BEFORE THE

IDAHO PUBLIC UTILITIES COMMISSION

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IDAHO PUBLIC UTILITIES COMMISSION

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**

DIRECT TESTIMONY OF STACEY DONOHUE

IDAHO PUBLIC UTILITIES COMMISSION

DECEMBER 22, 2017

Q. Please state your name and business address for the record.

A. My name is Stacey Donohue. My business address is 472 West Washington Street, Boise, Idaho.

Q. By whom are you employed and in what capacity?

A. I am employed by the Idaho Public Utilities Commission as the Program Manager of the Technical Analysis Section in the Utilities Division.

Q. What is your education, experience and background?

A. I received a B.A. in History from James Madison University in 1999 and a Master's of Public Administration (M.P.A.) from Boise State University in 2010. Prior to joining the Commission Staff in 2010, I was employed as an Energy Specialist at the Idaho Office of Energy Resources where I managed the administration of energy efficiency and renewable projects. I have attended the New Mexico State University Center for Public Utilities' course in Practical Regulatory Training.

I serve on Idaho Power's Integrated Resource Planning Advisory Council and its Energy Efficiency Advisory Group, Avista's Energy Efficiency Advisory Committee, and the Regional Technical Forum's Policy Advisory Committee. I have filed comments representing Staff's position on integrated resource plans, community solar, fixed cost-adjustment mechanism designs and associated recovery, electric and gas demand-side management (DSM) program design and prudency, and low-income weatherization programs. In addition, I have filed testimony in three general rate cases.

Q. What is the purpose of your testimony?

A. My testimony will address the Company's request to create new rate classes for R&SGS (Residential and Small General Service) net metering customers.

Q. Please summarize the Company's request.

A. The Company has requested authorization to separate R&SGS net metering customers into two new customer classes. The Company claims that these customers are different than standard service customers and benefit from an unfair cost shift from standard service customers.

Q. Please summarize your testimony.

A. I will provide some background information on Idaho Power's net metering offering, and I will show that Staff's analysis of consumption data finds no evidence justifying a separate rate class for net metering customers. I will show that the Company's calculation overstates the future cost shift and present Staff's analysis of the cost shift driven by excess generation. I will then explain Staff's proposal to modify Schedule 84 to remove the cost shift caused by excess generation and show how Staff's proposal allows net metering to grow while preserving the ability of customers to offset their own consumption. Finally, I will show that net metering does not harm low income customers and the process proposed by the Company in this case is faulty.

IDAHO POWER'S NET METERING OFFERING

Q. Please describe the size of the net metering resource currently on the Company's system.

A. Residential solar makes up 94 percent of the Company's net metering resource and totals 8.3 megawatts (MW) of nameplate capacity as of June 2017. That is approximately 0.3 percent of the Company's 3,400 MW system capacity. If the Company's median growth projection for residential solar is realized, the Company will have 40 MW of residential solar in 2022. For context, Idaho Power's system peak-hour load requirement is forecast to grow by 50MW for each of the next twenty years.[1]

Q. Is the Company financially harmed by net metering?

A. No. The Fixed Cost Adjustment (FCA) allows the Company to recover its fixed costs associated with reductions in energy usage for the R&SGS classes for any reason. The FCA ensures that the Company remains indifferent to reductions in energy sales regardless of the reason. Economic downturns, weather, expansion of natural gas space heat, energy efficiency, and net metering can all

[1] Idaho Power's 2017 Integrated Resource Plan, page 21.

cause declines in energy sales.

Q. On page 20 of his testimony, Mr. Tatum states the "Company's filing is intended to facilitate the expansion of on-site generation in a way that is both scalable and sustainable into the future…." Do you agree with this goal?

A. Yes. I believe that scalable and sustainable expansion of the Company's net metering offering is a reasonable goal.

Q. Why do you support scalable and sustainable expansion of the Company's net metering offering?

A. Because it allows customers to offset their own consumption in the same way that customers have always been able to offset their own electric consumption through reduced usage, energy efficiency, natural gas and wood space heat, and all other methods. The Company does not concern itself with what happens on the customer's side of the meter for any other customers, and I do not believe it appropriate in this case either.

Additionally, the Company has shown that net metering lowers costs for all customers. According to the Company's presentation at the June 27, 2016, "Net Metering Customer and Stakeholder Workshop" (originally included as Exhibit 10, page 11 of Ms. Aschenbrenner's direct testimony, included here as Exhibit No. 112), an average net metering customer is 26 percent less expensive to serve than an average standard service residential customer.[2] Net metering lowers costs to serve because it reduces capacity and energy costs the Company would otherwise incur to serve that load.

NO EVIDENCE JUSTIFYING SEPARATE RATE CLASSES

Q. On what basis did the Company support its position that net metering customers should be moved into a separate rate class?

A. On page 25 of her testimony, Ms. Aschenbrenner states that

> [i]t is long standing ratemaking practice to establish separate customer classes to set rates for segments of customers with different costs of service or where the nature or type of load is distinctly different from their current customer classification.

On the same page, she adds "pattern of use" as another differentiating factor.

Q. Did the Company include a cost of service (COS) study to provide evidence for its claim that net metering customers should be in separate customer classes?

A. No, the Company did not provide a COS study. Instead, it provided the load profiles of average net metering customers compared to average standard service customers on a single peak day in 2016.

Q. Did the Company analyze annual consumption for its

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[2] The figures presented at the Stakeholder workshop are Company statements, not the results of a cost of service study.

net metering and standard service customers in this filing?

A. No.

Q. Would you agree that the "two-way relationship with the grid" (Application at 8) is a fundamental difference between net metering and standard service customers?

A. No. Dr. Morrison's testimony shows that the average residential net metering customer pushes very little energy onto the grid. Most of the energy produced is used to offset the customer's consumption.

Further, the Company did not claim that net metering could increase maintenance or pose a safety hazard to its system, and it did not specify additional investments that it would be required to make to accommodate net metering growth or identify at what level of penetration any investments would be needed.

In fact, the Company's 2017 Annual Net Metering Status Report (attached as Exhibit 9 to Ms. Aschenbrenner's direct testimony, included here as Exhibit No. 110) described a local distribution circuit that is still performing up to required standards with 32 percent solar penetration. The report also states that the Company "reviews several factors" (page 15) when considering net metering applications, which include confirming "adequate transformation and conductor capacity, as well as phasing (single versus three phase) match." (Id). The Company confirmed that it "has not denied any net metering applications due to system limitations, but continues to carefully monitor requests…." (Id.)

This suggests that the Company could deny a net metering application rather than incur substantial system cost. It makes sense that net metering has minimal grid impacts since most of the energy produced is consumed on-site rather than pushed back onto the grid.

Because most of the energy produced by net metering is consumed on site, grid operations are not impacted, and there are no quantifiable cost impacts to other customers, it is difficult to conclude that net metering customers are different from other customers in any meaningful way.

Q. Did Staff conduct an analysis to determine if net metering customers are different from standard service residential customers in the nature, type, or pattern of use?

A. Yes. Dr. Morrison analyzed annual consumption differences between all of the Company's 2016 net metering customers and a stratified random sample of the Company's standard residential service customers. Dr. Morrison found that "the distribution of individual consumption patterns from both groups is nearly identical" and "consumption patterns of both groups are similar." Morrison Direct at 17. The finding that these customers are almost indistinguishable contradicts the Company's claim that net metering and residential standard service customers are different in their nature, type, or pattern of load.

COST SHIFT CALCULATION

Q. Is the cost shift driving the Company's request to separate net metering customers into new customer classes?

A. No. Ms. Aschenbrenner states on page 36 of her testimony:

> As discussed in Mr. Tatum's testimony, other intra-class subsidies do exist and continue to exist absent fully unbundled cost-based rates; however, the distinct differences between the time, nature, and pattern of use by standard service customers and R&SGS customers with onsite generation is what is driving the need for separate rate classes.

Further, on page 26 of her testimony, Ms. Aschenbrenner writes that "R&SGS customers who take standard service from Idaho Power are set apart in a separate customer class not because of the amount of energy they use but because the nature of energy use is different from one another."

Q. If the request to separate rate classes is not driven by the need to correct a cost shift from standard service customers to net metering customers, why is the Company concerned with the cost shift?

A. That is not entirely clear. The current cost shift is extremely small, and even under the Company's growth projections it is anticipated to remain very small in proportion to residential class revenues.

Q. Did the Company include an analysis of the cost shift in this filing?

A. None of the three Company witnesses testified to the size or calculation of the cost shift. However, Ms. Aschenbrenner included the Company's 2017 Annual Net Metering Status Report as Exhibit No. 9 to her testimony. That report claimed the cost shift from standard service customers to net metering customers in 2016 was $116,682, which is 0.023 percent of the $515 million generated by the residential class in the same year.

While this is very small, the Company's 2016 Annual Net Metering Report claimed the cost shift could grow to between $755,000 and $1.9 million by 2021 (Exhibit No. 111). Assuming the residential class revenue generation remains at 2016 levels, the projected $1.9 million cost shift would constitute 0.37 percent of future residential sales.

Q. Do you agree with how the Company calculated this projected cost shift?

A. No. In order to estimate the projected per-customer cost shift, the Company created a "strawman" future net metering customer using usage data from non-net metering residential customers with average usage.

The Company's data provided to Dr. Morrison shows that average net metering customers have higher usage than average standard service customers even after accounting for their own on-site generation. After offsetting their consumption through their own on-site generation, an average net metering customer consumes 13,113 kilowatt hour (kWH) annually from the Company. By comparison, an average non-net metering customer consumes 11,781 kWh annually from the Company.

Nevertheless, the Company then applied the effects of a 6kW solar photovoltaic (PV) system to the average residential customer usage to create its "strawman" future net metering customer.

Because *any* customer with below average usage receives a subsidy from *any* customer with above average usage, applying a 6kW solar PV system to average usage significantly reduced usage below what is observed with actual net metering customers in the sample the Company provided to Dr. Morrison.

Based on this methodology, the Company calculated a $444 subsidy per its future "strawman" net metering customer. This estimate is highly speculative because it is not based on observed actual usage of net metering customers.

The Company then multiplied this figure across its projected growth in net metering customers and determined that the future cost shift could range from $755,000 to $1.9 million over the next five years.

Q. How should the cost shift have been calculated?

A. Future net metering customer usage should have been forecast using actual net metering customer consumption. <u>After offsetting their consumption from the Company with their own on-site generation</u>, the average net metering customer uses 1,332 kWh more energy annually than an average residential customer.

Q. Did Staff conduct its own analysis of the cost shift?

A. Yes. Staff does not believe that power consumed by the customer at the time it is produced by the customer's own generation should be included in the cost shift calculation. The only transactions that should be considered are those that happen at the meter: 1) the power supplied by the Company, and 2) excess generation supplied by the customer.

The Company is currently paying net metering customers retail rates for the energy net metering customers push across the meter and back onto the grid. Any payment amount that exceeds the cost the Company would have incurred to acquire that energy is a subsidy to net metering customers.

By applying avoided cost rates to the excess generation only, Dr. Morrison calculated the current subsidy from the body of standard service ratepayers to an average net metering customer to be $100.63 annually.

Using the Company's most aggressive forecast for net metering growth, the cost shift in 2022 would be about $708,000. Assuming that residential class revenue remains stable at $515 million, the cost shift represents 0.14 percent of the annual residential class revenues.

Q. Why do you believe the cost shift should be addressed even though it is relatively small?

A. The cost shift should be addressed because it is caused by an inappropriate valuation of energy delivered to the grid by net metered residential customers and not, for example, by certain inevitable subsidies created by consumption patterns, which cannot be controlled by the Company or the Commission.

Q. Company witness Tatum claims that "Cost shifting is generally accepted and regulators nationwide have attempted to address it." Tatum Direct at 14. Please respond to the suggestion that the Idaho Commission should follow the lead of other states on this issue.

A. I have not reviewed the consumption data, cost shift calculations, and evidence presented in other states.

I have, however, reviewed the consumption data, cost shift calculations, and evidence presented by the Company in this case. The evidence in this case shows that net metering customers as a group are nearly indistinguishable from standard service customers and create a de minimis cost shift relative to class revenues, but that cost shift should nevertheless be addressed because it relates to the fairness of the cost the Company is paying for a resource.

Q. Why do you recommend that the Commission address this cost shift?

A. If the cost shift were caused by low usage, I would not support addressing it because that would single out one type of customer who reduces usage from all others who reduce usage. However, over-valuing the excess generation produced by net metering customers creates a small cost shift. Since this is the only way that net metering customers are different from other customers and has the potential to harm other customers if that generation is over-valued, I recommend addressing it.

STAFF'S PROPOSAL TO CORRECT THE COST SHIFT

Q. Please describe Staff's proposal to correct the cost shift.

A. In order to correct this cost shift, Staff proposes to value excess generation produced by net metering customers at an avoided cost rate. This does two things:

1) it more fairly compensates net metering customers for the resources they are contributing to the system, and 2) it eliminates the cost shift associated with excess generation. Dr. Morrison used the Company's DSM avoided costs in his analysis because they are public and readily available, but he and I both recommend a new docket be initiated to determine the avoided cost value that most accurately reflects the value of this resource.

DSM avoided cost rates occur in five time blocks (Summer On-Peak, Summer Mid-Peak, Summer Off-Peak, Non-Summer Mid-Peak, and Non-Summer Off-Peak) to reflect the marginal resource the Company would use or acquire to meet load in those hours. In order to use those hourly time blocks to value excess generation for net metering, consumption and generation must be metered on a net-<u>hourly</u> basis. This is a change from the Company's current practice of metering on a net-<u>monthly</u> basis.

In addition, metering on a net-hourly basis addresses the Company's concern that metering on a net-monthly basis allows net metering customers to escape paying for the grid in the hours they are net consumers.

Critically, neither of these changes require a new rate class. Both can be made with modifications to Schedule 84.

It is also important to note that Staff's proposal only eliminates the cost shift caused by excess generation, which is the only way that net metering customers are different from standard customers as a class. Other cost shifts associated with other-than-average billed consumption remain, just as they remain for any other standard service residential customer.

Q. How will this impact current net metering customers?

A. Using the Company's DSM avoided cost rate as a placeholder for the revised excess generation credit, Dr. Morrison calculated that these two changes would increase the average net metering customer's bill by $8.39/month, which is $100.63 annually. This amount exactly offsets the current subsidy received by net metering customers described earlier.

Q. The Company states that the current net metering pricing structure does not adequately reflect the cost to serve net metering customers who use grid services every hour of the month, but pay less than their respective share of costs when generation is valued at the full retail rate and netted against consumption on a monthly basis. Application at 3. Does Staff's proposal addresses that concern?

A. Yes. By adjusting the credit for excess generation from the retail rate to an avoided cost rate and billing on a net-hourly, rather than a net-monthly basis, Staff's proposal addresses both of these concerns.

Q. Net metering consists of several different technologies, how does an avoided cost rate approach address different technologies?

A. Using an avoided cost structure to value the excess generation is resource agnostic: It is valued no more or less than the cost the Company would have otherwise incurred to meet load according to its generation profile.

Q. Does Staff's proposal respond to the Company's goal of making net metering "both fair and sustainable into the future"? (Tatum at 4.)

A. Yes. It allows net metering to expand, which according to the Company lowers costs for all customers, while making standard service customers indifferent to costs they pay for excess generation provided by these systems.

NET METERING IS SIMILAR TO CABIN USAGE AND ENERGY EFFICIENCY

Q. Ms. Aschenbrenner's testimony claims that net metering customers whose usage nets to zero are not the same as vacation homes (i.e. cabins) with no kWh usage in a month. Do you agree with her characterization?

A. No. In her example, Ms. Aschenbrenner maintains that cabins are different from net metering customers because when cabins do not receive an energy bill, it is because they did not use the grid. But that overlooks the fact that all other customers paid for the cabin's stand-by service (i.e., fixed costs) in the month that the cabin's energy use did not cover its fixed costs. As Exhibit 10, page 6 of Ms. Aschenbrenner's testimony shows (included as Exhibit No. 111 to my testimony), fixed costs are 67 percent of service costs for residential customers.

The cost shift that the Company claims to be addressing for net metering customers is not unique to net metering - it happens with any customer who uses less than average energy for any reason. In addition to cabins, this includes homes with natural gas or wood space heat, fewer occupants, and energy efficiency measures.

However, Staff's proposal to meter net metering customers on a net-hourly basis resolves the issue of net metering customers not paying for the grid in hours when they are net consumers.

Q. On page 31 of her testimony, Ms. Aschenbrenner states that:

> A customer with on-site generation and a customer who installs an energy efficiency measure are similar in that they are both able to reduce the amount that they are billed for energy; however, a customer who installs an energy efficiency measure is reducing their reliance (and lowering their cost to serve) in every hour that measure is called upon. That is, the energy efficiency measure is always delivering energy reduction. On-site generation only reduces the demand for grid energy in the hours the system is operating. When the system is not generating, the grid is relied upon to serve the full demand.

Do you agree with this assessment?

A. No. A customer who installs a net metering system is almost identical to a customer who installs an energy efficiency measure. An energy efficiency measure only delivers energy reduction in the hours that it is functioning, which is the same as a net metering system. For example, if a customer chooses to override the efficiency setting on a smart thermostat, the device does not provide savings during that time and the grid is called upon to serve higher demand.

Q. On page 29 of her testimony, Ms. Aschenbrenner claims that a net metering customer's usage is not similar to a standard service residential customer who has little monthly kWh usage. Do you agree?

A. No. To defend this statement, the Company provides a chart showing the differing load patterns between net metering and standard service residential customers on a single day. One day of load pattern data does not support a claim about monthly usage. Further, Ms. Aschenbrenner's statement assumes that net metering customers are low usage, but Dr. Morrison's analysis shows that after offsetting their consumption with their own on-site generation, the average net metering customer uses 1,332 kWh more annual energy from the Company than non-net metering customers.

Q. Ms. Aschenbrenner admits on page 35 of her testimony that net-zero customers are not representative of all net metering customers. Do you agree? What percentage of the Company's net metering customers are net-zero?

A. I agree with Ms. Aschenbrenner on this point. Dr. Morrison's analysis of the data provided by the Company shows that only about 11.5 percent of net metering customers are net-zero and the remaining 88.5 percent are not.

Q. Do you believe it is appropriate to create a separate customer class for a group of customers based on 11.5 percent of that group?

A. No.

THE COMPANY'S PROPOSED PROCESS AND CONSUMER PROTECTION

Q. Ms. Aschenbrenner suggests on page 24 of her testimony that the Company's plan to study the costs and benefits after establishing separate rate classes for net metering customers aligns with feedback from stakeholders gathered in advance of this filing. Do you agree?

A. No. Stakeholders were in favor of a study to determine the costs and benefits of net metering, but the Company made no indication that it might conduct the study <u>after</u> determining the need for separate rate classes. As a participant in those meetings, it was clear that stakeholders were interested in that study happening before a significant decision such as a rate class determination or pricing change was proposed.

Q. The Company claims that creating a new customer class will enable it to study these customers and understand how they use the Company's system. Do you believe that is necessary?

A. No. The Company has advanced metering infrastructure data for all of these customers right now - the same data Dr. Morrison used in his analysis. Separating these customers into different rate classes has no impact on the amount of available data. The Company could have, but chose not to, use this data to study net metering customers in advance of requesting separate rate classes.

Q. The Company has requested a generic docket to develop the compensation structure that reflects both benefits and costs of net metering. Do you support this generic docket even though you recommend that the Commission deny the Company's request for separate rate classes?

A. No. Because this case is limited to Idaho Power and the other utilities have not filed net metering cases, I do not believe a generic docket is justified. However, I recommend a future docket that includes a study of costs as well as benefits, as long as the primary goal is establishing the resource value of excess generation.

Q. The Company claims that separating net metering customers into separate classes now will limit the issue in a future general rate case proceeding. Do you believe that is a reasonable approach?

A. No. Limiting or expanding a future proceeding is not the correct basis on which to determine creation of new customer classes. That decision should be made based on evidence, not a desired process outcome.

Q. On page 18 of his testimony, Mr. Tatum expressed concern that "some customers may be investing in [distributed energy resource] systems under the assumption that rate design changes or compensation for excess net energy will never occur; that misunderstanding may negatively impact the economics of their decision." If you share Mr. Tatum's concern, do you have recommendations for addressing this potential misunderstanding?

A. I share Mr. Tatum's concern that customers may not have complete information before investing in a system capable of net metering, specifically in rooftop solar. To help minimize the potential for misunderstanding, the Company could augment its current customer outreach by developing a closer relationship with solar installers, much as they have with trade allies (such as HVAC installers) who support the Company's energy efficiency programs. To make sure that its customers participating in its energy efficiency programs are dealing with a reputable dealer, the Company hosts a list of "Participating Contractors" on its website (Exhibit No. 112). The same could be done for solar installers who support the Company's net metering offering.

Lastly, the Company could add an on-line solar calculator to its "My Account" log in page to help customers understanding the impact of possible net metering rate changes to their bill.

Q. The Company expresses concern that "[f]rom a consumer protection perspective" the current net metering rate structure "also acts as a regressive wealth transfer from lower-income customers to higher-income customers." (Application at 5) Please comment on the impact net metering has on low income customers.

A. I'm very glad to see that the Company is concerned about its low income customers and I share that concern. However, Exhibit No. 112 of my testimony shows that Idaho Power believes net metering customers are 26 percent less expensive to serve than standard service customers. This lowers costs for all customers, including low income customers. Staff's proposal eliminates the cost shift associated with excess generation, thereby making all customers, including low income customers, indifferent to the effects of excess generation.

Q. Please summarize your recommendations in this case.

A. I recommend that the Commission deny the Company's request to establish new rate classes for net metering customers based on Dr. Morrison's analysis that their consumption patterns are almost indistinguishable from standard service customers. However, I also recommend that the Commission initiate a docket in which the Company and interested parties can work together to determine the compensation structure for excess generation based on the avoided cost of the resource. When that process is complete, I recommend that the Commission direct the Company to file a revised Schedule 84 reflecting the agreed-upon avoided cost rate and the net-hourly metering.

Q. Does this conclude your testimony in this proceeding?

A. Yes, it does.

Monthly Cost of Service
(per customer)

Avg Residential Customer	Total Cost
Grid Costs (fixed)	**$64**
Energy Costs (variable)	**$31**
Total	**$95**

Avg Residential Net Metering Customer (6kW)	Total Cost
Grid Costs (fixed)	**$52**
Energy Costs (variable)	**$19**
Total	**$71**

26% Reduction in Cost to Serve

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April 29, 2016

Ms. Jean D. Jewell
Secretary
Idaho Public Utilities Commission
PO Box 83720
Boise, ID 83720-0074

RE: Compliance Filing in Case No. IPC-E-12-27
Annual 2016 Net Metering Status Report

Dear Ms. Jewell:

Pursuant to Order Nos. 32846 and 32925 in the above-mentioned case, Idaho Power Company ("Idaho Power" or "Company") hereby submits its 2016 Annual Net Metering Status Report. On page 19 of Order No. 32846, the Idaho Public Utilities Commission ("Commission") indicated that "the report shall discuss, without limitation, the net metering service provisions and pricing and how distributed generation may be impacting system reliability." The attached report responds specifically to the Commission's directive to provide such information.

Idaho Power recognizes that in Order No. 32846 the Commission directed the Company to raise issues related to rate design in the context of the Company's next general rate case. However, for the reasons described in the report, Idaho Power believes its net metering service has reached a pivotal point; that is, the Company is able to quantify that cost shifting is occurring between residential net metering customers and residential standard service customers and can reasonably predict that future cost shifting between these customer groups will grow exponentially in the next few years. Because the Company does not know when it will next file a general rate case, Idaho Power believes it is prudent to begin the net metering conversation now.

Idaho Power plans to hold customer and stakeholder workshop(s) during 2016 to share the results of this report and solicit feedback on a potential rate design proposal for future net metering customers that the Company may consider filing with the Commission. If the Commission wishes to open a docket and issue a Notice of Workshop(s) to facilitate customer participation, Idaho Power will work with the Commission to establish a mutually agreeable schedule.

If you have any questions regarding this filing, please direct procedural questions to me and substantive inquiries to Senior Regulatory Analyst Connie Aschenbrenner at (208) 388-5994 or caschenbrenner@idahopower.com.

Very truly yours,

Lisa D. Nordstrom

Lisa D. Nordstrom

LDN/kkt
Enclosures
cc: Karl Klein, IPUC

Idaho Power Company
Annual Net Metering Status Report
April 29, 2016

Idaho Power Company ("Idaho Power" or "Company") presents its annual net metering status report to the Idaho Public Utilities Commission ("Commission") as required by Order Nos. 32846 and 32925 in Case No. IPC-E-12-27. The report begins with updated participation and growth data since the Company's last update to the Commission in April 2015 and a discussion about Idaho Power's average residential net metering customer and how that customer segment's usage profile is changing over time. The report then details key issues related to the Company's net metering service, including a quantification of the current and potential future amount of cost shifting occurring between the net metering residential customer segment and the residential standard service customer class, an update on excess net energy credit transfers, and an assessment of the impact of distributed generation on system reliability.

I. <u>Existing Net Metering Service</u>

Current Participation and Growth

As of December 31, 2015, Idaho Power's net metering service consisted of 731 active systems with a cumulative nameplate capacity of 5.31 megawatts ("MW"). During calendar year 2015, participation in net metering service increased by 234 active systems (a 47 percent increase) with incremental nameplate capacity totaling 1.79 MW. The additional systems were entirely comprised of new solar photovoltaic ("PV") installations.

During the first quarter of 2016, growth continued with the Company adding 59 new active systems with aggregate nameplate capacity of 0.827 MW. In addition, the Company has 77 pending applications totaling 0.938 MW of nameplate capacity. At the end of the first quarter 2015, Idaho Power reported 584 active and pending systems, and at the end of the first quarter of 2016, Idaho Power has 867 active and pending systems, which represents a 48 percent growth rate since this time last year.

Tables 1 and 2 provide the total number of active and pending net metering systems and nameplate capacity by resource type, jurisdiction, and customer class.

Exhibit No. 110
Case No. IPC-E-17-13
S. Donohue, Staff
12/22/17 Page 2 of 19

Table 1: Number of Net Metering Systems[1] - Pending and Active as of March 31, 2016

Idaho	Solar PV	Wind	Hydro/Other	Total
Residential	658	55	6	719
Commercial & Industrial	105	6	4	115
Irrigation	3	1	-	4
Total Idaho	**766**	**62**	**10**	**838**
Oregon				
Residential	11	1	-	12
Commercial & Industrial	8	-	-	8
Irrigation	9	-	-	9
Total Oregon	**28**	**1**	**-**	**29**
Total Company				
Residential	669	56	6	731
Commercial & Industrial	113	6	4	123
Irrigation	12	1	-	13
Total Company	**794**	**63**	**10**	**867**

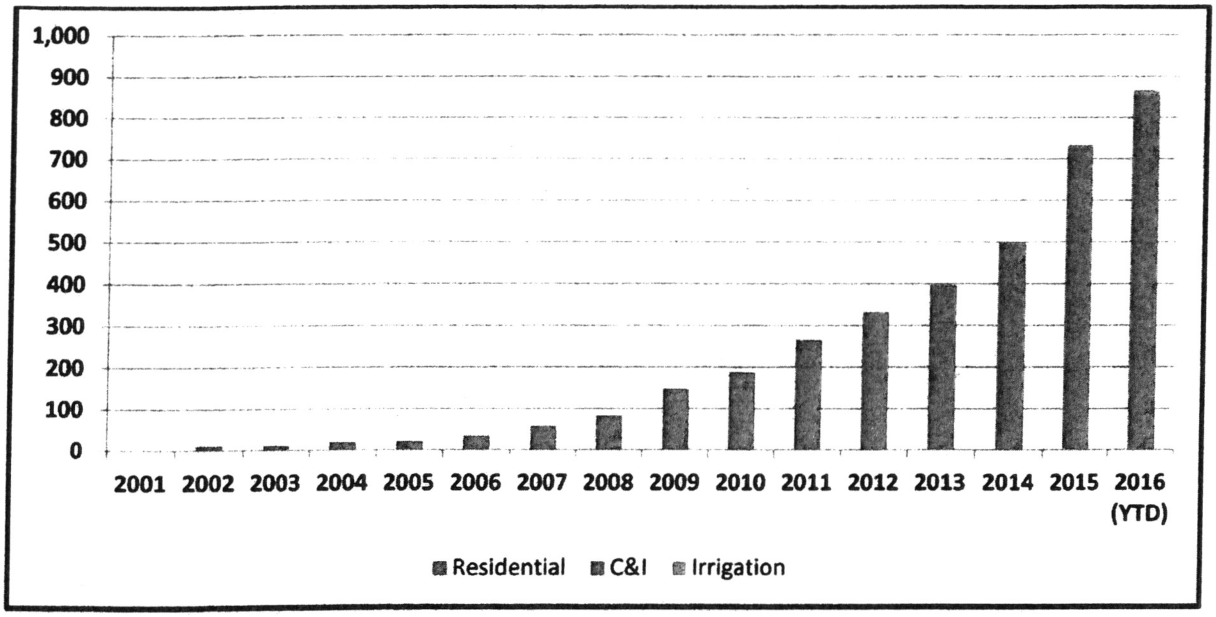
Table 2: Nameplate Capacity (MW) - Pending and Active as of March 31, 2016

Idaho	Solar PV	Wind	Hydro/Other	Total
Residential	3.53	.29	.06	3.88
Commercial & Industrial	1.89	.05	.09	2.03
Irrigation	.21	.04	-	.25
Total Idaho	**5.63**	**.38**	**.15**	**6.16**
Oregon				
Residential	.08	-	-	.08
Commercial & Industrial	.15	-	-	.15
Irrigation	.69	-	-	.69
Total Oregon	**.92**	**0**	**0**	**.92**
Total Company				
Residential	3.61	.29	.06	3.96
Commercial & Industrial	2.04	.05	.09	2.18
Irrigation	.90	.04	-	.94
Total Company	**6.55**	**.38**	**.15**	**7.08**

Chart 1 details cumulative net metering system counts by customer class from 2001 through the first quarter of 2016 (including pending applications).

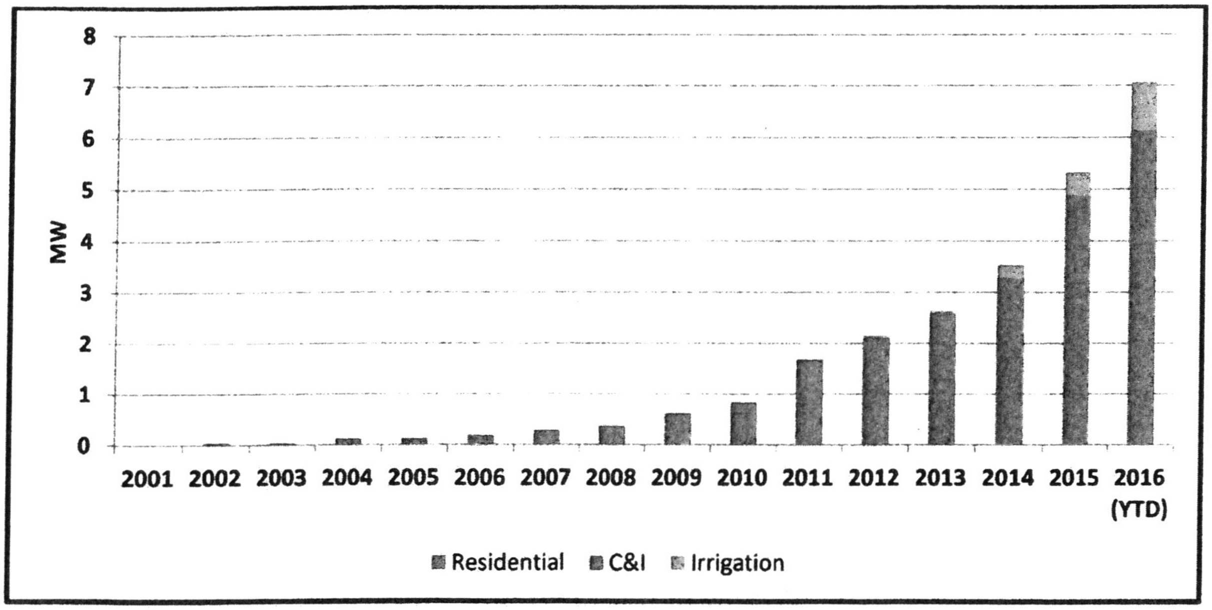
[1] The net metering database the Company maintains reports a new application as a "system." Some customers have increased capacity of an existing system or have installed a second system that is a different resource type; these expansions or additional systems would be counted in Tables 1 and 2 as its own system. This allows the Company to report capacity in the year in which it came online. Additionally, because an expansion of an existing system requires the filing of a new application, it is treated separately for tracking purposes.

Chart 1: Cumulative Net Metering System Counts (by Customer Type)



From a capacity perspective, interconnected net metering generation expanded in accordance with the increasing system counts described above. Chart 2 details cumulative capacity growth from 2001 through the first quarter of 2016 (including pending applications).

Chart 2: Cumulative Net Metering Capacity (by Customer Type)



The majority of growth in the Company's net metering service is related to the installation of residential PV systems. PV has comprised 90, 98, 99, and 100 percent of the incremental resource mix in the years between 2012 and 2015, respectively. All but one of the incremental active and pending installations in 2016 are PV.

The exponential growth in net metering service since 2001 demonstrates how the Company's grid is evolving, and underscores the need to evaluate the associated service provisions and pricing to ensure that Idaho Power can continue to offer safe, reliable, fair-priced electrical service now and in the future. Idaho Power also anticipates that as participation in its net metering service continues to grow, it may require additional staff to facilitate both the processing of net metering applications at the time of interconnection, as well as processing the annual transfer of excess net energy credits.

Characteristics of the Average Residential Net Metering Customer

Idaho Power examined the load characteristics of its current residential net metering service customers to determine differences, if any, between them and current residential standard service customers for a few reasons. The Company determined the current residential net metering customers were different for a few reasons: the most obvious difference is that they use the Company's electrical system bi-directionally, both to take service from the utility and to put excess generation back onto the grid. Further, because net metering customers are billed based on net energy consumed over the course of a month, a net metering customer may be billed for net zero consumption and avoid paying for fixed costs associated with service during hours of the month they consumed energy from the grid and other hours of the month they supplied excess net energy to the grid. Based on an analysis of 2015 actual billing data, the net metering customers also tend to be larger energy users, with an average monthly kilowatt-hour ("kWh") usage of 995[2] compared to an average residential standard service customer who used approximately 947[3] kWh per month during 2015. While this relationship may appear counter-intuitive on its face, a further examination of the usage characteristics of

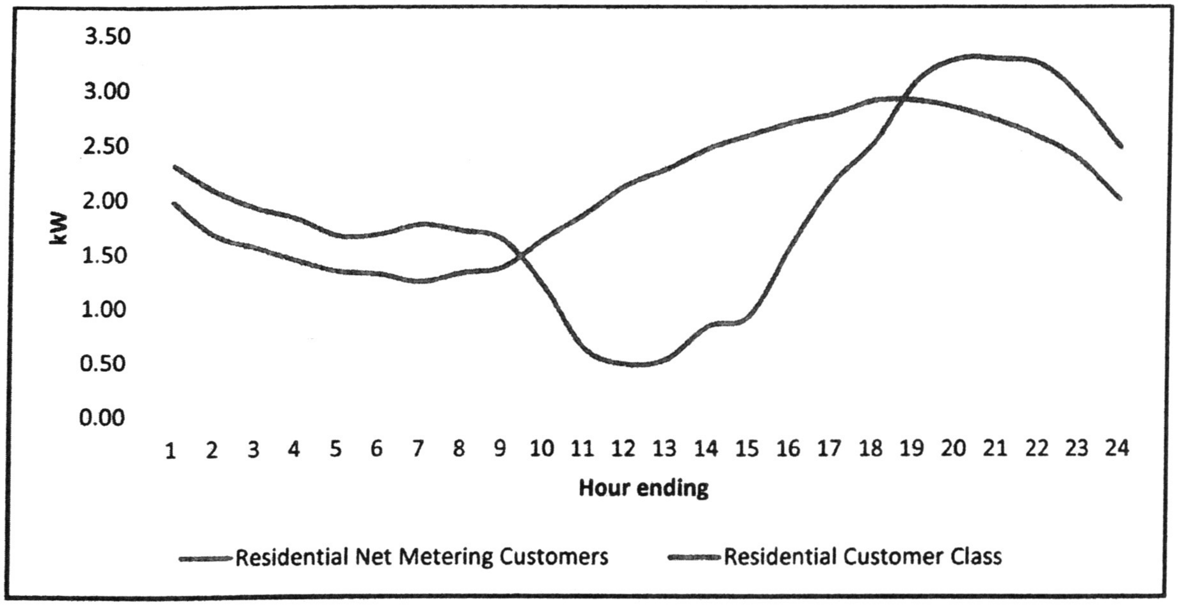
[2] This is the monthly average of the total 2015 actual billed kWh for these customers (net of net metering system generation). Because the Company uses a single meter to measure consumption over a billing period, it does not have the ability to measure total consumption and total generation separately.

[3] Based on 2015 actual billed kWh for the residential class.

the current net metering segment shows that there are a small number of unusually large energy users skewing the average consumption of the segment.

Chart 3 demonstrates the load shape of the Company's residential customer class on June 29, 2015, the day of the 2015 Idaho Power adjusted system peak.[4] Chart 3 also includes the load shape of the Company's residential net metering customer segment on that same day. As mentioned above, Chart 3 illustrates that these customers are generally larger users than the Company's average residential standard service customer and demonstrates the residential net metering customer's ability to offset usage when, in the case of a PV system, the sun is shining.

Chart 3: 2015 Adjusted System Peak Day (June 29, 2015)



II. <u>Quantification of Cost Shifting</u>

As discussed in Case No. IPC-E-12-27 and in prior net metering status reports to the Commission, the current practice of applying standard retail rates to net metering service is problematic because it creates the potential for inappropriate cost shifting between net metering customers and standard service customers. The potential for cost shifting is especially large within the Company's residential and small general service classes because a higher

[4] The reported system peak was June 30, 2015, at 4:00 pm; the adjusted system peak day represents the hour at which the system would have peaked had the Company not dispatched its demand response programs. This methodology is consistent with the filed class cost-of-service study from the Company's last general rate case (IPC-E-11-08).

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percentage of fixed costs are collected through a volumetric energy rate from these customers as compared to other customer classes. Residential and small general service customers are currently billed through a two-part rate design consisting of a $5.00 monthly service charge and volumetric energy rates.

Quantification of Current Cost Shift

The Company performed an analysis of its residential net metering customer segment to determine what, if any, cost shifting is currently occurring.[5] First, the Company quantified the amount of base rate revenue collected during 2015 from its residential net metering customers.[6] Then, using a methodology similar to that used to assign costs to customers during a general rate case process, the Company determined the Idaho-jurisdictional revenue requirement for those same net metering customers.

Cost allocation for the 366 customers used the hourly metered data to determine their use of the system by analyzing demand at the time of the monthly system peak, at the time of the residential class peak, as well as average energy consumed by month. The results of this analysis was an estimated cost-of-service specific to how these customers utilize Idaho Power's electrical grid.

Table 3 details the results of the net metering revenue requirement analysis, which are functionalized by production, transmission, and distribution and classified by utility services provided as represented by customer, demand, and energy. Table 3 also presents the percentage difference in revenue requirement between existing residential net metering customers and residential standard service customers.

[5] The Company focused its analysis on the residential customer class for two reasons: (1) the majority of the recent growth in the net metering service is in the residential class and (2) the residential customer class has a two-part rate design with most of the customer-related fixed costs and all of the demand-related fixed costs being recovered through a volumetric charge. Cost shifting may be occurring in other customer classes, but the focus of this year's annual status update to the Commission will be on the current and potential cost shift from residential net metering customers to residential standard service customers.

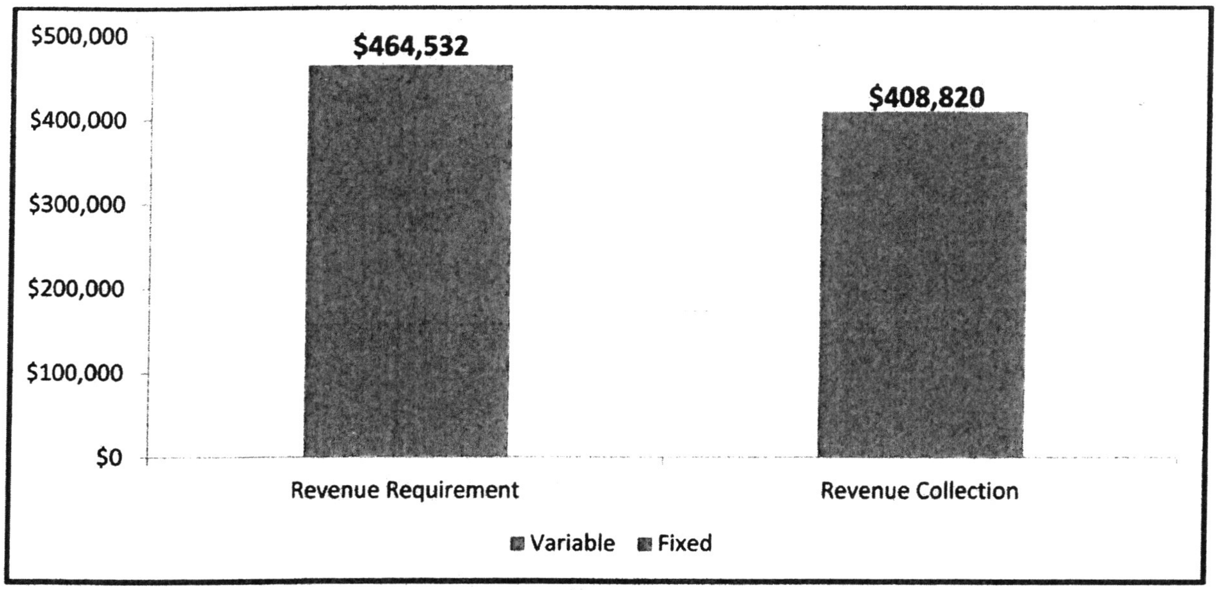
[6] In order to compare a full year of billed revenue with an estimated annual revenue requirement, the analysis contains all residential net metering customers who had a full 12 months of billing data available for 2015. This data set is comprised of 366 customers.

Table 3: Functionalized and Classified Residential Net Metering Customer Segment Revenue Requirement Compared to Average Residential Standard Service Customer[7]

	Residential Net Metering Customers	Compared to Avg Residential Standard Service Customer
PRODUCTION		
Demand, Summer	$40,296	-13%
Demand, Non-summer	81,516	36%
Energy, Summer	35,721	5%
Energy, Non-summer	121,647	17%
TRANSMISSION	47,284	21%
DISTRIBUTION		
Demand	50,458	8%
Customer	87,611	0%
TOTAL Revenue Requirement	$464,532	11%

The net metering revenue requirement compared to the revenue collection for those same customers is represented in Chart 4.

Chart 4: 2015 Residential Net Metering Cost Shift



Using the above described process, the Company quantified the revenue requirement for the 366 residential net metering customers to be $464,532. The total base rate revenue received from these customers during 2015 was $408,820, resulting in an estimated cost shift of $55,712, or 12 percent of the total revenue requirement. As denoted in Chart 4, the $464,532

[7] The "Compared to Avg Residential Standard Service Customer" column in Table 3 represents the "per customer" net metering customer segment revenue requirement relative to the "per customer" residential customer class revenue requirement.

revenue requirement is comprised of 66 percent fixed costs and 34 percent energy costs; however, only 5 percent of the total revenue was collected through the fixed service charge and the remaining 95 percent was collected through the volumetric energy kWh charge.

While the current cost shift is relatively small, it is important to consider the demographics of the 366 residential net metering customers who make up the $408,820 of base rate revenue collection in order to assess the risk for future potential cost shift. The kWh usage varies significantly between the 366 customers, from one customer who consumed (net of generation) over 179,000 kWh during 2015 (annual base rate revenue collected $17,785) to 40 customers who were not billed for any kWh during 2015 (these customers netted usage to zero and only paid the $5.00 monthly service charge). In fact, approximately three percent of the customers accounted for 20 percent of the 2015 revenue collection.

The Company believes that a few large energy users in this group are muting the cost shift of the net zero customers who effectively avoid paying most of the customer-related costs required to serve them, and do not pay any of the cost of the distribution, transmission, or generation systems, even though they may still use these throughout the year. The Company does not believe the 366 residential net metering customers analyzed for quantification of the current amount of cost shifting is representative of the future potential for cost shift. As the economics of installing a residential PV system improve, the Company expects the installation of these systems will become more attractive and attainable to the Company's average residential customer.

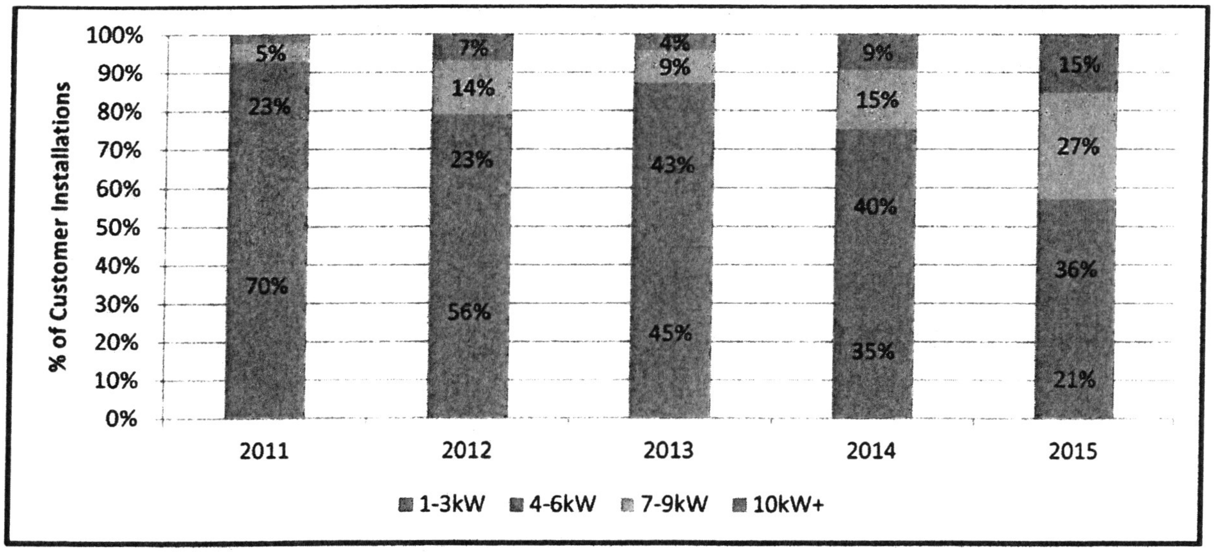
Potential for Future Cost Shift

To project potential future cost shift that could occur in the residential customer class, the Company quantified an estimated cost shift per new net metering customer and applied that quantification against future potential adoption rates of residential net metering.

<u>Estimated Cost Shift Per Customer</u>

To quantify the estimated cost shift per customer, the Company looked at recent installations of net metering systems within its residential customer class to determine what system sizes are most commonly installed. Chart 5 shows the percentage of systems according to size installed by Idaho Power's residential customers in each of the last five years. The data shows that as the costs of PV have declined over the last several years, the size of PV systems being installed by residential customers has increased. The most commonly installed system in 2015 was a 6 kilowatt ("kW") system and the second most commonly installed system was a 5 kW system. Based on estimates from the National Renewable Energy Laboratory ("NREL") PV Watts® Calculator, a 6 kW standard fixed (open rack) system located in Boise, Idaho, will generate approximately 8,731 kWh/year and a 5 kW standard fixed (open rack) system located in Boise, Idaho, will generate approximately 7,276 kWh/year.

Chart 5: System Size of Residential Net Metering Customer Installations (PV Systems Only)



In order to quantify the potential for future cost shifting, the Company compared a calculated revenue requirement for an average residential customer before and after the installation of a net metering system. First, the Company looked at the average hourly load profile of its residential customer class in order to estimate a per customer revenue requirement (based on the same methodology explained on page 6). The Company then used the hourly output profile provided by the NREL PV Watts® Calculator to quantify the net hourly usage of an average residential customer who installs a 6 kW PV system. Using the net hourly usage, the Company quantified the estimated annual revenue requirement for an average residential customer after the installation of a 6 kW PV system. The results of that analysis are presented in Table 4.

Table 4: Annual Potential Cost Shift Per Residential Net Metering Customer

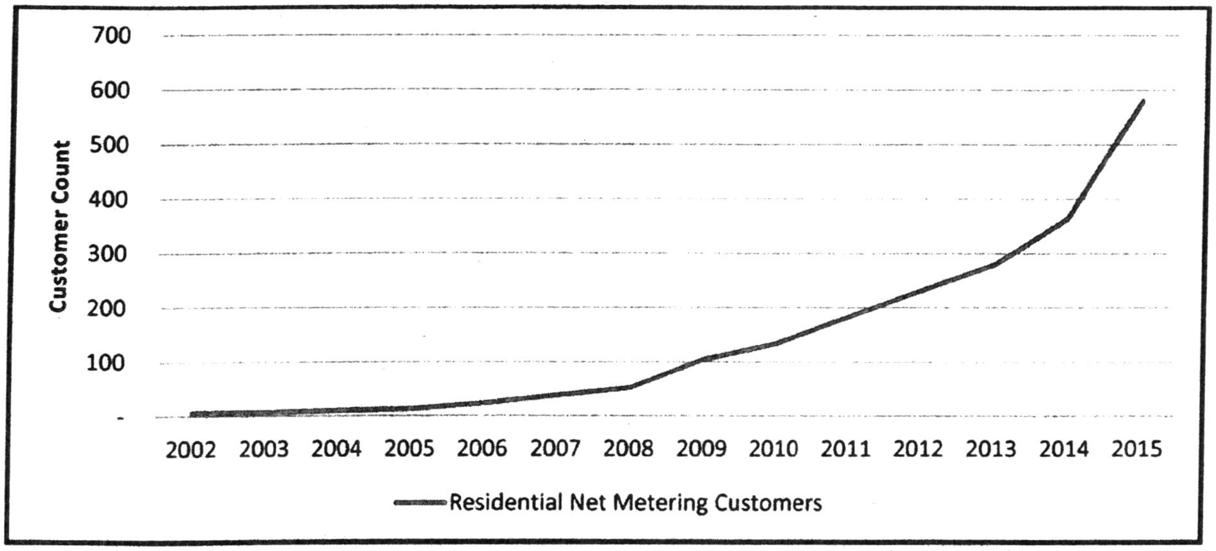
	Standard Service Residential Customer	Net Metering Residential Customer (6 kW System)	Difference $	Difference %
PRODUCTION				
Demand, Summer	$127	$55	($72)	-57%
Demand, Non-summer	164	151	(13)	-8%
ENERGY				
Summer	93	49	(44)	-47%
Non-summer	285	171	(113)	-40%
TRANSMISSION	107	82	(24)	-23%
DISTRIBUTION				
Demand	128	100	(29)	-22%
Customer	239	239	0	0%
TOTAL Revenue Requirement	**$1,143**	**$848**	**($295)**	**-26%**
kWh Usage (Before Net Metering)	11,810	11,810		
Generation (6 kW System)		(8,731)		
Net kWh Usage	11,810	3,079		
Annual Utility Bill	$1,047	$308	**($739)**	**-71%**
Difference between Rev. Req. and Utility Bill	$96	$540		
ANNUAL POTENTIAL COST SHIFT PER CUSTOMER		**$444**		

Table 4 demonstrates that while a residential net metering customer's self-generation reduces the cost to serve that customer, it does not eliminate the costs entirely and it does not reduce them as much as the utility bill is potentially reduced. However, the price signal sent to the customer through the current rate design may inappropriately send a signal that the cost to serve them is lower than it actually is. The average sized Idaho Power residential customer who installs a 6 kW PV system is able to reduce his or her revenue requirement by 26 percent, however, that same customer's bill is reduced by 71 percent. The potential cost shift of $444 per customer is quantified by subtracting the amount paid to the Company ($308) from the total estimated annual revenue requirement of $848 and subtracting the $96 existing intra-class subsidy that exists for a customer of this size.

Future Potential Adoption Rates

As reported in the "Current Participation and Growth" section of the report, the residential customer segment has seen a tremendous rate of growth in the adoption of net metering. Chart 6 represents the number of Idaho Power residential net metering customers through the end of 2015.

Chart 6: Cumulative Growth in Residential Net Metering Customers[8]



Using the historical growth trends, the Company projected residential net metering customer counts through the scheduled 2021 expiration of the federal investment tax credit ("ITC").[9] Three forecasted growth scenarios were developed based on the distribution of year-over-year growth rates by month as experienced over the past 18-months. The "Median" scenario represents the median of the growth rate distribution, the "Low" growth scenario is

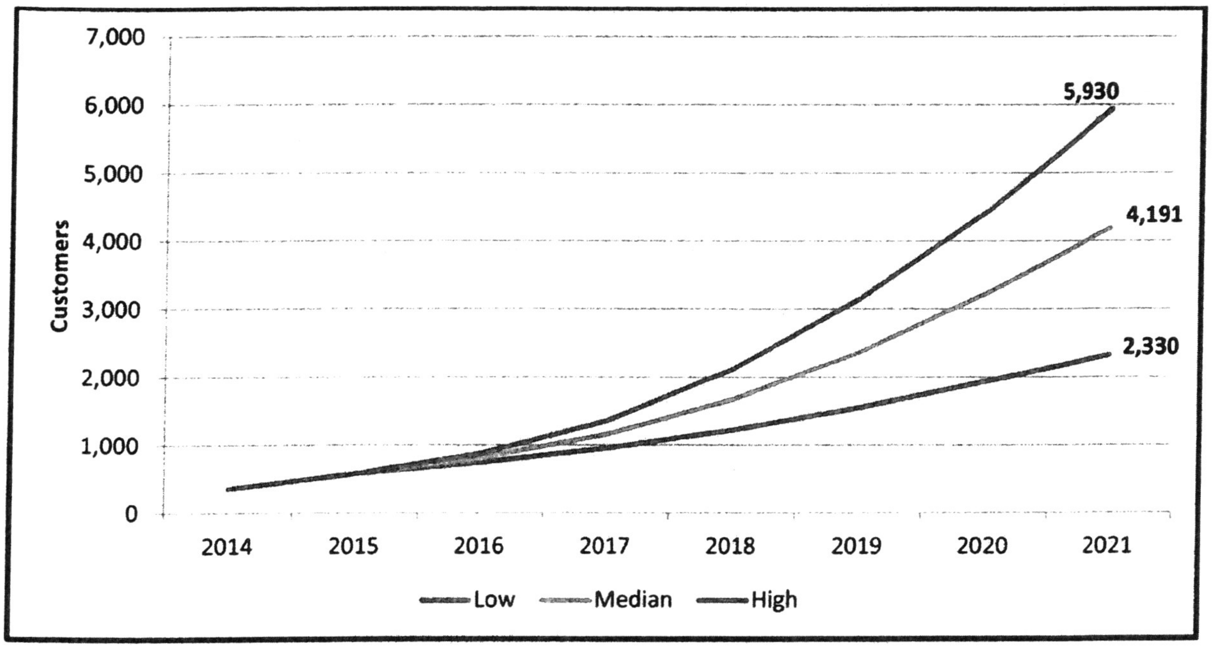
[8] Chart 6 represents cumulative growth in residential net metering customers. While Tables 1 and 2 counted expansions of existing systems or installation of multiple resource types as separate systems, for purposes of forecasting net metering customer growth, the Company is reporting counts based on customer agreements.

[9] A taxpayer may claim a credit of 30 percent of qualified expenditures for a system that serves a dwelling unit located in the United States that is owned and used as a residence by the taxpayer. The Consolidated Appropriations Act, signed in December 2015, extended the expiration date for PV and solar thermal technologies, and introduced a gradual step down in the credit value for these technologies. The 30 percent ITC was extended through 2019 and it will reduce to 26 and 22 percent in 2020 and 2021, respectively. The credit for all other technologies will expire at the end of 2016. (http://energy.gov/savings/residential-renewable-energy-tax-credit)

based on the 10th percentile of growth rates and the "High" growth scenario is based on the 70th percentile of growth rate.

The year in Chart 7 represents the year the customer installs a system.

Chart 7: Forecasted Growth in Residential Net Metering Customers



Potential Impact of Grid Parity

"Grid parity" refers to the point in time when the levelized cost of energy ("LCOE") from a PV system becomes cost competitive with the retail rate of energy. The LCOE is determined by performing a net present value ("NPV") calculation that takes into account the total cost of the system (up front capital cost, ongoing operations and maintenance costs, inverter replacement, etc.), as well as benefits received via state and federal tax incentives, and divides the quantified NPV by the average annual energy output from the system.

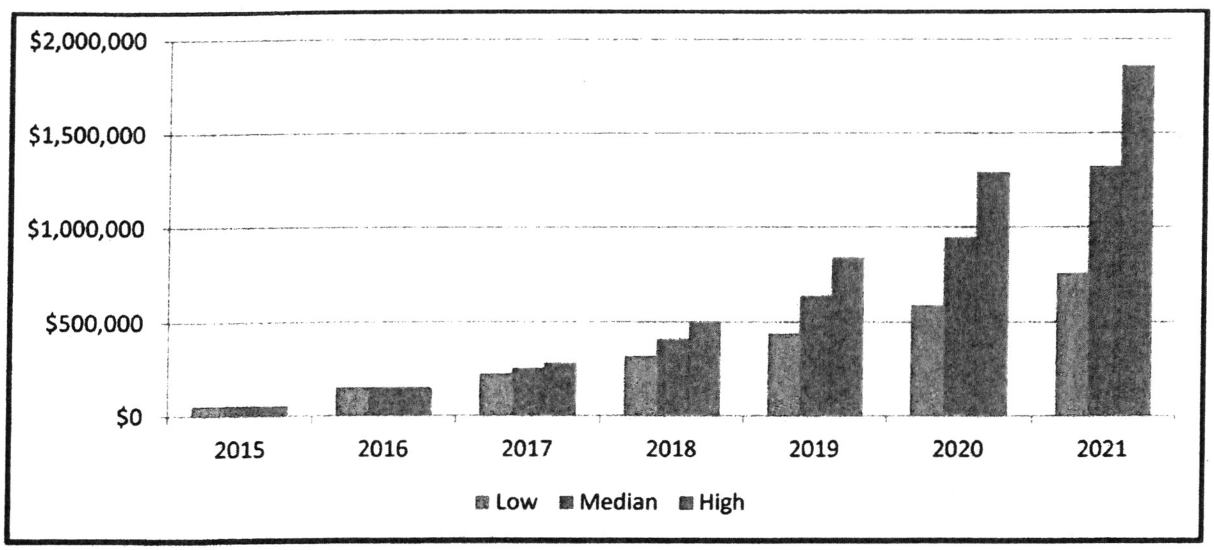
While the Company only considered historical adoption rates to predict possible future adoption of residential net metering systems, it is important to consider what the potential impact of the cost of rooftop PV reaching grid parity may be. At the point the LCOE is lower than the retail cost of energy supplied by the utility, it becomes more economical for customers to install PV and it is reasonable to predict that the growth in the PV net metering systems will accelerate considerably. The Company also expects that a broader range of customers may consider installing PV once the cost of installing that system becomes cost competitive with the utility rate.

Future Potential Cost Shift

The starting point in Chart 8 represents the residential net metering customers the Company had at the end of 2014 who had a full year of billing data for 2015. That is, the Company's quantified current cost shift of $55,712 corresponds to the customer count at the end of 2014 (366 customers). In order to project potential future cost shift, the Company applied the average per-residential net metering customer cost shift of $444 to the potential near-term adoption of residential net metering service.

Chart 8 shows the potential future cost shift by 2021 could be as high as $1.9 million per year or as low as $755,000 per year, with the median growth rate yielding a potential future cost shift of $1.3 million per year by 2021.

Chart 8: Cumulative Annual Potential Cost Shift



Addressing the potential cost shift

The Company believes its net metering service has reached a pivotal point; that is, the Company is able to quantify that cost shifting is occurring and can reasonably predict that future cost shifting will continue to occur at an increasing rate. The current rate design of billing residential and small general service customers a nominal service charge coupled with the remaining variable and fixed cost recovery through a volumetric rate is concerning for two reasons: (1) new residential customers installing PV systems are creating a real and quantifiable cost shift to residential standard service customers who either choose not to install PV systems or do not have the means to do so, and (2) the current rate design sends an incorrect price signal to residential and small general service customers who are evaluating whether or not to install a PV system. The Company's analysis demonstrates that while the revenue requirement associated with serving a residential PV net metering customer is estimated to be reduced by 26 percent, that same customer's bill is reduced by 71 percent.

The Company is not the first to look at addressing the potential for cost shift that exists with net metering customers and the Company continues to believe that proper rate design is the appropriate means for addressing the cost shift that is occurring and will grow with the continued adoption of distributed generation in its service area. Utilities across the country are examining how to best address the issues created by existing rate designs and the historical practice of a 1:1 kWh credit established at the retail rate and have started introducing means for better fixed cost recovery for their net metering customers.[10] In 2015, other state commissions overseeing three utilities established a separate class for distributed generation customers[11] and three other requests by utilities to do the same are being considered.[12]

III. Billing System Capabilities

While Idaho Power continues to believe its current rate designs cannot sustainably support the widespread expansion of net metering, it is important to consider billing system capabilities when evaluating proposed changes to the pricing of the Company's net metering service. In general, utility billing systems are not initially configured to accommodate net

[10] Alabama Power charges a capacity reservation fee, Arizona Public Service charges a grid access fee, California utilities (Pacific Gas and Electric, Southern California Edison, and San Diego Gas & Electric) charge an interconnection fee that was previously paid by all customers and future distributed generation customers will default to a time-of-use rate, Hawaiian Electric companies charge minimum bills, and Dominion Virginia and Appalachian Power charge standby fees.

[11] Westar, Nevada Power, and Sierra Pacific Power

[12] UNS Electric and Tucson Electric in Arizona both filed to establish mandatory three-part rates for distributed generation customers. El Paso Electric in Texas filed for establishment of three part rate structures for partial-requirements customers.

metering transactions, and changes in net metering billing practices often require resource-intensive customization that not only result in up-front costs, but require additional ongoing maintenance costs as well.

IV. System Reliability Considerations

Net metering systems in Idaho Power's service area are dispersed across hundreds of distribution feeders. Because the current penetration level is relatively small compared to distribution feeder loads, as of the end of 2015, there was no significant impact on distribution system reliability attributed to net metering system operation.

As of March 31, 2016, the Company's 789 active net metering systems were dispersed across roughly 282 of its approximately 650 distribution feeders. That compares to 550 active systems across 229 distribution feeders that were reported on March 31, 2015. The feeders that contain the greatest number of net metering systems are largely located in northeast Boise and in the Wood River area, while the feeders that contain the greatest amount of connected net metering capacity tend to be located in mostly agricultural and rural areas. The greatest number of active net metering systems that currently exist on a single distribution feeder is sixteen. From a capacity perspective, eight generators (all solar) rated at approximately 398 kW are located on a single distribution feeder. That feeder serves mostly rural customers with a calculated summer peak load of approximately 1,600 kW. The percentage of connected net metering kW capacity to the feeder's calculated summer peak load is approximately 24 percent. The percentage of connected kW capacity to summer peak loads for the remaining 281 feeders with active net metering systems remains less than 4 percent. The Company has not yet experienced significant operational impacts on these feeders.

Because net metering installations are typically unique in both customer-specific system attributes, as well as the Company's facilities in a particular location, the Company reviews several factors when determining the feasibility of connecting a new net metering system. This review may include determining if there is adequate transformation at the point of connection, if the existing service conductor has adequate capacity to serve the total connected capacity of the generators, and if the phasing (single- versus three-phase) of the system matches the service infrastructure. Additionally, in 2015, the Company performed its first feeder-level feasibility study for a 75 kW system requesting interconnection onto the feeder that contains the greatest amount of connected capacity (24 percent) mentioned above. The result of that study indicated that the system could be incorporated without any modification to the existing distribution feeder. In fact, the Company has not denied any net metering applications due to system limitations, but continues to carefully monitor requests for connection to ensure ongoing reliable service is available to both existing and new customers.

The Company will continue to monitor the effects of net metering service on its system including tracking the locations and connected capacities of net metering customers and comparing connected capacities to minimum feeder loads. As net metering system penetration increases, Idaho Power will keep the Commission apprised of experienced or anticipated system reliability impacts and will propose mitigation as needed which may include additional inverter requirements, e.g., smart inverters.

V. 2015 Excess Net Energy Credit Transfers (Manual Meter Aggregation)

Schedule 84, Customer Energy Production Net Metering Service ("Schedule 84") provides for net metering customers to submit requests to transfer excess net energy credits between January 1 and January 31 of each year. Applications received are reviewed against the following criteria from Schedule 84:

- The account subject to offset is held by the customer; and
- The meter is located on, or contiguous to, the property on which the Designated Meter[13] is located. For the purposes of Schedule 84, contiguous property includes property that is separated from the premises of the Designated Meter by public or railroad rights of way; and
- The meter is served by the same primary feeder as the Designated Meter at the time the customer files the application for the Net Metering System;[14] and

[13] Schedule 84 states the Designated Meter "is the retail meter physically connected to the Net Metering System."

[14] Schedule 84 states the Net Metering System "is a Customer-owned Generation Facility interconnected to the Company's system under the applicable terms of Schedule 72 and Schedule 84."

- The electricity recorded by the meter is for the customer's requirements; and
- 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 3, 2015, all of the Company's net metering service customers were sent a letter outlining the meter aggregation process, the requirements, and the deadlines for customers to submit an application for transfer of eligible excess net energy credits. A copy of the transfer request form and a Frequently Asked Questions document were sent with the letter (both of which are available on the Company's website).[15] Lastly, the Company posted a message on all net metering service customers' December bills informing them of the upcoming transfer window.

Given the costs associated with system customization, the Commission directed Idaho Power in Order No. 32925 to keep it apprised of the number of customers choosing to transfer excess net energy credits under the newly-approved meter aggregation rules. As of the January 31, 2016, deadline, the Company received 26 applications for transfer and those applications were reviewed during February against the Schedule 84 criteria.

Based on the above criteria, the Company determined that 19 of the requests were eligible for transfer. The total amount transferred was 250,204 kWh generated from net metering systems taking service under Residential (19 percent), Small General (60 percent), and Large General (21 percent) rate schedules. The 250,204 kWh were transferred to customers taking service under Residential (79 percent) and Large General (21 percent) rate schedules.

The Company received seven applications that were ultimately found to be ineligible for transfer based on the following:

- Six applicants did not have excess net energy credits.
- One applicant requested a transfer to a meter on a property that was not contiguous.

[15] https://www.idahopower.com/AboutUs/BusinessToBusiness/GenerationInterconnect/netMetering.cfm

The Company contacted by phone all of the customers who had requested a transfer but whose applications were ultimately denied to explain the reason the requested transfer could not be completed.

VI. Conclusion

Idaho Power continues to believe that in order to facilitate the expansion of distributed generation in a safe, reliable, and fair manner, net metering rate design must be addressed sooner rather than later. Between the first quarters of 2015 and 2016, pending and active net metering systems in Idaho Power's service area have increased 48 percent. This growth brings the potential for significant cost shifting to occur from the Company's net metering customer segment to the standard service customer classes, most prominently within the residential and small general service customer classes. As demonstrated by the analysis presented in this report, an average-sized Idaho Power residential customer who installs a six kW system is able to reduce his or her revenue requirement by 26 percent, however, that same customer's bill is reduced by 71 percent. As a result, the potential future cost shift by 2021 could be as high as $1.9 million or as low as $755,000, with a median growth rate yielding potential future cost shifts of $1.3 million by 2021.

As the economics of installing a residential PV system improve, the Company expects the installation of these systems will become more attractive and attainable to the Company's average residential customer. At the point the LCOE of rooftop PV is lower than the retail cost of energy supplied by the utility, it becomes more economical for customers to install PV and the growth in the PV net metering systems may accelerate considerably. The Company also expects that a broader range of customers may consider installing PV once the cost of installing that system becomes cost competitive with the utility rate.

The exponential growth in net metering service since 2001 demonstrates how the Company's grid is evolving, and underscores the need to evaluate the associated service provisions and pricing to ensure that Idaho Power can continue to offer safe, reliable, fair-priced electrical service now and in the future.

Residential Class Cost-of-Service

Grid Costs

$300 million

67%

Energy Costs

$150 million

33%

Residential
Total Annual
Cost
~($450m)

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Menu

Participating Contractors

Below is a list of Participating Contractors for the ducted forced air heat pump incentives in the Heating and Cooling Efficiency Program.

Idaho Power does not warrant or guarantee the work or services performed by any contractor listed.

Locate a contractor by clicking on the arrow below and selecting an area.

NOTE: Participating companies are being added regularly. If you are a company interested in participating in Idaho Power's Heating and Cooling Efficiency Program, please contact Todd Greenwell at □208-388-6484 (tel:208-388-6484), or email □ TGreenwell@idahopower.com (mailto:TGreenwell@idahopower.com).

Areas

Select an Area.

Treasure Valley ▼

COMPANY NAME	ADDRESS	CITY	PHONE	LICENSE#
TML SERVICE EXPERTS	120 E 40th St	Boise	208-342-6813 (tel:208-342-6813)	C1322
ASHLEY HEATING & AIR CONDITIONING (HTTP://WWW.ASHLEYHEATING.COM)	8243 W Westpark St	Boise	208-378-9445 (tel:208-378-9445)	C1917
QUALITY HEATING & COOLING	11225 President Dr	Boise	208-377-3555 (tel:208-377-3555)	1130
WESTERN HEATING AND AIR CONDITIONING (HTTP://WWW.WESTERNHVAC.COM)	4980 W Bradley St	Boise	208-375-6101 (tel:208-375-6101)	RCE-999
TSS ONE HOUR HEATING & AIR CONDITIONING (HTTP://WWW.TSSHVAC.COM/BOISE)	PO Box 2091	Boise	208-908-4444 (tel:208-908-4444)	2060
THE COMFORT SOURCE (HTTP://WWW.COMFORTSOURCEHEATING.COM)	4419 W Marvin St	Boise	208-912-3175 (tel:208-912-3175)	012478

COMPANY NAME	ADDRESS	CITY	PHONE	LICENSE#
TVR INC (HTTP://WWW.TVRINC.NET)	2925 S Cole Rd	Boise	208-323-0433 (tel:208-323-0433)	HVC-C-3220
A1 PLUMBING AND PERFECT AIR (HTTP://WWW.PERFECTAIRBOISE.COM)	119 E 42nd Street	Boise	208-376-7473 (tel:208-376-7473)	004906
NORTHWEST HEATING AND AIR CONDITIONING	2202 W Main St	Boise	208-342-4741 (tel:208-342-4741)	C1396
JIM'S HEATING & COOLING (HTTP://WWW.JIMSHEAT.COM)	9171 W State St	Boise	208-376-1717 (tel:208-376-1717)	C6318
ARCTIC AIR (HTTP://WWW.ARCTICAIR1.COM)	814 S KCID Road	Caldwell	208-453-9272 (tel:208-453-9272)	HVC-C-0089
BIG SKY HEATING AND AIR CONDITIONING (HTTP://WWW.BIGSKYHEATING.COM)	404 Marble Valley Way	Caldwell	208-880-1066 (tel:208-880-1066)	10094
CARTER COMFORT SYSTEMS	25499 Emmett Rd	Caldwell	208-585-2565 (tel:208-585-2565)	C591
HEATING EQUIPMENT (HTTP://HEATINGEQUIPMENTCOMPANY.COM)	123 Everett St	Caldwell	208-459-2212 (tel:208-459-2212)	C1457
PINNACLE COMFORT SYSTEMS	Eagle, ID	Eagle	208-982-4328 (tel:208-982-4328)	9235
ROCKY MOUNTAIN MECHANICAL	132 S Washington Ave	Emmett	208-365-7473 (tel:208-365-7473)	HVC-C-1082
BEST HEATING AND COOLING	13129 S Tampico Pl	Kuna	208-860-3320 (tel:208-860-3320)	HVC008156
ASPEN HEATING AND AIR CONDITIONING (HTTP://WWW.ASPENHEATINGANDAIR.COM)	2234 W Quilceda St	Kuna	208-340-6366 (tel:208-340-6366)	017221
ULTIMATE HEATING & AIR (HTTP://WWW.ULTIMATEHEATINGANDAIR.COM)	593 Access St	Kuna	208-321-8663 (tel:208-321-8663)	HVC-C-653
YMC, INC (HTTP://YMCINC.COM)	2975 Lanark	Meridian	208-888-1727 (tel:208-888-1727)	RCE-3093
A-1 HEATING & AIR CONDITIONING (HTTP://WWW.A1HEATING.COM)	327 N Linder	Meridian	208-343-4445 (tel:208-343-4445)	C1863
ADVANCED HEATING & COOLING (HTTP://WWW.ADVANCEDHEATINGANDCOOLING.COM)	721 N Ralstin	Meridian	208-846-9100 (tel:208-846-9100)	001187

COMPANY NAME	ADDRESS	CITY	PHONE	LICENSE#
CONTROL SENTRIES OF IDAHO	2630 N Duane Dr	Meridian	208-350-6560 (tel:208-350-6560)	HVC-C-2415
IDAHO GEOTHERMAL (HTTP://WWW.IDAHOGEOTHERMAL.COM)	880 E Franklin Rd, Ste 311	Meridian	208)-895-0925 (tel:208)-895-0925)	3069
CUSTOM COMFORT SYSTEMS	3 Minot Dr	Middleton	208-697-2706 (tel:208-697-2706)	016440
MAYNE MECHANICAL	2068 SW Hamilton Rd	Mountain Home	208-587-2066 (tel:208-587-2066)	1346
PREMIER HEATING AND AIR CONDITIONING (HTTP://PREMIER-HVAC.COM)	119 S Valley Dr., Ste A PMB 199	Nampa	208-466-7050 (tel:208-466-7050)	707
GREENS HEATING AND AIR CONDITIONING (HTTP://GREENSHEATING.COM)	1016 4th Street N	Nampa	208-465-0859 (tel:208-465-0859)	C-1549
OWYHEE HEATING & AIR CONDITIONING (HTTP://WWW.OWYHEEHEATING.COM)	1020 First Street South	Nampa	208-466-8401 (tel:208-466-8401)	C1324
MECH-MASTERS HEATING & AIR	10188 Cherry Ln	Nampa	208-463-7550 (tel:208-463-7550)	10023
LEGENDS MECHANICAL	2603 Sundance #117	Nampa	208-466-1773 (tel:208-466-1773)	TBD
WICKSTROM PLUMBING & HEATING (HTTP://WWW.WICKSTROMPHC.COM)	4121 Garrity Blvd	Nampa	208-466-9447 (tel:208-466-9447)	HVC-C-1231
ACTION HEATING & AIR (HTTP://ACTIONANYWHERE.COM)	3712 Garrity Blvd	Nampa	208-461-5959 (tel:208-461-5959)	002231
BEARS CLIMATE CONTROL (HTTP://WWW.BEARSCLIMATECONTROL.COM)	268 Evergreen Rd	Ontario	208-642-2327 (tel:208-642-2327)	HVC-C-5018
BAUER HEATING AND COOLING (HTTP://WWW.BAUERHEATINGANDCOOLING.COM)	105 5th Street	Wilder	208-482-0103 (tel:208-482-0103)	C4194

Last Updated: 2017-10-31T08:21:52.94

Contact Us (https://www.idahopower.com/contact-us/)

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Treasure Valley: 208-388-2323 (tel:2083882323)
Outside the Treasure Valley: 1-800-488-6151 (tel:18004886151)

Customer Service
Processing Center
P.O. Box 34966
Seattle, WA 98124-1966

CERTIFICATE OF SERVICE

I HEREBY CERTIFY THAT I HAVE THIS 22ND DAY OF DECEMBER 2017, SERVED THE FOREGOING **DIRECT TESTIMONY OF STACEY DONOHUE,** IN CASE NO. IPC-E-17-13, BY MAILING A COPY THEREOF, POSTAGE PREPAID, TO THE FOLLOWING:

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