
Application of Rocky Mountain Power to Establish Export Credits for Customer Generated Electricity	<u>DOCKET NO. 17-035-61</u> <u>PHASE I ORDER</u>
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ISSUED: May 21, 2018

BACKGROUND

This docket arises from the Settlement Stipulation (Stipulation) approved in the Public Service Commission's (PSC) Order Approving Settlement Stipulation dated September 29, 2017 in Docket No. 14-035-114, In the Matter of the Investigation of the Costs and Benefits of PacifiCorp's Net Metering Program ("Net Metering Docket").¹ Pursuant to Stipulation Paragraphs 1 and 28, on December 1, 2017, PacifiCorp filed an application requesting the PSC initiate a proceeding to establish an export credit rate for electricity produced by customer owned generation systems and exported to PacifiCorp's distribution system, and to set a date for a scheduling conference to establish a schedule for the proceeding.²

¹ See <https://psc.utah.gov/2016/06/20/docket-no-14-035-114-2/> for complete details of the 14-035-114 docket. Note: Docket Nos. 13-035-184 and 14-035-114 both addressed net metering issues and led to the current docket.

² With respect to the instant proceeding, the terms of the Stipulation further state:

- A) PacifiCorp will facilitate a workshop soon after the new docket is initiated to discuss the type and scope of data expected to be considered in determining the appropriate export rate;
- B) The PSC will determine the appropriate study period over which to quantify and model export credit components;
- C) The Stipulation specifies the export credit rate proceeding's schedule will be limited to three years duration;
- D) The Stipulation established that parties participating in the export credit rate docket could present evidence they deem relevant in determining the costs and benefits related to customer owned generation, but the Stipulation also placed the burden of proof on each party presenting information for the PSC's consideration;
- E) The Stipulation further specified that nothing from the Net Metering Docket would be precedential in the current docket; and
- F) PacifiCorp's tariff will require randomly selected Net Metering Customers and Transition customers to participate in any load research study.

PROCEDURAL HISTORY

On December 1, 2017, PacifiCorp filed an application to establish export credits for customer generated electricity (Application) pursuant to the Stipulation. On December 4, 2017, the PSC issued a Notice of Scheduling Conference to be held December 11, 2017. On December 12, 2017, the PSC issued a Phase I Scheduling Order and Notice of Hearing, and Notice of Phase II Scheduling Conference that segregated the docket into two phases. Phase I addresses the design of a load-research study (“LRS”), the information the LRS should collect to inform Phase II of this docket, and how this information will be collected. Phase II will address the determination of a just and reasonable export credit rate for electricity generated by customer owned generation systems (CG) delivered to PacifiCorp.

On January 9, 2018, PacifiCorp facilitated a workshop to discuss the type and scope of data to be considered in this docket and to present its preliminary load research proposal.

Vivint Solar, Inc. (Vivint), Vote Solar, Utah Clean Energy (UCE), Utah Solar Energy Association, Salt Lake City Corporation, Auric Solar, LLC, and Western Resource Advocates requested intervention in this docket, which the PSC granted.

On February 15, 2018, PacifiCorp filed Phase I direct testimony.

On March 22, 2018, the Division of Public Utilities (DPU), Vivint, and UCE filed Phase I direct testimony. On March 23, 2018, Vote Solar filed Phase I direct testimony. On April 10, 2018, PacifiCorp, the DPU, the Office of Consumer Services (OCS), Vivint, and UCE filed rebuttal testimony. On April 11, 2018, Vote Solar filed rebuttal testimony.

The PSC conducted the Phase I hearing on April 17, 2018.

PACIFICORP'S LOAD RESEARCH STUDY PROPOSAL

PacifiCorp proposes a LRS to provide insight into the volume and timing of exported energy from CG systems. CG systems served under either Electric Service Schedule No. 135, Net Metering Service (Schedule 135), or Electric Service Schedule No. 136, Transition Program for Customer Generators (Schedule 136), will be the subjects of the LRS. PacifiCorp's proposed LRS will consist of three distinct components: 1) a census of Schedule 136 customer-exported energy on a 15-minute interval, 2) a census of Schedule 136 imported energy on a 15-minute interval, and 3) a sample of energy production from the Schedule 135 customers' generation systems on a 15-minute interval.³ The Schedule 135 energy production study will use both a previous LRS sample of 36 customers established as part of PacifiCorp's LRS analysis in Docket No. 14-035-114 and an additional 34 Schedule 135 sample points in order to build a new LRS sample of 70 CG systems.⁴

PacifiCorp proposes to use the Schedule 135 LRS observations to estimate a production profile for CG systems. PacifiCorp intends to use a scaled version of the estimated Schedule 135 production profile to calculate an estimate of the full requirements usage of Schedule 136 customers by subtracting the observed net exports from estimated production.⁵

PacifiCorp maintains production from customer owned solar generation systems and customer consumption (full load) are independent variables. PacifiCorp asserts that because of this independence, an estimated scaled production profile derived from the sampled Schedule

³ See PacifiCorp Direct Testimony of Elder at lines 133-38, 161-70.

⁴ See *id.* at lines 192-207.

⁵ See *id.* at lines 208-18.

135 customers can be used with the export and import data from all Schedule 136 customers to calculate an estimated full requirements usage level for Schedule 136 customers.⁶ PacifiCorp will then use this full requirements usage level to estimate the expected amount and timing of exported energy to be used in Phase II of this proceeding.⁷

PacifiCorp proposes to use a stratified random systematic sample selection procedure to augment the existing Schedule 135 net metered customer load-research sample using system capacity as the stratification characteristic/variable.⁸ PacifiCorp proposes to use stratified sampling to reduce the number of sample points needed. Even though the ultimate variable of interest is system energy production, PacifiCorp asserts that there is a high correlation (.93) between system capacity and system energy production; therefore, PacifiCorp concludes using system capacity, instead of the actual variable of interest (energy production), is a justifiable alternative.⁹ PacifiCorp proposes a one year LRS beginning no later than January 1, 2019.¹⁰

PARTIES' POSITIONS ON PACIFICORP'S LRS PROPOSAL

DPU

The DPU concludes PacifiCorp's proposed LRS sample design is reasonable and is likely to produce the stated levels of precision and confidence.¹¹ Further, the DPU asserts the proposed LRS is likely to provide sufficient information for Phase II of the proceeding. The DPU believes

⁶ *See id.* at lines 161-70.

⁷ Note: At the expiration of the Schedule 135 grandfathering period and the Schedule 136 transition period (December 31, 2035 and December 31, 2032, respectively), the export credit rate (or other current compensation rate) that exists at those times will apply to Schedule 135 and Schedule 136 customers on a going forward basis.

⁸ *See id.* at lines 82-85.

⁹ *See id.* at lines 177-89; *see also* PacifiCorp Rebuttal Testimony of Elder at lines 87-102.

¹⁰ *See* PacifiCorp Direct Testimony of Elder, Exhibit RMP__(KLE-1) p. 2.

¹¹ *See* DPU Direct Testimony of Charles E. Peterson at lines 107-09; *see also* DPU Direct Testimony of Robert A. Davis at lines 103-16.

the LRS sample data (from Schedule 135 customers), combined with customer information, feeder/circuit data, and the estimated full requirements usage for Schedule 136 customers, should provide interested parties with the data and information needed to proceed with Phase II of this docket.¹²

In spite of this support, the DPU presents concerns with the sample design and potential bias,¹³ arguing that using the previously selected Schedule 135 sample points, in contrast with drawing an entirely new sample, introduces the potential for bias in the sample (and the resulting estimated production profile), and that the proposed approach produces an actual stratified sample that does not match the design sample criteria.

The DPU also supports collecting the production, export, and import data from all of the Schedule 135 sampled customers rather than just production data.¹⁴ Further, the DPU supports examining residential and commercial customers separately but does not believe sampling them separately is necessary.¹⁵ Rather, the DPU proposes to partition the sample data into subsets after the fact to examine the residential and commercial portions of the data separately.

OCS

The OCS provides a limited assessment of PacifiCorp's LRS proposal. The OCS agrees with Vote Solar that PacifiCorp should gather information about the characteristics of customers' generation systems at the same time the production meters are installed.¹⁶ The OCS does not

¹² See DPU Direct Testimony of Davis at lines 154-56.

¹³ See DPU Direct Testimony of Peterson at lines 93-132; *see also* DPU Rebuttal Testimony of Davis at lines 93-109.

¹⁴ See DPU Rebuttal Testimony of Davis at lines 93-95.

¹⁵ See *id.* at lines 142-45.

¹⁶ See OCS Rebuttal Testimony of Cheryl Murray at lines 47-56.

oppose UCE's suggestion to collect end-use information if it can be accomplished relatively easily and at a relatively low cost.¹⁷ The OCS also supports studying residential and commercial customers separately. The OCS is concerned that not separating the LRS sample between residential and commercial participants may distort the results, thereby rendering the LRS itself less useful. The OCS recommends the PSC require the load research study to be expanded to evaluate residential and commercial customers separately.¹⁸

Vote Solar

Vote Solar argues the data to be collected during Phase I of this proceeding will be the only opportunity for intervening parties to identify the customer data needed to carry their burden of proof in Phase II of the Docket.¹⁹ Vote Solar asserts PacifiCorp's proposed LRS plan does not acquire the data necessary for the analyses Vote Solar intends to perform. Vote Solar recommends the LRS collect time- and location-consistent production, export, and import data from individual customers in the two groups with rooftop solar systems – grandfathered and transition customers.²⁰ Vote Solar recommends the PSC not approve PacifiCorp's proposed load research study and sample design, citing examples of flaws in the sample design related to the required size of the sample, the likely accuracy of the results, and the methods used to construct/select the sample.²¹

¹⁷ *See id.* at lines 59-62.

¹⁸ *See id.* at lines 82-105.

¹⁹ *See* Vote Solar Direct Testimony of Rick Gilliam at lines 48-50.

²⁰ *See id.* at lines 56-59.

²¹ *See id.* at lines 56-81.

Vote Solar asserts PacifiCorp should bear the risk of problems that develop from technically insufficient or improper sampling during the evaluation occurring during Phase II of the proceeding if its LRS proposal is allowed to go forward.²²

Vivint

Vivint recommends the PSC not approve PacifiCorp's proposed LRS unless the PSC orders PacifiCorp to: (1) increase the sample size to increase the accuracy of the study, (2) use simple random sampling instead of stratified systematic random sampling, (3) sample based on PacifiCorp's distribution system topology rather than county-level sampling, (4) use consistent data streams from customers rather than comparing estimated averages of Schedule 135 to census level real time data from Schedule 136 customers, (5) stratify on gross consumption rather than system capacity, and (6) separate residential and non-residential customers in the sampling process.²³

UCE

UCE recommends the PSC not approve PacifiCorp's proposal unless the PSC requires PacifiCorp to change the types of information collected to improve the LRS's relevance to the analysis UCE wishes to conduct in Phase II of this docket.²⁴ UCE suggests collecting information about the end uses of electricity by Schedule 135 and Schedule 136 customers and separating residential and non-residential customers.²⁵ UCE maintains the location on the system where the energy is delivered also matters to the value calculation.²⁶ UCE recommends applying

²² See *id.* at lines 50-55.

²³ See Vivint Direct Testimony of Christopher Worley at lines 288-97.

²⁴ See UCE Direct Testimony of Kate Bowman at lines 99-120.

²⁵ See *id.* at lines 161-72.

²⁶ See *id.* at lines 151-57.

PacifiCorp's proposed target levels of precision and confidence to any adopted changes in the sample design.²⁷ UCE supports evaluating options for obtaining additional useful information from solar inverters to inform the LRS.²⁸ Further, UCE suggests changes to the standard data request process to facilitate information distribution and production are justified in this case.²⁹

ISSUES ADDRESSED BY PARTIES

Sample Composition

Vote Solar and the DPU express concern that using an existing sample originally drawn from (what is now) a relatively small subset of Schedule 135 customers (1,578 customers of the current 24,082 Schedule 135 customers) combined with a new sample drawn from all Schedule 135 customers creates problems that standard statistical approaches do not correct for.^{30,31} Vote Solar contends using the proposed sample design would result in the actual confidence and precision levels being substantially less robust than the proposed design predicts.³²

To address the allegation that the sample construction is flawed, PacifiCorp responds that it is willing to compare (and make available to parties) the generation profile associated with the existing 36 production meters used in Docket No. 14-035-114 to a generation profile derived

²⁷ *See id.* at lines 390-94.

²⁸ *See id.* at lines 117-18.

²⁹ *See id.* at lines 119-20.

³⁰ *See* Vote Solar Direct Testimony of Gilliam at lines 343-62; *see also* Vote Solar Rebuttal Testimony of Albert J. Lee, Ph.D. at lines 76-84.

³¹ PacifiCorp's original sample design in Docket No. 14-035-114 called for 62 participants; only 36 were obtained. Customers in the 14-035-114 LRS had approximately a 3.9% chance of being selected into the sample. For the current LRS proposal, customers have a 0.1% chance of being selected into the sample.

³² *See* Vote Solar Rebuttal Testimony of Lee at lines 133-48; *see also* Vote Solar Direct Testimony of Gilliam at lines 464-67.

from the 34 new production meters (that will make up the balance of the sample for the proposed LRS).³³

Sample Size

The OCS, Vote Solar, and Vivint all support increasing the sample size. The OCS suggests increasing the sample size to allow separate sampling of residential and commercial customers.³⁴ Vote Solar and Vivint suggest PacifiCorp's proposed sample size of 70 is too small to achieve the needed levels of precision and confidence and will not allow the type of customer segmentation analysis they intend to undertake in Phase II. Vivint suggests using inverter data from customers' systems to increase the sample size at low cost.³⁵

PacifiCorp replies that the proposed generation sample design of +/- 10 percent at the 95 percent confidence level exceeds the accuracy of its standard load research sample design that meets or exceeds the industry standard for load research studies.³⁶

Sample Stratification

Vote Solar and Vivint object to the proposed sample stratification. Both object to using system capacity as the stratifying variable and suggest using customer consumption (total load) instead.³⁷ Vivint suggests using random sampling of the entire Schedule 135 population instead

³³ See PacifiCorp Rebuttal Testimony of Kenneth Lee Elder Jr. at lines 391-93.

³⁴ See OCS Rebuttal Testimony of Murray at lines 101-05; see Vote Solar Direct Testimony of Gilliam at lines 65-69, 178-84, 343-47, and 464-67; and see Vivint Direct Testimony of Worley at lines 69-70, 161-65, 224-28, and 254-58.

³⁵ See Vivint Direct Testimony of Worley at lines 132-40.

³⁶ See PacifiCorp Rebuttal Testimony of Elder at lines 278-86.

³⁷ See Vote Solar Direct Testimony of Gilliam at lines 70-75; see also Vivint Direct Testimony of Worley at lines 181-87.

of stratification. Vivint asserts a sample of 379 randomly sampled customers is needed to adequately represent the actual population.³⁸

PacifiCorp replies that Vivint's calculations are incorrect and that 4,069 sample points would be needed if random sampling is used instead of stratified systematic random sampling.³⁹ According to PacifiCorp this would raise the cost of the LRS sampling process to approximately \$9.275 million.⁴⁰ In its rebuttal testimony, PacifiCorp defends stratification as a standard procedure used in LRSs, states that it will provide the needed levels of accuracy at a reasonable (low) cost, and asserts that it has calculated the stratification boundaries and the required sample size correctly.⁴¹

At hearing, Vote Solar's witness testified that PacifiCorp used the incorrect formulas to develop the sample design because of the comingling of two separate samples and that therefore the resulting stratified sample design violated fundamental statistical design principles.⁴²

Sample Selection Process – Systematic Sampling

Vote Solar asserts that the confidence and precision levels PacifiCorp claims for the proposed sample design are incorrect (overly optimistic) as the formulas used to calculate them are for standard random sampling rather than for the stratified systematic random sampling procedures PacifiCorp plans to use.⁴³

³⁸ See Vivint Direct Testimony of Worley at lines 253-65.

³⁹ See PacifiCorp Rebuttal Testimony of Elder at lines 293-99.

⁴⁰ PacifiCorp does not provide an estimated cost for a LRS using Vivint's suggested 379 sample size.

⁴¹ See PacifiCorp Rebuttal Testimony of Elder at lines 300-16.

⁴² See Hearing Transcript at 213:25-214:8.

⁴³ See Vote Solar Rebuttal Testimony of Lee at page 4, fn. 4.

PacifiCorp defends its proposal to use stratified systematic random sampling by pointing to past precedent, in that it has used stratified systematic random sampling for past LRSs.⁴⁴

Precision and Confidence

Vote Solar and Vivint argue that the sample design variable (system capacity) has very little variation as compared to the actual LRS variable of interest (i.e., production or exports), since the variability of system capacity is a direct function of the relative density of the distribution of system size (DC watt capacity). According to Vote Solar and Vivint, production, on the other hand, will have different levels of output for each location and each time interval being measured due to the increase and decrease in solar insolation throughout the day. In addition, differences due to system characteristics and the quality of the panels themselves will cause variability in observed production levels for the same size of systems. According to Vote Solar and Vivint, CG system power production will vary from a low of zero to a high of the system's rated watts. PacifiCorp's proposed sample design uses one observation point per customer (system capacity) when calculating variability and the assumed levels of confidence and precision. As a result, Vote Solar and Vivint argue that the actual achieved levels of precision and confidence for system output estimates (the estimated production profile) will not achieve the design values of confidence or precision.⁴⁵

PacifiCorp responds in rebuttal testimony with evidence showing that annual full requirements energy usage over the course of the average day for four existing LRS customers

⁴⁴ See PacifiCorp Direct Testimony of Elder at lines 82-109.

⁴⁵ See Vote Solar Rebuttal Testimony of Lee at lines 115-32; *see also* Vivint Rebuttal Testimony of Worley at lines 56-62.

shows more variability than does the average annual production for those same four customers over an annual average day.⁴⁶

Correlation of System Size to Production

Vote Solar calculates that the correlation between system size and production becomes much less robust for most of the sample if the correlations are calculated using PacifiCorp's four proposed strata. Vote Solar shows that for the first strata (0 – 6kW) the correlation coefficient is only .68. Vote Solar points to PacifiCorp's initial testimony in which PacifiCorp claimed a .63 correlation coefficient between usage and production was too low of a value to justify using usage to do stratification. Vote Solar asserts the much higher .93 correlation PacifiCorp uses to justify using system size to stratify the sample is due to one large system in Strata Four, swamping the effects of the other sample points.⁴⁷

PacifiCorp responds by reiterating that the .93 correlation value is a mathematically correct calculation for the data it used to calculate the correlation.⁴⁸

Geographical Representation – County versus System Topology, Regional Representation

Vivint criticizes PacifiCorp's sample design for using counties within the strata to disperse the sampled points. Vivint suggests using the topology of PacifiCorp's actual distribution system would be a more useful method of dispersing the sample points. Such a sample design would allow parties, such as Vivint, to show the effects of CG systems' production on PacifiCorp's distribution system.⁴⁹

⁴⁶ The average annual day for both usage and production is simply the average value for each given hour of a day over the course of a year. *See* PacifiCorp Rebuttal Testimony of Elder at lines 147-57.

⁴⁷ *See* Hearing Transcript at 36:13-41:1.

⁴⁸ *See* Hearing Transcript at 233:18-24.

⁴⁹ *See* Vivint Rebuttal Testimony of Worley at lines 99-137.

The DPU points out that generation systems in southern Utah would likely perform at a different level of efficiency than would systems in northern Utah due to the amounts of solar insolation and average annual cloud cover in the two regions. These differences could result in an estimated production profile that is not representative of PacifiCorp's Utah CG customers.⁵⁰

PacifiCorp responds that it is interested in calculating an average Utah production profile. It is not concerned with producing information at the topological or regional level.⁵¹

Information Collected

Vote Solar and UCE propose that PacifiCorp should collect information regarding system characteristics, such as tilt, orientation, and shading when meters are installed. UCE further proposes that information regarding energy usage drivers should also be collected (major appliance types present at the location). Parties claim this type of information will provide insight into why certain customers export more or less than other customers with systems of similar capacity.⁵²

PacifiCorp asserts the only necessary information needed to understand the impact of exports on the system is the amount and timing of exported energy. PacifiCorp states its belief that the additional information parties request is not needed to accomplish the purpose of the proceeding.⁵³

⁵⁰ See DPU Direct Testimony of Peterson at lines 117-23.

⁵¹ See PacifiCorp Rebuttal Testimony of Elder at lines 363-69.

⁵² See Vote Solar Direct Testimony of Gilliam at lines 76-78; *see also* UCE Direct Testimony of Bowman at lines 205-46.

⁵³ See PacifiCorp Rebuttal Testimony of Elder at lines 35-37.

Mixing Residential and Commercial Classes

All parties except PacifiCorp recommend treating residential and commercial customers separately. The DPU testifies this can be accomplished by splitting the data collected after the fact. All other parties, except PacifiCorp, recommend increasing the sample size to accommodate study of the two separate classes.⁵⁴

PacifiCorp states the fourth strata (greater than 80 kW capacity) will exclude most residential customers and asserts that by examining the fourth strata, some of the residential versus non-residential customer issues might be addressed.⁵⁵

FINDINGS AND CONCLUSIONS

No party has contested PacifiCorp's proposed study period that runs for 12 months beginning no later than January 1, 2019. Accordingly, we find that study period to be reasonable.

The PSC has been tasked by statute with determining "just and reasonable" rates.⁵⁶ The Stipulation in Docket No. 14-035-114 provides that the PSC shall determine a just and reasonable export credit rate for customer generated electricity.⁵⁷ The Stipulation provides that the PSC shall consider the relevant costs and benefits in determining the export credit rate.⁵⁸ The Stipulation establishes that parties may bring evidence they deem relevant regarding the costs and benefits of customer generated electricity before the PSC for consideration, but that the

⁵⁴ See DPU Rebuttal Testimony of Davis at lines 142-45; see OCS Rebuttal Testimony of Murray at lines 82-105; see Vote Solar Direct Testimony of Gilliam at lines 509-17, and 526-27; see Vivint Direct Testimony of Worley at lines 288-97; and see UCE Direct Testimony of Bowman at lines 161-72.

⁵⁵ See PacifiCorp Rebuttal Testimony of Elder at lines 325-32.

⁵⁶ Utah Code Ann. § 54-4-4.1(1)(c).

⁵⁷ See Stipulation, paragraph 30.

⁵⁸ See Stipulation, paragraph 30.

parties sponsoring such evidence shall have the burden of proof.⁵⁹ Further, the Stipulation provides that “nothing from the November 2015 Order or other aspects of . . . Docket No. 14-035-114 will: (a) limit or preclude a Party from presenting evidence in the Export Credit Proceeding . . . , or (b) be precedential in the Export Credit Proceeding or any future case.”⁶⁰

While the Stipulation specified PacifiCorp would facilitate a workshop where parties would discuss the type and scope of data expected to be considered in determining the appropriate export credit rate,⁶¹ it is clear from the Phase I testimony that this workshop (and the related follow-up communications) did not result in agreement among the parties regarding the type and scope of information to be collected and eventually presented to the PSC in Phase II of this proceeding. PacifiCorp and the DPU assert that the only relevant pieces of information for determining an export credit rate are the magnitude and timing of exported energy. Vote Solar, Vivint, and UCE (“Intervening Parties”) believe that the benefits received by all ratepayers as a result of both the existence of the CG systems (for example, generation and distribution capacity and the investment costs) and the production of energy by those systems (for example, line losses and fuel hedging) need to be accounted for when setting a just and reasonable export credit rate.⁶² As a result, the type and scope of data the Intervening Parties desire to use in Phase II of this proceeding differ markedly from that which PacifiCorp and the DPU expect to use. Specifically, not only do the parties not agree on whether the LRS proposed by PacifiCorp is

⁵⁹ See Stipulation, paragraph 30.

⁶⁰ Stipulation, paragraph 30.

⁶¹ See Stipulation, paragraph 29.

⁶² See Stipulation at paragraph 30 as referenced by several intervening parties.

statistically valid, they also disagree on whether the proposed LRS would capture the relevant information needed in Phase II of this proceeding.

As described above the Intervening Parties, the OCS, and to some extent the DPU, raise several objections to PacifiCorp's proposed LRS and sample design and provide several recommendations to modify PacifiCorp's LRS and sample design.

The Stipulation's Paragraph 30 provides that a party may present evidence it deems relevant in this proceeding. The Stipulation also establishes a burden of proof on each party that desires to bring forth evidence for the PSC's consideration in this proceeding. The Stipulation, however, does not create an obligation on the part of PacifiCorp to create and produce evidence desired by other parties to meet their burden of proof. Nevertheless, we are faced with a need at this point of the docket to provide direction towards a meaningful LRS that will inform Phase II.

We find the following:

1. Regarding the disputed LRS issues and recommended modifications, PacifiCorp has filed a proposed LRS and asked the PSC for approval without modifications. We find it would not be in the public interest for us to prejudge the relevancy of any issue that could influence the outcome of the proceeding prior to having the full record before us. Therefore, this order does not foreclose other parties from being able to present what they deem to be relevant evidence as provided for in the Stipulation. Additionally, we provide some direction regarding the proposed LRS based on the record before us.
2. We find value in parties' recommendation to treat residential and commercial customers separately. We direct PacifiCorp to increase the sample size to accommodate study of the two separate classes. We find parties' objections that PacifiCorp's sample design, as

proposed, does not conform to standard statistical practice have merit. Specifically, mixing an existing sample that was drawn from a small subset of the current population with a new sample drawn from the entire population violates basic sample selection criteria. We direct PacifiCorp to select new samples for residential and commercial customers that either give each member of the class an equal chance of being selected, or each member of the separate strata an equal chance of being selected.

3. We find that collecting the full set of information (production, export, and import data) from all Schedule 135 LRS participants is both reasonable and valuable. The DPU testifies that the meters PacifiCorp currently has in place for the existing LRS participants are capable of collecting the full set of data.⁶³ We direct PacifiCorp to collect export, import, and production data from the 36 existing Schedule 135 LRS participants.

Because PacifiCorp and some of the parties have failed to reach agreement regarding additional requested modifications to the LRS, the parties will proceed without a common understanding of what information is needed and what information, in part, will be considered by the PSC in Phase II of this proceeding. Given that parties disagree about the type, scope, and purpose of information needed for the PSC to set a just and reasonable export credit rate, with the exception of the LRS data discussed in this order, parties must proceed to develop evidence and information on their own. Going forward, all parties will bear the burden of proof to show that the information they present is both necessary and adequate for the purposes of Phase II of this proceeding.

⁶³ See DPU Direct Testimony of Davis at lines 124-29.

We conclude that no legal requirement exists in statute, administrative rule, tariff, stipulation, or PSC Order that requires PacifiCorp to obtain prior PSC approval before conducting its LRS. Therefore, while we have made directives in this order, we decline to require PacifiCorp to make any additional modifications to its proposed LRS beyond what we have ordered. This order does not preclude a party from challenging an issue during Phase II based on an alleged deficiency in the LRS.

Nevertheless, we find that the information to be collected by PacifiCorp's proposed LRS, as modified by this order will provide a reasonable basis on which to determine an appropriate export credit rate. We find that the most relevant information for that analysis is the volume of electricity that is exported to the distribution system and the times when that electricity is exported. We find that PacifiCorp's LRS, with the modifications we have ordered, will collect that relevant data. Other parties have requested the collection of additional information such as system characteristics or customer usage data. While the record is insufficient at this point in the docket to conclude that type of data is not relevant and should be excluded from Phase II, the record is also insufficient to establish that the value of that data is meaningful enough to warrant a regulatory requirement for PacifiCorp to collect it on behalf of the parties who desire to use the data in Phase II. Accordingly, we conclude that the LRS proposed by PacifiCorp, as modified by this order, will provide a meaningful basis on which we may evaluate an appropriate export credit rate.

With respect to the ability of other parties to gather the data they intend to use in Phase II, PacifiCorp has committed to provide the 15-minute interval export and import data from the full census of Schedule 136 (Transition) customers to parties. Further, the DPU testifies that the

existing Schedule 135 customers' regular meters are capable of collecting export and import data at the 15-minute interval. At least one of the Intervening Parties has access to its customers' inverter data,⁶⁴ and potentially other Schedule 135 and Schedule 136 customers' inverter data might be obtainable by the Intervening Parties by working with solar installers and their customers. To the extent a party or parties desire to construct their own load-research study sample, using inverter data and some data from PacifiCorp and CG customers, parties may coordinate with PacifiCorp to develop a process to obtain the needed information while maintaining customer privacy. If a PSC-sponsored technical conference would assist with that effort, we express our willingness to host it.

ORDER

1. PacifiCorp shall select new samples for residential and commercial customers that either give each member of the class an equal chance of being selected, or each member of the separate strata an equal chance of being selected.
2. PacifiCorp shall increase the sample size to accommodate the separate study of residential and commercial customers.
3. PacifiCorp shall collect export, import, and production data from the existing LRS study's 36 Schedule 135 participants.
4. We approve the study period as proposed by PacifiCorp to run for 12 months beginning no later than January 1, 2019.

⁶⁴ Other parties, such as the Utah Solar Energy Association's members, also are likely to have access to inverter data as well.

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5. We decline to require PacifiCorp to make any modifications to its proposed LRS beyond the directives articulated in this order.
6. We conclude that this order does not constitute final agency action because the results of PacifiCorp's proposed LRS will be subject to a robust adjudicatory proceeding in Phase II of this docket.

DATED at Salt Lake City, Utah, May 21, 2018.

/s/ Thad LeVar, Chair

/s/ David R. Clark, Commissioner

/s/ Jordan A. White, Commissioner

Attest:

/s/ Gary L. Widerburg
PSC Secretary
DW#302294

CERTIFICATE OF SERVICE

I CERTIFY that on May 21, 2018, a true and correct copy of the foregoing was served upon the following as indicated below:

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