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IDAHO PUBLIC
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BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF IDAHO POWER COMPANY'S APPLICATION FOR AUTHORITY TO IMPLEMENT CHANGES TO THE COMPENSATION STRUCTURE APPLICABLE TO CUSTOMER ON-SITE GENERATION UNDER SCHEDULES 6, 8, AND 84 AND TO ESTABLISH AN EXPORT CREDIT RATE METHODOLOGY	CASE NO. IPC-E-23-14 VOTE SOLAR'S COMMENTS REGARDING CHANGES TO ON-SITE GENERATOR'S COMPENSATION STRUCTURE AND EXPORT CREDIT RATE

COMES NOW, Vote Solar, by and through counsel, Elam & Burke, P.A., and pursuant to Rules 202 and 203 of the Rules of Procedure of the Idaho Public Utility Commission (IDAPA 31.01.01.202; 31.01.01.203) and, pursuant to that Notice of Modified Procedure, Notice of Virtual Public Workshops, Order No. 35881, filed on August 10, 2023, hereby submits its comments ("Formal Comments") related to changes to on-site solar generation customer's compensation structure and export credit rate as follows:

I. INTRODUCTION

Vote Solar respectfully submits these comments addressing the proposed changes to on-site solar generating customers and the proposed export credit rate ("ECR") suggested by Idaho Power Company ("Idaho Power" or "Company"). Vote Solar is an independent 501(c)(3) non-profit working to repower the United States with clean energy by making solar power more

accessible and affordable through effective policy advocacy. Vote Solar seeks to realize a cleaner and more affordable energy future through the development of solar at every scale, from distributed roof top systems to large utility-scale plants. Vote Solar has over 80,000 members nationally, including members in Idaho Power's service territory. Vote Solar is not a trade group and does not have corporate members. Vote Solar has actively participated in prior proceedings related to the value of distributed solar before the Idaho Public Utilities Commission ("PUC" or "Commission"), including IPC-E-17-13 regarding new schedules for customers with on-site generation and IPC-E-18-15 regarding Idaho Power's Application to study net excess energy from customer on-site generation. Vote Solar appreciates the opportunity to provide comments on the Company's Application in this proceeding and the Company's clear and detailed presentation of their suggested ECR and associated data.

II. PURPOSE OF COMMENTS

The purpose of Vote Solar's comments in this proceeding is to provide a review of the ECR Idaho Power suggests using to value exported on-site generation and to provide recommendations for fairly compensating solar energy exports more generally. This testimony covers seven subjects. First, the history and scope of the current proceeding is described. Second, the testimony provides background information regarding distributed energy resources, including national trends and adoption rates in Idaho. Third, an analysis of the ECR Idaho Power has presented and description of Vote Solar's recommendations for quantifying the value of distributed generation exports. Fourth, considerations related to the design of an ECR rate structure. Fifth, Vote Solar's recommendation for ensuring fair and accurate compensation for exported solar energy. Sixth, transition considerations applicable to current and future solar customers. Seventh, other considerations related to the modification of interconnection rules.

Vote Solar's lack of comments on any specific aspect of Idaho Power's application should not be interpreted as acquiescence or agreement with the Company. Vote Solar reserves the right to express additional opinions, and to amend or supplement the recommendations provided in these initial comments to provide additional rationale for these opinions as new information becomes available through discovery and as this proceeding progresses. Vote Solar also reserves the right to express additional opinions in response to comments provided by other parties to this proceeding.

Vote Solar recommends the following:

1) The Commission should delay a final Order in this proceeding until the conclusion of Idaho Power's ongoing rate case, IPC-E-23-11, which addresses important issues that will materially impact customers with on-site generation alongside any changes determined in this proceeding.
2) Informed by analysis demonstrating that the value of exported energy is comparable to, or higher than, volumetric retail rates that Idaho Power customers pay for electricity, the Commission should retain an equivalent rate for energy consumption and exports for Schedules 6 and 8, and maintain Schedule 84.
3) In the alternative, should the Commission elect to adopt a separate avoided cost-based financial credit rate for energy exported to the grid, the Commission should adopt an Export Credit Rate ("ECR") of 10.04 cents per kilowatt-hour with the following program details:
    a. The Commission should approve a flat annual average ECR as the default offering;
    b. The ECR should be locked-in for individual customers with on-site generation at the rate effective at the time of the customer's application to interconnect their system for a period of at least 10 years;

c. The Commission should approve an optional time-differentiated ECR, available to customers with on-site generation at their discretion;

d. Customers who export energy to the grid should receive a payment for the full value of any unused financial credits remaining at the conclusion of their annual billing cycle;

e. Vote Solar recommends the ECR become effective on January 1, 2024, and that the first annual update take place on June 1, 2025.

4) In the event the Commission elects to adopt an ECR value that is lower than current volumetric retail rates, the Commission should determine a glide path for phasing in the ECR gradually.

5) The Commission should determine that customers who have applied to interconnect a solar installation on or before the date of the Commission's final order in this proceeding may remain on the rate current at the time of their application for a period of 20 years.

6) Vote Solar recommends the Commission approve Idaho Power's modified project eligibility cap for commercial, industrial, and irrigation ("CI&I") customers;

7) Vote Solar recommends the Commission approve Idaho Power's proposed modifications to clarify that energy storage devices do not count towards capacity limits defined in the project eligibility cap;

8) The Commission should instruct Idaho Power to initiate a docket to evaluate program designs that incent customers with on-site generation and storage to discharge batteries during times that are optimal for the grid, concluding with a recommendation for a program applicable to Idaho Power customers.

III. FACTS AND BACKGROUND

1. Prior Proceedings.

This application, IPC-E-23-14 filed by Idaho Power ("Application" or "Docket") has a long important history which informs this current filing. Over the last six years the Commission has conducted a lengthy exploration of issues related to on-site generation and the question of fair compensation for customers who export energy to the grid. Vote Solar does not seek to reiterate the entire history of the Commission's efforts in this area, rather we provide a brief summary of findings from prior proceedings in order to provide context and highlight the questions that remain for the Commission to resolve through this proceeding.

Initial inquiries into the question of fair compensation for customers with on-site generation were focused on evaluating the costs and benefits of distributed energy resources generally, rather than the narrow issue of compensation for exported energy. In 2017, Idaho Power initiated docket IPC-E-17-13 to establish separate schedules for residential and small general service on-site generation customers (Schedules 6 and 8 respectively) based on an assertion that the net metering program was shifting costs from solar customers to customers without solar. On May 9, 2019, the Commission approved Idaho Power's request, however the Commission concluded that analysis demonstrating a cost shift was incomplete (Order No. 34046 at 17.) Instead, the Commission was persuaded that the Company's concern about cost shifting was not uniquely applicable to customers with on-site generation, and that existing rates for a variety of customer classes (including solar and non-solar customers) may not be designed to recover an appropriate share of fixed costs (*Id*., 16 – 17). The Commission directed the Company to initiate a new docket "to comprehensively study the costs and benefits of on-site generation on Idaho Power's system, as well as proper rates and rate design, transitional rates, and related issues of

compensation for net excess energy provided as a resource to the Company" (*Id*., 31). The Commission simultaneously directed the Company to file a study exploring the separate issue of fixed-cost recovery more generally in advance of its next rate case (*Id*.)

On October 19, 2018, Idaho Power petitioned the Commission to open a docket to comprehensively study the costs and benefits of on-site generation on the Company's electric power system, IPC-E-18-15. Numerous parties intervened in this proceeding, including Vote Solar, who had a vested interest in the outcome of IPC-E-18-15. After nearly a year and a half of negotiations, the Company, Staff and certain Parties reached a settlement agreement ("Settlement Agreement") proposing fundamental changes to treatment of exported on-site generation.[1] The PUC's independent review of the proposed Settlement Agreement determined that while parties to the Settlement Agreement were acting in good faith and in accordance with applicable Commission Rules of Procedure, the record available to the Commission did not support approval of the Settlement Agreement as in the public interest (Order No. 35409 at 6). Specifically, the Commission concluded that the Settlement Agreement had effectively bypassed the Commission's previous directive to comprehensively study the costs and benefits of on-site generation on Idaho Power's system, noting that, "somewhere along the way, accomplishing a study was overlooked and only settlement was pursued," and "it is critical for the Commission to have a credible and fair study in front of it before it can make a well-reasoned decision on the Company's net-metering program design" (*Id*.,at 7-9).

The Settlement Agreement was ultimately rejected by the Commission, however IPC-E-18-15 did establish that customers who had already made investments in on-site generation

[1] Docket No. IPC-E-18-15, Motion for Settlement Agreement, October 11, 2019.

"reasonably assumed the net-metering program fundamentals would not change" (*Id*.,at 10). The PUC determined that residential and small general service customers with existing on-site generation would receive legacy treatment and remain on Schedule 6 or 8 as it existed on the date of Order No. 34509. A similar order in a related Docket, IPC-E-20-26 addressed the treatment of commercial, industrial, and irrigation customers on net metering service Schedule 84 and determined they would remain on Schedule 84 as it existed on the date of the PUC's Order No. 34854 for 25 years (Order No. 34854 at 13).

The Commission further directed Idaho Power to complete a "credible and fair study on the costs and benefits of distributed on-site generation to the Company's system" (Order No. 34509 at 9) before introducing any new proposal to change Idaho Power's current net metering program for on-site generators. Specifically, the PUC ordered that (1) the study must use the most current data possible and must be readily available to the public, and in the Commission's decision-making record, (2) the Company must design the study in coordination with the parties and the public, and the Commission will determine the final scope of the study, and (3) the study must be written so it is understandable to an average customer, but its analysis must be able to withstand expert scrutiny (Order No. 34509 at 9).

Docket No. IPC-E-21-21 followed, in which Idaho Power filed a request to initiate the multi-phase study process outlined in Order No. 34509, including a draft scope of the Company's proposed on-site generation study. In Order No. 35284 the Commission approved the Company's proposed study framework, reminding the Company "the study must use the most current data possible, and the data must be readily available to the public and in the Commission's decision-making record" (Order No. 35284 at 9). Notably, Order No. 35284 marked a transition away from the initial question of how to value the costs and benefits of distributed energy resources, which

had been the Commissions' focus for more than four years, towards a narrower evaluation of the specific dollar value of energy exported to the grid (*Id*.,at 13).

In response to Order No. 35284 Idaho Power initiated Docket No. IPC-E-22-22 and filed its Value of Distributed Energy Resources ("VODER") study. Order No. 35631 acknowledged that Idaho Power's VODER study complied with the Commission's directive, clarifying that "our decision is not a determination that a specific method or value within the Study is superior to another" (Order 35631 at 28). The Commission ordered that Idaho Power file a new case requesting implementation of the changes to the structure and design of the net metering program, based on the VODER study. This Application followed.

2. Current On-Site Generation Tariffs.

In 1983, the Company established its net metering program which specified the structure under which customers with on-site generation could off-set their own energy consumption and transfer excess generated electricity to the Company for its use and redistribution. *See generally,* I.P.U.C. Tariff No. 101, Schedule 84 Customer Energy Production Net Metering Service. Under the NEM Program, an on-site generation customer's energy consumption and energy exports are netted on a monthly basis. *Id.* Customers with on-site generation are credited for excess generation exported to the grid on a kilowatt-hour for kilowatt-hour basis, regardless of the customer's respective schedule retail rate.

Under the NEM Program, on-site generation customers have reasonably relied on the applicable program rules and framework to calculate payback periods and the overall economics of on-site generation systems. These customers made investments and financial determinations based on the rules, information, and requirements known to them under the Company's NEM Program structure. Practically, this means that when considering system configuration and

evaluating the financial impact of installing solar, customers consider their monthly data and consumption. Prior to Order No. 35409, although customers were aware that rates for consumption could change pursuant to a general rate case, nothing indicated to these customers that the rate for exported energy would be decoupled from the rates for consumption or that a separate export credit rate would be established and imposed on them. Based on the reasonable expectations of on-site generation customers at the time, the Commission granted legacy treatment to Schedule 6 and 8 customers who applied to interconnect to Idaho Power's system as of December 20, 2019 (as well as those who had made a binding financial agreement to install solar and proceed to interconnect their system within one year) and to Schedule 84 customers as of December 1, 2020.

Over the subsequent four years, Idaho Power customers have continued to invest in on-site generation resources. There are now approximately 3,700 residential customers, 13 small general service customers, and 8 commercial, industrial, and irrigation customers who are non-legacy on-site generation customers (Application at 13-15). Vote Solar anticipates that the PUC will evaluate transition options and determine appropriate treatment of these non-legacy customers based on its determination of an ECR in this proceeding.

3. <u>Idaho Power's Current Application Requests.</u>

In this Application, Idaho Power both suggests a value for the ECR and makes several recommended changes to compensation for customers with on-site generation. Specifically, Idaho Power proposes:

(1) real-time net billing with a suggested avoided cost-based ECR value,

(2) a methodology for determining annual updates to the ECR,

(3) a modified project eligibility cap for ("CI&I") customers,

(4) related changes to the accounting for and transferability of excess net energy financial

credits, and

(5) updated tariff schedules.

As discussed more thoroughly below, Vote Solar has serious concerns with some of these requested changes, especially as it relates to Idaho Power's suggested ECR which is substantially lower than the current compensation rate for existing on-site generation customers. Existing on-site generation customers receive a per-kilowatt-hour credit based on the retail rate applicable under that customer's service schedule. If these changes are implemented as proposed, Idaho Power customers will be compensated for exported energy at a rate that is below the actual value of energy they provide to the grid, and they will have a lessened ability to offset their utility bills through installation of on-site generation. The financial value of an investment in on-site solar generation will be depressed, resulting in fewer solar installations and a corresponding reduction in jobs and economic benefits associated with the distributed solar industry in the state. Finally, if the value of the ECR does not fairly capture the value of energy exported to the grid, the market for distributed energy resources in Idaho will remain nascent and the benefits of distributed energy resources – including economic benefits, improved flexibility and resiliency, and environmental benefits – will not be realized.

IV. DISTRIBUTED ENERGY RESOURCES

1. Distributed generation resources contribute to meeting current and future energy needs as well as Idaho Power's clean energy goals.

Declines in the cost of solar equipment have driven significant customer interest in installing on-site solar. Homes and businesses typically install on-site solar panels in order to supply a portion of their own energy needs at their home or business, offsetting energy deliveries from the utility. Most customers are motivated to adopt distributed solar in order to save money on their utility bill, provide back-up power for themselves in the event of a grid outage, or reduce

their environmental impact. A typical home or business with rooftop solar panels consumes a portion of the electricity generated on-site. Solar generation that exceeds the instantaneous energy needs of the host customer is exported to the grid, where it goes to serve nearby homes and businesses. The excess solar electricity exported to the grid helps to meet a portion of Idaho Power's customers' energy needs and supplants electricity that the utility would otherwise have had to supply. Since on-site solar generation produces energy locally, exported solar energy helps to avoid both the fuel and power plant costs associated with generating electricity as well as the costs of transmitting electricity from distant power plants to customers' homes and businesses. In this way, on-site solar generation provides benefits to individual customers who install solar panels while also supporting the operation of the overall grid.

Idaho Power continues to invest in utility-scale solar resources which provide similar renewable electricity benefits as distributed resources. However, smaller, locally-sited solar installations offer additional benefits to customers and the grid. When families or businesses invest their private capital in an on-site solar installation, they produce electricity without requiring any upfront capital expenditures from Idaho Power. This helps to reduce the total amount of capital Idaho Power must spend to meet its customers' energy needs, reducing the utility's overall revenue requirement. Unlike a utility-owned generation resource, Idaho Power customers are not responsible for any operations and maintenance costs associated with on-site generation resources. Distributed energy resources also provide homes and businesses in Idaho Power's service territory with the opportunity to invest in solutions that help to meet the utility's growing future energy needs and be a part of the transition to a cleaner and more flexibility grid.

It is widely acknowledged that substantial investment to expand the transmission network in the U.S. is necessary to reliably meet the future energy needs of communities. The U.S.

Department of Energy has identified the high costs and long wait times to build transmission projects and complete interconnections as a significant challenge to meeting future clean energy goals.[2] Small on-site solar projects that connect to the distribution grid have lower interconnection costs compared to utility-scale projects that are interconnected to transmission lines, and any infrastructure upgrades required to interconnect safely are typically paid by the on-site generation customer, not Idaho Power customers generally. Distributed on-site solar projects can be installed and interconnected incrementally and much more quickly than large utility-scale projects, which provides Idaho Power with additional flexibility to meet its customers' energy needs in a timely and affordable fashion. Finally, on-site generation is typically built on rooftops or sited on land that is already developed or otherwise impacted, including brownfields or parking structures, which preserves undeveloped land for conservation, agriculture, or recreation purposes.

2. <u>The Commission has recognized the benefits of distributed energy resources.</u>

Throughout prior proceedings, the Commission has expressed an understanding of the substantial value of the benefits and services that distributed energy resources provide, as well as an interest in maximizing the benefits that distributed energy resources offer to the system as a whole. The Commission's 2017 decision to defer material changes to the compensation structure for customers with on-site generation concluded that customers with on-site generation provide substantial value by the nature of their ability to export energy to the grid, and are likely less expensive to serve when compared to customers who do not offset a portion of their energy usage with solar (Order No. 34046 at 22-23). The Commission noted that as use of on-site generation

[2] U.S. Department of Energy, Office of Energy Efficiency & Renewable Energy, "DOE Launches New Initiative to Improve Clean Energy Interconnection," October 17, 2022, a*vailable at: https://www.energy.gov/eere/wind/articles/doe-launches-new-initiative-improve-clean-energy-interconnection.*

continues to grow, it "may someday become a critical resource for the Company," and that "the benefits that on-site generation provide to the Company's infrastructure and resource allocation, once quantified, may well prove to outpace any alleged costs, increases in fixed-cost responsibility or decreases in net excess energy compensation credit" (*Id*., at 18-19). The Commission noted that it was important to study and understand the value of distributed energy resources because "anticipated growth makes a thorough analysis as to the costs and benefits of on-site generation all the more important" and the Commission wished to "promote creativity in solutions related to this unique, important class of customer" (*Id*., at 22-23 and 18).

3. Rooftop solar adoption remains relatively low in Idaho.

In the six years since the Commission's investigation of on-site generation began, the distributed energy resource technologies available to customers have evolved. Distributed solar paired with smart inverters or storage can be used as a grid asset by providing ancillary services like frequency regulation on the distribution system. Pairing distributed solar with storage amplifies the benefits of distributed solar resources by storing energy produced when the sun is shining for use later in the evening, which helps to further reduce the total system peak load Idaho Power must plan to serve. Increasingly, utilities are working with their customers to leverage the benefits of distributed solar and storage. By aggregating customer-sited resources, utilities can dispatch fleets of distributed solar and storage resources as a "Virtual Power Plant" that provides flexible and quickly dispatchable energy to the grid.

Although the amount of on-site solar has been growing in Idaho, the market for both distributed and utility-scale solar is still nascent in Idaho. As of August 2023, Idaho Power reported that over 16,500 customers have installed on-site solar generation, with a total capacity of 153

MW.[3] This represents 2.6% of Idaho Power's approximately 620,000 customers.[4] As of January 2022, approximately 8% of U.S. homeowners and 14% of homeowners in the Mountain West reported having installed solar panels, an adoption rate approximately 3 times and 5 times higher than the adoption in Idaho, respectively.[5] Collectively, the energy exported by distributed solar represented less than 1% of Idaho Power's total annual retail sales in 2022.[6]

At the same time, Idaho Power is also investing in large-scale solar resources. Idaho Power recently completed the 120 MW Jackpot Solar installation near Twin Falls, and currently contracts to purchase energy from 21 solar projects in Idaho and Oregon with a combined capacity of 476 MW.[7] Accounting for both utility-scale and distributed solar generation, the state of Idaho ranks 28th for installed solar capacity nationwide,[8] and solar (including utility-scale and distributed generation) accounts for approximately 4% of the state's generation.[9]

V. Analysis of the Proposed Export Credit Rate

As previously noted, the Commission has determined that the scope of this docket should be limited to the appropriate compensation for exported energy from on-site generation. While

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[3] Idaho Power, "Integrated Resource Plan," September 2023. *Available at: https://docs.idahopower.com/pdfs/AboutUs/PlanningForFuture/irp/2023/2023-irp-final.pdf, page 52.*

[4] Idaho Power, "Delivering Power," *available at: https://www.idahopower.com/energy-environment/energy/delivering-power/.*

[5] Pew Research Center, "Home solar panel adoption continues to rise in the U.S.", October 14 2022. *Available at: https://www.pewresearch.org/short-reads/2022/10/14/home-solar-panel-adoption-continues-to-rise-in-the-u-s/.*

[6] Distributed solar customers exported 92,076 MWh of electricity in 2022 and Idaho Power reported annual retail sales of 15,882,445 MWh in 2022.

[7] Idaho Power, "Idaho Power Solar Contracts," *available at: https://www.idahopower.com/energy-environment/energy/energy-sources/solar/.*

[8] Solar Energy Industries Association, "State Solar Spotlight: Idaho," *available at: https://www.seia.org/sites/default/files/2023-09/Idaho.pdf.*

[9] U.S. Energy Information Administration, "Idaho State Profile and Energy Estimates," *available at: https://www.eia.gov/state/analysis.php?sid=ID#37.*

additional system benefits result from on-site generation that is both produced and consumed by a customer behind their meter, these benefits are not addressed in Vote Solar's comments or analysis of an ECR. With this scope in mind, Vote Solar conducted analysis of the ECR presented by Idaho Power in its Application. The analysis results specific to each component are described in detail below, and were used to inform Vote Solar's proposal for just and reasonable compensation for customers with on-site generation.

1. Avoided Energy Costs.

Energy exported to the grid by customers with on-site generation displaces energy that Idaho Power would otherwise have generated or purchased on the market. When energy is exported to the grid by customers with on-site generation, customer demand for electricity is reduced and the utility is able to dispatch its system to reduce deliveries from the most expensive resource currently supplying energy to the grid. The value of energy exported to the grid is thus equal to the value of energy produced by the most expensive resource being used to meet energy demand in that moment. Idaho Power proposes to value the avoided cost of energy using twelve months of Energy Imbalance Market ("EIM") Load Aggregation Point ("LAP") prices, weighted relative to the amount of on-site customer exports in each hour over the twelve month period. Idaho Power's calculations result in an avoided energy cost value of 8.59 cents per kilowatt-hour during on-peak hours, 4.91 cents per kilowatt-hour during off-peak hours, or 5.16 cents per kilowatt-hour averaged across each hour of the year. Vote Solar recommends two changes to Idaho Power's calculation of avoided energy costs. First, we recommend updating line loss values to reflect marginal line losses. Second, we recommend using an integration cost that is more reflective of Idaho Power's actual system resource mix, which will soon include 120 MW of battery storage. These two changes result in an avoided energy cost of 9.24 cents per kWh on-

peak, 5.36 cents per kWh off-peak, or an annual average of 5.62 cents per kWh, as illustrated in Table 1. It is worth noting that this evaluation of avoided energy costs relies on market prices for electricity during 2022, when prices were unusually elevated. The market cost of electricity is

Table 1. Comparison of Idaho Power and Vote Solar Avoided Energy

		Idaho Power	Vote Solar
	Season	**ECR**	
Avoided Energy	On-Peak	8.59 ¢	9.24 ¢
Including integration and losses	Off-Peak	4.91 ¢	5.36 ¢
	*Annual**	*5.16 ¢*	5.62 ¢

volatile and influenced by a variety of external factors including fuel prices, extreme weather, and global events. To address this issue, the revised VODER study presented by Idaho Power recommended using a three-year historical rolling average of market prices.[10] Vote Solar also supports this approach as it would help to mitigate severe price swings in the avoided energy value from year to year and provide improved predictability and stability for customers.

Avoided Line Losses

On-site generation produces energy close to customer load, which avoids the line losses that occur when energy is transmitted long distances through transmission and distribution wires. Idaho Power's line loss calculation uses an average loss factor of 1.044 during off-peak periods and 1.05 during on-peak periods. However, line losses increase exponentially as system load increases, and so the line losses associated with marginal additions of load are substantially higher than average line losses. As previously discussed, energy exported from on-site solar generation reduces utility costs on the margin. Other elements of the ECR are appropriately based on marginal

[10] IPC-E-22-22, 2022 VODER Study, October 2022, Section 4.1.1.3, *available at:* https://puc.idaho.gov/Fileroom/PublicFiles/ELEC/IPC/IPCE2222/CaseFiles/20221026_Voder%20Study_Clean.pdf.

costs, including Locational Marginal Prices from the EIM, the marginal generation capacity resource, and distribution costs avoided by a small reduction to load. However, Idaho Power's suggested ECR includes average line losses, which do not reflect the actual line losses avoided by a marginal reduction in load.

Upon review of Idaho Power's VODER study in 2022, the Commission's Order No. 35631 noted this issue as worthy of further exploration and stated that "additional discussion between Staff, Intervenors, and the Company on the topic of avoided line losses, during the implementation case, may be fruitful and potentially resolve any remaining issues or confusion surrounding the Company's calculation of avoided line losses" (Order No. 35631 at 29). Marginal line losses are typically at least twice as high as average system losses, and Vote Solar's recommended avoided energy cost accounts for the avoidance of marginal line losses.[11] Marginal line losses have also been applied to the avoided generation capacity and avoided distribution and transmission capacity calculations, discussed below.

Table 2. Marginal Line Losses

Export Credit Component		Loss Factor
Energy	On-peak	1.100
	Off-peak	1.088
Generation	Blended on-peak / off-peak	1.093
Transmission	Blended on-peak / off-peak	1.093
Distribution	Primary distribution system	1.034

Integration Costs

Idaho Power's estimate of solar integration costs is based on a 2020 Variable Energy

[11] Regulatory Assistance Project, "Valuing the contribution of energy efficiency to avoided marginal line losses and reserve requirements." *Available at:* https://www.raponline.org/wp-content/uploads/2016/05/rap-lazar-eeandlinelosses-2011-08-17.pdf, page 5.

Resources ("VER") Integration Study conducted by E3. The cost of integrating incremental variable energy resources depends on the mix of existing system resources, and the extent to which existing resources can respond quickly and flexibly in response to variation in output from resources like wind or solar. The VER Integration Study evaluated the cost to integrate incremental variable energy resource additions under 11 different cases (Direct testimony of Jared Ellsworth at Exhibit 5.) Idaho Power's recommended integration cost is based on Case 1, which accounts for an addition of 251 MW of solar and results in an integration cost of $2.93 per megawatt-hour. However, the preferred portfolio identified in Idaho Power's 2021 Integrated Resource Plan Preferred Portfolio calls for the addition of 120 MW of solar and 115 MW of storage in 2023, and an additional 300 MW of solar and 105 MW of storage in 2025.[12] Idaho Power announced plans to complete the state's first large-scale battery storage installation, a 120 MW project, in 2023.[13] Idaho Power's actual resource portfolio is better reflected by Case 9 in the VER Integration Study, which assumes the addition of 251 MW of solar and 200 MW of storage. Energy storage helps to reduce the integration costs of variable energy resources because it can store excess energy when solar output is high and discharge energy when solar output falls, and respond rapidly to shifts in solar output. Battery storage helps to smooth the variability of output from resources like solar, reducing integration costs. Vote Solar's updated integration costs reflect Case 9, which is a better match for Idaho Power's system, resulting in a value of $0.64 per megawatt-hour.

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[12] Idaho Power, "Integrated Resource Plan," December 2021. Available at: *https://docs.idahopower.com/pdfs/AboutUs/PlanningforFuture/irp/2021/2021%20IRP_WEB.pdf, Table 11.2.*

[13] Idaho Power, "Idaho Power announces plans for state's first large-scale battery storage projects," May 2 2022. *Available at: https://www.idahopower.com/news/idaho-power-announces-plans-for-states-first-large-scale-battery-storage-projects/.*

2. Avoided Generation Capacity Costs.

When energy is exported by on-site generation resources it helps to reduce total system load. Reductions in system energy needs, particularly reductions to energy demand during peak times, help to reduce or defer the need to build new generation resources to meet growth in customer load. Avoided generation capacity costs are calculated based on the cost of the generation resource that is available to be displaced and the capacity value of on-site solar generation, which is a measure of a resources' ability to contribute to meeting energy needs throughout the year. Vote Solar recommends three changes to Idaho Power's methodology for calculating avoided generation capacity costs. First, we provide an updated value for avoided generation capacity costs that more accurately reflects the cost of resources that Idaho Power plans to build and that could actually be deferred by on-site generation. Second, we recommend an alternative methodology for calculating capacity value, the capacity factor method. This method is both sufficiently accurate to estimate the capacity value from on-site generation and much simpler and more transparent. Third, we included a line loss gross up. When energy is generated close to customer load, a proportionally higher amount of energy generation that would otherwise have occurred at a centralized power plant is avoided because of the line losses that accrue during delivery to a customer. These changes result in an annual average avoided generation capacity value of 3.54

Table 3. Comparison of Idaho Power and Vote Solar Avoided Generation Cost

		Idaho Power	Vote Solar
	Season	ECR	
Avoided Generation Capacity Cost	On-Peak	11.59 ¢	52.16 ¢
	Off-Peak	0.00 ¢	0.00 ¢
	Annual	0.79 ¢	3.54 ¢

cents per kWh, or 52.16 cents per kWh in the on-peak period, as illustrated in Table 3.

Generation Capacity Costs

Idaho Power's proposed generation capacity cost is $106.19 per kW-year, based on the capital cost of a simple cycle combustion turbine from the Company's 2021 Integrated Resource Plan. However, the Company's 2021 Preferred Portfolio does not include the addition of new gas resources. In Order No. 35631, the Commission provided additional guidance regarding the importance of using avoided generation costs that accurately reflect the actual costs of generation resources that would otherwise be built, and stated, "we note the importance of an avoided generation capacity value that accurately considers capacity costs actually avoided" (Order No. 35631 at 29). It is more appropriate to base avoided generation capacity costs on the capital costs of battery storage, which results in a generation capacity cost of $192 per kW-year.[14]

Capacity Value

Idaho Power's ECR calculation includes a capacity value that is determined using a 3 year rolling average of ELCC calculations for energy exported from on-site generation. The ELCC values provided by Idaho Power vary significantly from year to year: 7.5% in 2020, 12.42% in 2021, and 6.36% in 2022. It is not clear why the ELCC for energy exported from on-site solar would vary so significantly from year to year, and it is particularly surprising that the ELCC increased substantially in 2021 and then declined in 2022. Calculating an ELCC is computationally intensive because doing so requires a substantial amount of data and a probabilistic modeling approach. This makes ELCC calculations less transparent because the assumptions and calculations are challenging for stakeholders to review.

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[14] Idaho Power, "Integrated Resource Plan," December 2021, Appendix C, *available at: https://docs.idahopower.com/pdfs/AboutUs/PlanningforFuture/irp/2021/2021_IRP_AppC_Technical%20Report_WEB.pdf, page 47.*

There are other methods for determining a resource's capacity value that are much simpler and still sufficiently accurate. During the Commission's review of the VODER study framework, and of the study itself, it was apparent that the Commission values and prioritizes transparency. In Order No. 34509, the Commission called for not only a "fair and credible" analysis, but an analysis that relies on data that is "readily available to the public" and is "understandable to the average customer" (Order No. 34509 at 9). Idaho Power identifies similar objectives, including the goals to "implement a repeatable method for updating the Export Credit Rate" and "balance accuracy with customer understandability" (Application at 16).

With regard for these goals, Vote Solar recommends use of the capacity factor method as an alternative to the ELCC. The capacity factor method has been shown to reasonably approximate an ELCC,[15] and the Utah Public Service Commission has approved this methodology for purposes of calculating the Export Credit Rate applicable to utility customers in Utah.[16] The capacity factor method evaluates the actual contribution energy exported from on-site generation provides to meet energy needs during high load hours, and it is easy to update and simple for stakeholders to review. Vote Solar used the capacity factor method to calculate the capacity value of solar during the top 10% of load hours, which results in a capacity value of 12.68%. This capacity value is also used to calculate avoided distribution and transmission capacity.

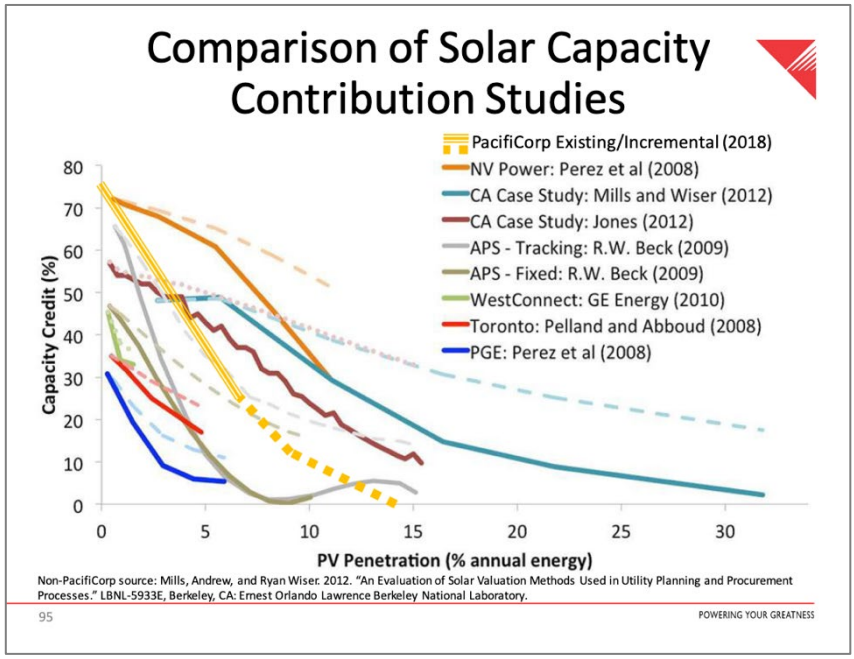
The capacity factor method results are more aligned with other capacity value measurements for solar on Idaho Power's system and in comparable regions, compared to the 3

[15] National Renewable Energy Lab, "A comparison and case study of capacity credit algorithms for intermittent generators," March 1 1997, *available at:* *https://www.osti.gov/servlets/purl/465669*.

[16] Utah Public Service Commission Docket No. 17-035-61, Order issued October 30 2020, *available at:* *https://pscdocs.utah.gov/electric/17docs/1703561/316191170356 1o10-30-2020.pdf, page 15.*

year rolling ELCC results. The capacity value of solar resources generally declines as additional solar resources are added to the grid. The output from solar resources is highly correlated, and so new solar resources added to the grid have a generation profile that is very similar to that of existing solar resources. As solar penetration increases, the relative value of each new, incremental solar resource declines. Figure 1, a review of capacity contribution studies from across the West, illustrates this phenomenon. As solar energy makes up a larger percentage of annual energy usage, the capacity credit of solar resources declines. As previously discussed, output from Idaho Power's solar generation resources currently amount to less than 5% of retail sales.

Figure 1. Comparison of Solar Capacity Contribution Studies.[17]



Idaho Power's 2021 IRP included an evaluation of the ELCC of existing and future solar resources, as shown in Figure 2. This analysis found that existing solar resources on Idaho Power's system have an ELCC of

[17] PacifiCorp, "2019 Integrated Resource Plan (IRP) Public Input Meeting," September 27-28 2018, *available at:* https://www.pacificorp.com/content/dam/pcorp/documents/en/pacificorp/energy/integrated-resource-plan/2019-irp/2019-irp-presentations-and-schedule/2018-09-27-28%20-%20General%20Public%20Meeting.pdf, slide 95.

62%. The newly installed Jackpot Solar project has an ELCC of 34%, and solar PV paired with 4 hour storage has an ELCC of 97%, reflecting the high value solar paired with storage brings to the system.

Figure 2. ELCC of Existing and Future Resources from Idaho Power 2021 IRP.[18]

ELCC of Existing Resources		ELCC of Future Resources	
Resource	Average	Resource	Average
PURPA Solar	62.3%	Solar PV	10.2%
Oregon Solar	62.3%	Jackpot Solar	34.0%
PUPRA Wind	15.0%	Wind	11.2%
Elkhorn Wind	15.0%	4-Hour Storage	87.5%
Current Demand Response	17.3%	8-Hour Storage	97.0%
		Solar PV + 4-Hour Storage	97.0%
		Proposed Demand Response	58.5%
		Incremental Demand Response	36.0%

In general, on-site solar generation tends to have a somewhat lower capacity value than utility-scale projects. Customers with on-site generation often install solar panels fixed to their rooftop, rather than using single-axis or dual-axis tracking technologies. Additionally, utility-scale solar projects can be optimally south-facing, while a home or business with rooftop solar is constrained by the existing orientation of their building. While on-site generation may produce fewer kilowatt-hours per kilowatt of capacity over the course of a year relative to utility-scale solar, distributed solar does have the advantage of being geographically dispersed. When a cloud passes by, the output from a single utility-scale solar project will temporarily fall, but the impact on many smaller solar installations spread across the state will not be noticeable. Overall, a capacity value of 12.68% as determined using the capacity factor method is much more aligned with the capacity values of other solar resources on Idaho Power's system.

[18] Idaho Power, "Integrated Resource Plan," December 2021. Page 99.

It is worth noting that this analysis does not account for the value customers who pair their on-site solar installations with battery storage could provide. Except for the approximately 1,000 customers who have opted-into the Schedule 5 Time of Use rate, residential and small general service customers do not currently have a strong incentive to dispatch their energy storage to the grid.[19] As a result, it is likely that there is potential for customers with on-site solar and storage to improve the capacity value of their exports to the utility if they were sufficiently motivated to do so. As discussed later in Section VII, Vote Solar recommends the Commission explore opportunities to better leverage customer-sited storage for the benefit of the grid.

3. Deferred Transmission & Distribution Capacity Costs.

Idaho Power's ECR includes an avoided distribution cost of 0.246 cents per kWh in the on-peak period, or 0.17 cents per kWh averaged annually. Idaho Power does not recommend a value for avoided transmission costs. Energy exported from on-site solar is used to serve neighboring customer loads, displacing energy that must flow through the transmission and distribution network to reach customers. On-site solar generation, along with customer efforts to improve energy efficiency, reduce customer energy demand and free up space on transmission lines that can instead be used to serve growing customer load, allowing the utility to defer future investments in new transmission resources. Like avoided generation capacity, avoided transmission capacity is calculated by multiplying the cost of the resource that can be avoided by the capacity value of on-site generation, also accounting for avoided line losses. I recommend an avoided transmission cost value that is based on the current FERC-approved transmission rate for

[19] Exhibit A – Consolidated data requests, Idaho Power Response to Vote Solar's Request for Production No. 10.

Idaho Power, which is $31.42/kW-year.[20] This methodology is also used to calculate avoided transmission costs associated with exported energy in Utah.[21] As shown in Table 4, this results in an avoided transmission cost of 7.39 cents per kWh during the on-peak period or 0.50 cents per kWh annually.

Fuel cost risk

Idaho Power addresses the topic of fuel price risk through an addition to the October 2022 version of their VODER study.[22] In this section, Idaho Power argues that exports from on-site generation do not provide a fuel price benefit because on-site generation exports are non firm and

Table 4. Comparison of Idaho Power and Vote Solar Avoided Distribution & Transmission Cost

		Idaho Power	Vote Solar
	Season	**ECR**	
Avoided Distribution Capacity Cost	On-Peak	11.59 ¢	52.16 ¢
	Off-Peak	0.00 ¢	0.00 ¢
	Annual	0.79 ¢	3.54 ¢
Avoided Transmission Capacity Cost	On-Peak	0.25 ¢	0.25 ¢
	Off-Peak	0.00 ¢	0.00 ¢
	Annual	0.02 ¢	0.02 ¢

because the profile of energy exports does not match the 16-hour profile of the natural gas hedges that Idaho Power purchases. Nonetheless, on-site solar generation exports reduce Idaho Power's customers' exposure to fuel price risk in two ways. First, gas prices are volatile and highly variable throughout the year. When energy exported from on-site solar displaces a marginal gas-fired power plant, customers benefit from reduced dependence on gas prices and lower exposure to gas

[20] Idaho Power Company's 2022 Annual FERC Form 1 Report, "Federal Regulatory Matters - Open Access Transmission Tariff Rates."

[21] Utah Public Service Commission, Docket No. 17-035-61, Order issued October 30, 2022, *available at:* https://pscdocs.utah.gov/electric/17docs/1703561/316191170356 1o10-30-2020.pdf, pages 16 – 17.

[22] IPC-E-22-22, 2022 VODER Study, October 2022, Section 4.1.3.

volatility. Second, the energy exported by on-site generation helps to lower demand for energy from Idaho Power's customers. When demand for energy is reduced, costs fall, and Idaho Power is able to purchase energy at lower prices than would otherwise have been available.

During review of the Company's VODER study, Boise City and Idaho Conservation League referenced studies of the value of avoided fuel price risk quantified by several studies, including a Utah study that found a fuel price hedge value of 2.6 cents per kWh, an Arkansas study that found a value of 2.86 cents per kWh, and a Maine study that found a value of 3.7 cents per kWh.[23] The Oregon Public Service Commission undertook a lengthy proceeding focused on quantifying the costs and benefits of distributed solar energy and developing a utility-specific "resource value of solar." The Oregon PSC concluded that, "we consider the hedge value to be logical and real, though extremely difficult to quantify."[24] The Oregon PSC ultimately adopted a methodology based on an E3 evaluation of markets rich in hydro generation, which found the forward price delivery risk premium to be equal to 5% of avoided energy costs.[25] Vote Solar recommends the Commission acknowledge that on-site generation does provide a hedge benefit and approve an avoided fuel cost risk value of 0.462 cents per kWh during on-peak periods, 0.268

[23] IPC-E-22-22, City of Boise's Initial Comments, September 21 2022, paragraph 3.

[24] Public Utility Commission of Oregon, UM1910, Jan 22 2019, *available at: https://apps.puc.state.or.us/orders/2019ords/19-021.pdf,* page 21.

[25] DeBenedictis A., Miller, D., et al, "How Big is the Risk Premium in an Electricity Forward Price? Evidence from the Pacific Northwest," The Electricity Journal Volume 24, Issue 3 April 2011, pages 72 – 76, *available at: https://www.sciencedirect.com/science/article/pii/S1040619011000601*.

cents per kWh during off-peak periods, and 0.281 cents per kWh averaged annually, as shown in Table 5.

4. Environmental & social costs and benefits.

The health, social, and environmental benefits of replacing polluting energy resources with clean energy alternatives are expansive and include reductions in air and water pollution,

Table 5. Avoided Fuel Price Risk

	Season	Vote Solar
Fuel Price Hedge Value	On-Peak	0.462 ¢
	Off-Peak	0.268 ¢
	Annual	0.281 ¢

corresponding positive impacts on human health and well-being, and reductions in carbon emissions that contribute to climate change. The Environmental Protection Agency currently recognizes the net costs to society of greenhouse gas emissions, or the "social cost of carbon" to equal $51 per metric ton of carbon emitted.[26] Idaho Power uses this Federal social cost of carbon to develop the "high carbon cost" forecast used in the 2021 Integrated Resource Plan, and also evaluates a medium "Planning Case" price forecast that assumes a price of $21.10 per metric ton of carbon emitted beginning in 2023.[27] Based on Idaho Power's current energy emissions intensity, these mid- and high- estimates of costs translate to a societal benefit of $8.94 and $21.6 per MWh, or 0.89 cents per kilowatt-hour and 2.16 cents per kilowatt-hour, respectively.[28] The solar industry

[26] Harvard Law School Environmental & Energy Law Program, "The Social Cost of Greenhouse Gases (Carbon Dioxide, Methan, Nitrous Oxide," *available at:* https://eelp.law.harvard.edu/2017/09/the-social-cost-of-carbon/.

[27] Idaho Power 2021 Integrated Resource Plan, December 2021, pages 126 – 127.
[28] Idaho Power, "Our Path Away from Coal," *available at:* https://www.idahopower.com/energy-environment/energy/energy-sources/our-path-away-from-coal/.

also offers substantial benefits to the state of Idaho in the forms of jobs and economic development. Installation of both utility-scale and distributed solar projects is one of the fastest growing industries in the U.S., and Idaho is home to 833 solar workers and experienced 8% job growth in 2022.[29]

The Commission's Order No. 35284 approving Idaho Power's study framework addressed environmental benefits broadly. The Commission determined that "we have not been granted the legislative or executive authority to monetize many of the environmental attributes addressed by Parties and customers," and so the study scope should be limited to "an evaluation of all benefits and costs that are quantifiable, measurable, and avoided costs that affect rates" (Decision 35284 at 12, 27). The Commission's order also acknowledged that "there are environmental considerations that are quantifiable and will be included in an ultimate determination of fair, just and reasonable terms for the Company's on-site generation program" (Order No. 35284 at 12). As the Commission has recognized, the substantial environmental, health, and social benefits from on-site generation are worth considering when making decisions about the design and implementation of the rate schedule appliable to on-site generation customers, even where those benefits are difficult to quantify or accrue to Idahoans generally rather than Idaho Power customers specifically. Important rate design questions like treatment of non-legacy customers, frequency of updates to rates, and use of a transition period will have material impacts on customers and the future adoption of distributed energy resources. The broad environmental, health, social, and economic benefits justify careful consideration of these rate design considerations such that the Commission can determine a compensation structure for on-site generation that supports the continued growth of

[29] IREC, "National Solar Jobs Census 2022," July 2023, *available at: https://irecusa.org/census-solar-jobs-by-state/.*

this beneficial technology by providing stability for customers and the market.

When approving Idaho Power's VODER study, the Commission cited three specific categories of environmental costs that Staff had identified as costs that "could be avoided pursuant to the Commission's directive in Order No. 35284 to evaluate all quantifiable, and measurable environmental costs that affect rates" (Order No. 35631 at 12), including Renewable Energy Credits ("RECs"), carbon taxes, and the fulfillment of a Renewable Portfolio Standard ("RPS"). I address each of these categories in detail below and quantify specific costs for the categories of RECs and regulatory compliance.

Renewable Energy Credits

Renewable Energy Credits are market instruments that represent the property rights to the renewable attributes associated with renewable electricity. One REC is equivalent to the renewable attributes from one MWh of generation. Idaho Power's revised October VODER study determines that costs associated with RECs should not be included in the ECR because Idaho Power is not required to purchase RECs.[30] Idaho Power also notes that crediting customers for RECs would be complex, and that there are legal implications associated with the transfer of RECs from a customer to the utility. Although Idaho Power does not have a requirement to comply with a Renewable Portfolio Standard, Idaho Power does have a goal to provide 100% clean power to its customers by 2045. Without the clean power provided by on-site generation customers, Idaho Power would have to build or purchase an equivalent amount of clean power (or purchase an equivalent amount of RECs) to meet its goal. Whether or not small customers are sophisticated enough or financially motivated to transfer their RECs, the on-site generation they export to the grid helps to reduce the

[30] IPC-E-22-22, 2022 VODER Study, October 2022, Section 4.5.1, *available at:* https://puc.idaho.gov/Fileroom/PublicFiles/ELEC/IPC/IPCE2222/CaseFiles/20221026_Voder%20Study_Clean.pdf.

cost of achieving Idaho Power's 100% clean energy goal. Larger customers with on-site generation may be willing to transfer RECs to Idaho Power given sufficient financial motivation, and in fact some customers already transact in RECs with Idaho Power through the Green Power Prudency Program. The value of RECs purchased to meet customer needs through this program was $7.10 per MWh in 2022, or 0.07 cents per kilowatt-hour[31]

Carbon Taxes & Regulation

A carbon tax represents a fixed cost associated with emitting carbon dioxide, and the purpose of a carbon tax is to incorporate negative externalities associated with carbon emissions in order to incentivize market-driven carbon emissions reductions. An alternative regulatory approach to reduce carbon emissions is to require emitters of carbon dioxide to achieve a specified emissions reduction or install pollution-control technology. In this case, the cost of regulatory compliance represents the cost of actions taken to comply with regulations.

Idaho Power is not currently subject to a carbon tax or other regulatory cost of carbon. However, the E.P.A. has proposed new carbon pollution standards for coal and natural gas fired power plants that are likely to have cost implications for utilities, including Idaho Power.[32] The proposed standards establish emission guidelines that limit carbon pollution from existing fossil fuel generating resources beginning in 2030.[33] To comply with these standards, existing power

[31] Exhibit A – Consolidated data requests, CEO First Production Request to Idaho Power Company

[32] U.S. Environmental Protection Agency, "EPA Proposes New Carbon Pollution Standards for Fossil Fuel-Fired Power Plants to Tackle the Climate Crisis and Protect Public Health," May 11, 2023. *Available at:* *https://www.epa.gov/newsreleases/epa-proposes-new-carbon-pollution-standards-fossil-fuel-fired-power-plants-tackle*

[33] U.S. Environmental Production Agency Fact Sheet: Greenhouse Gas Standards and Guidelines for Fossil Fuel Fired Power Plants Proposed Rule. *Available at: https://www.epa.gov/system/files/documents/2023-05/FS-OVERVIEW-GHG-for%20Power%20Plants%20FINAL%20CLEAN.pdf*

plants that continue to operate past 2030 may need to install pollution controls such as carbon capture and sequestration or to switch to lower emissions fuels. Idaho Power's remaining coal-fired power plants are scheduled to retire before these standards would take effect, but Idaho Power owns and operates 750 MW of gas-fired generation, not including the planned conversation of Jim Bridger. These resources would require additional pollution controls that could increase their cost or decrease their efficiency if they continue to operate into the 2030s. The 2021 Integrated Resource Plan calls for these gas resources to continue operating throughout Idaho Power's 20 year planning horizon despite the inclusion of a carbon price forecast, but it does not incorporate the costs associated with installing pollution control equipment sufficient to comply with the EPA proposed carbon pollution standards or acquiring replacement resources. This suggests that the mid-case carbon price forecast used in the 2021 IRP is an underestimate of actual compliance costs Idaho Power, and its customers, are likely to face in the future. Idaho Power's actual regulatory compliance costs are likely to be closer to the "high" case forecast, which equals a benefit of 2.16 cents for each kilowatt-hour exported solar energy.

Liability & insurance costs

Utilities are also facing substantial increases in insurance and liability costs associated with the impacts of climate change. In some cases, these costs have begun to pose existential threats to utilities. Changing climatic conditions are driving an increase in the incidence and severity of wildfires in the western United States. Wildfires can cause damage to utility equipment, requiring expensive repairs, but costs extend beyond utility equipment when utilities are found to be liable for damages to private property or wrongful deaths. In 2019, Pacific Gas & Electric filed Chapter 11 bankruptcy because the utility was facing $30 billion in liability from multiple fires in California that were sparked by utility equipment, killing more than 100 people. More recently, in

Oregon, PacifiCorp has been ordered to pay $70 million in punitive damages for its role in four fires that occurred over Labor Day 2020.[34] Financial markets have taken note: Moody's Investment service notes that climate hazards will increase both physical and financial risks for utilities.[35] Even if the damages assessed to utilities are not passed on to customers, ratepayers are impacted. Lower credit ratings increase utilities' cost of borrowing capital, and utilities are facing higher insurance premiums, further driving up the cost of providing electricity service. In response, utilities are increasing their spending on wildfire prevention and mitigation measures, costs that are ultimately realized on ratepayer bills. As part of Idaho Power's 2023 rate case, Company witness Mr. Mitch Colburn describes Idaho Power's increased efforts to invest in wildfire mitigation strategies and the Company's $26 million in expenditures on wildfire mitigation activities.[36] Idaho Power reports that the Company's Wildfire Insurance Costs have increased by $7 million since 2011,[37] and Company witness Mr. Brian Buckham describes a $1 million "wildfire load" charge applied by insurers.[38]

[34] Associated Press, "Oregon jury: PacifiCorp must pay punitive damages for fires, plus award that could reach billions," June 14 2023, *available at: https://apnews.com/article/oregon-wildfires-pacificorp-lawsuit-damages-b525debb59e83f3fd623c74f3329e80e.*

[35] Moody's Investors Service, "Moody's US regulated utilities face varied exposure to climate hazards," January 16 2020 *available at: https://www.moodys.com/research/Moodys-US-regulated-electric-utilities-face-varied-exposure-to-climate--PBC_1210434.*

[36] IPC-E-23-11, Direct testimony of Mitch Colburn, June 1 2023, pages 19 – 24.

[37] IPC-E-23-11, Public Workshop, August 14 2023, *available at: https://puc.idaho.gov/Fileroom/PublicFiles/ELEC/IPC/IPCE2311/20230814Public%20Workshop.pdf,* page 13.

[38] IPC-E-23-11, Direct testimony of Brian Buckham, June 1 2023, page 34.

5. Summary of Export Credit Rate Recommendations.

A summary of Vote Solar's recommendations related to the Export Credit Rate is provided in Table 6 below.

Table 6. Vote Solar Recommendations for Value of On-Site Generation in Idaho.

Vote Solar Proposed ECR		
	Season	**ECR**
Export Profile		
Volume (kWh per kW)	Annual	867
Capacity Contribution (%)	Annual	12.68%
Export Credit Rate by Component (cents/kWh)		
Energy	On-Peak	9.24 ¢
Including integration and losses	Off-Peak	5.36 ¢
	Annual	*5.62 ¢*
Generation Capacity	On-Peak	52.16 ¢
	Off-Peak	0.00 ¢
	Annual	3.54 ¢
Distribution Capacity	On-Peak	0.254 ¢
	Off-Peak	0.00 ¢
	Annual	0.017 ¢
Transmission Capacity	On-Peak	7.39 ¢
	Off-Peak	0.00 ¢
	Annual	*0.50 ¢*
Fuel Price Hedge	On-Peak	0.462 ¢
	Off-Peak	0.268 ¢
	Annual	0.281 ¢
Avoided Environmental Compliance Costs	On-Peak	0.07 ¢
	Off-Peak	0.07 ¢
	Annual	0.07 ¢
ECR Total	**On-Peak**	**69.58 ¢**
	Off-Peak	**5.70 ¢**
	Annual	*10.04 ¢*
Additional Benefits		
Reduced Carbon Emissions	Annual	2.163 ¢
Benefits Total	**On-Peak**	**71.74 ¢**
	Off-Peak	**7.86 ¢**
	Annual	*12.20 ¢*

Note: On-Peak defined as June 15 - September 15, Monday - Saturday (exluding holidays), 3pm - 11pm. All other hours defined as Off-Peak.

VI. EXPORT CREDIT RATE DESIGN CONSIDERATIONS

Although the value identified in Table 6 represents an accurate assessment of the value of exported on-site generation to Idaho Power's system, Vote Solar's primary recommendation is not to implement this ECR. As discussed in further detail below, given the finding that the value of exported on-site generation is similar to, or higher than, the volumetric retail rate that utility customers pay for energy, Vote Solar recommends Commission should retain an equivalent rate for energy consumption and export compensation for Schedules 6 and 8, and maintain Schedule 84. However, should the Commission elect to approve an ECR that is separate and distinct from the retail rate for consumption, Vote Solar recommends the following:

1. The Commission should approve a flat annual average Export Credit Rate as the default offering.

Time-differentiated rates can be powerful motivators that encourage customers to make behavioral changes or adopt technology in order to manage their energy use in ways that help to reduce system costs as a whole. In general, Vote Solar is supportive of well-designed time-differentiated rates applicable to energy consumption because they provide customers with an opportunity to save money on their utility bills and send price signals that indicate when it is most valuable for customers to conserve energy. However, time of use ("TOU") rates are also more complex for customers to understand and respond to, and implementation of TOU rates requires a substantial investment in customer education and outreach. And customers have much more agency over their own consumption than they do exported energy: while customers can make a number of behavioral changes to reduce their own energy consumption, customers must install additional equipment like battery storage in order to control exports of energy to the grid.

Pairing solar with battery storage substantially improves a customers' ability to alter their export profile to capitalize on higher value on-peak periods, but adoption of storage in Idaho is

relatively nascent. Additionally, given Idaho Power's ongoing rate case, it appears that customers with on-site generation (as well as those without) are about to see substantial changes to their utility bills and rates for consumption. In its 2023 General Rate Case, Idaho Power has proposed changes including an overall 12.25% increase in revenue collected from customers, a 7x increase in residential customer service charges, reduced energy charges, the elimination of inclining block rates for residential customers, and changes to on-peak and off-peak periods for customers on TOU rates. Asking customers with on-site generation to absorb all of these changes to consumption rates, alongside a new ECR that is also time-differentiated, will be extremely confusing and pose a substantial hardship.

As part of its concurrent General Rate Case filling, Idaho Power recognizes that TOU rates are more complex and require substantial amounts of customer education. Although Idaho Power offers an optional TOU rate for residential customers, the Company does not believe it is appropriate to make TOU rates mandatory for its customers generally because "a change in a single year — from the current tiered rate structure to a mandatory or even a default TOU program — would be a significant impact to many of its residential customers that may be unfamiliar with this type of rate design, or who are otherwise unable to respond to the price signal" (IPC-E-23-11, Direct testimony of Connie Aschenbrenner at 22-23). Currently, there are approximately 1,000 customers who have opted into the Schedule 5 residential TOU rate, so the vast majority of families are not familiar with time-differentiated rates. In its General Rate Case, Idaho Power proposes continuing to offer a reformed TOU rate as an option for residential customers so that it can evaluate the impacts and effectiveness of the rate. In this proceeding, Idaho Power recommends that Schedule 6 customers be permitted to take service on a residential TOU rate. Vote Solar supports this recommendation.

The annual average export credit rate accurately reflects the value that an average customer with on-site generation is providing to the grid throughout the year, and it is much simpler to understand. Should the Commission approve an ECR, Vote Solar recommends approval of a flat annual average ECR as the default offering for customers with on-site generation. This will provide customers with the opportunity to adjust to the new construct of an export rate alongside the additional changes to their consumption rates that are taking effect concurrently.

2. <u>The Export Credit Rate should be locked-in for individual customers with on-site generation at the rate effective at the time of the customer's application to interconnect their system for a period of at least 10 years.</u>

Idaho Power has proposed that the ECR be updated annually in order to ensure that it includes the most current market and cost data available. While this ensures that the rate remains up to date, it presents a challenge for customers who are trying to evaluate the long-term value of an investment in on-site generation. Customers who install rooftop solar typically do not expect to see a return on their initial upfront investment for a period of twenty years or longer. Many customers use long-term financing to afford the upfront cost of solar, and base their decision to install on whether they are able to realize monthly utility bill savings sufficient to offset the cost of a monthly loan. It is impossible for a prospective solar customer to predict their long-term savings from installing solar when they are subject to an export rate that changes every year. Additionally, consumption rates for energy typically remain relatively stable from year to year and only change substantially following a general rate case. When a rate case does result in large increases to customer bills, Commissions typically employs gradualism in order to provide customers with stability and mitigate abrupt changes to customer rates. With the exception of surcharges or rate riders that typically comprise a small portion of a customer's bill, it is very unusual for rates applicable to customers to update on an annual basis. In order to provide

customers with on-site solar with a measure of stability when it comes to the export rate, I recommend that customers be permitted to lock-in the annual average export rate effective at the time they apply to interconnect their system for at least 10 years. Examples of export rates with a similar lock-in provision are available in rate designs from Nevada, where customers remain on the export rate current when they signed up for 20 years,[39] and Arizona, where customers lock-in their export rate for 10 years.[40]

3. The Commission should approve an optional time-differentiated Export Credit Rate, available for enrollment to customers with on-site generation at their discretion.

Although a time-differentiated export rate is likely to be confusing to many customers, it can be appropriate for certain subsets of customers. Some customers will be sophisticated enough to evaluate how a time-differentiated rate impacts the value they realize from exporting energy and make changes to their consumption patterns or adopt technology to maximize their exports during on-peak periods. As the market for battery storage continues to mature and costs fall there is substantial opportunity for customers to leverage batteries to store energy produced during off-peak periods and dispatch it during on-peak periods, when it is most valuable. I am not aware of a time-differentiated export rate currently in use by any major utility, making Idaho Power's proposal quite unique. Offering a time-differentiated rate as an optional tariff, available to customers who are interested in using it at their discretion, creates an opportunity to evaluate this option as a pilot. Studying the customers who decide to take service on an optional time-

[39] Nevada Public Utilities Commission, "Net Metering in Nevada," https://puc.nv.gov/Renewable_Energy/Net_Metering/.

[40] Arizona Corporation Commission, Docket No. E-00000J-14-0023, Decision No. 75859, January 3 2017.

differentiated rate will provide valuable insight to Idaho Power and an opportunity to understand how customers respond to the rate and how it impacts their consumption or export patterns.

4. Customers should receive payment for the value of any unused financial credits remaining at the conclusion of their annual billing cycle.

The ECR is intended to represent an accurate assessment of the value of exported on-site generation to Idaho Power's system, so it is important that customers are able to fully realize the value of the energy they provide to the grid. I support the Company's recommendations that ECR financial credits offset all billing components of the bill, including energy-related charges as well as service and demand charges (Direct testimony of Anderson at 18). I also support the Company's recommendation that customers be permitted to transfer financial credits to another account in their name (*Id.* at 17 – 21.) Residential and small commercial customers, however, likely do not have multiple meters in their name and are unlikely to be able to use this option. To ensure customers realize the fair value of the excess energy they have exported, customers should receive a payment for the value of any unused financial credits remaining at the conclusion of their annual billing cycle.

5. Timing of Annual Update.

Idaho Power requests implementation of the ECR on January 1, 2024, and proposes that the first annual update take place after May 31, 2024. Based on this schedule, the first calculated value of the ECR will only be in effect for five months, and customers with on-site generation will see their rates change twice in less than a year. Instead, should the Commission implement an ECR, I recommend that the first ECR remain in effect until May 31, 2025. This will provide customers with additional time to adjust to the construct of an export rate before the value of the ECR changes.

VII. COMPENSATION AT THE RETAIL RATE PROVIDES JUST AND REASONABLE COMPENSATION FOR EXPORTED ON-SITE GENERATION

The benefits of exported energy from on-site generation are substantial. Vote Solar's proposed ECR value of 10.04 cents per kilowatt-hour is conservative because it does not account for additional benefits that accrue to utility customers in Idaho from on-site generation, including health and social benefits and improving the utility's ability to timely comply with future environmental regulations. To understand how ECR value compares to volumetric energy rates, Figure 3 presents a comparison of the ECR with proposed retail rates applicable to residential customers over the next several years.

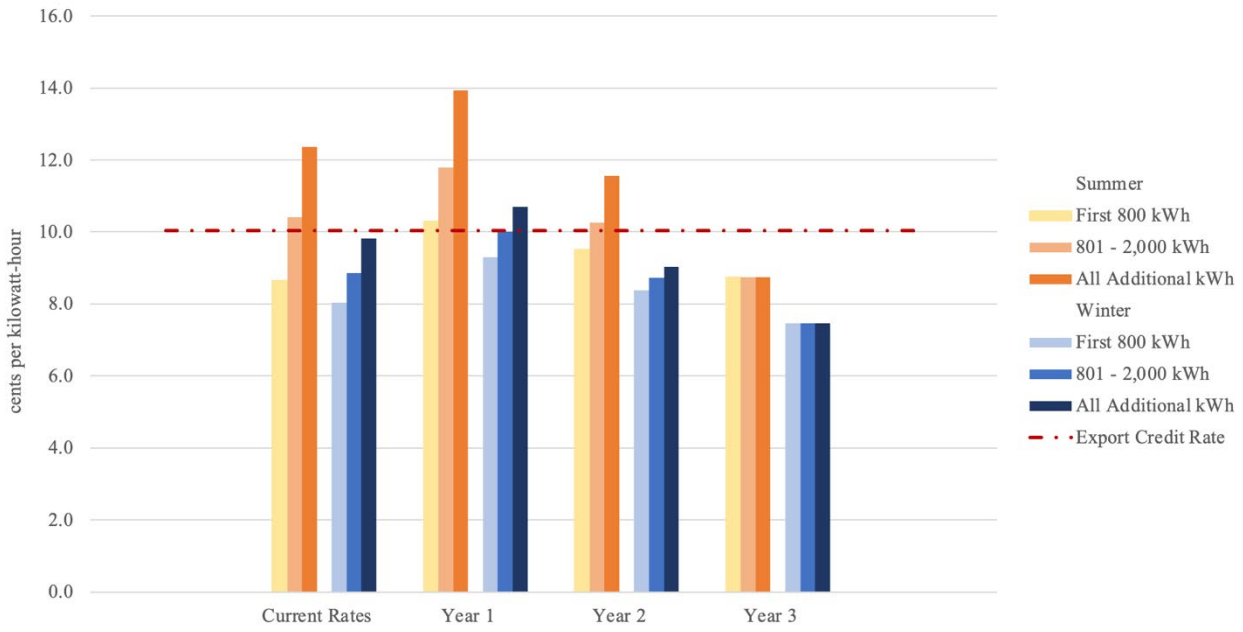


Figure 3. Comparison of Proposed Schedule 1 to Export Credit Rate by Transition Year.

Based on current residential rates, the difference between the ECR and the volumetric retail rate customers pay for energy is quite small. At currently applicable rates for Schedule 1 customers, the value of the ECR is about 1.5 cents per kWh above the rate that low-usage customers pay for electricity and about 2.5 cents per kWh below the highest rate that residential

customers pay for electricity. Vote Solar's proposed ECR is slightly higher than the volumetric rates that small general service customers pay for their first 300 kilowatt-hours of energy, and slightly below the rate paid for additional kilowatt-hours. When considering the changes that Idaho Power has proposed through its ongoing General Rate Case, the differences between the value of the ECR and the consumption rate for energy become less material over time. Idaho Power has proposed to eliminate inclining block tier rates, and move towards a lower flat residential retail rate (paired with a higher monthly service charge) over the course of three years. By year 3 of Idaho Power's proposed transition, the value of exported energy will exceed the retail rate paid by all residential customers by more than 1.5 cents per kilowatt-hour in the summer and 2.5 cents per kilowatt-hour in the winter.

In addition to the Commission's responsibility to establish fair and reasonable charges, rules, and regulations, the Commission is also permitted to perform legislative functions and in doing so, can make policy determinations. *Building Contractors Ass 'n of Southwestern Idaho v. Idaho Public Utilities Com'n,* 151 Idaho l 0, 15 (2011). "Absent a legislative pronouncement to the contrary, we find it within the Commission's jurisdictional province to consider in its rate making capacity all relevant criteria including energy conservation and concomitant concepts of optimum use and resource allocation." *Grindstone Butte Mut. Canal Co. v. Idaho Public Utilities Commission,* 102 Idaho 175, 181 (1981). The Commission should make a policy determination that maintaining the equivalency between volumetric retail rates for energy and the compensation for exports under Schedules 6, 8, and 84 is just and reasonable. Given the substantial value that customers with on-site generation provide to the grid, it is just and reasonable to maintain Schedules 6, 8, and 84 as they exist today for both existing and new customers with on-site generation.

The Commission's exploration of the value of on-site generation began many years ago with the assertion that customers with on-site generation are causing a cost shift that results in material costs being paid by non-solar customers. Idaho Power's current Application is premised on the assumption that customers with on-site generation customers are shifting costs to non-solar customers. For example, Idaho Power states: "A review of the history of the Company's NEM offering reflects that the Commission has long recognized that this approach overvalues exports from on-site generation and results in cost shifting between participants and non-participants" (Application at 35). However, the Commission has not previously made a determination that the costs of on-site generation outweigh the benefits. An accurate assessment of the value of exported energy shows that customers with on-site generation are providing substantial value to the grid, especially during on-peak periods. Even Idaho Power's proposed ECR of 5.91 cents per kWh averaged annually, which undervalues exported energy in several categories, is very close to or higher than the retail energy rate that would be applicable to many classes of customers by 2026. Additionally, by the end of the three-year transition period proposed in the General Rate Case, Idaho Power has proposed that residential solar customers pay an additional $30 a month – or $360 annually – through an increased monthly service charge. This change alone should quell any concerns that remain about under collection of revenue from solar customers as a result of their reduced energy usage.

It is not surprising to find that customers with on-site solar are not causing a cost shift and are in fact providing substantial value to the grid. Vote Solar has been involved in numerous proceedings where a utility, commission staff, or intervenors have presented analysis of the cost of service specific to solar customers in order to determine whether a cost shift exists, including in Nevada, Kansas, Arizona, New Mexico, Utah, California, Montana, and Wisconsin. In many, if

not all of these proceedings, an unbiased analysis finds that revenues collected from solar customers who are on a simple net metering schedule are at or above revenues collected from non-generating customers, relative to the cost of serving each respective class. Customers with solar provide lower revenues to the utility because they are producing and consuming a portion of their electricity needs on site. Although revenues from net metering customers are reduced, the cost of serving net metering customers is also lower. Net metering customers reduce their deliveries of electricity from the utility and typically also reduce their energy consumption during key hours recognized as drivers of the cost of service, such as the coincident peak. So, while solar customers provide less revenue to the utility, they are also significantly less costly to serve. For example, the Public Utility Commission of Nevada ended net metering in 2016 based on a flawed cost-shift analysis provided by the utility, only to reimplement it the next year based on evidence provided by Vote Solar and others that a substantial cost shift was not occurring. Even without correcting the utility's flawed methodology, the alleged under-recovery of costs increased the bills of customers without solar by $0.26 per month, and the Commission determined that did not constitute an "unreasonable cost shift" sufficient to justify the complexity, confusion, and chilling effects of eliminating net metering.[41] More recently, a 2023 analysis of DG customers in Kansas found that DG customers, who are on the same rate as other residential customers, contribute revenues that cover their cost of service.[42]

The premise of this docket is to determine how to compensate exported energy. As

[41] Nevada Public Utilities Commission, Docket 16-06006, Order Granting in Part and Denying in Part General Rate Case Application, December 28 2016, at 2.

[42] Kansas Corporation Commission Docket No. 23-EKCE-775-RTS Direct Testimony of Bradley Lutz, April 25 2023 at 44:19 – 21. *Available at:* https://estar.kcc.ks.gov/estar/ViewFile.aspx/S20230425160607435 6.pdf?Id=3afc65f4-7599-4011-a8ec-c32eaea94f2b.

previously noted, the Commission's investigation has narrowed over time from an initial investigation of the costs and benefits of on-site generation to the specific question of valuing exported energy. An export credit rate can more precisely value exported energy, especially when locational benefits are incorporated. However, compensation based on the retail energy rate is much simpler and easier for customers to understand and respond to and makes it easier for potential solar customers to predict their savings. In contrast, an export credit rate is much more difficult to understand and introduces uncertainty that may discourage solar adoption even when it provides benefits to the customers and the grid at large. Before transitioning to an export credit rate, the PUC should determine definitively that the advantages of transitioning to an export credit rate outweigh the drawbacks, which is not the case today.

When considering this question, most states have chosen to retain retail rate net metering. A small number of states have transitioned to an export credit rate, mostly in parts of the country with relatively high solar saturation like California, Hawaii, Arizona, and Nevada. Hawaii ended net metering for new customers in 2015, when 16% of customers had rooftop solar. In place of NEM, customers were given the option to choose between two options: a "grid supply" rate, where customers were compensated between 15 and 28 cents per kilowatt-hour for exported energy, and a "self-supply" option which required customers to install storage in order to avoid exporting energy to the grid. Hawaii updated its rates again in 2022 and eliminated its solar-specific rate, replacing it with a consumption time of use rate applicable to all customers. The TOU rate includes an on-peak period, an off-peak period, and a mid-peak period, and it provides all customers with an incentive to align their energy usage with the times when costs are lowest. Solar customers can benefit additionally by installing storage to maximize on-site consumption during the on-peak period. Hawaii's rate design is technology-agnostic, and customers can use solar, storage, smart

thermostats, managed EV charging, programmable water heaters, or behavioral changes to save money on their bills. In California, where 10% of homes have solar and more than 40% of new homes are constructed with solar, the California PUC ended net metering in April 2023. New solar customers receive a reduced rate for energy exported to the grid, locked in for 9 years. Arizona and Nevada implemented an export rate in 2017, and developed a tiered transition plan to mitigate the effect of moving to a lower export rate. In Arizona, where approximately 15% of homes have rooftop solar, the export rate was initially set at the value of the retail rate and its value declines by no more than 10% annually. In Nevada, the export rate was also initially set at the value of the retail rate and declines by about 5% as specific tiers of new solar capacity are installed.

Through Order No. 34509, the Commission directed Idaho Power to reasonably balance the interests of customers with on-site generation and those without. Additionally, the stated objectives Idaho Power enumerated in its Application recognize the need to balance accuracy with customer understandability. Given the substantial value of exported energy, maintaining Schedules 6, 8, and 84 meets both the Commission's and Idaho Power's objectives. Nonetheless, it is prudent for the PUC to scrutinize the ECR recommendations presented in this proceeding now, while solar adoption remains quite low, and continue to study the issue going forward. The Commission can continue to monitor both solar adoption and how the value of energy to the grid changes over time. This way, the Commission and Idaho Power will have access to an up-to-date, data-driven estimate of value of exported solar energy, and can be prepared with a structured plan to implement the ECR if or when a transition is warranted. The PUC could also choose to set a target percentage of on-site solar adoption and revisit solar compensation at that point.

VIII. SHOULD THE COMMISSION APPROVE AN ECR, GRADUALISM WARRANTS A MEASURED TRANSITION

Gradualism is an important tool available to Commissions in order to mitigate the negative impacts of abrupt changes to customer rates. Should the Commission approve an export rate that is substantially lower than the compensation in effect today, Vote Solar recommends the Commission provide protections for existing non-legacy customers and develop a glide path for transitioning to the ECR.

1. Non-Legacy On-Site Generation Customers.

Although it is well established that this Commission cannot discriminate between similarly situated customers, by for example, charging different rates to those customers, this Commission is free to distinguish between customers based on various factors. Idaho Code § 61-315; *Idaho State Homebuilders v. Washington Water Power,* 107 Idaho 415,419 (1984).

The Idaho Supreme Court has held, "a utility is forbidden to treat a customer preferentially through its rates and charges or to maintain unreasonable differences in its rates and charges as between classes of service." *Homebuilders,* 107 Idaho at 419. However, the Court has also been clear that, "[n]ot all differences in utility's rates and charges as between different classes of customers constitutes unlawful discrimination under the strictures of I.C. § 61-315." *Id.* Specifically applicable to the facts here, the Court has found, "justification for rate discrimination as between customers within a schedule and as between customers in different schedules." *Id*. at 420 (citing *Grindstone Butte Mutual Canal Co. v. Idaho Public Utility Commission,* 102 Idaho 175 (1981).

In drawing distinctions between customers, the Commission can look at a wide range of factors. *Agricultural Products Corp. v. Utah Power & light Co.,* 98 Idaho 23, 30-31 (1976). "A reasonable classification of utility customers may justify the setting of different rates and charges for different classes of customers." *Homebuilders,* l 07 Idaho at 420. In determining these

classifications and exercising its authority under Idaho Code § 61-315, the Commission has the broad power to make factual determinations on reasonable distinctions. *Application of Boise Water Corp. to Revise and Increase Rates Charged for Water Service,* 128 Idaho 534, 537 (1996).

Previously, through IPC-E-18-15, the Commission found it prudent to distinguish between existing and new on-site generation customers based on a customers' "reasonable expectations when making significant personal investments in on-site generation systems" (Order No. 34509 at 10). In IPC-E-22-22, the Commission directed Idaho Power to evaluate transition options related to implementation of an ECR, but Idaho Power has not proposed any transition options in this proceeding.

Although the Commission, and Idaho Power, have made every effort to inform the public about future changes to rates for customers with on-site generation, Idaho Power acknowledges that customers do not know about the change. Further, knowledge that a program will change does not mean customers could have had any knowledge or understanding of how it might change. For the past several years, customers had the choice between installing a solar project that was configured optimally for the rates available at the time – the only information available to them - or postponing the decision to install solar for an unknown period of time. A solar installation designed and installed to conform with a time-differentiated ECR tariff will have different characteristics from a system designed and installed to conform with the current rules. For example, under a time-differentiated ECR, customers may find that they can obtain more value from a west-facing solar installation, even if a south-facing solar installation produces more energy overall. Under Idaho Power's proposed ECR, it will be more cost-effective for most customers to install a smaller capacity solar system compared to a system that is sized adequately to offset their total energy usage. Once a system has been installed, customers have few options to retroactively

alter their system in order to make changes that are favorable under the new rate design.

Should the Commission implement Idaho Power's proposed ECR, some non-legacy customers will be substantially worse off, especially when accounting for changes to rates that have been proposed in Idaho Power's General Rate Case. In contrast, the total impact of granting these customers legacy status is immaterial. Given the substantial hardship experienced by non-legacy customers if they were immediately transitioned to an ECR, Vote Solar recommends that customers who have already applied to interconnect solar (or made a financial commitment to install solar) before the date of the Commission's final order in this docket should be permitted to remain on the legacy rate for 20 years.

2. <u>Future On-Site Generation Customers.</u>

Should the Commission approve an export rate that is substantially lower than the compensation in effect today, the Commission can employ gradualism to provide stability and ensure fair treatment for customers who have not yet had the opportunity to install solar. A dramatic reduction in the value of exported energy will result in a decline in solar installations, which can destabilize the market for solar and severely impact local businesses who install solar. Ultimately, the PUC's decision in this docket will determine the trajectory for the growth of rooftop solar as well as complementary distributed energy technologies like energy storage. Solar paired with storage can be dispatched to flatten load curves in order to reduce peak load and avoid steep ramp rates, and to maintain voltage and frequency on the grid, improving grid flexibility and resiliency. A compensation rate that does not provide customers with an affordable opportunity to invest in rooftop solar will discourage customer investments in on-site energy generation resources, and so in the long-term Idaho will not realize the benefits that these resources provide to the grid.

If the Commission approves Idaho Power's ECR, many prospective solar customers will be substantially worse off under the new rate than they would be under current rates. As a result, first-time homebuyers and other families that find themselves able to invest in solar for the first time in 2024 or beyond will have a diminished opportunity to offset their utility costs. To mitigate negative impacts on the market for rooftop solar and provide a measure of parity for prospective solar customers, Vote Solar recommends the Commission implement a measured transition to the lower export rate by setting the initial export rate equal to the value of the average volumetric retail rate for each customer class. Vote Solar recommends the rate decline by a maximum amount, for example 5%, as the total capacity of on-site generation installed in Idaho Power's service territory reaches defined thresholds. Additionally, as Vote Solar has recommended for existing on-site generation customers, we recommend that future solar customers be permitted to remain on the rate current at the time they apply to interconnect for 10 years. An example transition plan is illustrated in Table 7

Table 7. Proposed Export Credit Rate Implementation Glide Path

	Capacity			
	Cap	Currently Installed	MW Remaining to Cap	% of Average Retail Rate
Tier 1	200 MW	153 MW	47 MW	100%
Tier 2	300 MW	-		95%
Tier 3	400 MW	-		90%
Tier 4	500 MW	-		85%

IX. OTHER CONSIDERATIONS

1. Project eligibility cap.

Idaho Power's Application proposes modifications to the project eligibility cap applicable

to Schedule 84 customers. Currently, Schedule 84 defines the project eligibility cap as a total nameplate capacity rating of 100 kW. Idaho Power proposes that the project eligibility cap be modified to equal the greater of 100 kW or 100 percent of demand at the service point, contingent upon modification to the compensation structure for exported solar energy. Vote Solar understands that the Commission has previously determined that it is appropriate to evaluate changes to the project eligibility cap alongside proposed modifications to the compensation structure for exported on-site generation. Vote Solar is supportive of Idaho Power's proposal to modify the project eligibility cap, regardless of the compensation structure determined by the Commission in this proceeding. The Company is concerned about modifying the project eligibility cap before first mitigating the potential for cost-shifts under currently applicable rates. But, as Vote Solar has demonstrated, the value of energy exported to the grid is substantial, and exceeds the volumetric retail rate currently paid by commercial, industrial, and irrigation customers. Concerns about cost-shifting are further mitigated by the Company's proposal in its General Rate Case, which generally seeks to increase monthly service charges and demand charges, with a corresponding decrease in the volumetric energy rates. Modifying the project eligibility cap will allow commercial, industrial, and irrigation customers to offset a greater portion of their own energy demands with on-site solar generation, and enable these customers to be more active participants in the market for local energy generation.

2. Modifications regarding energy storage devices.

Idaho Power's Application proposes to modify the application of the project eligibility cap to energy storage to clarify that energy storage devices do not count towards capacity limits defined by the project eligibility cap. Vote Solar supports this recommendation because it will enable greater deployment of energy storage resources than can provide resiliency benefits to adopting

customers along with substantial value and flexibility benefits to the grid. Idaho Power's proposal is generally aligned with best practices regarding the interconnection of energy storage devices. "Freeing the Grid" is a joint initiative of Vote Solar and the Interstate Renewable Energy Council (IREC) focused on assisting policymakers with technical recommendations related to the interconnection of solar and storage. "Freeing the Grid" includes a specific focus on best practices that fully enable the operational characteristics of storage, and recommends that interconnection rules explicitly include energy storage as an eligible technology in their interconnection rules, incorporate the concept of export capacity into their rules, and identify acceptable export control methods.[43] Idaho Power's recommended changes implicitly recognize that solar and storage are typically not configured to discharge the full capacity of the solar panels and the energy storage at the same time. Instead, solar and storage installations are configured so that excess energy from solar panels is used to charge battery storage, which is later dispatched to the customer's home or to the grid once the sun has gone down and solar panels are no longer generating electricity. IREC has developed a "BATRIES" toolkit that provides additional guidance regarding the safe and reliable interconnection of solar and solar plus storage.[44] Vote Solar supports updating Idaho Power's interconnection rules to clarify that storage capacity does not count towards the project eligibility cap, and recommends that the interconnection rules explicitly describe acceptable export control methods so that customers clearly understand how to add energy storage to their system. This will ensure that customers who are interested in installing storage are not unnecessarily

[43] IREC & Vote Solar, "Freeing the Grid: Idaho Interconnection Grade," *available at: https://freeingthegrid.org/wp-content/uploads/2023/06/FTG-Idaho-1.pdf*.

[44] IREC, "Building a Technically Reliable Interconnection Evolution for Storage," March 30 2022, *available at: https://energystorageinterconnection.org/resources/batries-toolkit/.*

limited to an arbitrary storage capacity and maximize the value of on-site customer generation resources to Idaho Power's system.

3. Customer-sited storage incentives.

Pairing solar panels with customer-sited energy storage resources substantially increases the value that customer-sited generation can provide to the grid. Battery storage improves the flexibility of solar resources because energy generated during the daytime hours can be stored and dispatched later in the evening during on-peak periods. Additionally, utilities are beginning to recognize that aggregated portfolios of customer-sited solar and storage can serve as a valuable grid resource, and develop programs that enable utilities to dispatch fleets of on-site generation resources as a "virtual power plant." Customer-sited battery storage provides such significant value that utilities in many states now offer incentive programs to encourage their customers with solar to adopt energy storage. Table 8 provides additional information about utility battery incentive program offerings.

Table 8. Summary of Battery Storage Incentive Programs.

Utility / Program	Incentive	Description
Green Mountain Power	Upfront incentive: $850 / kW for 3 hour $950 / kW for 4 hour $100 / kW bonus for certain locations Up to $10,5000	Customers enroll for 10 years; Peak events last 3 to 5 hours and occur 5 to 8 times per month.
Massachusetts ConnectedSolutions	Annual incentive: $275 / kW	Peak events last 3 hours and occur 30 to 60 times per summer.
Rocky Mountain Power Wattsmart Battery Program	Upfront incentive (Year 1): $400 / kW Annual incentive (Years 2 -4): $15 per kW	Customers enroll for 4 years; Batteries are not discharged below 10%.
NV Energy	Residential: Lesser of $0.19 - $0.095 / watt-hour, 50% of equipment costs or $3,000. Commercial: Varies based on storage capacity.	Customers receive a higher incentive if on a TOU rate.
Hawaiian Electric Battery Bonus	Upfront incentive: $850 per kW Performance incentive: $5 / kW monthly for net metering customers, or compensation at retail rate for non-net metering customers.	Customers enroll for 10 years; Incentive based on kW discharged for two hours from 6 - 8:30 PM.
California Self-Generation Incentive Program	Rebate: $250 / kilowatt-hour or up to $1,000 / kilowatt-hour for qualified low-income customers.	Highest incentive available to low-income customers who have experienced two or more Public Safety Power Shutoffs.

Regardless of the outcome of this proceeding, Vote Solar also suggests that Commission instruct Idaho Power to initiate a docket to evaluate program designs that incent customers with on-site generation and storage to discharge batteries during times that are optimal for the grid, concluding with a recommendation for the creation of a customer-sited battery storage incentive program applicable to Idaho Power customers.

X. CONCLUSION

In summary, Vote Solar recommends:

1) The Commission should delay a final Order in this proceeding until the conclusion of Idaho Power's ongoing rate case, IPC-E-23-11, which addresses important issues that will

materially impact customers with on-site generation alongside any changes determined in this proceeding.

2) Informed by analysis demonstrating that the value of exported energy is comparable to, or higher than, volumetric retail rates that Idaho Power customers pay for electricity, the Commission should retain an equivalent rate for energy consumption and exports for Schedules 6 and 8, and maintain Schedule 84.

3) In the alternative, should the Commission elect to adopt a separate avoided cost-based financial credit rate for energy exported to the grid, the Commission should adopt an Export Credit Rate ("ECR") of 10.04 cents per kilowatt-hour with the following program details:

    a. The Commission should approve a flat annual average ECR as the default offering;

    b. The ECR should be locked-in for individual customers with on-site generation at the rate effective at the time of the customer's application to interconnect their system for a period of at least 10 years;

    c. The Commission should approve an optional time-differentiated ECR, available to customers with on-site generation at their discretion;

    d. Customers who export energy to the grid should receive a payment for the full value of any unused financial credits remaining at the conclusion of their annual billing cycle;

    e. I recommend the ECR become effective on January 1, 2024 and that the first annual update take place on June 1, 2025.

4) In the event the Commission elects to adopt an ECR value that is lower than current volumetric retail rates, the Commission should determine a glide path for phasing in the ECR gradually.

5) The Commission should determine that customers who have applied to interconnect a solar installation on or before the date of the Commission's final order in this proceeding may remain on the rate current at the time of their application for a period of 20 years.

6) Vote Solar recommends the Commission approve Idaho Power's modified project eligibility cap for commercial, industrial, and irrigation ("CI&I") customers;

7) Vote Solar recommends the Commission approve Idaho Power's proposed modifications to clarify that energy storage devices do not count towards capacity limits defined in the project eligibility cap; and

8) The Commission should instruct Idaho Power to initiate a docket to evaluate program designs that incent customers with on-site generation and storage to discharge batteries during times that are optimal for the grid, concluding with a recommendation for a program applicable to Idaho Power customers.

The technical analysis of these Formal Comments is sponsored by Kate Bowman, Regulatory Director, Interior West, Vote Solar.

DATED this 12th day of October, 2023.

ELAM & BURKE, P.A.

Abigail R. Germaine

CERTIFICATE OF SERVICE

I HEREBY certify that I have on this 12th day of October, 2023, I served the foregoing to Idaho Power Company by electronic mail to the following:

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Exhibit A

VOTE SOLAR'S REQUEST FOR PRODUCTION NO. 10: Regarding Idaho Power's "Time of Day" Plan:

(a) What types of customers are eligible to participate in the Time of Day plan?

(b) How many customers are currently participating in the Time of Day plan? Please provide the number of customers participating from each rate schedule, if applicable.

(c) How many customers have enrolled in the Time of Day plan and subsequently requested to return to the Residential Standard Plan?

(d) What outreach or education has Idaho Power provided to customers to help them understand how the Time of Day Plan works?

RESPONSE TO VOTE SOLAR'S REQUEST FOR PRODUCTION NO. 10: Please see the following responses regarding Idaho Power's Schedule 5, Residential Service Time-of-Day Pilot Plan ("Schedule 5"):

(a) Service under Schedule 5 is available to residential customers pursuant to the Availability and Applicability sections of the tariff schedule.

(b) As of June 30, 2023, there were 990 customers in Idaho taking service under Schedule 5.

(c) Since 2005, there have been 880 customers that have enrolled to take service under Schedule 5 and subsequently requested to return to Schedule 1, Residential Service Standard Plan.

(d) The Company provides information on its website here for customers regarding the Time-of-Day Plan: https://www.idahopower.com/accounts-service/understand-your-bill/pricing/idaho-pricing/time-day-plan/. Customers can see an estimate of

their bill under the Time-of-Day plan through Idaho Power's My Account tool. The calculator uses actual historical data and assumes a certain amount of behavioral change to evaluate potential savings.

The response to this Request is sponsored by Grant T. Anderson, Regulatory Consultant, Idaho Power Company.

RESPONSE TO REQUEST FOR PRODUCTION NO. 2: The following information is taken from the biennial Green Power Prudency Report and includes both the narrative and data presented in Tables 1 through 5, updated with 2022 information.

A. Customer Count by Option and Rate Schedule

Table 1:

	GP - 100% OPTION					GP - BLOCK OPTION					
2022	**A-ID**	**C-ID**	**R-ID**	**R-OR**		**A-ID**	**C-ID**	**I-ID**	**R-ID**	**R-OR**	**Total Participants***
January	1	40	1,815	18		2	41	2	1,861	20	3,800
February	1	39	1,823	13		2	37	5	1,810	17	3,747
March	1	44	1,997	17		2	49	5	2,001	20	4,136
April	1	50	1,908	15		2	41	4	1,892	19	3,932
May	2	45	1,977	19		2	40	5	1,925	17	4,032
June	3	56	2,034	12		2	45	3	1,949	16	4,120
July	3	52	1,985	16		2	39	4	1,864	18	3,983
August	2	52	2,205	15		2	46	5	2,048	23	4,398
September	3	54	2,101	12		2	37	2	1,884	19	4,114
October	3	52	2,146	19		2	37	4	1,944	24	4,231
November	3	49	2,239	12		2	47	4	1,986	19	4,361
December	1	53	2,186	18		2	40	4	1,940	21	4,265

R - Residential C - Commercial I - Industrial A - Agricultural

** Participant count is based on payments made during the selected month.*

While monthly participation fluctuated over the last 12 months, as of December 2022, overall participation increased by 11 percent (or 434 new participants) from the December 2021 totals disclosed in the previous biennial report.

B. REC Purchases and Project Sources

Table 2: REC Purchases and Costs

Month	Year	RECs Needed (MWh)	Cost
January	2022	3,345.624	$23,753.93
February	2022	3,178.303	$22,565.95
March	2022	3,348.294	$23,772.89
April	2022	2,808.363	$19,939.38
May	2022	2,689.342	$19,094.33
June	2022	2,697.715	$19,153.78
July	2022	2,782.193	$19,753.57
August	2022	3,794.032	$26,937.63
September	2022	3,616.805	$25,679.32
October	2022	3,238.228	$22,991.42
November	2022	2,565.677	$18,216.31
December	2022	3,453.641	$24,520.85
Total		37,519	$266,379.34

37,519 RECs delivered from supplier. RECs are delivered in whole MWh.

Table 2 above shows the monthly RECs needed for the Program and applies the REC cost ($7.10/REC) to the monthly REC need to determine the monthly cost of RECs. A monthly general ledger report shows how much revenue was collected for the Green Power Program. RECs are purchased based on the funds collected.

One of the Program modifications approved by Order No. 33570 included sourcing RECs from the Northwest and giving preference to RECs from sources located closest to or within Idaho Power's service area, when possible. Table 3 below shows the project sources of RECs purchased for the Program for January through December 2022.

Table 3: Sources of RECs Purchased for Participants

2022

Facility Name	WREGIS ID[1]	Certificate Serial Numbers	RECs	Source	State	IPC Area
Grand View 2 West	W5070	5070-ID-529369-1183-2885	1,703	Solar	ID	Yes
Grand View 5 East	W5069	5069-ID-525590-1-766	766	Solar	ID	Yes
Grand View 5 East	W5069	5069-ID-517638-1-1431	1,431	Solar	ID	Yes
Grand View 5 East	W5069	5069-ID-509808-1-2289	2,289	Solar	ID	Yes
Grand View 5 East	W5069	5069-ID-501781-1-2509	2,509	Solar	ID	Yes
Grand View 5 East	W5069	5069-ID-493871-1-2802	2,802	Solar	ID	Yes
Rockland Wind Farm	W2445	2445-ID-516927-14493-28708	14,216	Wind	ID	Yes
Salmon Falls Wind Park	W1885	1885-ID-502786-4823-5266	444	Wind	ID	Yes
Salmon Falls Wind Park	W1885	1885-ID-510735-1-4100	4,100	Wind	ID	Yes
Tumbleweed Solar LLC	W6981	6981-OR-538344-242-710	469	Solar	OR	No
Woodline Solar, LLC	W5845	5845-OR-583731-1905-2153	249	Solar	OR	No
Woodline Solar, LLC	W5845	5845-OR-542101-1-540	540	Solar	OR	No
Woodline Solar, LLC	W5845	5845-OR-532836-1-862	862	Solar	OR	No
Woodline Solar, LLC	W5845	5845-OR-524336-1-1265	1,265	Solar	OR	No
Woodline Solar, LLC	W5845	5845-OR-512555-1-1780	1,780	Solar	OR	No
Woodline Solar, LLC	W5845	5845-OR-504857-1-2094	2,094	Solar	OR	No
	Total		**37,519**			

Of the RECs purchased, all were from Idaho and Oregon, and 81 percent were from projects within Idaho Power's service area.

There were no Idaho Power-owned RECs purchased for the Program, therefore no fund transfers to the PCA were required. However, outside of the Program and through the Large Renewable Energy Purchase Option ("Large Purchase Option"), Idaho Power sold Company-owned RECs to business customers.

[1] The Western Renewable Energy Generation Information System ("WREGIS") is an independent, renewable energy tracking system for the region covered by the Western Electricity Coordinating Council ("WECC"). WREGIS tracks renewable energy generation from units that register in the system by using verifiable data and creating renewable energy certificates for this generation.

For reporting year 2022, seven business customers participated in the Large Purchase Option. A total of 28,549 Idaho Power-owned RECs were purchased and $30,317.49 from these sales was transferred to the Power Cost Adjustment ("PCA").

C. Monthly Revenue and Expenses

Table 4 below shows the monthly revenues received from Schedule 62 and the actual timing of Program expenses. Please note that the expenses are inclusive of the monthly REC costs identified in Table 2, though amounts on a monthly basis will not align with Table 2 due to timing differences between the receipt of funds and actual payments to vendors.

Table 4: Program Revenue and Expenses by Month

2022				
Monthly Revenues			Monthly Expenses	
January	$33,456.24		January	$110,679.28
February	$31,783.03		February	$102.60
March*	$33,482.94		March	$850.75
April	$28,083.63		April	$608.12
May	$26,893.42		May	$113.19
June	$26,977.15		June	$29,000.00
July	$27,821.93		July	$137,621.63
August	$37,940.32		August	$1,101.08
September	$36,168.05		September	$1,507.65
October	$32,382.28		October	$97.20
November	$25,656.77		November	$3,763.39
December	$34,536.41		December	$2,717.66
Total	$375,182.17		Total	$288,162.55

REC payments are made biannually. Payment for July through December 2021 RECs for $110,679.28 occurred in January 2022 as shown in Table 4. Payment for July through December 2022 RECs for $138,099.09 occurred in January 2023 and will be reflected in Table 4 in the next biennial report.

D. Green-e Certification Costs

As shown in Table 5 below, Green-e certification costs for 2022 totaled $12,543.14, which included annual verification performed by an external auditor and participant notifications to meet Green-e Energy certification requirements. The 2022 Green-e certification renewal for $16,550 was paid in 2021 and was reported as an expense in the previous biennial report.

Participant notifications included the annual prospective product content label, annual historical product content label, and new participant welcome letters with information about the Program's terms and certification. Approximately 80 percent of participants receive email communication for the two annual notifications, which keeps the distribution cost low.

Table 5: Green-e Certification Costs

2022	
External Audit	$9,000.00
Participant Notifications	$3,543.14
Total	$12,543.14

The response to this Request is sponsored by Suzanne Smith, Senior Program Specialist, Idaho Power Company.

23-14 Vote Solar Workpapers

A 10.12.23

[provided electronically]

23-14 Vote Solar Workpapers

B 10.12.23

[provided electronically]