February 15, 2018

VIA ELECTRONIC FILING

Utah Public Service Commission
Heber M. Wells Building, 4th Floor
160 East 300 South
Salt Lake City, UT 84114

Attention: Gary Widerburg
               Commission Secretary

RE: **Docket No. 17-035-61 – In the Matter of the Application of Rocky Mountain
        Power to Establish Export Credits for Customer Generated Electricity**

Pursuant to the Phase I Scheduling Order and Notice of Hearing, and Notice of Phase II
Scheduling Conference, Rocky Mountain Power (the "Company") hereby submits for filing its
proposed load research study plan.

The Company respectfully requests that all formal correspondence and requests for additional
information regarding this filing be addressed to the following:

By E-mail (preferred):   datarequest@pacificorp.com
                           utahdockets@pacificorp.com
                           Jana.saba@pacificorp.com
                           Yvonne.hogle@pacificorp.com

By regular mail: Data Request Response Center
                           PacifiCorp
                           825 NE Multnomah, Suite 2000
                           Portland, OR 97232

Informal inquiries may be directed to Jana Saba at (801) 220-2823.

Sincerely,

Joelle R. Steward
Vice President, Regulation

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF UTAH

ROCKY MOUNTAIN POWER

_____

Direct Testimony of Kenneth Lee Elder, Jr

February 2018

1	Q.	**Please state your name, business address and position with PacifiCorp.**
2	A.	My name is Kenneth Lee Elder, Jr. My business address is 825 NE Multnomah
3		Street, Portland, Oregon 97232. My position is Manager, Load Forecasting. I am
4		testifying on behalf of Rocky Mountain Power, a division of PacifiCorp ("the
5		Company").
6	Q.	**Please describe your education and professional experience.**
7	A.	I have a Bachelor's Degrees in Agriculture Business from Tarleton State University
8		and a Master's Degree in Agricultural and Resource Economics from Colorado State
9		University. I have been with PacifiCorp for over a year, where I have managed load
10		research and load forecasting activities. Before joining PacifiCorp, I was an
11		economist for a natural resource consulting firm for eight years.
12	Q.	**Please describe the responsibilities of your current position.**
13	A.	I am responsible for the development of all customer class load-profile estimates used
14		for cost allocation, rate design, forecasting, and special studies. I direct the design,
15		implementation, and maintenance of all load studies performed at PacifiCorp. I am
16		also responsible for developing the Company's long-term load forecast.

<div align="center">

PURPOSE AND SUMMARY OF TESTIMONY

</div>

18	Q.	**What is the purpose of your testimony?**
19	A.	My testimony provides an overview of load research, load research processes as they
20		apply to the development of customer-class loads, and the Company's proposed plan
21		to develop load information for use in this docket.
22	Q.	**Please summarize your testimony.**
23	A.	My testimony describes the Company's proposed load research study to collect

24		profiles for energy delivered from the grid to the customer and energy exported from
25		the customer to the grid. This data is necessary to calculate the value of energy
26		exported from private generation ("PG"). To further supplement the body of data
27		available and to better understand the intertemporal relationship between PG,
28		delivered energy, exported energy, and full requirements energy, the Company
29		proposes a study of PG. My testimony describes why the design of the PG study is
30		reasonable and is consistent with industry standards.

| 31 | | **BACKGROUND** |

| 32 | **Q.** | **Can you please provide a brief summary of the purpose of the export credit** |
| 33 | | **proceeding?** |

34	A.	Yes. In the docket to investigate the costs and benefits of the Company's net
35		metering program, Docket No. 14-035-114, ("NEM Docket"), the parties entered into
36		a settlement which grandfathered net metering customers under Tariff Schedule 135
37		as of November 15, 2017, and established a new transition program ("Transition
38		Program") for customer generators. The settlement also required an export credit
39		proceeding to determine the compensation rate for exported power from customer
40		generation systems, including all customers after the expiration of the grandfathering
41		period and transition period for customers on Schedules 135 and 136.

| 42 | **Q.** | **How is the export credit proceeding structured?** |

43	A.	Consistent with the Stipulation in the NEM Docket, the Export Credit Proceeding has
44		a procedural schedule that will allow for its conclusion no later than three years after
45		initiation, which was December 1, 2017. The procedural schedule is bifurcated into
46		two phases, Phase One will determine the load research study plan and Phase Two

47   will determine the export credit rate that will be paid to customer generators on the

48   transition program. In this filing, I present the Company's proposed load research

49   study as part of Phase One.

50   **LOAD RESEARCH STUDY OVERVIEW**

51 **Q.   What is the general purpose of load research?**

52 A.   Load research gathers the data needed to study customer usage so the Company can

53   effectively allocate costs, design rates, plan for load, appropriately size transformers

54   and distribution circuits, and enhance customer service. Most demand-related costs

55   for production, transmission, and distribution facilities can be allocated to classes of

56   customers based on system peaks, class peaks, or individual customer demands that

57   are determined from load research data.

58   Load research studies are designed to provide information on rate-related

59   activities such as demands associated with specific customer classes at specific peak

60   periods. These loads are derived by either direct measurement, when all customers

61   associated with a particular rate group have load-profile meters installed, or by

62   sampling for rate groups where customers do not have load-profile meters.

63 **Q.   Please provide a brief overview of load sampling.**

64 A.   There are a wide range of sampling options available for estimating load-profile

65   characteristics, from simple random sampling to more elaborate model-based

66   sampling procedures. The two most widely accepted sampling options used within the

67   electric industry are simple-random sampling and stratified-random sampling.

68   Simple-random sampling means that each customer in the sample has the

69   same probability of being selected. The method offers relative ease of use and the

70   sampling is considered to be the most representative of the sample population.

71   However, simple-random sampling has larger errors from the same sample size than

72   stratified-random sampling. Therefore, in load research studies, simple-random

73   sampling is used mainly for populations with relatively few customers or for when

74   the population has similar characteristics.

75   Stratified-random sampling divides the sample, or customer class, into sub-

76   classes that have like characteristics. The technique has the effect of reducing the

77   overall variance of the class, thus reducing sample size. Stratified-random sampling is

78   a widely used and accepted technique because the statistical precision of a sample can

79   usually be improved by using stratification. Therefore, a smaller sample size can be

80   used with the same degree of precision.

81 **Q.   What sampling methodology is used by the Company?**

82 A.   All samples designed and installed in the Company's Utah service territory are based

83   on stratified-random samples using a systematic random-sampling approach, and the

84   designs meet or exceed the standard specified in 1978 by Section 133 of the Public

85   Utilities Regulatory Policy Act ("PURPA"). The specific parameters of the sample

86   design are outlined in the Code of Federal Regulations ("CFR"), Title 18, Chapter 1,

87   Subchapter K, Part 290.403, Subpart B, which states:

88   "**Accuracy Level.** If sample metering is required, the sampling method and
89   procedures for collecting, processing, and analyzing the sample loads, taken
90   together, shall be designed so as to provide reasonably accurate data
91   consistent with available technology and equipment. An accuracy of plus or
92   minus 10 percent at the 90 percent confidence level shall be used as a target
93   for the measurement of group loads at the time of system and customer group
94   peaks."

95   The PURPA specification has become a load research standard, particularly

96		for samples that will be used to support the development of rates or other regulatory
97		requirements.
98	**Q.**	**Is stratified sampling a generally accepted practice for these types of studies?**
99	A.	Yes. Stratified sample design is an industry-accepted practice which provides for the
100		installation of dramatically fewer sample points to achieve target precision and
101		confidence levels. In its July 2002 Report to the Utah Public Service Commission, the
102		Load Research Working Group, in referencing the Company's stratified-sample
103		designs, concluded that "techniques used by the Company to develop the load
104		research sample design are appropriate. The load research protocol is designed to
105		produce a sample that is accurate within ±10 percent on 90 percent of the
106		observations." Participants of this group included representatives of the Company, the
107		Division of Public Utilities, the Committee of Consumer Services (of the Office of
108		Consumer Services), Commission Staff, Crossroads Urban Center, Hill Air Force
109		Base, Salt Lake Community Action Program, and the Utah Farm Bureau.
110	**Q.**	**Is systematic random sampling an accepted practice for these types of studies?**
111	A.	Yes. The Company employs systematic random sampling because it is a method that
112		best ensures an even distribution across the entire population from which sample
113		points are drawn. This provides a better representation of the population using a
114		smaller sample size.
115	**Q.**	**Please explain how systematic-random sampling is used in the Company's**
116		**proposed load research study?**
117	A.	In systematic-random sampling, the population is divided into groups. Each group
118		contains a certain number of customers. One customer from each group is randomly

119   chosen. For example, if the population consisted of 300 customers and was rank

120   ordered and then divided into 30 groups, each group would consist of 10 customers,

121   and selecting one customer from each group would yield a sampling population of

122   30 customers.

123   When selecting one customer from each group, the systematic-sampling

124   method always selects the customer with the same relative position within each

125   group. For example, with a group size of 10, if the random position selected is eight,

126   then the eighth customer from each of the 30 groups is selected for inclusion in the

127   sample. Unlike simple-random sampling, systematic-random sampling allows for an

128   even distribution across the entire population from which sample points are drawn,

129   providing a better representation of the population.

130   **LOAD RESEARCH STUDY PLAN**

131 **Q.   What data will be derived from the Company's proposed load research study for**

132   **use in this proceeding?**

133 A.   The Company's proposed load-research study consists of three distinct components:

134   1) a census of transition program customer-exported energy, 2) a census of transition

135   program customer-delivered energy, and 3) a sample of PG system-energy production

136   from grandfathered net energy metering ("NEM") customers. Please refer to Exhibit

137   RMP___(KLE-1), which includes the Company's study plan for the proposed
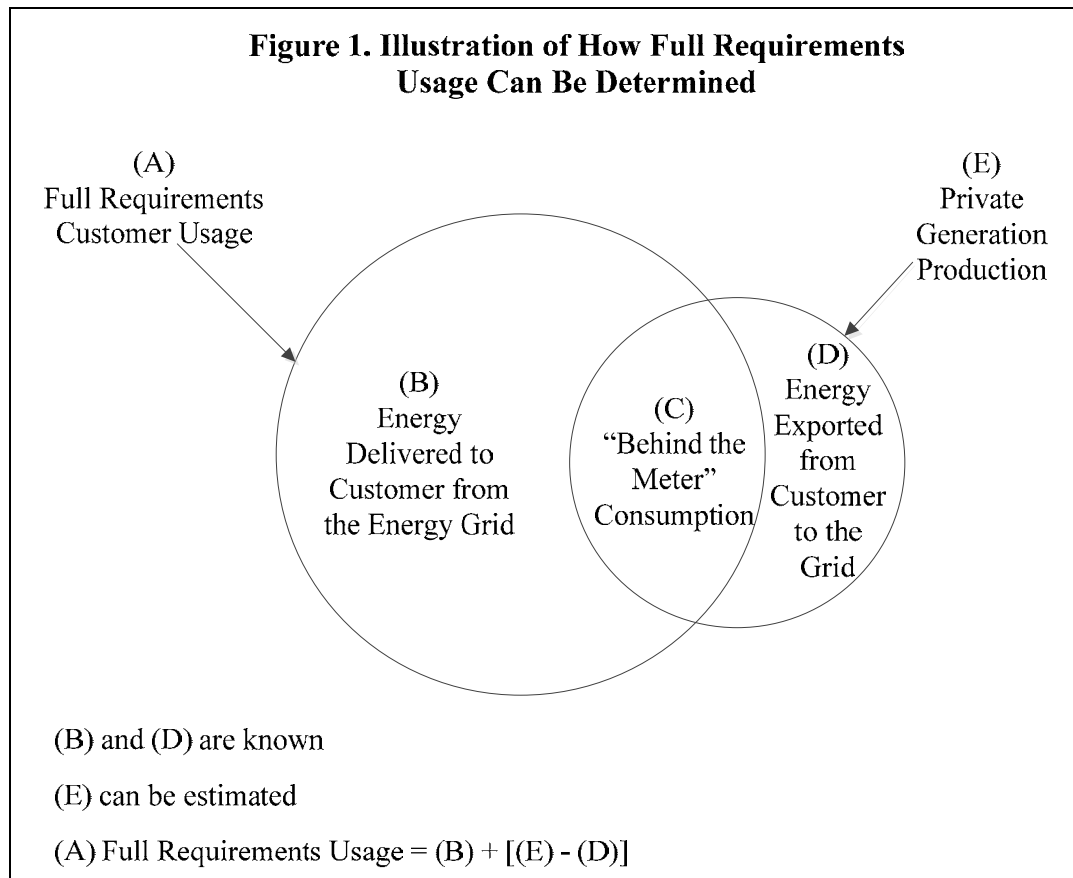
138   customer generator load-research study.

139 **Q.   Why does the load-research study proposed for this proceeding individually**

140   **consider private generation customer exports, deliveries, and generation?**

141 A.   As provided in Figure 1, in order to determine PG customer usage, or full

142   requirements (A) and behind-the-meter consumption (C), the Company must have

143   customer exports (D), deliveries (B) and PG production (E). Results from the

144   proposed generation sample design will be used to estimate (E) and develop the

145   missing data (C and A).

146

Figure 1. Illustration of How Full Requirements Usage Can Be Determined

(B) and (D) are known

(E) can be estimated

(A) Full Requirements Usage = (B) + [(E) - (D)]

147   **Q.**   **How can the data for either full requirements (A) or behind-the-meter**

148   **consumption (C) be used to develop rates for customers?**

149   A.   Understanding the relationship between a customer's usage and PG with exported and

150   delivered energy can be useful for identifying differences by rate class as well as

151   intra-class differences that vary with the level by which a customer offsets its load

152   requirements with PG. This information could be useful in the future for rate setting

153   purposes.

154	Q.	**How does the Company propose to obtain a census of transition program**
155		**customer exports and deliveries?**

156 A. The Company has established a process to obtain 15-minute interval export and

157 delivery data for each transition customer given that each transition customer will be

158 billed and credited by the Company based on 15-minute intervals. At this time,

159 thirteen transition-program meters have been installed and 15-minute interval export

160 and delivery data is being collected by the Company.

161 Q. **Is the purpose of the generation sample different to other customer-based load**

162 **research samples?**

163 A. Yes. Normally the goal of a load-research sample is to install a meter that directly

164 measures the 15-minute usage of a particular set of customers. Given that usage for a

165 PG customer is not directly measurable, it is necessary to design a study that allows

166 for the calculation of customer usage (as illustrated in Figure 1). Therefore, the

167 purpose of the generation sample is not to directly measure the differing usage

168 patterns of a customer; rather, its purpose is to measure the output of a solar panel

169 array so that this value can be used to better understand the intertemporal relationship

170 between exported, delivered, and full-requirements usage.

171 Q. **Are there any differences between the design of the generation sample and other**

172 **customer-based load research samples that the Company has conducted?**

173 A. Yes. Typically, load research samples are designed based on billed energy. For the

174 proposed PG study, the Company proposes a sample design based on PG nameplate

175 capacity.

176

177	Q.	**Why does the generation sample design rely on nameplate capacity?**
178	A.	The generation sample is not intended to directly measure the differing usage patterns
179		of a customer, or (A) as identified in Figure 1. The generation sample is intended to
180		measure the output of a solar panel array, or (E) as identified in Figure 1. Therefore,
181		the variable of interest with regard to the generation sample is PG system-energy
182		production.

183   Ideally, a population should be stratified by the variable of interest, in this

184   case this variable would be PG system-energy production. However, when the

185   variable of interest is not known, as in this case, an auxiliary variable that is highly

186   correlated with the variable of interest should be used. As such, PG system-nameplate

187   capacity was determined to be the best variable to use for sample design because it is

188   highly correlated with solar system energy production. A highly correlated auxiliary

189   variable enables accurate strata definition and assignment of units to the proper strata.

190	Q.	**Is it appropriate to use the 36 existing generation profile meters used in a**
191		**previous study for the proposed generation sample?**
192	A.	Yes. The proposed PG sample for this filing calls for a total of 70 sample sites, of
193		which 36 generation-profile meters were previously used for the load-research study
194		conducted in the NEM Docket. For that research, the Company randomly selected
195		these 36 meters based on billed energy to identify energy production from NEM
196		customers.

197   The Company proposes to re-stratify these 36 generation-profile meters based

198   on their nameplate capacity, rather than billed energy, and utilize these meters for the

199   proposed research to manage resources efficiently.

200		It is a standard practice for utilities to conduct a sample rotation for a load-
201		research sample after it has been in place for several years. In continuous load-
202		research studies, sample rotation is necessary to keep the sample current with the
203		changing utility population. Sample rotation requires the utility to check the currently
204		installed sample against the current population. This process requires that a new
205		sample be designed and compared against the existing sample. If warranted by
206		changes in the overall population, the Company will supplement the number of
207		interval meters called for in the initial sample design, or replace the sample.
208	Q.	**Does the Company have any concerns using export and delivery data from**
209		**transition program customers and generation data based on a sample of**
210		**grandfathered NEM customers to calculate full requirements?**
211	A.	No. As previously noted, the Company will acquire a census of export and delivery
212		data from Schedule 136 customers, whereas the generation sample will be based on
213		Schedule 135 customers. Exports and deliveries are affected by behind-the-meter
214		consumption; whereas, generation is not typically impacted by customer-usage
215		patterns. The purpose of the generation sample is to measure the output of a solar
216		panel array. In general, solar panel production is fairly predictable, and the Company
217		believes that private-generation-system output will be similar between Schedule 135
218		and Schedule 136 customers.
219	Q.	**Does the generation sample incorporate geographic location into the design?**
220	A.	Yes. As provided in Exhibit RMP___(KLE-1), the Company determined the
221		minimum size for the proposed sample to be 54. A random selection process was
222		used to ensure enough systems within each county of Utah were selected in the

223		proposed sample so that it was representative of the overall saturation of rooftop-solar
224		installations within each county in Utah. In order to achieve a geographically
225		representative sample, the Company is proposing to use an oversampling approach
226		where the sample would include 70 sites. Exhibit RMP___(KLE-1) provides the
227		geographic location of the proposed sample and its relationship to currently installed
228		private-generation systems.
229	**Q.**	**Does the generation sample specifically incorporate system orientation and tilt**
230		**into the design?**
231	A.	No. The Company has numerous concerns with designing a multi-dimensional
232		sample that specifically accounts for orientation and tilt. For example, the Company
233		has PG orientation and tilt data available for 10,309 customers or 42.8 percent of the
234		current PG customer population (24,082 customers). Therefore, it would be necessary
235		for the sample to be based on a subset of the entire population of private-generation
236		customers in Utah. Furthermore, of the 10,309 customers with orientation and tilt
237		data, 2,555 have multiple panel arrays with varying orientations. The Company data
238		contains capacity only at the household level, not by each customer's individual solar
239		panel array. Therefore these 2,555 customers cannot be incorporated into the sample.
240		Eliminating these additional customers would further reduce the sample size to
241		represent 32.2 percent of the PG customer population.
242	**Q.**	**What level of confidence is incorporated into the Company's proposed sample**
243		**design?**
244	A.	Based on informal discussions with the interested parties in this docket, the accuracy
245		of the generation sample design was increased to achieve a minimum accuracy of

246		plus or minus 10 percent at the 95 percent confidence level. This increased the
247		proposed sample size from 62 sites to 70 sites.
248	**Q.**	**Please describe the data collected in these load studies.**
249	A.	Load-research participants have specialized profile metering installed at the site.
250		These meters record exported energy, delivered energy, and PG system production in
251		sub-hourly increments for the duration of the load study (96 intervals/day/meter,
252		2,880 intervals/30-day month/meter, 35,040 intervals/year/meter). Because these
253		meters record and store time-differentiated data, the Company is able to determine
254		exported, delivered, and production for any identified date and time (system,
255		jurisdictional, and class peaks). Along with a sample of customers who will have
256		profile meters that measure their private-generation output, the Company will have
257		profiles of exported and delivered energy for all customer generators on the transition
258		program. Ultimately, this census data from transition-customer generators will be the
259		basis for determining the value of exports.
260	**Q.**	**Which Utah Schedules have load profile metering installed?**
261	A.	At the present time, there are 100 profile meters installed on Schedule 6 customers,
262		130 profile meters installed on Schedule 23 customers, 150 profile meters installed on
263		irrigation customers, 7 profile meters on Schedule 31 customers, 4 profile meters on
264		Schedule 21 customers, 262 profile meters on Schedule 8 customers, 167 profile
265		meters on Schedule 9 customers, 60 profile meters installed on Schedule 135
266		customers, and 200 profile meters installed on the Utah residential class.
267		In addition, all Utah customers with billed demand equal to or greater than
268		750 kilowatts have load profile metering installed. Furthermore, at this time there are

269 thirteen Schedule 136 customers with load profile metering installed.

CONCLUSION

271 **Q. What is your recommendation for the Commission?**

272 A. The Company recommends that the Commission issue an order approving the

273 Company's proposed plan for gathering load and PG data for the export credit

274 proceeding. For the export credit proceeding, the Company will have profiles for

275 exported and delivered energy from all transition customer generators. Having the

276 profile of exports from the entire population of transition customers ensures that the

277 Commission will have the opportunity to have a full body of evidence before it by

278 which to make a decision in the export credit proceeding. Also to further supplement

279 this information, the Company proposes a study of PG. The Company's plan to study

280 PG would provide reliable results that are consistent with industry standards. The

281 overall body of data that would be available from the Company's proposed plan for

282 the export credit proceeding would be robust and would far exceed that which was

283 available for the NEM docket.

284 **Q. Does this complete your testimony?**

285 A. Yes.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF UTAH

ROCKY MOUNTAIN POWER

_____

Exhibit Accompanying Direct Testimony of Kenneth Lee Elder, Jr.

Utah Customer Generator Load Research Study

February 2018

Draft Utah Customer Generator

Load Research and Analysis

2018

February 2018

Draft Utah Customer Generator Load Research Study
February 2018

Introduction

On December 1, 2017, the Company submitted its application requesting the Commission open a docket to establish determine the compensation rate for exported power from customer generation systems. In order to determine the compensation rate for exported power from private generation (PG) systems, profile data from customer generators is necessary.

As such, this paper describes the procedures to be used in development of the Utah Customer Generator Load Research Study. This study will provide load data that will be used to estimate the appropriate export rate for Utah customer generators.

Overview

The proposed load-research study will result in collecting profiles for energy delivered from the grid to the customer and energy exported from the customer to the grid. This exported data is necessary to accurately calculate the value of energy exported from PG customers. To further supplement the body of data available and to better understand the intertemporal relationship between PG, delivered energy, exported energy, and full requirements energy, the Company proposes a study of PG production.

The proposed load-research study consists of three distinct components, which include: 1) a census of transition program customer-exported energy, 2) a census of transition program customer-delivered energy, and 3) a sample of PG system-energy production from grandfathered net energy metering ("NEM") customers. The remainder of this document discusses the purpose of this research, analytical needs of the research, participant recruitment, study timeline, and limitations to the research.

Export and Delivery

From a billing perspective, transition customers offset their full requirements usage with energy produced during each 15-minute interval and are billed on their delivered load (15-minute full requirement less energy production). Any PG energy production in excess of full requirements in the 15-minutes creates a bill credit at the export rate (exports).

In order to bill and credit transition customers based upon 15-minute interval data, the Company has begun installing profile meters for each transition customer. This will provide load-research quality data for exports and deliveries for the entire transition customer generator population. As such, it will not be necessary to design a sample of this population, since data for the whole population will be available. One year of transition customer export and delivery data, beginning no later than January 1, 2019 will be relied on for the proposed study.

Private Generation Sample

Although the Company will have export and delivery data for all transition customers, the Company will be required to design a sample to obtain an estimate of PG energy production. At this time, customer specific PG energy production data is not readily available for sample design

purposes. However, the Company believes a reasonable approach for designing a PG sample is to rely on nameplate capacity for residential and non-residential customers.

The distribution of PG nameplate capacities in load studies reveal a large number of customers in the low nameplate categories and relatively smaller amount of customers in higher nameplate categories. When drawing sample customers from the distribution of PG customer, it is necessary to employ a schema that will select customers from across the entire spectrum. The Company's standard practice is to utilize stratified sampling with systematic, random selection. Fundamentally, the sample is divided into several homogenous groups (strata), which in essence translates to low nameplate, medium nameplate, high nameplate, and very high nameplate groups. The recommended sample design for the PG profile will incorporate the use of four strata.

Based on the most recent data available, the July 2017 population of residential and non-residential rooftop solar interconnection agreements, a minimum sample size of 54 PG profile meters are necessary to achieve a precision level of ±10% at the 95% confidence level.[1] The Company proposes to bolster this minimum sample size requirement by installing a total of 70 PG profile meters (see Table 1). As provided in Table 2, the Company ensured the proposed sample design is representative of the geographic saturation of existing customer generators.

For this research, the Company intends to supplement the 36 PG profile meters that have already been deployed as part of the NEM proceeding.[2] Therefore, the Company intends to install an additional 34 PG profile meters as part of the proposed research. One year of NEM customer PG production data, beginning no later than January 1, 2019 will be relied on for the study.

Load Research Participation
As described in Special Condition 14 of Schedule 136 and in Special Condition 10 of Schedule 135, all randomly selected customers under these rate schedules must participate in any load-research study including the installation of production meters at a mutually convenient location.

Timing of Load Research
The Company will not commence with assigning customers for this study until Commission approval is received. Assuming Commission approval of the load-research study occurs by July 1, 2018, the Company will target full enrollment of customers for the PG sample by December 2018. The study will be based on export, delivery and PG data compiled over a twelve month timeframe, beginning no later than January 1, 2019.

---

[1] PURPA guidelines specify a precision of ±10% at the 90% confidence level. However, given study design recommendations received from parties to this docket, the Company is proposing a higher level of precision for the sample.

[2] Docket No. 14-035-114 - In the Matter of the Investigation of the Costs and Benefits of PacifiCorp's Net Metering Program.

Appendix

Table 1   **Utah Residential Transition Program Load Research Study Design**

Strata	Nameplate (kW)	Count	Mean Nameplate (kW)	Squared Nameplate (kW)	Standard Deviation	Required Sample	Supplemented Sample	Currently Installed	Additional Required	Study Total
1	0-6	13,323	4.06	245,161	1.38	14	30	30	0	30
2	6-12	9,193	8.01	608,770	1.46	10	10	2	8	10
3	12-80	1,496	20.94	825,224	10.64	12	12	4	8	12
4	>80	70	364.25	17,043,494	335.27	18	18	0	18	18
Total		24,082	7.66			54	70	36	34	70

Table 2   **Geographic Location of Private Generation Sample Meters**

County	Currently Installed Number	% of Total	Strata 1	Strata 2	Strata 3	Strata 4	Total	Geographically Representive Allocation of Meters
SALT LAKE	10,538	43.8%	14	2	2	9	27	24
UTAH	3,883	16.1%	0	3	4	3	10	9
DAVIS	3,025	12.6%	2	2	2	1	7	7
WEBER	2,339	9.7%	2	1	1	1	5	5
TOOELE	721	3.0%	0	1	1	0	2	2
WASHINGTON	689	2.9%	7	0	0	0	7	2
CACHE	652	2.7%	1	1	1	1	4	1
SUMMIT	587	2.4%	1	0	1	1	3	1
IRON	526	2.2%	1	0	0	0	1	1
BOX ELDER	361	1.5%	1	0	0	0	1	1
GRAND	174	0.7%	1	0	0	1	2	0
SEVIER	158	0.7%	0	0	0	1	1	0
MORGAN	86	0.4%	0	0	0	0	0	0
UINTAH	67	0.3%	0	0	0	0	0	0
SANPETE	52	0.2%	0	0	0	0	0	0
JUAB	48	0.2%	0	0	0	0	0	0
CARBON	38	0.2%	0	0	0	0	0	0
MILLARD	28	0.1%	0	0	0	0	0	0
EMERY	26	0.1%	0	0	0	0	0	0
BEAVER	24	0.1%	0	0	0	0	0	0
SAN JUAN	23	0.1%	0	0	0	0	0	0
WASATCH	20	0.1%	0	0	0	0	0	0
RICH	12	0.0%	0	0	0	0	0	0
GARFIELD	6	0.0%	0	0	0	0	0	0
PIUTE	3	0.0%	0	0	0	0	0	0
Total	24,086	100.0%	30	10	12	18	70	54

CERTIFICATE OF SERVICE

I hereby certify that on February 15, 2018, a true and correct copy of the foregoing was served by email on the following Parties in Docket No. 17-035-61:

Division of Public Utilities	
Chris Parker William Powell Erika Tedder	ChrisParker@utah.gov wpowell@utah.gov etedder@utah.gov
Utah Office of Consumer Services	
Michele Beck Cheryl Murray Bela Vastag	mbeck@utah.gov cmurray@utah.gov bvastag@utah.gov
Assistant Utah Attorney General	
Patricia Schmid Justin Jetter Robert Moore Steven Snarr	pschmid@agutah.gov jjetter@agutah.gov rmoore@agutah.gov stevensnarr@agutah.gov
Vote Solar	
Rick Gilliam Briana Kobar	rick@votesolar.org briana@votesolar.org
Utah Clean Energy	
Sarah Wright Kate Bowman	sarah@utahcleanenergy.org kate@utahcleanenergy.org
Utah Solar Energy Association	
Amanda Smith Engels J. Tejeda Chelsea J. Davis	asmith@hollandhart.com ejtejeda@hollandhart.com cjdavis@hollandhart.com
Salt Lake City Corporation	
Megan J. DePaulis Tyler Poulson	megan.depaulis@slcgov.com tyler.poulson@slcgov.com
Rocky Mountain Power	
Data Request Response Center Yvonne Hogle Jana Saba	datarequest@pacificorp.com yvonne.hogle@pacificorp.com jana.saba@pacificorp.com; utahdockets@pacificorp.com

Jennifer Angell
Supervisor, Regulatory Operations