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BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE PETITION OF)
IDAHO POWER COMPANY TO STUDY THE) **CASE NO. IPC-E-18-15**
COSTS, BENEFITS, AND COMPENSATION OF)
NET EXCESS ENERGY SUPPLIED BY)
CUSTOMER ON-SITE GENERATION) **STAFF REPORT**
)

BACKGROUND

On October 19, 2018, Idaho Power Company petitioned the Commission to initiate a docket to study the costs, benefits, and rate design related to on-site generation and net excess energy provided as a resource to the Company as required by Order No. 34046 in Case No. IPC-E-17-13. Petition at 1; Order No. 34046 at 31.

In Order No. 34189, the Commission directed Staff to confer with intervening parties about the procedural and substantive scope of the docket, proposed schedule, and other matters. Order 34189 at 2. The Commission further directed Staff to report back to the Commission by February 28, 2019, after which the Commission stated it would issue additional order or notices related to the scope and procedure in this docket, including a public hearing for customers.

STAFF REPORT

As a result of Order No. 34189, the parties in this matter have met for one pre-hearing conference and three settlement meetings to start working through the proposed procedural and

substantive scope of the docket, including, among other matters, a proposed schedule and a public hearing for customers. The intervening parties in this matter are the City of Boise, Idaho Clean Energy Association, Idaho Conservation League, IdaHydro, Idaho Irrigation Pumpers Association, Rocky Mountain Power, Sierra Club, and Vote Solar.

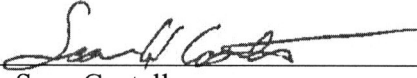
More specifically, parties are currently identifying what to study and beginning to discuss how to study each item. While this process takes time, Staff is optimistic that the collaborative approach thus far expressed in the first four meetings will continue to lend toward the construction of a reasonable and proper scope of study and methodologies, while also more likely leading to settlement. Toward that end, Parties have made significant progress identifying study items. “Table 1: Study items and Implementation Issues”, included herein as Attachment 1, summarizes the parties’ work thus far and represents the initial substantive scope the parties foresee this case embodying.

Staff also notes that while the parties have worked congenially and in good faith toward settlement, the information in Table 1 should not be interpreted as a presentation of parties’ settlement positions. Although general agreement has been reached on several important areas, parties are still working through issues and may need to adapt their approach as the process continues. Table 1 is intended to give the Commission visibility into the process and assurance that the settlement meetings are making sufficient progress.

Issues for consideration in Table 1 are separated into two phases. Phase 1 are “Study Items,” representing items that parties generally agree can and should be analyzed to determine cost or benefit. Phase 2 are “Implementation Issues,” representing issues that may benefit from some level of quantitative analysis, but require more discussion between the parties to determine how to handle each issue. While both phases are important, parties are now focusing primarily on Phase 1 study issues before moving to Phase 2 and implementation. The main categories of study and implementation areas identified by the parties are study design, costs to serve grid consumption, grid impacts with and without smart inverters, value of net exported energy, billing for consumption and compensation for exported energy, options for non-exporters, transition period/grandfathering, and rates/rates design.

Therefore, at this time, Staff, Idaho Power, and the intervening parties jointly request that the Commission allow parties to continue on their current analytical and settlement tracks and report back again in three months, on or about May 28, 2019.

RESPECTFULLY submitted this 28th day of February, 2019.



Sean Costello
Deputy Attorney General

Umisc/comments/ipce18.15scsd staff report

**IPC-E-18-15: Idaho Power On-site Generation– Study of costs, benefits, and compensation for net excess energy
Staff Report: February 28, 2019**

Note: This document will continue to be revised throughout the settlement process

Table 1. Study Items and Implementation Issues

No.	Item	Description and Comments
Phase I: Study Items		
1.	Study Design	Align with logic and methods in IPC-E-18-16 case.
	Costs to serve consumption studied based on Cost of Service (COS) and value of exported energy studied based on long term analysis (perhaps 25 years)	Parties generally agree that consumption and exported energy should be studied separately. Bright line at the meter.
2.	Costs to serve grid consumption of on-site generation customers	Cost to serve grid-consumption of on-site generators and incremental customer-related costs/benefits.
		Identify cost differences between Schedules 1 and 6 and Schedules 7 and 8. Informed by Schedule 6/8 Class COS study.
a.	Cost to serve grid consumption	Parties generally agree on this approach.
b.	Incremental billing costs	
c.	Incremental administrative costs	
d.	Incremental interconnection costs	
e.	Incremental metering costs	Includes metering and meter reading.

No.	Item	Description and Comments
	Costs to serve grid consumption of on-site generation customers (cont)	
f.	Incremental inspection costs	
g.	Revenue from fees (application, etc.)	Could offset costs.
3.	Current Grid Impacts of On-site Generation without Smart Inverters ¹	Parties generally agree to study the grid impacts of on-site generation without smart inverters.
a.	Load and demand following	Related to dispatch costs to deal with high ramp rate events, for example, clouds. Could be cost or benefit.
b.	Voltage control (including 3 phase balancing)	Could be cost or benefit.
c.	Reactive power supply	Could be cost or benefit. Includes tap changers.
d.	Operating reserves	Could be cost or benefit.
e.	Frequency regulation	Could be a cost or benefit.
f.	Other incremental distribution system impacts	Could be cost or benefit. Includes regulators.

¹ Smart inverters are defined as inverters meeting IEEE 1547 and yet-to-be-determined 1547.1 specifications and configured to meet Idaho Power's needs. The 1547.1 specification is expected to be completed late 2019 or early 2020.

No.	Item	Description and Comments
4.	Grid Impacts of On-site Generation with Smart Inverters	Parties generally agree to study grid impacts of smart inverters to determine the value of smart inverters. First: identify how the Company could use smart inverters, second: study those impacts and prioritize implementation of specific features, third: determine rules for implementation. After these three items are complete, parties can study items a. through f. (below). Idaho Power tracks each type of inverter installed on its system. None are configured for the Company's use because the 1547.1 specifications have not been completed.
a.	Load and demand following	Related to dispatch costs to deal with high ramp rate events, for example, clouds.
b.	Voltage control (including 3 phase balancing)	Idaho Power plans to configure smart inverters to hold voltage steady using a "set it and forget it" approach. Important to measure impacts of voltage control on on-site generation customer power production.
c.	Reactive power supply	Idaho Power plans to configure smart inverters to hold reactive power steady using a "set it and forget it" approach. Important to measure impacts of reactive power control on on-site generation customer power production.
d.	Operating reserves	
e.	Frequency regulation	
f.	Other incremental distribution system impacts	As applicable.
5.	Value of Net Exported Energy	Must be measurable and quantifiable.
a.	Value of exported energy	Measure on an hourly basis. Study on an avoided cost basis. This may include avoided purchased power.
b.	Value of avoided line losses	
c.	Value of avoided or deferred capacity	Ensure that the deferred value used in this assessment includes generation, transmission, and distribution assets and is calculated over the entire

No.	Item	Description and Comments
	Value of Net Exported Energy (cont)	expected useful life of the on-site generation assets. Quantify hourly load and reduction values and peak load reduction values. Should include any avoided transmission costs associated with the capacity resource. Should include reduction in water needs for consumption and cooling at power plants and avoided land costs.
d.	Value of avoided sub-transmission & distribution capital costs <ul style="list-style-type: none"> • Includes transmission voltage used for distribution in this category. 	Distinct from line losses. Look at locational value and geographical boundaries. In addition to capital costs, consider reduced operations and maintenance costs on the distribution system.
6.	Additional impacts	Assign a quantifiable value and ensure that these impacts are not double-counted (i.e. already included in energy costs).
a.	Utility impacts	These are items that may have a direct impact on customer rates.
	<ul style="list-style-type: none"> • Fuel price hedge 	Effect on utility power cost volatility by reducing reliance on wholesale purchases.
	<ul style="list-style-type: none"> • Market price suppression 	Effect on wholesale prices from less purchases by utilities to serve customers because customers are meeting their own needs.
	<ul style="list-style-type: none"> • Value of reliability and resiliency, potential future value of microgrids 	Distributed generation reliability and resiliency for customers and the grid.
	<ul style="list-style-type: none"> • Risk and safety 	Insurance premiums, OSHA compliance, danger to workers.
	<ul style="list-style-type: none"> • Avoided environmental compliance costs <ul style="list-style-type: none"> ○ Avoided cost of environmental compliance at marginal fossil-fueled power plants (ex: coal ash costs) ○ Clean Air Act compliance: criteria air pollutants (NO_x, SO₂, and particulate matter) ○ Clean Water Act compliance 	Compliance costs of reducing pollutant emissions from power plants or added compliance costs to further decrease emissions.

No.	Item	Description and Comments
b.	Avoided carbon costs <ul style="list-style-type: none"> • Potential future compliance costs 	Assign a quantifiable value based on IRP assumptions. Parties generally agree to study but clarify there is no recommendation yet on whether these values should be included in rates.
c.	Environmental and Social Impacts	These may not have a direct impact on rates, but could be studied to inform risk mitigation strategies.
	<ul style="list-style-type: none"> • Water conservation value 	Value in excess of commodity cost of water, value of avoided water pollution.
	<ul style="list-style-type: none"> • Air pollution avoidance 	Public health and environmental benefits of avoiding pollution in excess of avoidance needed for compliance.
	<ul style="list-style-type: none"> • Community/social cost of carbon 	Quantifiable value of climate damages from carbon such as net agricultural productivity, human health, property damages from increased flood risk, energy system costs (increased costs for air conditioning), etc. Benefits in excess of assumed compliance costs.
	<ul style="list-style-type: none"> • Economic development 	Including the multiplier effect on job creation – understanding this should be valued both ways to the utility (i.e. lost jobs at generating units) as well. Impact on jobs, tax revenue.
Phase II: Implementation		
7.	Billing for consumption (imports) and compensation for exported energy	Parties generally agree that it is important for the billing and compensation structure to be easily understood by customers.
a.	Idaho Power meter functions	All Schedule 6 and 8 customers have meters with one of two types of meter functionality: ~900 on-site gen customers have meters with two separate interval values (one for imports, one for exports). These are measured on an hourly basis.

No.	Item	Description and Comments
	Idaho Power meter functions (cont)	Generally, these are the meters being installed on all new on-site generation accounts. ~2,255 on-site gen customers have meters with a single net interval value (each value represents imports less exports in that hour). These are measured on an hourly basis. Generally, these meters are not being installed on new on-site generation accounts.
b.	Available data	Idaho Power is exploring the ability to configure the ~2,255 meters in a similar fashion as the ~900 meters by year-end 2019. Idaho Power will have one year of import and export data for the ~900 customers starting in mid-January 2020.
c.	Demand	Idaho Power is exploring identification of a statistically valid sample for Schedules 6 and 8, which will include the ability to encompass future growth in those classes. Idaho Power meters record 15 minute-demand values. If requested to, Idaho Power would investigate additional meter capability and report back.
d.	Masking	If separate channels are used for billing, intra-hour masking of consumption will not occur.
e.	Solar installers request better data to help customers make fully informed investment decisions.	All parties have an interest in making sure Idaho Power's customers have correct information on which to make on-site generation investment decisions.
f.	Compensation for exported energy and transferability of financial credits	If, in the future, compensation for exported energy differs from the retail rate, compensation for those credits may not be a kWh credit. Parties will consider how customers will be compensated, including if that compensation can be transferred between accounts.

No.	Item	Description and Comments
8.	Options for non-exporters	Identify method for non-export, including grid-tie limiters, and discuss study methods for available options. Determine how to inspect and verify approved grid-tie limiters or alternatives.
9.	Transition period/ Grandfathering	<p>Some, but not all, parties voiced concern that grandfathering existing on-site generating customers with current rates for an extended period (ex: 20 years) may be illegal under Idaho law. Those parties thought it might be reasonable to provide a transition period over which existing on-site generating customers would be gradually moved to the new rates.</p> <p>Other parties believe that materiality and penetration rates of on-site generating customer should be taken into account when discussing grandfathering.</p> <p>All parties are sensitive to any change in rates for existing on-site generating customers.</p>
10.	Rates/Rate Design	Rates and rate design have been the subject of thoughtful discussion in the settlement conferences so far. Many parties are interested in making sure that whatever decisions are made in this docket align with the conclusions reached in IPC's Fixed Cost Study (Case No. IPC-E-18-16). Parties generally agree that it is important for rate structures to be easily understood by customers.

No.	Item	Description and Comments
11.	Additional possibilities	Parties agree to revisit if settlement is reached on other issues.
a.	Monetization of RECs for exported energy <ul style="list-style-type: none"> • Bundled exported energy/RECs only • Give benefit to the on-site generator • Value of REC would be an issue 	Determine if Idaho Power's billing system can track on-site generators' exported energy to aggregate RECs for certification and sale. Overhead for recording RECs is too difficult for individual customers. Concerns remain about how to certify RECs, removing renewable attributes from customers' generation, and ability of billing system to provide this function.
b.	IPC monetization of on-site generator's location value	Create a regulatory asset for incentives paid to on-site generators in locations that help Idaho Power defer particularly high marginal distribution costs. Similar to incentives for DSM and in the Community Solar docket. Interested parties can continue to flesh out details, bring back ideas for consideration by the group later in the process.

CERTIFICATE OF SERVICE

I HEREBY CERTIFY THAT I HAVE THIS 28TH DAY OF FEBRUARY 2019, SERVED THE FOREGOING **STAFF REPORT**, IN CASE NO. IPC-E-18-15, BY MAILING A COPY THEREOF, POSTAGE PREPAID, TO THE FOLLOWING:

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