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Attorney for the Commission Staff

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE APPLICATION)
OF ROCKY MOUNTAIN POWER FOR) **CASE NO. PAC-E-21-16**
AUTHORITY TO IMPLEMENT A BATTERY)
DEMAND RESPONSE PROGRAM)
)
) **REDACTED COMMENTS OF**
) **THE COMMISSION STAFF**
)

STAFF OF the Idaho Public Utilities Commission, by and through its attorney of record, Erick Shaner, Deputy Attorney General, submits the following comments:

BACKGROUND

On July 15, 2021, PacifiCorp dba Rocky Mountain Power (“Company”) applied to the Commission for an Order approving a new and flexible “Schedule 114 load management tariff within the demand side management (“DSM”) portfolio”, effective October 15, 2021.

Application at 1, 2, and 12. The new tariff would fund implementation of a “Class 1 battery demand response program (“Wattsmart Battery” or “Program”).” *Id. at 1.* The Company requested an October 15, 2021, effective date and asked that the case be processed by Modified Procedure. *Id. at 12.*

The Company requested a flexible tariff that will allow the company “to manage and publish Program details on the Company’s website, with hard copies provided to customers upon

request, while allowing for adequate Staff input. Before the Company makes Program changes, it will provide Staff with its intended modifications and allow sufficient time to resolve any Staff concerns. *Id.* at 2. After Staff's concerns are resolved, the Company will post the final set of changes for at least 45 days before the changes are to take effect.” *Id.*

The Company intends for the battery Program to promote and provide incentive for customers to install individual batteries that will be integrated into their system and used for grid management. *Id.* at 3. The Company states that this will benefit customers and the grid and create opportunities in utility grid management, load shaping, and utility integration of behind-the-meter batteries. *Id.* at 3-4.

The Company intends to make the Program available to residential and commercial customers. Initial participation will likely be residential customers with solar generation. *Id.* at 4. If customers install eligible battery equipment and allow the Company to use the battery for the grid, customers will be compensated with enrollment incentives and annual credits to their bills. *Id.* Customers who already have eligible batteries may also be able to participate in the Program. *Id.* at 5.

The Company projects that by 2029, the Program will provide about 10 MW of battery demand response. *Id.* at 7. Estimated Program costs in 2022 are expected to be \$315,000, \$630,000 in 2023, and \$1,006,000 in 2024. *Id.*

The Company will require participants in the Program to have a reliable internet connection, a Wi-Fi network, and eligible battery-related equipment to facilitate communication with the grid. *Id.* at 8.

The Company wants the right to dispatch the Wattsmart Battery system based on certain criteria and it may establish a qualified Trade Ally Network to promote the Program, educate customers, and install battery equipment. *Id.* at 9-10.

The Company has provided cost effective analysis data for the Commission to review as part of this process. *Id.* at 11.

STAFF ANALYSIS

Staff examined the Company's Application, workpapers, and additional information provided by the Company. The Company is requesting authority to implement a Class 1 battery demand response program under Schedule 114 Load Management Tariff within the demand side management (“DSM”) portfolio. Based on its review, Staff recommends that the Wattsmart

Battery program proposed by the Company be implemented as a pilot program for 5 years with incentive payouts for 9 years from the effective date of a Commission order. Staff recommends that the Company update Schedule 114 to reflect the pilot program. Additionally, if it is the Company's intent to proceed with the Program beyond the pilot period, Staff recommends the Company file a new case with the Commission requesting approval to extend the pilot or make the Program permanent.

Program Specifications

Under the Company's proposal, Wattsmart Battery customers will have the potential to receive multiple incentives over the course of the life of the battery. The Company states:

Enrollment incentives will be based on the kW capacity of the enrolled battery, multiplied by the commitment term. For example, if a residential customer enrolls a 5kW battery with a commitment term of 4 years, their enrollment incentive will be \$3,000 (5kW x \$150 x 4 years). During the commitment period for years 2 to 4, the program participation annual incentive would be \$75 (5kW x \$15). If the same customer continues to participate beyond the 4-year commitment term, their annual participation incentive could be up to \$250 (5kW x \$50). If a customer opts out of participating after their commitment term, their annual participation incentive will be pro-rated. Application at 6.

The Company later clarified that the participation incentives kW capacity of the enrolled battery is based on the "continuous output of the battery." Response to Production Request No. 14(c). The Company describes continuous output as "the output kilowatts ("kW") of the battery that is accessible to the Company over a continuous timeframe." Response to Production Request No. 44.

To participate in the Program, eligible batteries must: (1) be able to integrate into the Company's Distributed Battery Grid Management Solution ("DBGMS"); (2) be a Utility grade battery with a minimum 4 kW /10 kWh; (3) have a minimum 10-year battery life warranty; (4) have a minimum of 7,500 battery cycle life; (5) be able to charge and discharge multiple times a day; (6) have full dispatch control by the Company; and (7) have proper UL or equivalent safety certifications for residential and commercial applications. Application at 8. "Currently, only Sonnen batteries are eligible to participate in the Wattsmart Battery program." Response to Production Request No. 6.

The Company indicated that avoided costs are considered proprietary on load control programs, so the cost-effectiveness results are provided with a designation of "pass" or "fail". A

cost-effectiveness result of “pass” represents a benefit-to-cost ratio of one or greater.

Application at 11. The Company reported that the Program is cost-effective with a pass designation under the following tests: Utility Cost Test (“UCT”), Total Resource Cost Test (“TRC”), PacifiCorp TRC, and Rate Impact Measure Test.

The Company’s Exhibit C and Response to Production Request No. 5 indicate that the UCT benefit to cost ratio is [REDACTED]. The Company modeled a 20-year measure life for batteries and used a “Value per kW-Yr” of [REDACTED] in the first year of the calculation. The Value per kW-Yr of benefit used for the Program is from the Company’s Utah Cool Keeper demand response program. The Company provides a forward outlook for the Program for 20 years until 2041 and models new customer enrollment in the Program at an expected 100 new customers in 2022, which continues to grow by 100 additional customers each year until 2025. The analysis expects 475 new customer enrollments per year from 2026 to 2041. The Company predicts it will have [REDACTED] customers enrolled in the Program by [REDACTED], accounting for [REDACTED] kW of battery storage.

Cost-Effectiveness Concerns

Participation

During the initial phase of the Program, the Company will only allow batteries paired with solar generation to participate.¹ In Response to Production Request No. 14, the Company stated “it will be more challenging to get customers with existing solar to participate in the program than customers without existing solar, thus requiring a lower incentive for customers who install solar” after the effective date of a Final Order². In Response to Production Request No. 48, the Company also stated it is not known how many existing solar customers would participate, but could range between 10 to 50 percent or more.

In 2019 and 2020, the Company averaged 285 solar installations per year on Residential Service Schedule No. 1³. The Company projects 100 residential participants in the Program’s

¹ “Customers who participate in the proposed Wattsmart Battery program will initially be required to be enrolled in the Company’s Net Metering Program.” Response to Production Request No. 22.

² The Company had initially proposed a \$100/kW incentive for customers who installed solar after September 1, 2021, and a \$150/kW incentive for customers who installed prior to September 1, 2021. Due to the cancellation of the effective date, Order No. 35139, the Company stated, “now that the program’s effective date has been pushed to what will likely be the first quarter of 2022, the additional \$50/kW incentive will be applicable to customers who install solar before the effective date of the program, rather than the previously stated September 1st date.” Response to Production Request No. 43(b).

³ See Response to Production Request No. 11.

first year and increasing participation each year after. Staff is concerned the Company is unable to support its participation estimates.

Solar involves a substantial financial commitment by a customer. The additional cost of installing a battery to provide backup power and to shift load makes the investment riskier for customers wanting to potentially recover their investment in a solar plus battery system. Staff is concerned that due to the high cost to install a battery system that the Company's participation estimates will not be achieved; thus, cost-effectiveness of the Program will be affected. If costs decrease for residential batteries, participation levels could be achieved, but until that occurs, participation in the Program may be inadequate.

Much of the Program is reliant upon future solar installations. Potential changes stemming from the results of the on-site generation study currently being conducted pursuant to Order No. 34753, Case No. PAC-E-19-08, could impact solar growth and the potential participation in the Program. Through a pilot program, the Company can get the relevant data on the Program including actual estimates of customer battery adoption, battery life, and additional information to design a long-term successful program.

Battery Technology

In its Application, the Company states "the battery storage industry is still in its infancy, and there is a lack of standards for utility grid integration from both a safety and operational perspective." *Id* at 3-4. Currently, there is only one battery manufacturer eligible to participate in the Program. The Company states that "battery storage technology is still relatively new and continuous innovation is expected to occur in the short and long-term. The Company expects costs to decrease and options for additional batteries to become available in the next 1 to 3 years." See Company Response to Production Request No. 26(c). Because the battery storage industry is still in its infancy, the industry trend is difficult to predict. Operating the Program as a pilot will allow the industry to mature and provide the Company with sufficient data to validate its assumptions.

If the Company's statement of "additional batteries to be available in the next 1 to 3 years" holds true, a 5-year pilot program would allow ample time for additional battery manufacturers to join the Program, thus creating greater opportunities for customers to pair batteries with their home and allowing the Company, Commission, and other interested parties

the ability to reassess key Program characteristics with multiple battery manufacturers that can potentially participate in the Program.

Measure Life

The Company's cost-effectiveness calculations for the Program use a 20-year measure life. Staff asked the Company to provide supporting documents, workpapers, and/or research that support a 20-year battery measure life. See Production Request No. 37. In response, the Company was unable to provide any documents, workpapers, or research supporting the 20-year measure life for the batteries and stated, "battery technology is expected to last beyond the manufacturer's warranty." However, that does not justify a measure life double the minimum warranty. Staff is concerned about over-estimating measure life for the Program with no supporting documentation for the assumption being used in the Company's cost-effectiveness calculations. The Program would be cost-effective using a 15-year measure life; however, if the battery life does not extend beyond the manufacturer's 10-year warranty, the Program would not be cost-effective.

Additionally, the Company's cost-effectiveness calculations indicate the Program is not cost-effective until [REDACTED]. In [REDACTED], the Company is reporting the Program to have a benefit-to-cost ratio of [REDACTED].

Currently, the Company is modeling battery life using the SonnenCore, Sonnen Eco, and Sonnen EcoLinx batteries, which have a cell chemistry of lithium iron phosphate.⁴ However, as new battery manufacturers participate in the Program, the new manufacturer's batteries will be composed of different materials and cell chemistries, thus having a different battery life than modeled for the Company. For example, the Tesla Powerwall battery is a residential or light commercial use battery that meets some of the specifications required by the Company. The battery is composed of a rechargeable lithium ion battery that has an energy capacity of 13.5 kWh with 5.8 kW continuous output and has a 10-year minimum warranty.⁵ Recent research authored by the Pacific Northwest National Laboratory estimates lithium-ion battery life at 10

⁴ In Response to Production Request No. 37, the Company indicated the program modeled Sonnen Core, Sonnen Eco, and Sonnen EcoLinx batteries. In the attachment provided to Production Request No. 37, battery specifications for the SonnenCore battery indicate the batteries have a cell chemistry of lithium iron phosphate.

⁵ Tesla Powerwall battery specifications sourced from <https://www.tesla.com/powerwall> and from https://www.tesla.com/sites/default/files/pdfs/powerwall/Powerwall%20_AC_Datasheet_en_northamerica.pdf.

years.⁶ With the ability for additional battery manufacturers to participate in the Program, Staff is concerned that battery useful lives will vary between manufacturers and could impact the cost-effectiveness of the Program.

In addition, Staff is concerned with the use of Utah Cool Keeper's [REDACTED] used to model the Program. The Program should be modeled using Idaho specific values. The Company describes the Program as an advanced demand response program⁷ with the ability to provide multiple utility grid management practices including:

(T)raditional demand response, frequency reserve, contingency reserve, regulation reserves, regional grid management, backup power and other ancillary benefits in addition to reducing peak load on the electric system...Initially, batteries will be used to off-set customers' load, but as the Program evolves and matures, the Company intends to add other capabilities.

With the Company's ability to provide grid management capabilities outside of traditional demand response, the Company needs to evaluate the "value per kW year" based on the benefits that it can provide. This is something that can be conducted during the pilot proposed by Staff. Through the pilot, the Company should evaluate the "value per kW year" for the additional grid management capabilities the Program is able to provide specifically to Idaho.

Battery Degradation

Staff is concerned that battery degradation will impact the performance of the Program. The Company has the ability to use the batteries for load shifting and multiple utility grid management⁸ practices 24 hours per day/365 days per year. With the Program's ability to provide multiple utility grid management practices beyond a traditional demand response program, batteries are expected to be used frequently, which will result in accelerated rates of battery degradation over the life of the battery.

⁶ Energy Storage Technology and Cost Characterization Report at Table ES.1, <https://energystorage.pnnl.gov/pdf/PNNL-28866.pdf>

⁷ The Company describes advanced demand response as "providing a flexible resource which is automatically dispatched real-time to respond to large grid events with frequency response." Whereas "traditional demand response events are typically pre-scheduled day ahead or several hours in advance when system load is expected to peak." Response to Production Request No. 38.

⁸ The Company describes Utility Grid Management as "traditional demand response, frequency reserve, contingency reserve, regulation reserves, regional grid management, backup power and other ancillary benefits in addition to reducing peak load on the electric system." Application at 3.

To help protect against battery degradation concerns, the Company has established criteria for batteries, such as a minimum 10-year battery warranty and a minimum of 7,500 battery cycling life for eligible equipment to qualify. However, this does not remediate all concerns with battery degradation. A battery may be able to cycle beyond the minimum 7,500 battery cycle life required by the Company, but due to battery degradation, batteries may not be able to provide continuous output of the original enrolled amount and as specified by the battery manufacturers for a brand new battery. For example, a brand new SonnenCore battery has the capability of providing 4.8 kW of continuous output and usable capacity of 10 kWh; however, in year 11 due to battery degradation, that battery may not provide that usable capacity and continuous output as originally installed.

In the Company's cost-effectiveness workbook, the Company models enrolled battery capacity output to be constant throughout the 20-year benefit period and the workbook does not account for battery degradation. Staff anticipates that due to battery degradation, the Company's enrolled Program participant's continuous output will decline with the age of the battery, thus resulting in a smaller amount of kW available than originally anticipated. Operating the Program as a pilot provides the Company the opportunity to study the impact of battery degradation on the Program's cost-effectiveness.

Pilot Proposal

Staff is encouraged by the opportunity of a battery demand response program and a successful Program can help actively manage the solar penetration and provide a more resilient and reliant grid. However, given the concerns mentioned above, Staff recommends the Program be conducted as a pilot in order to help secure a long-term successful battery demand response program. The pilot will provide necessary data to inform decisions and improve the assumptions used by the Company.

In Attachment A, Staff provides program changes, specifications, and annual reporting requirements for its proposed pilot program. Staff expects that the Company will actively manage the Program as it would its other DSM programs, make its best efforts to increase cost-effectiveness, and increase participation for the program when necessary.

Staff recommends that the Program be implemented as a pilot, allowing enrollment in the Program for five years with a potential incentive payout of nine years from the effective date of a Commission Final Order. Five years of enrollment in the Program will be able to provide the

Company, Commission Staff, and other interested parties with adequate data to inform their decision on rates of participation, types of batteries enrolled in the Program, new battery manufacturers, cost-effectiveness, and the effectiveness of the grid management practices used by the Company. Staff recommends enrollment in the Program at the end of the fifth year, and that customers enrolled during the first five years be able to receive incentives until the end of the ninth year from an effective date of a Commission final order. An incentive payout until the end of the ninth year will allow customers enrolled in the Program in year five, the ability to fulfill their four-year commitment period.

Staff recommends minor changes to the incentive structure originally proposed by the Company. Staff recommends the Company not provide a custom incentive option for the Program during the pilot. The custom incentive option will be difficult to evaluate until further data and cost-effectiveness calculations can be validated during the pilot period.

Staff recommends the Company make changes to the Program through the flexible tariff process during the pilot period. However, Staff recommends the changes occur on a yearly basis and that changes to incentive structures be locked for a twelve month period. Yearly changes will provide ample data to identify trends in parameters such as participation rates, grid management practices, and cost-effectiveness of the Program

In addition, Staff recommends that during the pilot period that no Company operated lease options be provided. In Response to Production Request No. 12, the Company indicated that the lease option is currently not available and is still being considered. If the Company wishes to continue the Program and offer a lease option at the end of the pilot period, the Company should provide a proper lease proposal to the Commission when the Company files its final report with the Commission.

Staff recommends the Company file annual reports until the end of the five-year pilot. At the end of the pilot period, the Company must file a final report to the Commission. Staff has provided specific information to be included in the reports in Attachment A, such as participation, Program performance data, and other key Program metrics. In the final report, Staff requests the Company provide a Study or Literature Review of other reputable studies on battery life, battery degradation, and battery cycle usage. A study or review of the areas outlined will be necessary for Staff to support the measure life and validate the cost-effectiveness of the Program.

The batteries studied or reviewed need to be specific, but not limited to, the types of batteries being used by the Company for the pilot program. For example, a lithium iron phosphate battery with a usable capacity of 10 kWh and nominal power rating (continuous output) of 4.8 kW would need to be evaluated. In addition, other residential and commercial batteries that could be used for a battery demand response program should be evaluated based on battery cell chemistry, usable capacity, continuous output ratings, and other key specifications unique to batteries used for the Program.

If the pilot proposal presented by Staff is approved, the Company should file an updated Schedule No. 114 to reflect the Program being offered as a pilot. In addition, on the Company's website and in the updated Tariff, Staff recommends that the Company provide a clear and concise definition of continuous output or the per kW used for the incentive structure to alleviate any customer confusion.

If the Company is seeking to continue the Program after the five-year pilot period, Staff recommends the Company to file a case with the Commission requesting authority to continue the Program, including any modifications, along with the final report and studies requested by Staff. If the Company does not wish to proceed with the Program beyond the pilot, the Company should continue to provide incentives until the end of the ninth year when the pilot will end.

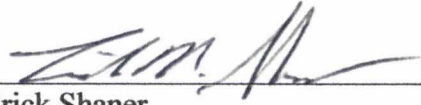
STAFF RECOMMENDATION

Staff recommends the Wattsmart Battery Demand Response Program be implemented as a pilot, the Company update Schedule 114 to reflect the pilot program, and provide clear definitions on how incentives will be paid. Staff recommends the Company file annual reports as specified in Attachment A. Staff further recommends that at the end of the pilot period, or prior to year five, the Company file a comprehensive report with the Commission and request to extend the Program beyond the pilot period.

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Respectfully submitted this

day of December 2021.



Erick Shaner
Deputy Attorney General

Technical Staff: Taylor Thomas
Travis Culbertson
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Attachment A: Battery Demand Response Program (“Program”)

Pilot Proposal

PAC-E-21-16

Pilot Objectives:

The pilot program is intended to achieve the following objectives:

- Identify Participation Levels and Trends
 - Is the Program receiving sufficient participation?
 - Are incentive designs driving participation?
- Determine Value of Avoided Cost Based on:
 - Grid Management practices
 - load shifting, contingency reserves, backup power, etc.
 - Is the Program cost-effective from the Utility Cost Test?
- Understand Performance of Batteries and Operations of Battery Demand Response Program
 - By each grid management practice
 - Comparative analysis of battery performances based on year and cycling
 - Determine proper measure life for residential and commercial batteries.
- Understand how this Program is integrated and used efficiently with on-site renewable generation programs.
 - Evaluate how the battery demand response program can be leveraged with the results and outcomes of the PAC-E-19-08 Study, i.e., export credit rates, time of use rates, etc.

Pilot Modifications:

- 1) **Pilot:** 5 years of Enrollment and 9 years of potential incentive payout
 - a) Allow enrollment in Program for up to 5 years from effective date. Customers will remain on Program until: (1) end of 9th year from effective date; (2) customer opts out of Program; (3) or customers battery is no longer operable before the end of the 9th year.
 - b) Customers enrolled will be able to receive incentives until end of 9th year from the pilot Program’s effective date. Customers will have the ability to continue in the Program if the Program is extended beyond 5 years.

- c) All incentive values are subject to changes (via flexible tariff) and are not granted legacy rates. The changes will be posted on the Company's website and will be communicated electronically at least 45 days prior to the changes

2) Flexible Tariff changes

- a) Must be proposed to Commission Staff with sufficient review time to allow the timeframe of the 45 days prior to desired effective date of changes, and changes can occur on a yearly basis if needed. This can occur on a calendar year basis or another yearly timeframe proposed by the Company.
- b) Incentive payments should be locked for a 12-month period. This includes enrollment and annual participation incentives.
 - i) Once historical data is available, continuous output of each battery type should be reevaluated to ensure it is receiving the specified kW enrolled for each specific battery.
- b) Other aspects of Flexible Tariff changes would be operated as it currently does with other DSM programs.

2) Incentive Values will remain as the Company proposed in the original Application except for the Custom option as stated below:

a) Enrollment Incentive for solar installed prior to effective date of Program:

- i) *\$150 per kW¹* multiplied by Annual Commitment Term of 4 years.

b) Enrollment Incentive for solar installed after effective date of Program:

- i) *\$100 per kW* multiplied by Annual Commitment Term of 4 years.

c) Annual Participation Incentive during Commitment term (years 2-4):

- i) *\$15 per kW.*
- ii) Once historical data is available, continuous output of each battery type should be reevaluated to ensure it is receiving the specified kW enrolled for each specific battery.

d) Annual Participation Incentive after year 4 (after Commitment Term)

- i) *\$50 per kW.*
- ii) Once historical data is available, continuous output of each battery type and the 4 kWh capacity minimum threshold should be reevaluated to ensure the Company is

¹ Per kW in the incentives is based on the continuous output of the kilowatts (kW) of the battery that is accessible to the Company over a continuous timeframe. Continuous output is determined through the Company's testing.

receiving the specified output (kW) and that the battery operates above the capacity threshold (kWh) enrolled for each specific battery.

- e) **No Custom Incentive Option will be provided until further evaluation of the Program.**
- 3) Battery will only be controlled by the Company, no dispatchability by customers during the pilot.
- 4) No Company operated lease programs. If the Company is seeking to continue the Program after the pilot and provide a lease option, the Company should provide a proposal for a lease option for Commission approval.

Key Deliverables and Metrics:

- 5) Provide Annual Report with key Program metrics. The Annual Report should include:
 - a) Actual performance data
 - i) Amount of demand response achieved
 - ii) Amount of times dispatched and average yearly cycle per battery
 - iii) Comparative Analysis of exports and consumption usage between Solar with batteries and solar without batteries (control group)
 - iv) Average communication failures per battery
 - v) Provide data separated by residential and commercial customers
 - vi) Performance of batteries and demand response operation by each grid management practice, i.e., load shifting, frequency reserves, backup power, etc.
 - b) Cost-effective calculation for Utility Cost Test
 - c) Participation:
 - i) New customers enrollment and solar installs completed
- 6) Provide frequent updates on new battery manufacturers with the ability to integrate into the Company's Distributed Battery Grid Management Solution ("DBGMS")
- 7) Provide a final report at end of year 5 from pilot effective date and year 9 from pilot effective date (if Program is no longer continued). The reports should include:
 - a) Yearly and cumulative Program data
 - b) Actual Performance Data
 - i) Amount of demand response achieved

- ii) Amount of times dispatched and average yearly cycle per battery
 - iii) Comparative Analysis of exports and consumption usage between Solar with batteries and solar without batteries
 - iv) Average communication failures per battery
 - v) Provide data separated and by residential and commercial customers
 - vi) Data on new solar installations with and without batteries (control group)
 - vii) Performance of batteries and demand response operation by each grid management practice, i.e., load shifting, frequency reserves, backup power, etc.
- c) Cost-effective calculation for Utility Cost Test
 - d) Participation:
 - i) New customers enrollment and solar installs completed
 - e) Provide a Study or Literature Review of other reputable studies on Battery Life, Battery Degradation, and Battery Cycling usage
 - i) The batteries studied or reviewed need to be specific, but not limited, to the types of batteries being used by the Company for the pilot program. For example, a lithium iron phosphate battery with a usable capacity of 10 kWh and nominal power rating (continuous output) of 4.8 kW would need to be evaluated². In addition, other residential and commercial batteries that could be used for a battery demand response program should be evaluated based on battery cell chemistry, usable capacity, continuous output ratings, and other key specifications unique to batteries used for the Program.
 - f) Evaluation of a lease option program. If the Company is seeking to continue the Program after the pilot and provide a lease option, the Company should provide a proper proposal for a lease option for the Program.
- 8) At the end of year 5, the Company will provide a final report with key Program metrics described above. If the Company is seeking to continue the Program beyond the pilot, the Company should file a new docket with a final report requesting Commission approval to continue the Program.

² These battery specifications are from the SonnenCore battery, which would be a potential battery installed by customers if the Commission approves the Program. Battery specifications were provided to Staff in Response to Production Request No. 37 and can be accessed at <https://sonnenusa.com/en/sonnencore/>.

CERTIFICATE OF SERVICE

I HEREBY CERTIFY THAT I HAVE THIS 16th DAY OF DECEMBER 2021, SERVED THE FOREGOING **REDACTED COMMENTS OF THE COMMISSION STAFF**, IN CASE NO. PAC-E-21-16, BY E-MAILING A COPY THEREOF, TO THE FOLLOWING:

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