BEFORE THE PUBLIC UTILITY COMMISSION

OF OREGON

UM 1967

SANDY RIVER SOLAR, LLC, Complainant, v. PORTLAND GENERAL ELECTRIC COMPANY, Defendant.	DECLARATION OF MARIE P. BARLOW IN SUPPORT OF COMPLAINANT'S MOTION FOR LEAVE TO SUPPLEMENT SECOND MOTION TO COMPEL

I, Marie P.Barlow, declare as follows:

1. I am an attorney, representing complainant Sandy River Solar LLC in the above-captioned proceeding.
2. On May 13, 2019, Oregon Public Utility Commission Staff ("Staff") provided to the parties to Docket No. UM 2001, via email, a draft proposal regarding interconnection information that should be provided by the electric utilities that the Commission regulates. A true and correct copy of that proposal, as received by me, is attached hereto as Attachment A.
3. On May 17, 2019, Staff organized and conducted a workshop of parties interested in data associated with interconnection. I attended the workshop in person. At that workshop, PGE made statements indicating a willingness to post interconnection studies back to January 2017 publicly, subject to certain conditions, timelines, and redactions.

4. On June 3, 2019, PGE filed comments regarding Staff's May 13, 2019 proposal. A true and correct copy of those comments, as shown on the Commission's website, are attached to this declaration as Attachment B.
5. Attached as Attachment C is a copy of a PGE PowerPoint presentation, dated May 9, 2019, which was provided to me by our client, Troy Snyder, which I understand to be a presentation by Rich Goddard, Manager, T&D Interconnection Services at PGE, that was given to the Oregon Solar Energy Industries Association.
6. I declare under penalty of perjury under the laws of Oregon and the United States of America that the foregoing is true and correct to the best of my knowledge.

Dated this 10th day of June, 2019.

Marie P. Barlow

Attachment A

OPUC Staff Initial Interconnection Data Transparency Proposal

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. 19-074[1]:

> **"**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

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[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 standards[4] and Critical Energy Energy/Electric Infrastructure Information requirements[5]; 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

[4]The 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=showPoup&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

Attachment 1: Sample Utility Generator Interconnection Information on OASIS

A. Idaho Power

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

IDAHO POWER
An IDACORP Company

Study Request Form
Contact: Jeremiah Creason
jcreason@idahopower.com
208-388-6545

Glossary of terms
ER- Energy Resource
FeSR- Feasibility Study Report
FSR- Facility Study Report
GIA- Generator Interconnect Agreement
LGIA - Large GIA
NR- Network Resource
New- Application received
PIA- PURPA GIA
PURPA-PublicUtilitiesRegulatory Act
SISR - System Impact Study
SGIA - Small GIA

Generator Interconnection Queue

As of: **5/6/2019**

Interconnection		Status		Location			Inservice Date		Generator		Capacity (MW)			Jurisdiciton	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	Mahlheur	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				
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 Meeeting 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

Interconnect Request Information						Max MW Output		Location of Generating Facility			Location of Interconnection	In-Service Date (Commercial Operations)			Reports					
Q#	Request Date	Request Status	Company Name	Service Type	Application Rules	S	W	County	ST	Region	Point of Interconnection	Customer Requested Commercial Operations Date	Agreed to Commercial Operations Date	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 substatior	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 substatior	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 s	9/1/2019	TBD	Solar						0
1061	8/14/2018	In Progress		ER	OGI	3	3	Klamath	OR	PACW	Circuit 5L36 out of Modoc 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 lir	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	11/26/2018	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 Scio 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	& Battery Storage						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 substatio	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 substatio	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 substatio	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: Network Resource Interconnection Service

NR with ER: Network 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.

<u>Attachment 2</u>: 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

Attachment B

PGE Comments on Staff Proposal

Portland General Electric
121 SW Salmon Street · Portland, Ore. 97204
PortlandGeneral.com

June 3, 2019

VIA ELECTRONIC FILING
puc.filingcenter@state.or.us

Public Utility Commission of Oregon
201 High Street S.E., Suite 100
Salem, OR 97308-1088

Attention: Filing Center

RE: UM 2001 – PGE's Comments on Staff's Proposal for Interconnection Data Transparency

Portland General Electric Company (PGE or the Company) submits these comments in response to the May 22, 2019 email from Staff requesting comments on Staff's May 13, 2019 draft proposal for interconnection data transparency. PGE appreciates the opportunity to provide comments regarding Staff's draft proposal, and thanks Staff for its efforts to engage with stakeholders to balance the need for transparency, the usefulness of the data, and the level of effort required to produce it. In PGE's view, Staff's proposal—with a few modifications—will fulfill the objective of increasing understanding of PGE's distribution system and interconnection processes without compromising the safety of the Company's system or placing an undue burden on Company resources.

PGE is prepared to produce most of the information identified by Staff on the timelines Staff proposes. However, PGE objects to other parties' proposals to add significant amounts of additional information to that originally proposed by Staff. In addition, PGE asserts that it should not be required to produce daytime minimum load data, which would be excessively burdensome to produce and of limited value, and that communications and peak load data must remain confidential.

I. Small Generator Interconnection Queue

At the May 17, 2019 workshop, Staff clarified that it proposes for PGE and Idaho Power to post their small generator interconnection queue information by July 1, 2019. PGE has no objection to posting a spreadsheet on its Open Access Same-Time Information System (OASIS) site containing its small generator interconnection queue information by July 1, 2019. PGE's queue spreadsheet will provide the same basic information as PacifiCorp's posted queue.

II. Interconnection Study Reports

Staff proposes that PGE and Idaho Power post their Oregon-jurisdictional interconnection study reports publicly. Currently, PGE does not post its Oregon-jurisdictional study reports publicly but

provides them upon request. However, PGE has no objection to posting Oregon-jurisdictional interconnection study reports publicly on OASIS by the end of 2019. The posted study reports will be redacted to protect confidential customer information, the Company's internal asset ID numbers, and any Critical Infrastructure Protection (CIP) or Critical Energy/Electric Infrastructure Information (CEII) information they contain. In response to Staff's question regarding inclusion of system upgrades, PGE clarifies that all of PGE's studies include, as study assumptions, any upgrades that have been approved and budgeted by the Company.

Staff proposes that the utilities post studies going back to January 1, 2017. PGE supports Staff's proposed timeline. PGE completed approximately 300 studies between January 2017 and the present, and this volume of past studies—along with future studies—will provide a substantial amount of information to potential interconnection customers. However, studies conducted prior to 2017 will not provide useful information to a potential interconnection customer in 2019 and beyond, due to system and interconnected capacity changes in the intervening time. Moreover, producing additional, pre-2017 studies would increase the burden on the Company, which already must process and post hundreds of studies under Staff's proposed scope.

III. Utility System Information

Staff proposes that the utilities provide a variety of information regarding specific aspects of their systems to assist potential developers with initial project location screening. Specifically, *Staff proposes that the utilities produce the following utility system data by September 1, 2019*:

- Substation
  - name
  - county or other location identifier (e.g., "near Salem, OR")
  - voltage going out
  - number of transformers
  - transformer size (MVA on the outgoing side[1])
  - communications
    - SCADA
    - fiber
  - number of feeders
- Feeder
  - name or identifier
  - peak load
  - line capacity at head of the feeder

PGE is generally amenable to providing the requested data for the Company's 148 distribution substations and 640 distribution feeders.[2] A few of these data—such as substation name—are

[1] This metric is not reflected in Staff's May-22 email but appeared to be the consensus at the May-17 workshop.
[2] As PGE explained at the workshop, the Company cannot provide information that could be used to identify specific customers—such as feeder names. *See* ORS 646.600 to 646A.628. However, PGE does not have concerns about providing feeder identification numbers.

already compiled in a usable format, but much of the data will have to be compiled specifically to comply with this request, which will require time and resources.

Staff asks parties to comment regarding how best to summarize substation communications—by identifying the presence or absence of SCADA or fiber, or in some other way. While the presence or absence of SCADA may be useful in determining possible interconnection upgrades, the presence or absence of fiber at a substation is unlikely to be useful. Fiber may be present at a given substation but not in the necessary direction, or the existing fiber may lack adequate capacity to accommodate additional communications. Determining whether a given substation has fiber that an interconnection customer could use would require substantially more review and would need to occur on a case-by-case basis during the study process. Therefore, PGE recommends that substation communications be summarized by identifying the presence or absence of SCADA only. As discussed below, PGE has significant confidentiality concerns about posting any communication information publicly.

In addition, Staff proposes that the following utility system data be produced on a date to be determined after September 2019:

- Feeder
    - DER capacity connected and in queue
    - Daytime minimum load

PGE does not object to providing aggregate DER capacity information, but PGE opposes the recommendation to produce daytime minimum load information because such information would be both extremely burdensome to provide and of limited value. ***First,*** system-wide daytime minimum load data are not readily available, and this information must be determined on a case-by-case basis through the study process. Therefore, PGE would need to develop processes to acquire and maintain this information, which would strain existing personnel and resources. ***Second***, this information is of limited value in screening project locations, because DER and load are not evenly distributed along a feeder and therefore the daytime minimum load at the feeder breaker is unlikely to provide the potential capacity information for other locations on the feeder.

In response to Staff's question regarding whether daytime minimum load should be provided seasonally or annually, PGE responds that if this information must be provided, it should be on an annual basis to minimize the burden. Staff also asks whether these data could be improved by updating it each time a study of a feeder is completed. However, potential interconnection customers will have access to such studies, and PGE should not be required to calculate and produce data for its entire system, at great effort and expense, outside of the interconnection studies it already conducts. If PGE were required to produce system-wide daytime minimum load information, the Company estimates that it would need until at least the second quarter of 2020 to do so.

IV. Interconnection Milestones

Staff proposes that each utility track and publish the dates when each interconnection application that is complete as of July 1, 2019, meets the specific milestones in the small generator

interconnection rules, OAR Division 82. PGE does not object to this proposal. PGE proposes to provide this information in Excel format, and possibly in the same document as the interconnection queue.

In response to Staff's question regarding whether reporting of past milestones should be required, PGE opposes such a requirement. Reporting past milestones could be very burdensome—for example, PGE may need to review current and past employees' emails to determine when certain events occurred. More importantly, the *current* status of the utilities' and QFs' adherence to milestones will be the most informative and relevant information for the Commission to consider as it examines interconnection issues in UM 2000.

In response to Staff's question regarding whether interconnection costs should be summarized and reported, such a requirement would not add significant value to the information already available. Specifically, the study reports that will be posted publicly provide cost information, and PGE also files Tier 4 interconnection cost information with the Commission annually pursuant to OAR 860-082-0065.

V. Other Issues

A. How should the utility distribution system information be provided?

PGE proposes to produce the requested interconnection queue, studies, and milestone data on OASIS under the "Generation Interconnection" folder. The queue and milestone data will be in Excel format.

PGE has not yet determined the best method for providing the utility system information, and the approach may vary depending on confidentiality determinations and the structure of the disclaimer and user access. PGE plans to produce the utility system data in Excel or similar format, which would be sortable. The utility system data should be accessible only after the viewer reviews and accepts cautionary language and a detailed disclaimer—similar to that required by Xcel.

PGE proposes that the queue information and interconnection milestones be updated monthly, and that the utility system data be updated annually.

B. CIP/CEII requirements

CEII is specific engineering, vulnerability, or detailed design information about proposed or existing critical infrastructure (physical or virtual) that:

1. Relates details about the production, generation, transmission, or distribution of energy;
2. Could be useful to a person planning an attack on critical infrastructure;
3. Is exempt from mandatory disclosure under the Freedom of Information Act, 5 U.S.C. 552 (2000); and
4. Does not simply give the general location of the critical infrastructure.

Although critical energy/electric infrastructure[3] is defined as a "system or asset of the bulk-power system," PGE applies the above criteria more broadly to ensure its system is protected and because distribution-system information could impact the bulk power system under certain circumstances. In PGE's view, some of the information proposed for disclosure may qualify as CEII. Specifically, PGE objects to publicly providing information regarding whether or not a substation has communications and the loading information for all feeders on the Company's system. The communications and load information could help a bad actor determine areas of PGE's system that are more vulnerable to an undetected attack. Therefore, these data must remain confidential.

C. Interconnection Data Workgroup

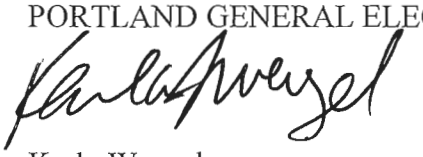
While some additional meetings between Staff, utilities, and stakeholders may be necessary to finalize what information will be provided and in what format, PGE questions whether a workgroup is necessary in the long-term. If additional conversations are necessary or questions arise in the future, those could be scheduled on a case-by-case basis, and PGE would be happy to participate in any such meetings. Limiting the duration of the workgroup would conserve parties' and Staff resources, which are currently spread between many open dockets.

VI. Conclusion

PGE looks forward to continuing to discuss these issues with the Commission, Staff, and stakeholders. Should you have any questions regarding these comments, please contact Colin Wright at (503) 464-8011.

Please direct all formal correspondence and requests to the following email address pge.opuc.filings@pgn.com.

Respectfully submitted,
PORTLAND GENERAL ELECTRIC COMPANY



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[3] *See* FERC's definition at: (https://www.ferc.gov/legal/ceii-foia/ceii.asp).

Attachment C

PGE Presentation


OREGON SOLAR ENERGY CONFERENCE
Powered by SEIA
EnergyTrust of Oregon
CED GREENTECH PACIFIC NORTHWEST
PLATT
platt.com
YASKAWA SOLECTRIA SOLAR
Rolls BATTERY ENGINEERING
IBEW 48
UNION ELECTRICAL WORKERS
Panasonic
ABB
bcf
SUNMODO
SCOOP SOLAR
WORKPLACE CHANGE
IRONRIDGE
Life Is On Schneider Electric
APsystems ALTENERGY POWER
RadiantREIT the future of renewable finance
S-5! The Right Way!
CanadianSolar MAKE THE DIFFERENCE
Oregon TECH Oregon Institute of Technology
Solar Power World Technology • Development • Installation
RBI SOLAR A ROUGH BROTHERS COMPANY
Soligent
generations A DIVISION OF COMMUNITY 1ST CREDIT UNION
MICHAEL SULLBERG FAMILY WINES MS
EVEREST solar systems
UNIRAC
Puget Sound Cooperative Credit Union
SUNPOWER
REC SOLAR'S MOST TRUSTED
OutBack POWER member of The Group
SOLAR ENERGY INTERNATIONAL Educate. Engage. Empower.
WESCO RENEWABLES
LG
aurora

Interconnection Challenges and Possible Paths Forward

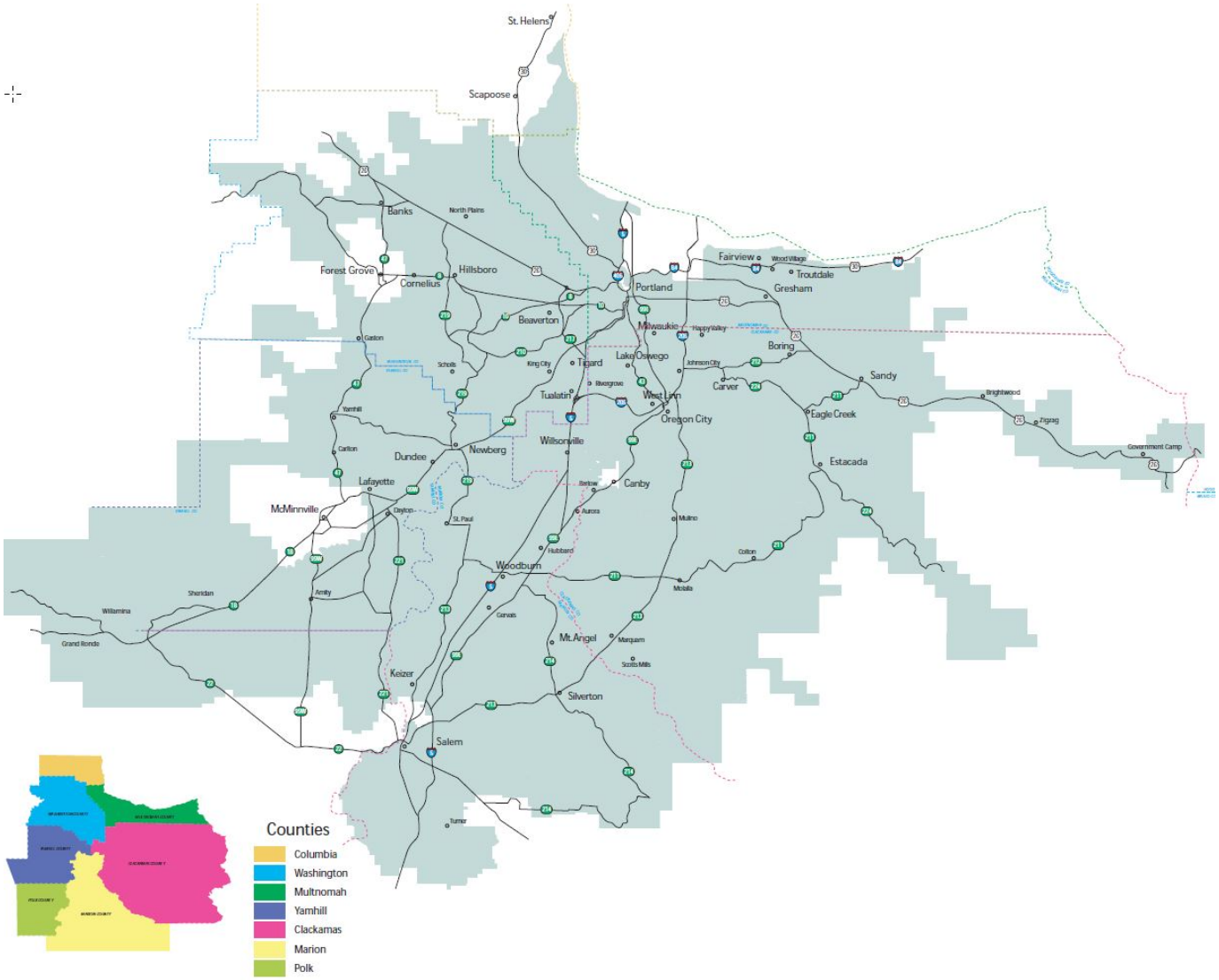
Oregon Solar Energy Conference
Portland, OR

May 9, 2019

PGE Service Territory

Who We Are

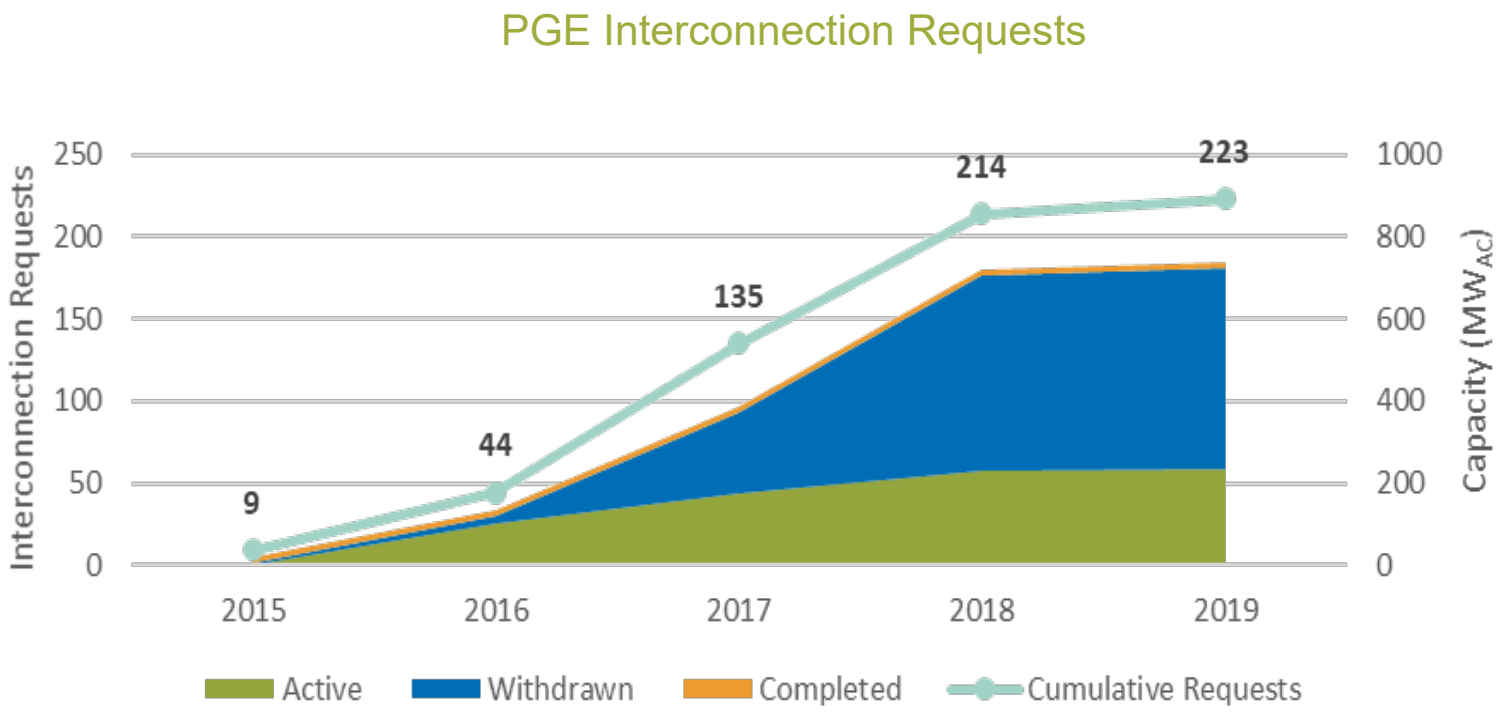
- Serving 50% of all Oregonians
- ~ 4,000 Square Mile Service Territory
- 3,976 MW 2017 Peak Load
- 27,457 Distribution Circuit Miles
- 1,250 Transmission Circuit Miles
- 634 Feeders
- 208 Substations
- 300 Transformers



QF Interconnection Requests

PGE has experienced a large increase in the volume of Qualifying Facilities interconnection requests

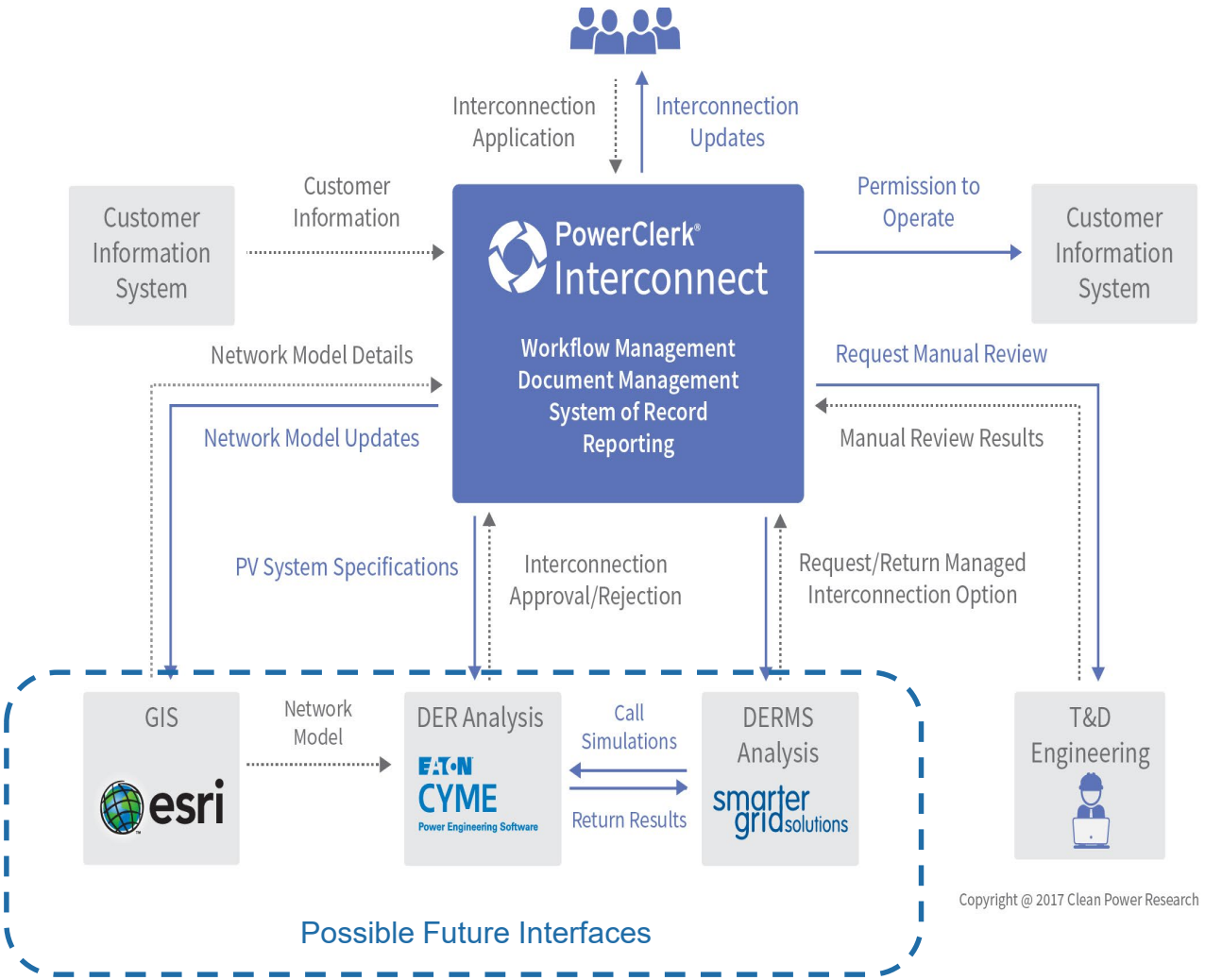
- Currently have 51 projects with signed interconnection agreements
- Over 200 requests are from 10 developers



Key Benefits

- Integrated interconnection workflow
- Efficient QF queue management
- Faster application processing and communication
- Automated workflows and data transfers
- Process transparency

PowerClerk Deployment



Process Improvements Efforts

- **Information Transparency** - post interconnection queue, previous studies, relevant system data.
- **Pre-Application Process** - Utilize the pre-application process as part of project due diligence efforts. PGE provides pre-application reports in 20 business days for a $400 fee.
- **Adoption of IEEE 1547-2018** - This revision includes provisions such as:
  - Reactive and voltage control capabilities
  - Ride through and tripping requirements
  - Interoperability provisions
  - Unintentional islanding provisions
- **Declare Jurisdiction** - Projects should be required to designate at start of interconnection process whether they intend to be a State or FERC jurisdictional project.
- **Understand Interconnection Rules** – Utilities are required to follow State rules, operate within our tariff, provide non-discriminatory access, and preserve customer indifference principle.

Questions?

For additional information, please contact:

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