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BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF IDAHO POWER COMPANY'S APPLICATION TO INITIATE A MULTI-PHASE COLLABORATIVE PROCESS FOR THE STUDY OF COSTS, BENEFITS, AND COMPENSATION OF NET EXCESS ENERGY ASSOCIATED WITH CUSTOMER ON-SITE GENERATION	)	**CASE NO. IPC-E-21-21** **STUDY FRAMEWORK FOR PARTY COMMENTS**

STAFF OF the Idaho Public Utilities Commission, by and through its attorney of record, Erick Shaner, Deputy Attorney General, submits the following.

BACKGROUND

On June 28, 2021, Idaho Power Company ("Company") applied to the Commission to begin a multi-phase process for a comprehensive cost and benefit study of on-site generation as directed in Order No. 34046.[1] The Company requests that a final order be issued in this case by the end of 2021 so that 2021 data can be used for the "study design" phase in the first half of 2022 and the "study review" phase can be begin in June 2022.

On July 27, 2021, the Commission issued a Notice of Application and set a deadline for

[1] *In the Matter of the Application of Idaho Power Company for Authority to Establish New Schedules for Residential and Small General Service Customers with On-Site Generation,* Case No. IPC-E-17-13, Order No. 34046 at 31 (May 9, 2018).

intervention and deadline for the Company, Commission Staff, and intervening parties to confer regarding a proposed schedule for this matter. Industrial Customers of Idaho Power, IdaHydro, Idaho Conservation League, Idaho Clean Energy Association, Clean Energy Opportunities for Idaho, Idaho Solar Owners Network, Micron Technology, Inc., City of Boise, Kiki Leslie A. Tidwell, *pro* se, Idaho Irrigation Pumpers Association, Inc., Richard E. Kluckhohn, *pro se* and Wesley A. Kluckhohn, *pro se*, ABC Power Company, LLC, Comet Energy, LLC, and Idahome Solar petitioned for and were granted intervention ("Intervenors"; collectively with the Company and Commission Staff "the Parties").

On August 30, 2021, the Parties met and agreed that Staff would file with the Commission the Initial Framework to Study ("Study Framework") on September 30, 2021. The Study Framework is based on initial work completed by the Parties and discussed on September 22, 2021. The Study Framework does not represent agreement by all parties on what should be included in the Final Study Framework. Each Party will file Comments with the Commission to present their formal views and recommendations for the Final Study Framework to be established by the Commission.

On September 8, 2021, the Commission issued a Notice of Parties giving notice of the parties to this matter that included the Company, Staff, and Intervenors.

On September 22, 2021, the Commission issued Order No. 35176 requiring all Parties and the public to file initial comments about the appropriate scope of the Study Framework by October 13, 2021.

Also on September 22, 2021, the Parties met and continued the work started on August 30, 2021, to develop the Study Framework and agreed upon a general schedule for this case.

The Commission has jurisdiction over this matter under Title 61 of the Idaho Code. The Commission is empowered to investigate rates, charges, rules, regulations, practices, and contracts of public utilities and to determine whether they are just, reasonable, preferential, discriminatory, or in violation of any provision of law, and to fix the same by order. *Idaho Code* §§ 61-502 and 61-503; IDAPA 31.01.01.000 *et seq.*

STUDY FRAMEWORK

IPC-E-21-21 "Study Design" Objectives

Key:

Commission Staff **("Staff")**	Clean Energy Opportunities of Idaho **("CEO")**	Idaho Conservation League **("ICL")**	Idaho Solar Owners Network **("ISON")**	Industrial Customers of Idaho Power **("ICIP")**
Micron Technology, Inc. **("Micron")**	City of Boise City **("Boise City")**	Kiki Leslie A. Tidwell, *pro se* **("Tidwell")**	Richard E. Kluckhohn, *pro se* and Wesley A. Kluckhohn, *pro se* **("Kluckhohn")**	Idaho Clean Energy Association **("ICEA")**

Primary Objective (for this case – "study design phase"):

1. **ICL**: The Commission identified the following "criteria for a fair and credible study". Order No 34509 at 9.
   - "Use the most current data possible and the data must be readily available to the public and in the Commission's decision-making record."
   - The Commission will approve the final scope of the study that the Company "must design in coordination with the parties and the public"
   - "The study must be written so it is understandable to an average customer, but its analysis must be able to withstand expert scrutiny"
   - The Commission further explained that "Table 1 to the first Staff Report could serve as the basis for a scoping recommendation in the next case." Order 34546 at 7.
2. Develop a scope of a study – study to be completed by the Company that will help determine:
   - **ICL & ISON:** A neutral third party should conduct the study
     - **ICL**: Such as Energy Policy Institute at Boise State University or Idaho National Lab. A neutral expert conducting the study is more likely to build public support for a credible and fair analysis

   a. The rates and dollar bill credit to on-site generation who export energy on to the Company's grid (Export Credit Rate – "ECR").

   By evaluating:

   - Rate designs for ECR
     - **Kluckhohn**: Other PUC models

- **Kluckhohn**: Other "Models" (quantitative/mathematical) for evaluating rate design

- Value of avoided cost of energy
  - **ICL**: See our attachments for recent studies identifying methods to conduct value of solar studies. https://www.sciencedirect.com/science/article/abs/pii/S136403212030883 2?via%3Dihub
- Value of avoided cost of capacity
- Value of cost of avoided transmission and distribution
- Value of cost of avoided line losses
- Cost to integrate customer-generation exported to the grid
- Environmental and Other Benefits
- **Kluckhohn**: Idaho Power cost-of-service by customer class and by measurement intervals (month, hour, separate channel)
- **Kluckhohn**: Cost of purchase power by provider type (wind, solar, hydro-generation) by measurement intervals (month, hour, separate channel)
- **Kluckhohn**: Recommendations regarding the timing and threshold number of customer generators when the PUC should implement a change to the ECR
- **Kluckhohn**: Fair method for evaluation of all customer/classes to ensure the systemic process remains fair, just, and reasonable for all customers
  - How does IPC define fair, just, and reasonable? What factors need to be considered for each to be fair, just and reasonable?
  - What recommendations does IPC have for weighting the factors in the evaluation of fairness, justness, and reasonableness?
- **Tidwell**: How solar generated power and credits can be equitably shared with low income or workforce customers. This should include community solar farms and multi-family buildings.

- What level of onsite generation total dollar value actually materially impacts rates for all customers; are small net-metering customers bearing undue financial burdens and filings in contrast to their overall percentage of Idaho Power's last rate application reported $2,355,906,412 Idaho retail rate base?

- Idaho Power has the obligation to provide information in this case as to when a level of such on-site generation actually substantively impacts its operations to become a material factor to all ratepayers' costs.

b. The proper ECR measurement interval (month, hour, separate channel).

By identifying, characterizing, and/or quantifying implementation issues of potential ECR solutions and rate designs using the different measurement intervals.

Sub-objectives of Study:

1. Identify, characterize and/or quantify issues that potential *ECR* alternative solutions will create that will impact the Company's ability to recover costs from self-generating customers. The evaluation should include issues across the ECR solution space using the different ECR measurement intervals (month, hour, separate channel) and ECR rate designs.

    - **Kluckhohn**: "Identify, characterize and/or quantify issues that potential ECR alternative solutions will create that will impact the Company's ability to recover costs from self-generating customers. The evaluation should include issues across the ECR solution space and Non-ECR solution space using the different ECR measurement intervals (month, hour, separate channel) and ECR rate designs."

2. Identify, characterize and/or quantify issues to both participating and non-participating self-generating customers (e.g., bill impacts, subsidies) relative to potential ECR solutions. The evaluation should include issues across the ECR solution space using the different ECR measurement intervals (month, hour, separate channel) and ECR rate designs.

    - **ICL**: We recommend reordering these sub-objectives to more appropriately balance the study and build public confidence in the process.

    - **ICL**: We recommend the study address impacts to participants in the customer-generation program separately from impacts to non-participating customers because these are fundamentally distinct issues

3. Evaluate alternatives (including the process definition, frequency of updates, timing, customers affected, etc.) for updating the ECR to ensure it remains fair, just, and reasonable for all customers.

    - **Kluckhohn:** "Evaluate alternatives (including the process definition, frequency of updates, timing, customers affected, magnitude of customer impacted relative to total system, etc.) for updating the ECR to ensure it remains fair, just, and reasonable for all customers.

4. Provide precise definition of terms used in the study.

    - **ICL**: We recommend the parties in this process verify the terms used are clear to the public.

Company's Objectives from Application and Testimony

1. *Initiate a multi-phase collaborative process for a study of the costs and benefits of on-site generation.*
    - *The Company's primary objective of the study process is to establish a sustainable on-site generation offering that limit subsidies by implementing a more equitable pricing and compensation structure.*
        - **ISON**: Company Objective #1 contains a biased premise that assumes current pricing is not equitable. We suggest the statement be worded as such: "1. The Company's primary objective of the study process is to establish a sustainable on-site generation offering that fairly prices the compensation structure."
    - *Recommendations to modify the existing offering should focus on cost-of-service principles, while identifying the appropriate value of excess net energy to ensure equitable compensation for on-site generators.*
2. *To prepare and file a "credible and fair study" of the costs and benefits of distributed on-site generation using the most current data*
    - **Kluckhohn**: What factors determine "credible and fairness to the PUC"
    - **Kluckhohn**: How might the PUC Staff weight these factors?

IPC-E-21-21 Study Framework

From All Parties

Measurement Interval

1. Calculate the class revenue requirement if each of the existing customer-generators net their energy exports:
    - **CEO**: "Calculate the quantity of kWh exported rather than class revenue requirement if each of the existing customer generators net their energy exports."
    - **Staff**: By netting energy exports from consumption by the various measurement intervals, identify, characterize and/or quantify issues that could impact the determination of the revenue requirement for customer generators.
    - **ICEA**: Revenue requirement is something that can only be logically considered after we have determined the value of the ECR based on the timing of each kWh excess generation.

    a. Monthly
    b. Hourly
    c. Separate Channel
        - **CEO**: Recommends deleting "Separate Channel"
        - **ICL**: We recommend a different term. "Instantaneous Net Energy Measurement" is suggested for all locations throughout the document.

2. Calculate the export credit payments if each of the existing customer-generators net their energy exports:
    a. Monthly
    b. Hourly
    c. Separate channel
        - **ICL**: We recommend the term "Instantaneous Net Energy Measurement".
        - **ICEA**: There has not been a determination if the future compensation will be monetarily based or credit based, therefore Idaho Power should study the difference between the two and show, in their study, how each option is affected by the time intervals suggested.
        - **CEO**: Recommends deleting "Monthly", "Hourly", and "Separate Channel"

- **CEO**: "In order to compare the difference across alternatives, calculate the value of export compensation if each of the existing customer-generators were compensated for their net energy exports under the following 4 scenarios:"

		Export Value	
		Current	**Proposed**
Netting Period	**Monthly**	NO CHANGE: a. Monthly netting, 1:1 kWh credit	CHANGE EXPORT VALUE: c. Monthly netting, proposed ECR
	Hourly	CHANGE NETTING: b. Hourly netting, 1:1 kWh credit	CHANGE BOTH: d. Hourly netting, proposed ECR

3. Analyze bill impacts to existing customer-generators, stratified by usage, if energy exports are netted:
   - **ICEA**: A fair study would also evaluate and analyze the impacts of distributed energy program design to customers who have a right to meet their own needs through on-site generation.
   - **ISON**: Please analyze "bill impacts" to future customer-generators

   a. Monthly
   b. Hourly
   c. Separate Channel
      - **CEO**: Recommends deleting "Separate Channel"
      - **ICL**: We recommend the term "Instantaneous Net Energy Measurement".

Export Credit Rate ("ECR")

Avoided Energy Value

4. Provide the calculations and documentation for the avoided cost of exported energy using:
   - **Staff**: The study should consider the need for and the impact of the following factors when determining the avoided energy cost of the ECR:
      a. Different methods to value the avoided energy cost (surrogate, market, proxy, etc.)
      b. Value of the avoided energy cost during different times of the day, week, month, and or year (e.g., 12-month x 24 hour energy export profiles)

c. Different configurations of customer generators including non-exporting customers and customers with storage

- **ICEA**: The study must recognize that excess generation produced at the distribution grid level is fundamentally different than generation from utility scale projects.
- **ICL**: This section needs a time horizon for analysis.

a. Energy price assumptions in the Company's most recently acknowledged Integrated Resource Plan ("IRP")

- **CEO**: "Energy price projections of future year and time period energy marginal values that represent season, day of the week/holiday and time of day as proposed assumptions in the Company's 2021 Integrated Resource Plan ("IRP")"
- **Staff**: Please provide the assumptions currently being used from the IRP.
- **ICL**: This section needs a time horizon for analysis.

b. Market index price assumptions

- **CEO**: "Avoided risks, including avoided costs based on reduced risk and exposure to the volatile fuel prices of conventional generation resources."
- **Staff**: Please provide all market index price assumptions evaluated.
- **Staff**: Please provide market index price analysis on annually, monthly, daily, and hourly basis.
- **Staff**: Please provide analysis for translating market index price assumptions into an ECR.
- **ICL**: This section needs a time horizon for analysis.

5. Provide the calculations and documentation showing if the avoided cost of exported energy produced by customer-generators should be discounted to reflect the non-firm nature of the exported energy.

- **ISON**: "Provide the calculations and documentation showing if the avoided cost of exported energy produced by customer-generators should be discounted or increased, to reflect the non-firm nature of the exported energy."
- **Staff**: Please explain how the IRP values non-firm energy in its pricing if it does at all. If it doesn't, please explain why it does not.
    - The value of exported energy should be evaluated on the predictability that a specific amount of energy will be exported when expected (firm versus non-firm)

Avoided Capacity Value

6. Analyze the capacity value of exported energy provided by customer-generators. Provide the calculations and documentation for evaluating the capacity resource value and the contribution to peak.
    - **CEO:** "Analyze the generation capacity value of exported energy provided by customer-generators. Provide the calculations and documentation for evaluating the capacity resource value and the contribution to total system ELCC."
    - **Staff**: Please provide reasoning for the calculations used and explain why that calculation is the most appropriate compared to alternative calculations.
    - **Staff**: The study should consider the need for and the impact of the following factors when determining the avoided capacity cost of the ECR:
        a) Different methods to value the avoided capacity cost (surrogate, market, proxy, etc.)
        b) Identification of the Company resource investment being avoided (generation, transmission, distribution, etc.)
        c) Value of avoided capacity cost based on when the Company's system or local distribution area first becomes capacity deficient.
        d) Peak hours that the exported energy will avoid incremental capacity investment (ELCC, capacity contribution at peak).
        e) Potential rate designs that include paying avoided capacity costs for all export using capacity contribution at peak, or by only paying during coincident peak hours (i.e., time of generation)
        f) Different configurations of customer generators including non-exporting customers and customers with storage.
    - **ICEA**: It is important to value export generation at the time it is exported and not averaged across a larger timeframe (i.e., summer and winter difference).
        - **Boise City**: Evaluate on a class basis
    - **ICL**: This section needs a time horizon for analysis.

Avoided Transmission and Distribution Costs

7. Quantify the value of transmission and distribution costs that could be avoided by energy exported to the grid by customer-generators.
    - **ICEA**: Study both the benefits and cost of avoided energy exported to the grid on peak load.

- **CEO**: The value of transmission costs that could be avoided by exported energy should be based on total system peak loads
- **CEO (ICEA):** The value of distribution costs that could be avoided by exported energy should be based on the impacts to the distribution system at the location of the export. Any proposed analysis of distribution capacity cost avoidance based on average exports across the Company's entire system (that is, an analysis of an export's location-based value that ignores the location where the export occurs) is inappropriate. Rather, we should establish a placeholder for Locational System Relief Value (LSRV) in the current value stack for the ECR and make recommendations for further evaluation
- **ICL:** This section should address the distribution and transmission systems separately as they are distinct issues. We recommend separating the study of avoided distribution and transmission infrastructure.

Avoided Line Losses

8. Quantify the avoided line loss associated with the avoided energy value and avoided capacity value.
    - **CEO:** "Quantify the avoided marginal line loss associated with the avoided energy value and avoided capacity value."
    - **Staff:** Please provide the constraints in place to avoid duplicate counting of avoided distribution costs and avoided line losses at the distribution level.
    - **Staff**: Please provide the most recent line loss study and explain how this line loss study was validated.
    - **ICL**: This section should address losses, or more accurately the avoidance of losses, on the distribution and transmission systems separately as they are distinct issues.

Integration Costs

9. Study methods for determining the integration costs of customer-generators. Provide the calculations and assumptions showing if the ECR should be reduced to account for integrating the customer-generator resource.
    - **CEO**: "Utilize recent study of QF grid level integration cost for determining the integration costs of customer-generators. Provide the calculations and assumptions showing if the ECR should be reduced to account for integrating the customer-generator resource."

- **ISON:** "Study methods for determining the integration costs of customer-generators. Provide the calculations and assumptions showing an ECR that accounts for integrating the customer-generator resource."
- **ISON**: Study the inherent value of distributed storage integration being potentially accessed and purchased by the Company must be provided as a solution to offset integration costs of customer-generators.
- **Staff**: Please provide all methods studied for integration costs of customer-generators.
- **Staff**: The study should consider the need for and the impact of the following factors when determining the cost to integrate customer generation exported to the grid:
    a) Cost of reserves needed to balance the variability of customer generation exported on to the grid
    b) Different methods for determining cost of reserves (i.e., EIM, dispatchable capacity, etc.)
    c) Different configurations of customer generators including non-exporting customers and customers with storage
- **ICL**: The Study should explore the level of distributed resource aggregation that would impact the Company's net loads and resources. We recommend the study first address whether integrating customer-exports that remain on individual distribution circuits are meaningfully different from the normal variability in customer loads on these circuits. The study should also answer the question of what level of aggregated distributed energy exports is necessary before there is any meaningful impact on the net loads and variability the company must address through integration. Once aggregated distributed energy exports rise to the level of influence the Company's need to address net loads and generation, the study should examine whether customer-exports reduce or increase overall system integration costs.
- **ICEA**: Integration cost should not be accounted for by reducing the value of an ECR. The study should begin by examining if the "integration" of excess generation has any meaningful difference than meeting the inherent variability of customer demands on each distribution circuit. Any assessment of integration costs must recognize that on-site customer generation is spread across a variety of distribution circuits, and each system has a unique relationship to customer loads and this circuit. If the idea is to make this process more fair and equitable for the Company and each of its customers, then it is reasonable that the Company evaluates each of its customers integration cost on an individual basis. Parameters for these costs should be studies.

Boise City: *Avoided Risk*

10. **Boise City**: Quantify and analyze the fuel price guarantee value provided by customer generators at each penetration level (current levels, 10x, and 25x).
    - **Boise City**: Quantify the avoided uncertainty in fuel price fluctuations from the displaced marginal resource across the planning period.

Recovering Export Credit Rate Expenditures

- **CEO**: **"Recovering Administrative Costs of Export Credit Rate Program"**

11. Quantify the annual costs under varying assumed ECR values.
    - **CEO:** "Quantify the annual costs necessary to administer the ECR program"
    - **Staff**: Please explain how this differs from items 1 and 2 above.
12. Analyze how these costs would be allocated and recovered by rate class.
    - **Staff**: If the Power Cost Adjustment ("PCA") is the correct mechanism for recovering the ECR expenditures, please analyze and identify how the PCA would need to be modified to recover ECR expenditures.
    - **ICEA**: Study to determine costs relevant to ECR rather than costs to the Company to serve customer generation
        - Study should identify and verify that double counting does not occur.

Cost-of-Service & Rate Design

- **CEO: "Rate Design"**

13. Evaluate cost-of-service methodology and potential rate designs for customer-generators.
    - **CEO:** "Evaluate potential rate designs and transitional rates for crediting customers for providing net excess energy as a resource to the Company."
    - **CEO:** The study of rates and rate design for consumption are outside the scope of this study.
    - **CEO:** Revenue requirement analysis is outside the scope of this study. If the scope of this study process is interpreted to include revenue requirement surpluses/deficiencies, we would ask that revenue requirement surplus/deficiencies across all classes be evaluated and presented in absolute dollars.
    - **Staff**: Please explain how different rate designs for customer-generators might drive different customer behavior on energy consumption and influence energy exports from customer-generators.
    - **Staff**: Cost-of-service changes should be implemented in a general rate case

- **Staff**: From a cost recovery perspective, please provide the impacts of raising the customer charge.
- **Staff**: From a cost recovery perspective, please provide the impacts of implementing a demand charge.
    i. Demand Charge by the peak hours of the month?
    ii. Demand at peak moment?
    iii. Average of demands?
- **ICEA**: When evaluating cost-of-service and potential rate designs for self-generation customers we need to include transitional rate structures, gradual rate structures, and issues associated with all potential changes in direct relation to net excess energy. We also believe that each customer group in each class should be looked at individually.

14. **Micron**: Evaluate how various cost of service methodologies and potential rate designs impact non-customer-generators in each rate class (including Special Contract customers) including the potential for cross-subsidies between customer-generators and non-customer-generators.
15. **Kluckhohn**: Evaluate revenue-of-service methodology and potential rate designs for customer-generators and non-customer generation class of IPC customers

Project Eligibility Cap

16. Analyze pros and cons of setting a customer's project eligibility cap according to a customer's demand as opposed to predetermined caps of 25 kW and 100 kW.
    - **CEO**: "Analyze pros and cons of setting a customer's project eligibility cap according to a customer's peak electric load as opposed to predetermined caps of 25 kW and 100 kW."
    - **Staff**: Please provide analysis at 100% and 125% of a customer's demand.
    - **Staff**: This study should determine whether the size of the cap needs to consider impacts to safety and reliability of the system.
    - **CEO**: For residential customers, who are rarely impacted by the 25kW cap, include analysis of the pros and cons of maintaining the 25kW cap while also allowing customers an option to apply for a feasibility review for systems larger than 25kW yet constrained by a cap according to a customer's peak load. Estimate the costs associated with such residential feasibility reviews to inform any potential decisions on an appropriate fee.
    - **CEO**: We propose a filing, as soon as possible after an order issues on this study design proposal, of an application proposing changes to the CI&I cap. The separate CI&I cap docket should review a cap no less than a customer's peak electric load. The pros and

cons of such a change and modifications to the proposal can then be studied in the context of that docket, enabling an informed order by the Commission.

- **ISON**: Definition of "customer's project eligibility cap" should be provided so that the average customer understands this item. The context surrounding the current cap, and how advancement has changed their application should also be included to prevent the same issue in the future due to inevitable load increases.
- **ICEA**: This study needs to look at this in a few different ways. For example, the system size cap in relation to peak demand, transformer size, and the on-site customer's right to meet their own needs with their own system. We believe that customers should be allowed to install systems that meet their own needs before considering any excess generation.
- **ICL**: The Study should consider system sizes that are related to a customer's consumption.

Environmental and Other Benefits

17. Evaluation of the quantifiable environmental and other system benefits provided by customer-generators.
    - **Staff**: Please provide the criteria the Company plans to use to quantify the environmental and other systems benefits provided by customer-generators.
    - **Staff**: Please include the dollar impacts to customers of these environmental impacts. Please include dates that those costs would be incurred.
    - **Staff**: This study should consider the need for and the impact of different methods to value environmental benefits for energy exported to the grid such as the market value of Renewable Energy Credits ("REC"), cost of carbon, avoided investment cost of environmental controls, or other avoided financial costs.
    - **Staff**: Quantify the possible net value of REC sales produced by net metering exported energy and determine how the REC sales by net metering exported energy could be allocated back to customer generators.
    - **ICEA**: This section should be broken down in more detail prior to the study so we can see exactly what factors are being considered. There are many factors that fall into the environmental and other benefit bucket, and we should have an opportunity to know what the current factors are and the ability to suggest additional factors if necessary.
    - **CEO**: Ensure that the process to quantify potentially transferable environmental characteristics to customers who value such matters does not presume a need to incur the

expense of acquiring formal Renewable Energy Certification by a third party. Idaho Power billing records should provide sufficient accuracy and detail.

- **ISON**: Environmental impact must include land use costs and economic impact costs related to utility scale generation versus customer-generators, specifically rooftop applications. The current and future cost of occupying land for 25+ years needs to be added to the study to accurately provide value to kWh's generated by using existing roof space.
- **ISON**: "Other benefits" must include the inherent value of increased reliability of a distributed generation system, including the potential value of power provided locally through customer-generators with storage might provide sufficient power to operate micro-grids in various locations during emergencies which would otherwise result in extended blackouts I.E. Texas in February of 2021.
- **ISON**: "Other benefits" must include the potential value customer-owned generators could potentially provide to compliment hydro generation during a drought. During drought the value of solar power increases, which should be included as a benefit provided as a rate option during low hydro production if created by customers.
- **Boise City**: Quantify the value of grid stability, resiliency, and cybersecurity protection provided by customer generators at each penetration level (current levels, 10x, and 25x).
- **Boise City**: Quantify the value to local public health and safety from reduced local impacts of global warming such as extreme temperatures, reduced snowpack variation, reduced wildfire risk, reduced hydroelectric generation, degraded air quality, and other impacts that can have direct impacts on Idaho Power customers at each penetration level (current levels, 10x, and 25x).
- **Boise City**: Quantify the reduced risk from end-of-life disposal concerns for the Company compared to fossil-fueled resources at each penetration level (current levels, 10x, and 25x).
- **Boise City**: Quantify local economic benefits, including local job creation and increased economic activity in the immediate service territory at each penetration level (current levels, 10x, and 25x).
    a) Recommend Idaho Power incorporate the IMPLAN model analysis as completed in Maryland's 2018 Cost and Benefits of Solar study completed by Daymark. Methodology detailed at 171-180. https://www.psc.state.md.us/wp-content/uploads/MD-Costs-and-Benefits-of-Solar-Draft-for-stakeholder-review.pdf

- **ICL**: This section should be in the Export Credit rate and not placed here as a side issue.
- **ICL**: This section needs far more detail. Customer-exports that displace fossil fuels reduce utility compliance costs imposed by the Clean Air Act regarding Sulfur-Dioxide, Nitrous-Oxides, Mercury, and particulates. For years Idaho power has included carbon costs in their resource planning to address the likelihood and impact of future carbon limits, so the study must also examine the ability of customer-exports to reduce carbon risks. Because these benefits are tied directly to the electric system and can increase as the amount of clean energy added increases, the study should explore how growth in customer-exports can increase this benefit over time.

18. **Boise City** – Additional Environmental and Other Areas to Study:

A. Quantify the total avoided carbon emissions from on-site generators and the benefit of avoided costs of compliance with carbon emissions regulation at each penetration level (current levels, 10x, and 25x) and incorporating the following carbon costs:

i. 2021 IRP Planning Case Carbon Cost.

ii. $51 per metric ton of CO2 – 2020 social cost of carbon at 3% discount rate from Interagency Working Group on Social Cost of Greenhouse Gases. (https://www.whitehouse.gov/wp-content/uploads/2021/02/TechnicalSupportDocument_SocialCostofCarbonMethaneNitrousOxide.pdf at 5)

iii. $93 per metric ton of CO2- to achieve Net zero emissions by 2040 as identified in Kaufman, N., Barron, A.R., Krawczyk, W. et al. A near-term to net zero alternative to the social cost of carbon for setting carbon prices. (https://www.nature.com/articles/s41558-020-0880-3#citeas)

B. Quantify the benefits from the following avoided environmental impacts of distributed PV at each penetration level (current levels, 10x, and 25x):

i. Methane: Quantify the avoided methane leakage from the displaced marginal natural gas resource, incorporating natural gas production, transmission rates and intra-plant leakage/loss throughout. The Gas Index 2020 "Where Leaks Occur" report identified 338 grams methane per Mcf natural gas through the production and distribution systems to Boise. Utilizing the identified total methane leakage avoided from distributed PV, quantify the avoided social cost of methane utilizing the February 2021 Interagency Working Group on Social Cost of Greenhouse Gases reported $1500 in 2020 dollars per metric ton of CH4. (https://www.whitehouse.gov/wp-content/uploads/2021/02/TechnicalSupportDocument_SocialCostofCarbonMethaneNitrousOxide.pdf at 5)

ii. Water: Quantify the avoided acre feet and cost of water from decreased water use required for electric generation as Crossborder Energy quantified in

Arizona Public Service costs and benefits of distributed generation study (https://www.seia.org/sites/default/files/resources/AZ-Distributed-Generation.pdf at 12).

iii. Land: Quantify the land use required per MW of utility scale solar generation in an acre/MW calculation. Utilizing 2021 IRP preferred portfolio, quantify potential for avoided land costs and acres preserved by distributed PV compared to planned utility scale solar deployment.

C. Utilizing the 2021 IRP Climate Change scenario with increased hydro variability year over year, high gas price, and high load growth, quantify the avoided costs at each penetration level (current levels, 10x, and 25x) of distributed energy resources.

Implementation Issues

Billing Structure

19. Explain how potential customer-generators and on-site generation system installers will have accurate and adequate data and information to make informed choices about the economics of on-site generation systems over the expected life of the system.

- **Staff**: In the study, please provide plans the Company intends to take in order to display this information for potential customer generators and on-site generation system installers.
- **Tidwell:** An automatic application of credits to production should occur monthly without an on-site generator being tasked to manually request such application. Idaho Power has the billing software capabilities to apply these credits in an automated way.
- **ICEA**: Residential Solar Energy System Disclosure Act 1182 - This was a law passed in 2019, supported by Idaho Power, that requires solar companies to meet certain requirements when selling solar systems. There needs to be an evaluation on any suggested changes to the ECR and net metering process to ensure that solar installers are capable of meeting the requirements of this Law. The ability to inform potential customers of the true value of on-site generation and the ECR's associate with it, both ethically and accurately, is imperative.
- **ICEA**: The information and data provided by the Company cannot be so complicated that the consumers or installers can't make sense of the information or process.
- **ICEA**: Who gets to determine what the expected life of a system is? It needs to be clear if the expected life of the system is based on the solar panels, inverters, or any other necessary component of the system.

20. **Boise City:** Explain how seasonal and time-of-delivery price differences will be used to help align customer generated exported energy with the Company's system needs at each penetration level (current levels, 10x, and 25x).

Export Credit Expiration

21. Quantify the magnitude, duration, and value of accumulated export credits.
    - **Staff**: If the Company should change the base actual data in any way, (i.e., normalizing the data) please provide the analysis on both before and after the data was altered.

22. Explain the need for the credits to expire.
    - **Staff**: In the study, please explain how export credits will be properly tracked if export credits expire.
    - **Staff**: The study should determine how credits based on kWh vs. a dollar value based on avoided cost will affect the need for policies regarding credit expiration.
    - **Staff**: Please explain how excess credits will be handled at end of the expiration period.
    - **ISON**: Credits do not need to expire, the study should determine if the profit recovered from the initial sale receives more benefit, interest and subsidies in favor of the company. We suggest changing to "Explain if there is or is not a need for the credits to expire." Further, there is a potential cost to the customer for generating power which cannot be exchanged for direct compensation. Profits from a public utility should be provided directly to the customer-generator instead of only being carried as credit for future use.
    - **ICEA**: Any examination of whether to expire credits must examine whether this policy choice has an unfair impact on the majority of system owners due to the circumstances of a few system owners.
    - **ICEA**: If credits expire this would encourage customers to use more energy to consume the accumulated credits prior to expiration. The study should examine this impact. By allowing the credits to expire there would be no incentive for consumers to design systems for future purchase, such as electric cars, which is contradictory to other state initiatives such as the electrification of transportation.

    a) Show how the Company does or does not benefit from the expiration of customer export credits.

- **Staff**: If the Company collects money from the customer base for the credits awarded and those credits expire before the Company has to pay them, please explain how this may or may not constitute a taking.
- **Staff**: Please explain how the Company will handle expired credits that have been recovered from customers.
- **ICEA**: The study should also show how the customer does or does not benefit from the expiration of export credits. Credits represent value provided to the company, a kwh, the company then sold to a neighbor at the retail rate. The study should examine the impacts of having these credits expire without compensating the customer for the value of the credit. It should not be up to the Company to determine if this value has an expiration date, that value belongs to the customer and it is up to their discretion on when, how or if they use the value they are owed for their net excess energy.

b) Show how non customer-generators are harmed or benefited from the expiration of customer export credits.

i. Quantify, the impact to non customer-generators of a 2-year, 5-year, and 10-year expiration period.

- **Staff**: Please show how credits that have been billed for are returned to customers.
- **ICEA**: This study is to determine the value of an ECR not to determine the duration on which the export has value.

Frequency of Export Credit Rate Updates

23. Quantify the impact of biennial updates as compared to annual updates of the ECR.

- **Staff**: Please explain the process, case, or mechanism (e.g., IRP, separate case, etc.) that ECR updates will be determined. Please identify and examine if updates will be based off a regular schedule or if there are specific triggers that could be identified signaling the need for a change in the ECR.
- **ICL**: The Study should consider whether establishing a timeline for updates in this one area is fair, just and reasonable when there is no similar timeline for updating the Company's overall electric rates. The Study should consider how the timing of updates impacts the ability of customers to make informed decisions about a product that lasts for 20 years or more. The Study should consider how the timing of updates impacts

customer-owned system providers to provide rigorous information and informed forecasts to their potential customers.

- **ICEA**: If the ECR is updated too frequently, there would be no way for companies to provide an assumed future value of the export credit rate. If it is believed that a frequent update is necessary, then the Company should be required to provide projections for such update to offer providers of on-site generation with usable data to comply with the law. We believe that these updates, at a bare minimum, need to be connected to the IRP process.

ICIP: Off-site Non-Exporting Facilities

24. **ICIP:** Analyze Feasibility of off-site Non-Exporting net metering facilities (Please see Comments from ICIP for additional comments on the case).
    a) Analyze how DER energy could be credited to the physical site of the DER's actual load
        i. Determine if credited DER energy would be used to offset customer's load in real time or over a predetermined time period (e.g., month, year, or billing period)
    b) Analyze whether customers with multiple accounts/meters/locations would be able to amalgamate its disparate load locations for purposes of consuming the load from a single or multiple off-site DERs
    c) For use of the Company's transmission and distribution system:
        ii. Determine how the Company would be Compensated for its use
        iii. Determine impacts of customers using transmission and distribution system for off-site DER
    d) Analyze physical (e.g., engineering) or legal limitations of off-site DERs

25. **Boise City** – Additional Areas to Study:
    A. Utilize consistent and reasonable penetration levels of on-site generation throughout study. Current levels, 10x, and 25x would be appropriate.
    B. Quantify and evaluate the customer generator capacity resource value for customer generators with 4 hours of available on-site energy storage at the penetration levels indicated above according to the method agreed to for calculating capacity payments in the IPC-E-18-15 settlement agreement and according to ELCC value.
    C. Quantify and evaluate the customer generator capacity resource value for solar PV customer generators at the penetration levels and according to the method agreed to

for calculating capacity payments in the IPC-E-18-15 settlement agreement and according to ELCC value.

D. Using the method to calculate the avoided cost of energy agreed to in the IPC-E-18-15 settlement agreement, compare the avoided cost of energy rates a customer-generator would have received given a typical rooftop solar PV output profile in southern Idaho, with the cost of the Company's actual marginal resource for each hour of the year in 2018, 2019, and 2020.

26. Tidwell – Comments:

a) Please see Comments from Kiki Tidwell for additional comments on the case.

b) Provide studies on the benefits to the grid and to all ratepayers when onsite generation and micro-grids can reduce load at peak power demands.

c) This study should be designed to focus on how to encourage more distributed generation, more sharing of electrons and credits with workforce or low-income customers, and more benefit to all Idaho ratepayers through microgrids which would alleviate the need for expensive and under-utilized peaker plants.

d) Study the physical constraints of existing rules for on-site generators in multifamily buildings.

e) Please provide updated facts and data about total on-site generation information.

Respectfully submitted this 30th day of September 2021.

Erick Shaner
Deputy Attorney General

Technical Staff: Taylor Thomas

i:umisc:comments/ipce21.21estt framework

CERTIFICATE OF SERVICE

I HEREBY CERTIFY THAT I HAVE THIS 30th DAY OF SEPTEMBER 2021, SERVED THE FOREGOING **STUDY FRAMEWORK FOR PARTY COMMENTS,** IN CASE NO. IPC-E-21-21, BY E-MAILING A COPY THEREOF, TO THE FOLLOWING:

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CERTIFICATE OF SERVICE