020	TBD	Solar					0							
1114	2/20/2019	In Progress		NR	OGI	0.19	0.185	Marion	OR	PACW	Circuit 4M50 out of Stayton substat	1/1/2020	TBD	Hydro					0							
1120	3/11/2019	In Progress		NR	OGI	3	3	Jackson	OR	PACW	Circuit 5R110 out of the Vilas Road s	TBD	TBD	Solar					0							
1121	3/20/2019	In Progress		ER	OGI	0.36	0.36	Wallowa	OR	PACW	Circuit 5W26 out of the Enterprise su	10/31/2019	TBD	Solar					0							
1124	4/8/2019	In Progress		NR	OGI	0.36	0.36	Deschutes	OR	PACW	Circuit 5D128 out of Overpass subst	12/31/2019	TBD	Solar					0							
1125	4/8/2019	In Progress		NR	OGI	0.36	0.36	Deschutes	OR	PACW	Circuit 5D128 out of Overpass subst	12/31/2019	TBD	Solar					0							
1126	4/8/2019	In Progress		NR	OGI	8	8	Klamath	OR	PACW	Klamath Falls-Fishhole transmissio	TBD	TBD	Geothermal					0							
1128	4/9/2019	In Progress		NR	OGI	0.36	0.36	Jefferson	OR	PACW	Circuit 5D5 out of Culver substation	12/31/2019	TBD	Solar					0							

Company Name: Only displayed after Interconnection Agreement has been signed or is an affiliate of PacifiCorp.

Affiliate Initial Scoping Meeting Notification: It is PacifiCorp's intention to hold initial scoping meetings for all projects listed that are associated with an affiliate per the relevant timing requirements.

Service Type: Not applicable to Large Generator Interconnection requests made prior to 01/20/2004, Small Generator Interconnection requests, or Qualifying Facility Interconnection requests.

ER: Energy Resource Interconnection Service

NR: Netw ork Resource Interconnection Service

NR with ER: Netw ork Resource Interconnection Service requested, but also studied as Energy Resource. Customer will choose Service Type (ER or NR) prior to Facilities Study.

Study Reports: If displayed, click "Available" link to view PDF files.

Study Schedule Deviation: If displayed, click "More Info" link to view PDF files.

Deactivated Explanation

WITHDRAWN BY CUSTOMER: Interconnection Customer requested application be withdrawn from queue.

Attachment 2: Proposed Interconnection Milestone Tracking Fields

Date interconnection application complete

Tier 1:

Date of notification of whether project meets Tier 1 approval criteria (15 business days)

Tier 2:

Date scoping meeting scheduled, or waived (10 business days);

Date notice of application evaluation results provided: approved, approved with modifications, not approved under Tier 2 (20 business days).

Tier 3:

Date scoping meeting scheduled, or waived (10 business days);

Date notice of application evaluation results provided: approved, approved with modifications, not approved under Tier 2 (20 business days).

Tier 4:

Date scoping meeting scheduled (10 business days);

Date application approved after SG agrees to “minor modifications” (15 days) or,

Date feasibility study agreement provided (5 business days of scoping meeting)

Date system impact study agreement provided (5 business days of scoping meeting or feasibility study completion)

Date system impact study provided (5 business days of completion):

Date application approved, if applicant authorizes minor modifications (15 business days after agreement)

Date facilities study agreement provided (5 business days of scoping meeting or feasibility study completion)

Date application approved, if applicant authorizes interconnection facilities and system upgrades modifications (15 business days after agreement)

Other fields as necessary, e.g., days added for customer’s delayed response

Appendix B

UM 2001, Investigation into Interim PURPA Action: Interconnection Data

Staff Request for Responses from Stakeholders (sent via email May 22, 2019)

- I. Interconnection study reports
 - Redactions beyond customer information, “asset IDs”
 - Inclusion of system upgrades that are approved and budgeted for by the utility
 - Most useful number of years back for posting past study reports
 - Current staff proposal: Go back to January 2017
 - Should earlier previous reports be posted? If so, how far back? At what point would the bulk of the information be outdated?

- II. Utility Distribution System Information
 - Information for September 1, 2019:
 - County, or other location identifier (e.g., “Near Salem, OR”)
 - How to best summarize substation “communications”
 - SCADA: Y/N
 - Fiber to substation: Y/N
 - Other?
 - Voltage: Defined as the voltage going out of (not coming in to) the substation
 - Feeder identifier
 - Feeder line capacity: Defined as the capacity at the head of the feeder

 - Information for after September 2019 (dates TBD):
 - DER connected capacity and in the queue:
 - Generation on a feeder: All QF, non-QF, net metering and VIR?
 - Daytime minimum load: seasonal, annual? Can/should this data be improved as studies proceed by replacing it as a study of that feeder is completed?

- III. Interconnection Milestones
 - Which specific milestone dates in the interconnection process will be useful? Edits to Staff’s Draft Proposal, Appendix 2 Division 82 milestones in the draft, or other dates.
 - Should the posting of interconnection milestone dates be delayed until January 2020 to coincide with Order No. 845 requirements?
 - Should previous interconnection milestone dates be compiled and posted? If so, how far back? Which dates specifically would be useful?
 - Should high-level interconnection costs from each study be summarized and reported? If so, how is this meaningful? What are potential problems with this?

Other

How should the utility distribution system information be provided?

- Link to website from OASIS?
- User access: What, if any, information should the user be required to provide? “OK” to disclaimers? Email address? Email address with validation link? More?

- Table format - sortable, filters? Map?
- Disclaimers and other precautions for users/protections for utilities
- Frequency of updates?

CIP/CEII requirements

- * Do portions of these requirements apply to utility distribution systems? If so, which specific requirements?
- * Do CIP/CEII requirements conflict with the provision of the specific data and un-redacted study reports as envisioned in the draft Staff proposal?

Interconnection Data Workgroup

- * Which entities should participate in addition to Staff and utilities?
- * What should the process look like? Monthly meetings on specific data and format issues, and take issues to Commission for those that aren't resolved? Other?
- * How many resources would such a workgroup take? What would the benefits be?