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November 6, 2020

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RE: ID PAC-E-20-13
IPUC 1st Set Data Request (1-13)

Please find enclosed Rocky Mountain Power's Responses to IPUC Data Requests 1-13. Also provided are Attachments IPUC 6 and 10. Provided on the enclosed CD is Confidential Attachment IPUC 1. Confidential information is provided subject to protection under IDAPA 31.01.01.067 and 31.01.01.233, the Idaho Public Utilities Commission's Rules of Procedure No. 67 – Information Exempt from Public Review, and further subject to any subsequent Non-Disclosure Agreement (NDA) executed in this proceeding.

If you have any questions, please feel free to call me at (801) 220-2963.

Sincerely,

 /s/
J. Ted Weston
Manager, Regulation

Enclosures

IPUC Data Request 1

Please provide the summer peak hours and the winter peak hours important for establishing the capacity deficiency date. Please explain how they are identified.

Response to IPUC Data Request 1

A summary of the months and hours in which loss of load events (LOLE) are expected to be most likely to occur is shown in the table below. This data comes from the Final Capacity Contribution analysis discussed in PacifiCorp’s 2019 Integrated Resource Plan (IRP), Volume II, Appendix N (Capacity Contribution Study). The distribution of LOLE was calculated using a 2030 study period and a resource portfolio that was very similar to the 2019 IRP preferred portfolio. 500 stochastic variations of load, hydro, and thermal outages were modeled, and the frequency of LOLE in each hour across those 500 studies was calculated.

In the 2019 IRP analysis, LOLE were most common in the evenings in July and August. A smaller concentration of LOLE occurred in January and December, with events both in the morning and in the evening. Approximately 92 percent of the LOLE in the analysis occurred in the months of June through September.

Month	Hour (PPT)																								
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1							0.1%	0.8%	0.3%	0.2%	0.4%	0.2%	0%		0.1%			0%	1.0%	0.8%	0.3%				
2													0%							0.0%					
3								0%			0%									0%	0.1%				
4								0%							0%										
5							0%																		
6																		0%	0.6%	0.8%	0.5%	0.4%			
7			0%		0%			0%		0%	0.1%	0.4%	1.0%	0.9%	1.1%	0.1%	1.2%	5.2%	9.4%	6.5%	1.7%				
8							0%			0%	0.1%	0.4%	1.2%	2.8%	1.5%	1.4%	8.3%	17%	17%	11%	0.3%				
9																		0.3%	0.4%	0.5%					
10							0.4%	0.3%			0.1%	0.1%										0%			
11							0.0%				0.1%				0.0%										
12							0%	0.2%	0%								0.1%	0.5%	0.6%	0.6%	0.3%				

For additional details, please refer to Confidential Attachment IPUC 1 which provides a copy of file “P45CNW Contributions_2019 10 07 FINAL CONF.xlsx” from the confidential data disks accompanying PacifiCorp’s 2019 IRP, with added calculations supporting the figure above.

PacifiCorp’s 2019 IRP is publicly available and can be accessed by utilizing the following website link:

<https://www.pacificorp.com/energy/integrated-resource-plan.html>

Confidential information is provided subject to protection under IDAPA 31.01.01.067 and 31.01.01.233, the Idaho Public Utilities Commission’s Rules of

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November 6, 2020
IPUC Data Request 1

Procedure No. 67 – Information Exempt from Public Review, and further subject to any subsequent Non-Disclosure Agreement (NDA) executed in this proceeding.

Recordholder: Dan MacNeil

Sponsor: Dan MacNeil

IPUC Data Request 2

Please explain how QF's capacity contribution at peak is determined. Do all QF technologies use the same method? If not, please describe the method for each QF technology type.

Response to IPUC Data Request 2

The final capacity contribution values in PacifiCorp's 2019 Integrated Resource Plan (IRP), consistent with the 2019 IRP preferred portfolio, are calculated using the capacity factor approximation methodology (CF method), as discussed in the 2019 IRP, Volume II, Appendix N (Capacity Contribution Study).

The CF method compares a resource's hourly availability to the hourly distribution of loss of load events (LOLE) such as that represented in the table provided in the Company's response IPUC Data Request 1.

Under the CF method, a resource which is 50 percent available during 100 percent of the LOLE receives a 50 percent capacity contribution. A resource which is 100 percent available during 50 percent of the LOLE also receives a 50 percent capacity contribution. For the purposes of the 2019 IRP, each resource's hourly capacity factor (over the 8760 hours in 2030) is multiplied by distribution of LOLE across the 8760 hours in 2030, weighted such that the total sums to 100 percent. This methodology was applied to all resource types in the 2019 IRP and is applicable to all qualifying facility (QF) types. The method is the same for resources with limited energy duration that are controlled by the Company, such as batteries, but the calculation is somewhat more complicated because the battery storage duration is compared with the duration of LOLE in each iteration, rather than against the average across all iterations. For example, a battery with four-hour duration is available for 100 percent of a two hour LOLE, but only 80 percent of a five-hour LOLE.

For an example of the calculation of capacity contribution in the 2019 IRP for wind and solar resources, please refer to the Company's response to IPUC Data Request 1, specifically Confidential Attachment IPUC 1, tab "Renewable", rows 1 and 2. The capacity contribution values for all resources in the 2019 IRP are shown on tab "Results".

PacifiCorp's 2019 IRP is publicly available and can be accessed by utilizing the following website link:

<https://www.pacificorp.com/energy/integrated-resource-plan.html>

Recordholder: Dan MacNeil

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IPUC Data Request 2

Sponsor: Dan MacNeil

IPUC Data Request 3

Please describe how PURPA contracts are represented in the load and resource balance regarding contract renewals. Does the Company treat different types of QF technologies or contracts differently? Please provide the Company's rationale justifying its answer.

Response to IPUC Data Request 3

The Company's 2019 Integrated Resource Plan (IRP) assumes that Public Utility Regulatory Policies Act (PURPA) power purchase agreements (PPA) expire at the end of their current contract term. Note: the only exception is for cogeneration facilities whose output is tied to load that is also included in the forecast. Because the load is continuing to be modeled, the qualifying facility (QF) output associated with those continuing operations is also modeled.

PURPA resources are not obligated to continue selling capacity and energy to the Company beyond the end of their contract terms. At the end of a the contract term, a PURPA resource may be decommissioned, output may be wheeled and sold to another utility, or output may be used to offset onsite retail load, for instance as part of a partial requirements tariff. By assuming PURPA PPAs end at the conclusion of their committed term, the IRP is identifying a preferred portfolio that includes the most cost-effective resources that would be needed in the absence of any additional PURPA commitments. The costs and characteristics of the most cost-effective future resources can also inform the calculation of avoided costs.

PacifiCorp's 2019 IRP is publicly available and can be accessed by utilizing the following website link:

<https://www.pacificorp.com/energy/integrated-resource-plan.html>

Recordholder: Dan MacNeil

Sponsor: Dan MacNeil

IPUC Data Request 4

Please describe how non-PURPA contracts are represented in the load and resource balance regarding contract renewals. Does the Company treat different types of contracts differently? Please provide the Company's rationale justifying its answer.

Response to IPUC Data Request 4

PacifiCorp generally does not assume non qualifying facility (QF) power purchase agreements (PPA) will be renewed unless it has the option to extend the term under defined terms and conditions under the existing agreement. The one exception is for interruptible load contracts of short duration that have a history of renewing. Because the load associated with these contracts continues to be modeled, the interruptible capability also continues to be modeled.

For details on the annual amounts of retiring and expiring resources, please refer to PacifiCorp's 2019 Integrated Resource Plan (IRP), Volume I, Table 8.18 (PacifiCorp's 2019 IRP Preferred Portfolio).

PacifiCorp's 2019 IRP is publicly available and can be accessed by utilizing the following website link:

<https://www.pacificorp.com/energy/integrated-resource-plan.html>

Recordholder: Dan MacNeil

Sponsor: Dan MacNeil

IPUC Data Request 5

Page 4 of the Application states that four QF power purchase agreements located in Oregon were terminated, with a nameplate capacity of 38 megawatts. Please explain the circumstances for their termination and whether they are assumed to be permanently terminated.

Response to IPUC Data Request 5

The four qualifying facilities (QF) listed below requested termination of their power purchase agreement (PPA) due to development issues and PacifiCorp agreed to the termination. Under the Public Utility Regulatory Policies Act (PURPA), the QF can request another QF PPA for the same project, however, it would be at the then current avoided cost rates and subject to any state or federal regulatory rules and orders.

- Merrill Solar LLC
- OR Solar 5, LLC
- Mariah Wind
- Orem Family Wind

Recordholder: Bruce Griswold

Sponsor: Bruce Griswold

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IPUC Data Request 6

IPUC Data Request 6

Do Tables 2 and 3 in the Application reflect the latest contract information (both PURPA contracts and non-PURPA contracts) for summer peak as of the date of the Application? If not, please provide updates to the tables as of the Application date.

Response to IPUC Data Request 6

Since the filing, PacifiCorp has identified some slight modifications the contract information pertaining to the summer peak. This does not impact the summer deficiency year, which remains 2028 with the assumed early coal retirements, and 2029 without the early coal retirements. Please refer to Attachment IPUC 6 for details.

Recordholder: Dan MacNeil

Sponsor: Dan MacNeil

IPUC Data Request 7

Please provide tables with updated contract information as of the date of the Application, similar to Tables 2 and 3 in the Application for winter peak.

Response to IPUC Data Request 7

Please refer to the Company's response to IPUC Data Request 6, specifically Attachment IPUC 6, tab "Tbl 5.13". Note: the winter deficiency year is 2029 with the assumed early coal retirements, and 2037 without the early coal retirements identified in PacifiCorp's 2019 Integrated Resource Plan (IRP). Note: several coal units would likely have faced end-of-life retirements prior to 2037 if the early retirements identified in the 2019 IRP preferred portfolio did not expected to occur, which could bring the winter deficiency year forward.

PacifiCorp's 2019 IRP is publicly available and can be accessed by utilizing the following website link:

<https://www.pacificorp.com/energy/integrated-resource-plan.html>

Recordholder: Dan MacNeil

Sponsor: Dan MacNeil

IPUC Data Request 8

Page 97 of the 2019 IRP states that for capacity expansion planning, PacifiCorp uses a 13 percent target planning reserve margin (PRM) applied to the Company's obligation, which is calculated as projected load less private generation, less energy efficiency savings, and less interruptible load. However, planning reserves in System East are not 13% of East obligation, whereas planning reserves in System West are 13% of West obligation for both summer peak and winter peak. Please explain the inconsistency and whether planning reserves in System East are correct.

Response to IPUC Data Request 8

The planning reserves calculation for System East are correct. The interruptible load on the East are removed from the East obligation in calculating the planning reserves in recognition these contracts do not carry the 13 percent planning reserve margin (PRM).

PacifiCorp's 2019 IRP is publicly available and can be accessed by utilizing the following website link:

<https://www.pacificorp.com/energy/integrated-resource-plan.html>

Recordholder: Dan Swan

Sponsor: Dan Swan

IPUC Data Request 9

Page 105 of the 2019 IRP states that Class 1 DSM (Demand Response) program examples include residential and small commercial central air conditioner load control programs, irrigation load management, and interruptible or curtailment programs. During the summer peak, please explain why Class 1 DSM's value of System West is "3" in 2020 but "0" afterwards.

Response to IPUC Data Request 9

The 3 megawatts (MW) of demand response in the West represents the Oregon test pilot irrigation program which ends after 2020.

PacifiCorp's 2019 IRP is publicly available and can be accessed by utilizing the following website link:

<https://www.pacificorp.com/energy/integrated-resource-plan.html>

Recordholder: Brian Osborn

Sponsor: Brian Osborn

IPUC Data Request 10

When was the load forecast used in the 2019 IRP created? How often is PacifiCorp's load forecast updated? Please provide the most recent load forecasts for both winter peak and summer peak, if available, and describe causes in differences between the most recent load forecasts and the 2019 IRP load forecasts.

Response to IPUC Data Request 10

The load forecast used in PacifiCorp's 2019 Integrated Resource Plan (IRP) was created in September 2018. Generally, PacifiCorp's load forecast is updated once per year.

Please refer to Attachment IPUC 10 which provides the most recent load forecast completed in June 2020.

In the early years of the forecast, a lower load forecast is driven by adverse economic impacts resulting from the COVID-19 pandemic. A higher forecast in the later years is driven by projected residential demand, transportation electrification and commercial customer demand from data centers.

PacifiCorp's 2019 IRP is publicly available and can be accessed by utilizing the following website link:

<https://www.pacificorp.com/energy/integrated-resource-plan.html>

Recordholder: Lee Elder

Sponsor: Lee Elder

IPUC Data Request 11

Table 5.11 on Page 107 of the 2019 IRP describes existing DSM resources. Table 5.12 on page 115 and Table 5.13 on page 117 show summer peak and winter peak's capacity loads and resources without resource additions. Please answer the following questions:

- (a) Table 5.11 shows 0 MW Class 2 DSM (Energy Efficiency), but the footnote states that there is 81 MW of existing Class 2 DSM. What is the current capacity of existing Class 2 DSM?
- (b) Table 5.11 states that Class 2 DSM is not "included as existing resources for 2019-2038 period," because they are "modeled as resource options in the portfolio development process and included in the preferred portfolio." However, Table 5.12 and Table 5.13 still include them as existing resources. Please reconcile and explain the two treatments.

Response to IPUC Data Request 11

Referencing PacifiCorp's 2019 Integrated Resource Plan (IRP), the Company responds as follows:

- (a) As footnote 2 states, "Due to the timing of the 2019 IRP load forecast, there is a small amount (81 MW) of existing Class 2 DSM in Table 5.14 (System Capacity Loads and Resources without Resource Additions)". Note: the reference to Table 5.14 should have been referring to Table 5.12 and Table 5.13. The 81 megawatts (MW) of existing Class 2 demand-side management (DSM) is to account for the 2018 Class 2 DSM that was not included in the 2019 IRP load forecast (dated September 26, 2018).
- (b) As footnote 1 for Table 5.12 and Table 5.13 explains, "The Energy Efficiency line includes selected Energy Efficiency from the 2019 IRP preferred portfolio".

PacifiCorp's 2019 IRP is publicly available and can be accessed by utilizing the following website link:

<https://www.pacificorp.com/energy/integrated-resource-plan.html>

Recordholder: Brian Osborn

Sponsor: Brian Osborn

IPUC Data Request 12

Page 107 of the 2019 IRP states that customer-sited Private Generation includes solar PV, small-scale wind, small-scale hydro, and combined heat and power for reciprocating engines and micro-turbines. Please answer the following questions:

- (a) What is the relationship between Private Generation and the Company's net metering program?
- (b) Why is the Private Generation forecast included in Table 5.12 and Table 5.13 that focus on load and resources without resource additions?
- (c) Which scenario do the values of Private Generation in Table 5.12 and Table 5.13 come from (i.e. base case scenario, low scenario, or high scenario)?

Response to IPUC Data Request 12

- (a) Private Generation (PG) is a definition that broadly describes generating facilities primarily used to offset the load of the owner of the facility at the host site. The Company's net energy metering (NEM) program is a set of rules which define the economic relationship and the technical requirements for customers that install PG that operates in parallel with the utility system. Thus, the Company's NEM program is a tariff that is offered to a subset of PG facilities that meet the rules of the NEM program.
- (b) PG is embedded as a reduction to the load forecast, but is separated out for reporting in the capacity load and resource balance. PG is acquired by customers of PacifiCorp, and is therefore considered a load reduction and not a PacifiCorp resource addition. The load forecast would be inaccurate -- and resource additions misaligned with capacity needs -- if PG were not incorporated in this way.
- (c) The PG forecast is included in the base case forecast in PacifiCorp's 2019 Integrated Resource Plan (IRP), specifically Table 5.12 and Table 5.13.

PacifiCorp's 2019 IRP is publicly available and can be accessed by utilizing the following website link:

<https://www.pacificorp.com/energy/integrated-resource-plan.html>

Recordholder: Dan Swan / Erik Anderson

Sponsor: Dan Swan / Erik Anderson

IPUC Data Request 13

Table 5.12 and Table 5.13 include two items: “available front office transactions” and “uncommitted FOT’s to meet remaining need.” Please provide the definitions of the two terms and describe the difference between the two as they relate to their capability to contribute to capacity.

Response to IPUC Data Request 13

Front office transaction (FOTs) are a representation of an “open” capacity position that is assumed to be met with uncommitted market purchases. “Available front office transactions” refers to the amount of FOTs that is an input assumption representing the maximum level of an open capacity position represented as an FOT. Importantly, the “available front office transactions” does not represent an economic selection of FOTs in a least-cost resource portfolio. The term “uncommitted FOTs to meet remaining need” refers to the amount of FOTs, up to the “available front office transactions” that could be used to meet a capacity deficit in the initial load-and-resource balance (i.e., before new resources are identified). As is the case with “available front office transactions” the “uncommitted FOTs to meet remaining need” do not represent an economic selection of FOTs in a least-cost resource portfolio.

PacifiCorp’s 2019 IRP is publicly available and can be accessed by utilizing the following website link:

<https://www.pacificorp.com/energy/integrated-resource-plan.html>

Recordholder: Dan Swan

Sponsor: Dan Swan