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# BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

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| **IN THE MATTER OF IDAHO POWER'S PETITION TO DETERMINE THE PROJECT ELIGIBILITY CAP FOR PUBLISHED AVOIDED COST RATES AND THE APPROPRIATE CONTRACT LENGTH FOR ENERGY STORAGE QUALIFYING FACILITIES** | ) | **CASE NO. IPC-E-20-02** |
| | ) | **COMPLIANCE FILING COMMENTS OF THE COMMISSION STAFF** |

The Staff of the Idaho Public Utilities Commission ("Staff"), by and through their attorney of record Edward Jewell, comments as follows on Idaho Power Company's Petition.

## BACKGROUND

On January 21, 2020, Idaho Power Company ("Idaho Power" or "Company") petitioned the Commission to determine avoided cost rates, contract terms, and conditions applicable to energy storage qualifying facilities ("QF" or "QFs") under the Public Utility Regulatory Policies Act of 1978 ("PURPA").

On February 10, 2020, the Commission issued a Notice of Application and Notice of Intervention Deadline. Order No. 34552. No parties intervened.

On June 23, 2020, the Commission issued a Notice of Modified Procedure. Order No. 34699. The Commission set an initial comment deadline of July 16, 2020, a deadline for interested persons to respond to the initial comments and requests for public input of August 6, 2020, and a deadline of August 27, 2020 for the parties to file follow-up comments.

On July 16, 2020, the Company and Staff filed initial comments.

On August 27, 2020, the Company filed follow-up comments and reply comments. Staff filed revised comments.

On September 3, 2020, the Company filed a motion and reply comments.

On October 2, 2020, the Commission granted the Company's requested relief and directed the Company to implement a new method to properly compensate energy storage QF projects for capacity during the hours when capacity costs can be avoided and to make a compliance filing within 30 days of the order to implement the new method. Order No. 34794.

**STAFF REVIEW**

In Order No. 34794, the Commission established a separate category for energy storage QFs. For the new category, the Commission set a published rate eligibility limit of 100 kilowatts ("kW"). QFs with a nameplate capacity of 100 kW or less are eligible for published rates calculated by the Surrogate Avoided Resource method ("SAR-based") rates. QFs with a nameplate capacity over 100 kW are required to use negotiated rates calculated by the Integrated Resource Plan method ("IRP-based").

The Commission required the Company to implement a new method to calculate avoided capacity rates. The Commission stated, "Avoided capacity rates will be paid for production during hours identified as the Company's peak hours rather than the capacity payments averaged over all hours" for QFs in the energy storage category. *Id.* The Commission directed the Company to submit a compliance filing proposing the Company's method of implementation. *Id.* The Company filed its compliance filing on October 30, 2020. The Company's proposal only addresses IRP-based contracts. To fully implement the Commission's directive, Staff believes that both IRP-based and SAR-based methods should be addressed. In addition to the review of the Company's IRP-based proposal, Staff provides a proposal for implementing Peak Hour capacity payments for published rates using the SAR-based method.

First, Staff reviewed the Company's IRP-based proposal for implementing peak-hour capacity payments for negotiated rate contracts. For the IRP-based contracts, Staff concludes the following:

1. The Company's method for determining the Peak Hours and a subset of Peak Hours, designated as Premium Peak Hours, is reasonable and the resulting hours

identify time periods when the QF will provide benefit to the Company's system aligned with the need for capacity to avoid future capacity cost;

2. The Company's identification of Premium Peak Hours to be paid a 20% premium, provides additional incentive for QFs to make energy available at a time when capacity is needed most;
3. The Company's method for spreading the annual avoided cost of capacity over Peak Hours and Premium Peak Hours will allow the QF the opportunity to earn the annual avoided cost of capacity;
4. It is more practical for the Company to update Peak and Premium Peak Hours biannually through the capacity deficiency filing that occurs after acknowledgment of the IRP;
5. Contracts should lock-in the Peak and Premium Peak Hours for the contract term authorized at the time of contracting; and
6. The QF should be allowed to update its generation profile while under contract to further increase a QF's ability to deliver energy during Peak Hours and Premium Peak Hours set in the contract with the understanding that this will necessitate a recalculation of the rates.

For SAR-based contracts, Staff concludes the following:

1. Implementation of the new payment structure will require separate rates and payments for capacity and energy, requiring each rate to be separately levelized;
2. Staff believes only paying for capacity during Peak Hours is sufficient to provide incentives for smaller QFs to contribute to the avoidance of future capacity;
3. The Peak Hours used in SAR-based contracts should use the same Peak Hours authorized for use in IRP-based contracts; and
4. The Peak Hours and Peak Hour rates authorized at the time of contracting should be locked in for the term of the contract to ensure small developers have increased certainty.

**IRP-based Peak Hour Rates and Capacity Payments**

To align with Commission Order No. 34794, the Company proposed a method for paying the avoided cost of capacity for energy delivered from energy storage QFs only during peak

hours, without changing the currently authorized IRP-based method for calculating the underlying avoided cost that can be contributed by a QF. The proposed method includes several elements, starting with the capital and fixed O&M cost of a Simple-Cycle Combustion Turbine ("SCCT") surrogate gas plant in the most recently acknowledged IRP as required by Commission Order 32697, and a generation profile that will be supplied by each energy storage QF. The Company's proposal includes:

1. A method for determining the Peak Hours, including a subset of Peak Hours, designated as Premium Peak Hours, during which the Company will provide capacity payments for energy delivered;
2. A method for determining a Capacity Price, which is the value per Megawatt-hour that an energy storage QF can deliver during designated Peak Hours;
3. Updates to the Peak Hours and Premium Peak Hours to be authorized by the Commission through the Load and Natural Gas Forecast Update filings on an annual basis and after every IRP; and
4. Standard contract provisions to annually adjust the Capacity Price and the Peak Hours and Premium Peak Hours based on changes to the Peak Hours and Premium Peak Hours authorized by the Commission and allow updates to the QF's generation profile.

Staff's analysis and recommendations for each of these elements are included below.

Determination of Peak and Premium Peak Hours

Staff believes that the Company's method for determining Peak Hours and Premium Peak Hours is reasonable. Energy delivered during these critical hours should provide capacity benefit to the system equal to the amount of future system capacity that can be avoided by a QF. Staff recommends the Commission accept the Company-proposed Peak Hours and Premium Peak Hours as the only hours for which QFs will receive capacity payments.

The Company only avoids capacity costs during critical peak hours, which Staff believes are the same hours driving incremental future resources in the Company's IRP. The Company proposed Peak Hours, during which the Company will provide capacity payments for energy delivered. If the QF sells energy during other hours, there is no avoided capacity cost and appropriately, no payment for avoided capacity costs. In addition, the Company identified a subset of Peak Hours, designated as Premium Peak Hours, during which the Company proposes

to pay a 20% premium to provide additional incentive for energy storage QF's to provide energy during the most critical need for capacity.

The Company's method for identifying Peak Hours and Premium Peak Hours uses multiple criteria to inform the choice of critical peak hours. The Company considered hourly load forecast, load net of solar generation, Loss of Load Probability, and Energy Imbalance Market Locational Pricing. Staff used hourly load data provided by the Company in response to Staff Production Request No. 34 and Locational Marginal Pricing ("LMP") data provided in response to Staff Production Request No. 35 to confirm the Company's choice of peak hours.

Staff used the load data to develop confidence intervals on hourly load for the peak months of July and August for calendar years 2017 through 2020. The confidence interval upper bound is an estimate for predicted monthly peak for a specific hour. This upper bound is affected by average load and the variance of load over the thirty-one days of the month.

Staff also identified the actual maximum monthly peaks for these hours. Hours identified by Staff as most critical were consistent with those proposed by the Company. Moreover, Staff verified that hours proposed as Premium Peak Hours had relatively high LMP, which is expected for the most critical hours. In July and August 2018, 2019, and 2020, the maximum LM P occurred in the hour beginning at 7:00 p.m., except for August 2020 which saw a maximum LMP in the hour beginning at 6:00 p.m. These hours are among those proposed to be Premium Peak Hours by the Company. Staff believes that providing capacity payments to a small subset of hours allows higher payments in the most critical hours, eliciting a larger expected price elasticity response. Paying higher capacity payments during the proposed Premium Peak Hours is consistent with higher avoided cost of capacity during these critical periods.

Determination of Capacity Price and Method of Payment

The Capacity Price is the price per kilowatt-hour ("kWh") that forms the basis for how much an energy storage QF will receive for energy delivered during Peak Hours and is equivalent to the capacity value an energy storage QF can contribute to the system. Table No. 9 of the Compliance Filing and the Company's response to Staff Production Request No. 29 show that if the QF delivers the specified kWhs during Peak Hours, the QF earns 100% of the Company's avoided capacity cost for the level of capacity provided by the QF.

In addition, the Company proposes that QFs receive a 20% premium applied to the Capacity Price for energy delivered during Premium Peak Hours. Since Peak Hours are made up

of both Premium Peak Hours and Non-Premium Peak Hours, the Company has proposed separate rates for each set of hours. As illustrated in Table No. 11 of the Compliance Filing, the Non-Premium Peak Hour and Premium Peak Hour rates are calculated using the delivery amounts from the generation profiles supplied by the QF. The Company calculates the Premium Peak Hour rate by multiplying the Capacity Price by 120%. The Non-Premium Peak Hour rate is calculated first by multiplying the Capacity Price by the total delivery amount during Peak Hours and subtracting the Premium Peak Hour payment that would occur using the Premium Peak Hour rate and the Premium Peak Hour delivery amounts from the QF generation profile. This amount is then divided by the total Non-Premium Peak Hour delivery amount to arrive at the final Non-Premium Peak Hour rate. Staff believes this rate structure will provide sufficient incentive to deliver energy during the Company's most critical capacity need while ensuring customers pay no more than the avoided cost of capacity.

Staff verified that the Company is not proposing any change to the underlying avoided capacity cost. The Company uses a SCCT gas plant as the surrogate resource to determine avoided cost of capacity, which complies with Commission Order No. 32697. The Commission determined that a SCCT is a reasonable surrogate resource that utilities avoid building when calculating avoided cost of capacity under the IRP Method because it represents the "lowest cost, nearly capacity only resource." Order No. 32697 at 22.

The method of applying a Peak Hour Capacity Factor Credit ("PHCFC") to derive the Capacity Price is the same used for all other types of QFs with IRP-based contracts. The Company proposes to use Landfill Gas or Digester as a benchmark resource for energy storage QFs, which Staff believes is reasonable. To calculate the annual avoided capacity value of a QF, the QF's Contribution to Peak [1]("CTP") at a 90$^{th}$ percentile[2] is determined first and applied to the annual avoided capacity cost of the surrogate resource. The CTP percentage is calculated by comparing the proposed QF against its corresponding benchmark resource.

The Company identified the CTP percentages of these benchmark resources based on historical output and published forced outage rates. Response to Staff's Production Request No. 27. The Company proposes to use Landfill Gas or Digester as the benchmark resource for

[1] "Contribution to Peak" and "Peak Hour Capacity Factor Credit" are used interchangeably in the Compliance Filing.
[2] The 90$^{th}$ percentile means that a QF's generation is expected to exceed the planning criteria 90 percent of the time. Compliance Filing at 11.

energy storage QFs, because information is limited to develop an energy storage benchmark. Compliance Filing at 12. In addition, Idaho Power believes that:

> a baseload resource such as a landfill gas facility or anaerobic digester best approximates the ability of an energy storage PURPA Qualifying Facility ("QF") that can control the quantity and timing of its generation output because these resources are fueled and capable of continuous generation output. The technical and operational aspects of battery storage allow for a similar type of control and continuous output but are also limited by time constraints specific to the purposes that the batteries are intended to serve and the discharge duration of the batteries. Until an actual energy storage QF is operating on the Idaho Power system, or published forced outage rates are readily available, Idaho Power believes the baseload resource is an appropriate benchmark to apply in the ICIRP Methodology.

Response to Production Request No. 27.

Staff agrees with the Company and believes it is reasonable to use Landfill Gas or Digester as the benchmark resource for energy storage QFs until historical data becomes available for energy storage QFs.

Although the Company used an incremental approach by leveraging its current IRP-based method for determining the Capacity Price, Staff believes a more simplified approach could be taken. The Capacity Price can be derived using the avoided annual capacity cost per kilowatt of a SCCT and then spreading the cost over the number of Peak Hours in a year. This would eliminate the need for QF-specific generation profiles and PHCFCs. Staff recommends the Company explore this alternative with Staff prior to submission of the first IRP-based energy storage QF contract.

Updates to Authorized Peak and Premium Peak Hours

The Company proposes to update the Peak Hours and Premium Peak Hours on an annual basis in conjunction with the annual October 15 update to the load and natural gas forecast or when a new IRP is acknowledged. Compliance Filing at 13. Although Staff finds it reasonable for the Company to update these hours to reflect the Company's actual Peak Hours for new or renewal contracts eligible to receive capacity payments, Staff recommends that the Company examine its Peak Hours in the IRP and file an update every two years in the biannual capacity deficiency date filing after IRP acknowledgement.

Staff supports its recommendation for three reasons. First, the Company's Peak Hours will not change dramatically from year-to-year, as stated on Page No. 4 of the Compliance

Filing, therefore, an update every two years is sufficient. Based on the load data from 2017 through 2020, Idaho Power's peak hours occur consistently in the afternoon and evening in July, and in the late afternoon and early evening in August. *See* Response to Staff's Production Request No. 34.

Second, the purpose of the capacity deficiency date filing is to update the avoided cost of capacity that results from changes to the capacity deficiency date and amount of projected deficiency. Because Peak Hours are used in determining the Capacity Price for energy storage QFs, Staff believes it is more appropriate to update all capacity-related information in one case and to avoid concurrent updates for the avoided cost of capacity through two separate cases. In addition, the annual energy Load and Natural Gas Forecast Update that occurs on October 15 is used to determine the avoided cost of energy in the IRP-based method and not the avoided cost of capacity.

Third, because an annual update of Peak Hours in the October 15 filing will affect both SAR-based and IRP-based rates, an additional update to SAR-based rates will need to be published. Updating the Peak Hours every two years and updating published rates for the change in the deficiency date and for Peak Hours, simultaneously, would be more efficient.

Updates to Peak Hours for QFs under Contract

Using updated Peak Hours authorized by the Commission, the Company proposes to annually adjust the Peak Hours used in the calculation of the Capacity Price for QFs eligible to receive capacity payments while under contract. However, Staff believes an annual adjustment is unnecessary.

Staff does not believe it is necessary to update the Peak Hours for energy storage QFs under contract. Because IRP-based contracts are limited to two-year terms, and because Peak Hours are unlikely to substantially change within a two-year period for reasons stated earlier, Staff believes it is unnecessary to update the Peak Hours within existing contracts. The opportunity to change the Peak Hours can occur when a contract is renewed.

18 CFR § 292.304(d)(2) gives QFs the option to provide energy at rates based on utility avoided costs at the time of delivery or to receive rates calculated at the time the obligation is incurred. Staff believes that when the Company enters into a QF contract that falls within the defined capacity deficiency period, adjusting avoided capacity cost rates by adjusting the Peak Hours may not comply with this provision. Staff recommends that when the Company enters

into a QF contract that falls within the defined capacity deficiency period, Peak Hours should remain the same as established at the time of contract or renewal, with no annual updates.

Updates to Generation Profiles and Capacity Price for QFs under Contract

The Company proposes to allow QFs to submit a revised generation profile on an annual basis for QFs under contract. Compliance Filing at 14. Staff finds it reasonable for QFs to be allowed to update their generation profile to further increase a QF's ability to dispatch during Peak Hours and Premium Hours. The Company's proposal allows the QF to update its generation profile as necessary to meet contractual obligations while also meeting QF performance objectives that provide additional value to the Company's system. When a QF chooses to modify its generation profile, a recalculation of rates is necessary.

**SAR-based Peak Hour Capacity Payments**

Staff proposes to separate the avoided cost of energy and the avoided cost of capacity in the SAR model. By separating the two types of avoided cost, the avoided cost of energy would still be adjusted for seasonalization and heavy and light load hours; the avoided cost of capacity would be calculated using the Peak Hours most recently approved by the Commission. Staff proposes that the SAR-based Capacity Price be derived using the avoided annual capacity cost per kilowatt of a Combined Cycle Combustion Turbine natural gas plant and then by spreading the cost over the number of Peak Hours in a year. Staff believes this is mathematically equivalent to the Company's proposal for determining the Capacity Price under the IRP-based method.

Determination of Peak Hours

Staff proposes that only Peak Hours are used in the calculation of the avoided cost of capacity rate and for making capacity payments without any special consideration of Premium Peak Hours. For QFs under the SAR-based method, Staff believes that only paying for capacity during Peak Hours without a Premium, is sufficient to provide incentives for smaller QFs to contribute to the avoidance of future capacity. This will also simplify the rate structure for small QFs and provide more certainty regarding the amount of revenue they will receive. Additionally, Staff believes that the Peak Hours should remain constant throughout the full contract term so that the published rates are known for the full term of a contract at the time of contracting.

Levelization of Avoided Cost Rates

The Commission provided the option of published levelized avoided cost rates to QFs. In Case No. U-1006-292, utilities proposed to eliminate levelized avoided cost rates to address overpayment liability issues, however the Commission determined that there could be negative impacts to PURPA development by eliminating levelized rates for QF projects heavily reliant on financing and was not prepared to eliminate levelization as an option. Order No. 21446 at 11.

Because Staff proposes separate rates for the avoided cost of capacity and the avoided cost of energy, and the latter is applied in every single hour throughout the contract term, while the former is applied during Peak Hours only, Staff believes a single levelized rate over the contract term cannot be implemented. However, if the Commission decides that the option of levelized rates is necessary for energy storage QFs, Staff recommends separately levelizing rates for avoided cost of energy and avoided cost of capacity.

**STAFF RECOMMENDATIONS**

Staff recommends the following for determining capacity payments for energy storage QFs:

1. The Commission approve the Peak Hours for both IRP and SAR-based rates and Premium Peak Hours for IRP-based rates as proposed by the Company;
2. The Company should update the Peak Hours and Premium Peak Hours in the biannual capacity deficiency date filing after acknowledgment of the IRP for authorization by the Commission;
3. The Commission approve the Company's method for determining the Capacity Price under the IRP-based method, but direct the Company to meet with Staff to investigate a simplified method that does not require a generation profile specific to the QF;
4. The Company should establish a 20 percent premium to be paid for energy delivered during Premium Peak Hours under the IRP-based method as proposed by the Company;
5. The Commission allow QFs to update their generation profiles as necessary to meet contract obligations and meet QF performance objectives under the IRP-based method. Changes in the generation profile necessitate a change in the Peak Hour and Premium Peak Hour rates;

6. The Commission order that the Peak Hours established for a QF contract remain constant for the duration of the contract term for both IRP and SAR-based contracts; and
7. Staff will develop and publish SAR-based rates if the Commission approves Staff's proposal for published rates with separate rates for capacity and energy and options for QFs to choose levelized rates that will need to be applied separately.

Respectfully submitted this 29th day of December 2020.

Edward J. Jewell
Deputy Attorney General

i:umisc/comments/ipce20.2ejrfyytnc compliance filing comments

# CERTIFICATE OF SERVICE

I HEREBY CERTIFY THAT I HAVE THIS 29th DAY OF DECEMBER 2020, SERVED THE FOREGOING **COMPLIANCE FILING COMMENTS OF THE COMMISSION STAFF,** IN CASE NO. IPC-E-20-02, BY E-MAILING A COPY THEREOF, TO THE FOLLOWING:

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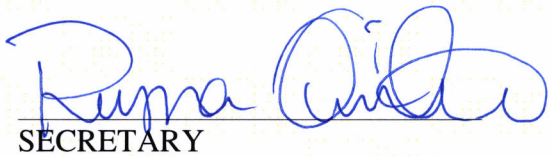

SECRETARY