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April 28, 2023

VIA ELECTRONIC FILING

Jan Noriyuki, Secretary
Idaho Public Utilities Commission
PO Box 83720
11331 W. Chinden Boulevard
Building 8, Suite 201-A (83714)
Boise, Idaho 83720-0074

RE: Compliance Filing in Case No. IPC-E-12-27
Annual 2023 Distributed Energy Resources Status Report

Dear Ms. Noriyuki:

Pursuant to Order Nos. 32846 and 32925 in the above-mentioned case and Order No. 34955 in Case No. IPC-E-20-30, attached for electronic filing is Idaho Power Company's Annual Distributed Energy Resources Status Report for 2023.

If you have any questions regarding this filing, please contact Regulatory Consultant Grant Anderson at (208) 388-6498 or ganderson@idahopower.com.

Very truly yours,

Connie Aschenbrenner

LDN/cd
Enclosures
cc: Terri Carlock, Idaho Public Utilities Commission

2023 DISTRIBUTED ENERGY RESOURCES ANNUAL REPORT

April 28 **2023**

INTRODUCTION

Idaho Power Company ("Idaho Power" or "Company") presents its annual Distributed Energy Resources ("DER") Status Report to the Idaho Public Utilities Commission ("Commission") as required by Order Nos. 32846 and 32925 in Case No. IPC-E-12-27 and Order No. 34955 in Case No. IPC-E-20-30.[1] The report begins with an update on participation levels and growth rates since the Company's last DER Status Report filed with the Commission in April 2022 (April 1, 2022 – March 31, 2023). The report then discusses system reliability considerations and concludes with an update on accumulated excess net energy credits and meter aggregation activity.

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[1] On page 19 of Order No. 32846, the Commission directed Idaho Power to "file an annual status report with the Commission discussing the net metering service. The report shall discuss, without limitation, the net metering service provisions and pricing and how distributed generation may be impacting system reliability." On page 11 of Order No. 34955, the Commission found "it prudent to require that the Company's annual Net Metering Report include any known or foreseeable DER related distribution circuit issues or costs and potential smart inverter functionality updates that could address the issues or lower the costs."

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I. CUSTOMER GENERATION IN IDAHO

Current Participation and Growth Rates (Exporting Systems)

As of December 31, 2022, Idaho Power's On-Site Generation and Net Metering Service ("Exporting Systems")[2] consisted of 13,865 total active systems with a cumulative nameplate capacity of 127.43 megawatts ("MW") in its Idaho service area. During the calendar year 2022, active Exporting Systems increased by 4,285 (a 45 percent increase) and an incremental nameplate capacity of 33.72 MW. All new systems interconnected in 2022 were solar photovoltaic ("PV"), with the exception of one new hydro system.

During the first quarter of 2023, the Company added 1,171 active Exporting Systems with an aggregate nameplate capacity of 9.43 MW and had 940 pending applications with an additional 12.64 MW of nameplate capacity. At the end of the first quarter of 2023, Idaho Power had 15,913 active and pending Exporting Systems, representing a 40 percent growth rate since the same time last year.

Table 1 provides the total number of active and pending Exporting Systems in the Company's Idaho jurisdiction by resource type and customer class.

Table 1 Idaho Active and Pending Exporting Systems as of March 31, 2023

Customer Segment	Solar PV	Wind	Hydro/Other	Total
Schedule 6				
Residential On-Site Generation	15,335	24	8	**15,367**
Schedule 8				
Small General On-Site Generation	70	-	4	**74**
Schedule 84				
Commercial & Industrial	221	-	-	**221**
Irrigation	251	-	-	**251**
Total Idaho	**15,877**	**24**	**12**	**15,913**

[2] On-Site Generation and Net Metering Service includes all Exporting Systems under the terms of Schedule 6, 8, or 84, designed to provide the transfer of electric energy to the Company.

Table 2 provides the total nameplate capacity of active and pending Exporting Systems in the Company's Idaho jurisdiction by resource type and customer class.

Table 2 Idaho Active and Pending Exporting Systems Nameplate Capacity (MW) as of March 31, 2023

Customer Segment	Solar PV	Wind	Hydro/Other	Total
Schedule 6				
Residential On-Site Generation	116.58	0.11	0.08	**116.76**
Schedule 8				
Small General On-Site Generation	0.52	-	0.09	**0.60**
Schedule 84				
Commercial & Industrial	8.06	-	-	**8.06**
Irrigation	23.53	-	-	**23.53**
Total Idaho	**148.69**	**0.11**	**0.16**	**148.96**

Note: Totals may not sum due to rounding.

Figures 1 and 2 detail the cumulative Exporting System counts and nameplate capacity, respectively, by customer class in the Company's Idaho jurisdiction from 2013 through the first quarter of 2023 (including pending applications).

Figure 1 Cumulative Exporting System Counts by Customer Type, 2013 – 1Q2023

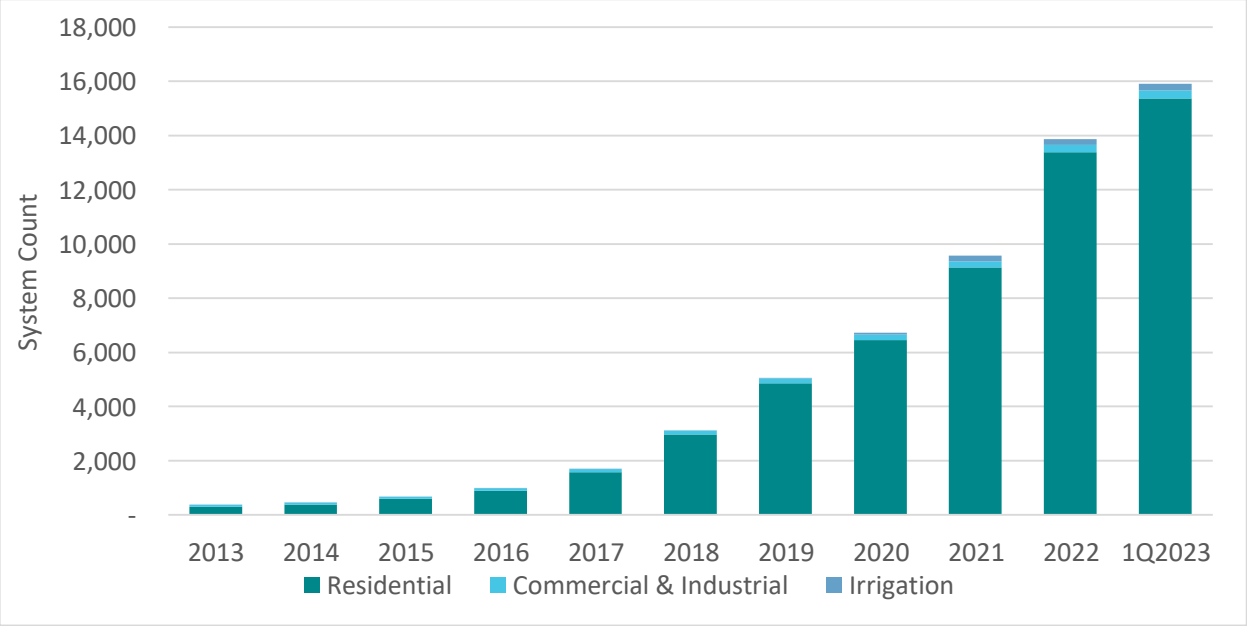
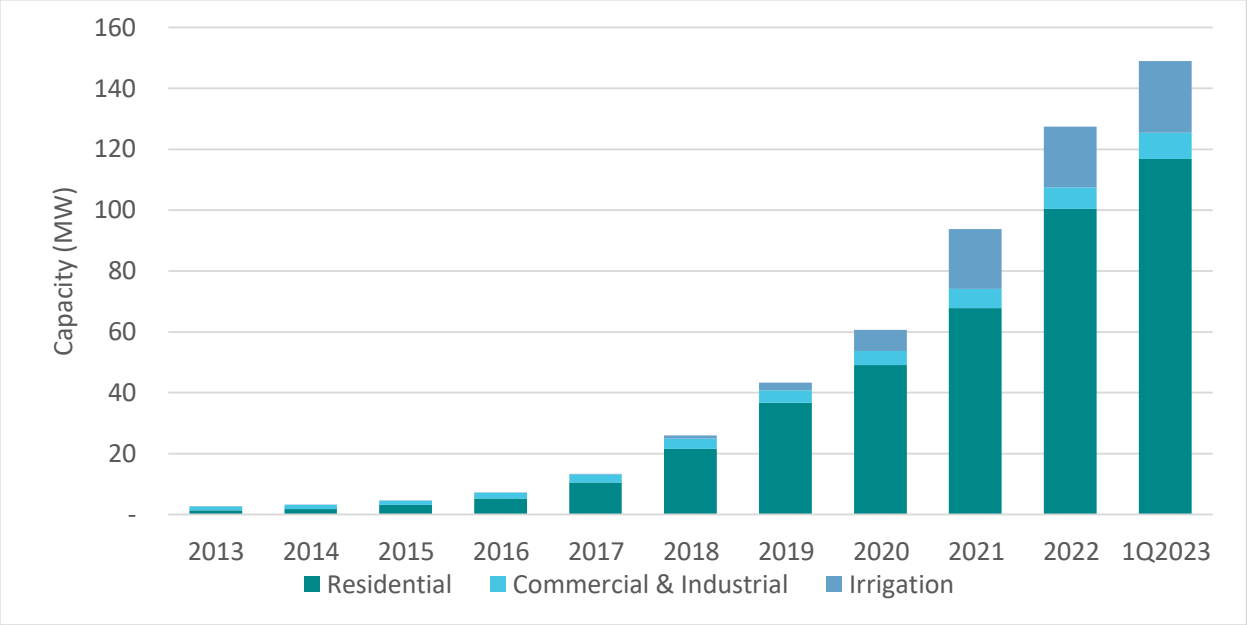


Figure 2 Cumulative Exporting System Capacity by Customer Type, 2013 – 1Q2023



II. SYSTEM RELIABILITY CONSIDERATIONS

There are 686 electrical distribution circuits in the Company's service area. Considering all customer-owned on-site generation installations across all jurisdictions, all rate classes, and all resources, as of March 31, 2023, there were 15,133 active, customer-owned on-site generation systems. These systems total approximately 138.97 MW on 485 distribution circuits – compared to 10,524 active operational systems totaling approximately 105 MW across 467 distribution circuits on March 31, 2022.

Installation Concentration versus Capacity

The circuits containing the greatest number of customer-owned on-site generation systems continue to be in Ada County, with the densest concentrations in southeast and south Boise. There are also several circuits in Elmore County with increased concentrations of customer-owned on-site generation systems.

The largest number of customer-owned on-site generation systems connected on a single distribution circuit is 222, with a total rated capacity of 1,433 kilowatts ("kW"), compared to 154 systems with a total capacity of 980 kW in 2021.

The distribution circuit in Idaho with the greatest customer-owned on-site generation capacity has 29 solar PV systems with a total rated capacity of 2,723 kW (average system size over 90 kW). This circuit primarily serves agriculture and rural customers in the Magic Valley with a summer peak load of approximately 6,100 kW. The distribution circuit in Idaho with the second-highest customer-owned on-site generation capacity has one solar PV Non-Exporting System with a total rated capacity of 1,716 kW. This circuit serves a single industrial customer.

The number of circuits with total customer-owned on-site generation capacity greater than 1,000 kW increased from nine to 16 circuits in 2022. Nine of the circuits are in the Magic Valley with one circuit serving a single industrial customer and all others serving irrigation and rural customer loads. The other seven circuits include five in Ada County and one in both Canyon and Elmore counties that primarily service residential customers with an average system size of 7.4 kW. As a comparison, Idaho Power had one distribution circuit with more than 1,000 kW of generation capacity on a single distribution feeder in 2020.

The customer-owned on-site generation connected capacity on the Company's distribution system continues to grow and has increased year-over-year from 2.7 to 3.6 percent of the total system peak load. The Company has managed the impacts on these circuits, when necessary, by requiring customer-funded distribution upgrades pursuant to Rule H and, in more rare instances, requiring customer-funded substation upgrades.

Smart Inverter Installation

All new systems applying to interconnect are required to install smart inverters[3] to support the distribution system's ongoing stability and reliability. For interconnections on Idaho Power's system, smart inverters have been required to meet certain interim certifications,[4] which meet most smart inverter requirements. Beginning January 1, 2024, Idaho Power will require inverters to meet the updated certification[5] which meet all smart inverter requirements as defined by the Institute of Electrical and Electronics Engineers (IEEE). Idaho Power will provide advance notice to customers and installers of the change in the interconnection requirement.

Idaho Power will continue monitoring and updating the Commission on any known or foreseeable DER-related distribution circuit issues or costs and potential smart inverter functionality updates that could address these issues or lower the costs. The IEEE Standard 1547 establishes the technical standard for interconnecting distributed energy resources and Idaho Power is an active participant in the review process of this standard.

[3] Order No. 34955 issued in Case No. IPC-E-20-30 approved Schedule 68, effective March 23, 2021. Schedule 68 requires smart inverter functionality to be enabled for all new applications for customer generation.

[4] Underwriters Laboratories Standard for Safety 1741 – Inverters, Converters, Controllers and Interconnection System Equipment for Use with Distributed Energy Resources, Supplement A.

[5] Underwriters Laboratories Standard for Safety 1741 – Inverters, Converters, Controllers and Interconnection System Equipment for Use with Distributed Energy Resources, Supplement B.

III. 2022 EXCESS NET ENERGY CREDIT TRANSFERS

Meter Aggregation Eligibility

Schedule 6, Residential Service On-Site Generation ("Schedule 6"), Schedule 8, Small General On-Site Generation ("Schedule 8"), and Schedule 84, Customer Energy Production Net Metering Service ("Schedule 84") provide for customers with Exporting Systems to submit requests to transfer excess net energy credits by January 31 of each year. The Company applies the following criteria[6] from Schedules 6, 8, and 84 (collectively referred to as "aggregation criteria") to all requests received:

i. The account subject to offset is held by the customer; and

ii. The meter is located on, or contiguous to, the property on which the Designated Meter[7] is located. For the purposes of the tariff, contiguous property includes property that is separated from the premises of the Designated Meter by public or railroad rights of way; and

iii. The meter is served by the same primary feeder as the Designated Meter at the time the customer files the application for the Exporting System;[8] and

iv. The electricity recorded by the meter is for the customer's requirements; and

v. For customers taking service under Schedule 1 or Schedule 7, credits may only be transferred to meters taking service under Schedule 1 or Schedule 7. For customers taking service under Schedule 9, Schedule 19, or Schedule 24, credits may only be transferred to meters taking service under Schedule 9, Schedule 19, or Schedule 24.

On December 2, 2022, Schedule 6, Schedule 8, and Schedule 84 customers with an excess net energy balance were sent a postcard reminding them of the meter aggregation process and directing them to a website with the requirements, an online form, and the deadlines for customers to apply for the transfer of eligible excess net energy credits. The Company also posted

[6] The aggregation criteria were established by Order No. 32925 in Case No. IPC-E-12-27.

[7] Schedules 6, 8, and 84 define the Designated Meter as the retail meter physically connected to the Exporting System.

[8] Schedules 6, 8, and 84 define an Exporting System as "a Customer-owned DER under the terms of Schedule 6, 8, or 84, which is designed to provide for the transfer of electric energy to the Company."

a message on all Schedule 6, Schedule 8, and Schedule 84 customers' December bills informing them of the upcoming transfer window.

Credit Transfer Requests for Calendar Year 2022

In Order No. 32925, the Commission directed Idaho Power to keep it apprised of the number of customers choosing to transfer excess net energy credits under the meter aggregation rules. As of the application deadline, January 31, 2023, the Company received 310 applications for transfer, representing an 85 percent increase from the previous year. The applications were reviewed during February against the aggregation criteria.

The Company determined that 251 of the requests were eligible for transfer based on the aggregation criteria. The total amount transferred was 19,263,396 kilowatt-hours ("kWh") generated from Exporting Systems taking service under Irrigation (87 percent), Large General (9 percent), Residential (4 percent), and Small General (less than 1 percent) rate schedules. The 19,263,396 kWh were transferred to customers taking service under Irrigation (79 percent), Large General (17 percent), Residential (5 percent), and Small General (less than 1 percent) rate schedules.[9]

The Company received 59 applications that were ineligible for transfer based on the following:

- 26 applications requested to transfer to invalid meters or non-compatible rate schedules
- 15 applications were duplicate requests
- 10 applications requested a transfer to a meter that was not on contiguous property
- 4 applications did not have credits available to transfer
- 4 applications were received after the deadline

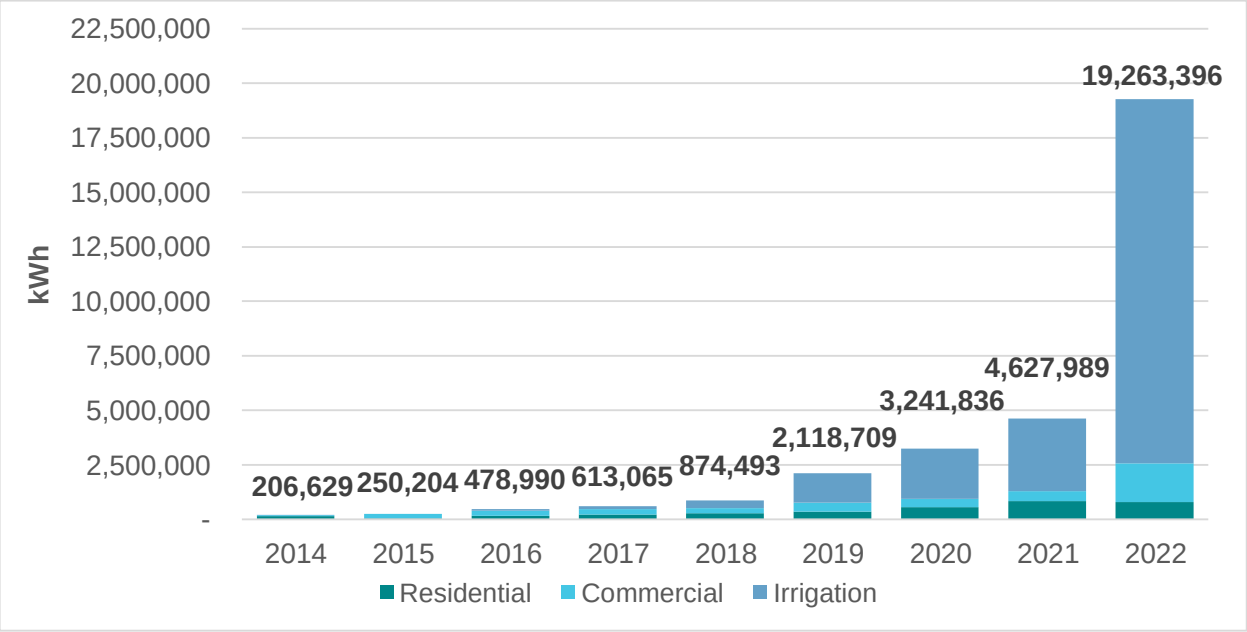
The Company contacted all customers who had requested a transfer but whose applications were denied by phone and/or mail to explain why the requested transfer was ineligible.

[9] Totals may not sum due to rounding.

Credit Transfer Magnitude

Following the implementation of the excess net energy credit transfers authorized by the Commission in Order No. 32925, the Company has experienced growth in the magnitude of excess net energy transfers, most notably within the irrigation class. The Company transferred approximately 200,000 excess net energy credits in 2014, increasing to over 19.2 million in 2022. The compound annual growth rate for excess net energy credit transfers between 2014 and 2022 was 76 percent.[10] Irrigation transferred credits increased by 402 percent year-over-year and as a percent of total credits transferred, irrigation transfers increased from 72 percent to over 87 percent of all transferred credits. Figure 3 shows the total excess net energy credit transfers for 2014 through 2022 by customer class.

Figure 3 Excess Net Energy Credit Transfers by Customer Class, 2014 – 2022

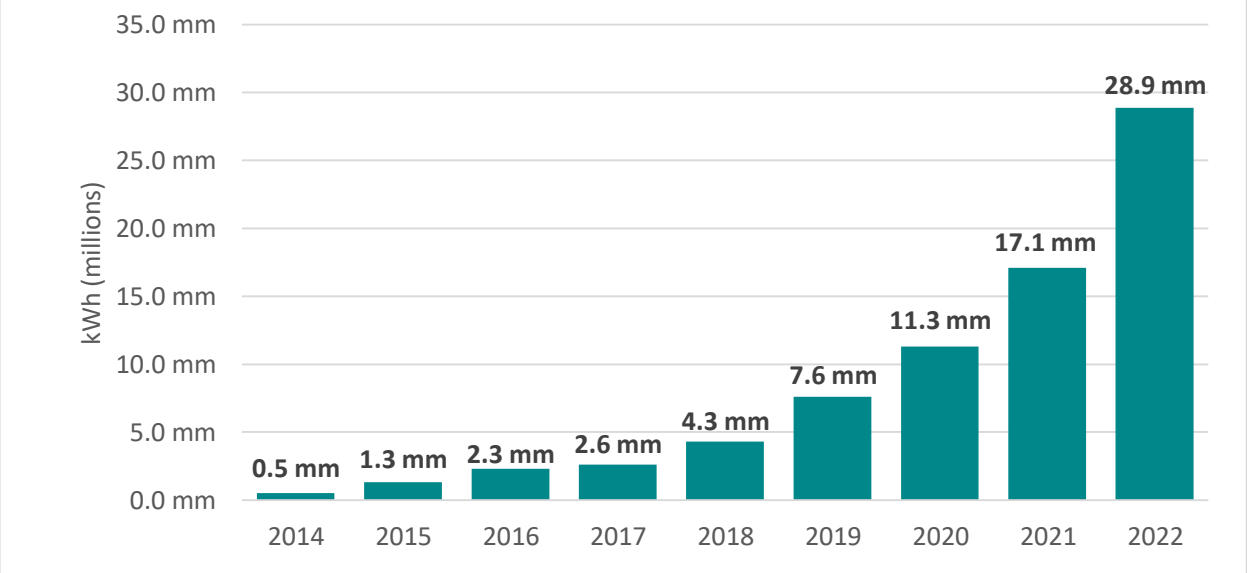


[10] The compound annual growth rate for kWh credit transfers increased from 56 percent for the transfers between 2014 and 2021.

Accumulated Excess Net Energy Credit Balances

After the implementation of the kWh crediting for excess net energy authorized by the Commission in Order Nos. 32846 and 32872 in January 2014, the Company has accumulated significant unused kWh credit balances.[11] The excess net energy credit balance at the end of 2014 was approximately 0.5 million, increasing to approximately 28.9 million kWh credits at the end of 2022. The compound annual growth rate for the accumulated unused excess net energy credits from 2014 to 2022 was 66 percent.[12] Figure 4 shows the accumulated excess net energy credit balance for 2014 through 2022.

Figure 4 Accumulated Unused Excess Net Energy Credit Balance, 2014 – 2022[13]



[11] In Order No. 32846, the Commission stated, "we find it fair, just, and reasonable for the kWh credit to indefinitely carry forward to offset future bills as long as the customer remains on the net metering service at the same generation site. Allowing the credits to carry forward indefinitely ensures that customers will be able to use their credits when they need them and thus receive the benefits of their systems."

[12] The compound annual growth rate for accumulated kWh balances was 66 percent for the change in balance between 2014 and 2021.

[13] The accumulated excess net energy credit balance represents all unused credits as of December 31. It does not reflect the potential reduction due to future offset at the premise generated or transferred to another meter for offset.

At the current growth rate for these unused excess net energy credits, Idaho Power recognizes there will likely be a need for some future regulatory action to resolve this increasing liability that will not otherwise naturally be resolved under the current regulatory treatment at the current growth rate.

In Order No. 35284, the Commission found it reasonable for an evaluation of expiring credits in the Company's comprehensive study of costs and benefits of on-site generation. Idaho Power's October 2022 Value of Distributed Energy Resources (VODER) Study in Case No. IPC-E-22-22 included a review of accumulated kWh credits on pages 133 and 134. In Order No. 35631, the Commission directed Idaho Power to file a new case requesting to implement changes to the structure and design of its on-site generation offering, which will include considerations for accumulated credits and the transfer criteria for kWh or financial credits. Idaho Power plans to file this case in the first half of 2023.

IV. CONCLUSION

Idaho Power is experiencing rapid growth in customer generation. The growth highlights the evolution of the Company's electrical grid and the importance of evaluating service provisions and pricing to ensure safe, reliable, and fair-priced electricity. Idaho Power will continue to monitor customer generation and keep the Commission informed of its impact on system reliability.