IDAHO POWER
An IDACORP Company

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November 1, 2019

VIA HAND DELIVERY

Diane Hanian, Secretary
Idaho Public Utilities Commission
11331 W. Chinden Boulevard
Building 8, Suite 201-A
Boise, Idaho 83714

RE: Case No. IPC-E-15-03
2019 Annual Compliance Filing – Flex Peak Program End-of-Season Report

Dear Ms. Hanian:

In Order No. 33292, the Idaho Public Utilities Commission ("Commission") ordered Idaho Power Company to file a Flex Peak Program end-of-season report within 80 days after the end of the season. Therefore, enclosed for filing are an original and three (3) copies of the Flex Peak Program End-of-Season Report containing the information requested by the Commission in the order.

If you have any questions regarding this filing, please contact Regulatory Analyst Paul Goralski at (208) 388-2608 or pgoralski@idahopower.com.

Sincerely,

Lisa D. Nordstrom

Lisa D. Nordstrom
Lead Counsel

LDN:kkt
Enclosure

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Boise, ID 83702

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on the 1st day of November 2019 I served a true and correct copy the 2019 FLEX PEAK PROGRAM END-OF-SEASON ANNUAL REPORT upon the following named parties by the method indicated below, and addressed to the following:

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IDAHO POWER®
An IDACORP Company

2019 Flex Peak Program
End-of-Season Annual Report

November 1, 2019

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Introduction

The Flex Peak Program ("Program") has been operated by Idaho Power Company ("Idaho Power" or "Company") since 2015. The Program is a voluntary demand response ("DR") program available to large commercial and industrial customers that can reduce their electrical energy loads for short periods during summer peak days. By reducing demand on extreme system load days, the Program reduces the amount of generation and transmission resources required to serve customers. This Program, along with Idaho Power's other DR programs, Irrigation Peak Rewards and the Residential A/C Cool Credit Program, have helped delay the need to build supply-side resources.

The results presented in this report are from the 2019 Program season, the Company's fifth year of operating the Program. In its fifth year, the Program maintained similar load reduction and realization rates as the prior year (2018). There were ten new sites added, and overall participation resulted in the highest hourly load reduction for the season of 31 megawatts ("MW"). The average realization rate for the three load reduction events that occurred in the 2019 Program season was 77 percent. Enrollment in the Program increased slightly for the 2019 Program season and 96 percent of previously participating sites re-enrolled in the Program. The total Program costs through October 1, 2019 were $606,129. The cost of having this resource available was $19.55 per kilowatt ("kW") based on the maximum demand reduction of 31 MW achieved on July 22, 2019.

Background

In 2015, the Company requested approval to implement the Flex Peak Program as an Idaho Power operated program. The Idaho Public Utilities Commission ("IPUC") approved the Company's request in Order No. 33292,[1] and the Public Utility Commission of Oregon ("OPUC") accepted the proposal from Advice No. 15-03.[2] Prior to 2015, a similar DR program for commercial and industrial customers was operated by a third-party vendor.

As part of Advice No. 15-03, the OPUC adopted Staff's recommendation that the Company file an annual end-of-season report with information regarding the Program. The Company was also directed by the IPUC in Order No. 33292 to file an annual end-of-season report detailing the results of the Program. In compliance with the reporting requirements, the annual end-of-season report includes the following:

- Number of participating customers
- Number of participating sites
- MW of demand response under contract

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[1] *In the Matter of Idaho Power's Company's Application for Approval of New Tariff Schedule 82, A Commercial and Industrial Demand-Response Program (Flex Peak Program),* Case No. IPC-E-15-03, Order No. 33292 (May 7, 2015).

[2] Schedule 76, Flex Peak Program, Docket No. ADV 7/Advice No. 15-03 (approved April 28, 2015).

- MW of demand response realized and incented per dispatch
- Percent of nominated MW achieved in each dispatch event by participant
- Cost analysis of the Program
- Number of events called
- Total load dropped for each event
- Event duration
- Total capacity payments made
- Total energy payments made
- Number of customers who failed to meet their load
- Number of Program applications denied due to Program subscription limit
- Benefits identified with each dispatch of the resource
- Assessment of whether the trigger or dispatch price is properly set to utilize the asset most often
- Participant attrition
- Issues the utility has identified meeting requests to participate in the Program
- Changes in baseline methodology taken or anticipated
- Improvements Idaho Power and the Program might benefit from

Program Details

The Program pays participants a financial incentive for reducing load within their facility and is active June 15 to August 15, between the hours of 2 p.m. and 8 p.m. on non-holiday weekdays.

Customers with the ability to nominate or provide load reduction of at least 20 kW are eligible to enroll in the Program. The 20 kW threshold allows a broad range of customers the ability to participate in the Program. Participants receive notification of a load reduction event ("event") two hours prior to the start of the event, and events last between two to four hours.

The parameters of the Program are in Schedule 76[3] in Oregon and Schedule 82[4] in Idaho, and include the following:

- A minimum of three load reduction events will occur each Program season.
- Events can occur any weekday, excluding July 4, between the hours of 2 p.m. and 8 p.m.
- Events can occur up to four hours per day and up to 15 hours per week, but no more than 60 hours per Program season.
- Idaho Power will provide notification to participants two hours prior to the initiation of an event.

[3] Idaho Power Company, P.U.C. ORE. No. E-27, Schedule 76.

[4] Idaho Power Company, I.P.U.C. No. 29, Tariff No. 101, Schedule 82.

- If prior notice of a load reduction event has been sent, Idaho Power can choose to cancel the event and notify participants of cancellation 30 minutes prior to the start of the event.

Program Incentives

The Program includes both a fixed and variable incentive payment. The fixed incentive is calculated by multiplying the actual kW reduction by $3.25 for weeks when an event is called or the weekly nominated kW amount by $3.25 for weeks when an event is not called. The variable energy incentive is calculated by multiplying the kW reduction by the event duration hours to achieve the total kilowatt-hour ("kWh") reduction during an event. The variable incentive payment is $0.16 per kWh and is implemented for events that occur after the first three events.

The Program also includes an incentive adjustment of $2.00 when participants do not achieve their nominated amount during load reduction events. This adjustment amount is used for the first three events. After the third event, the adjustment is reduced to $0.25 per kW. Incentives are calculated using Idaho Power's interval metering billing data and participants were issued the incentives within 30 days of the end of the Program season. Participants can elect to have their incentive checks mailed or their Idaho Power account credited within the 30 days. The incentive structure offered for the 2019 season is listed in Table 1.

Table 1.

Fixed-Capacity Payment Rate*	Variable Energy Payment Rate**
$3.25 per Weekly Effective kW Reduction	$0.16 per kWh (Actual kW x Hours of Event)
Adjustment for first three events	**Adjustment after first three events**
$2.00 per kW not achieved up to nomination	$0.25 per kW not achieved up to nomination
*To be prorated for partial weeks	**Does not apply to first three Program events

Program Results

The results presented throughout this report are at the generation level and system losses have been considered. Idaho Power called three load reduction events in 2019. The first event occurred on July 12, the second on July 22, and the third on August 6. The maximum realization rate achieved during the season was 86 percent during the event on August 6 and the average for all three events combined was 77 percent. The realization rate is the percentage of load reduction achieved versus the amount of load reduction committed for an event. The highest hourly load reduction achieved was during the July 22 event at 31 MW.

Participants had a committed load reduction of 36.3 MW in the first week of the Program which was the peak committed load reduction for the season. This was an increase from

the 2018 season at 29.4 MW. This weekly commitment, or "nomination", was comprised of customers participating in the Program totaling 145 sites. Out of the total number of sites, 135 participated in the 2018 season, and ten sites were newly added in 2019. The committed load reduction at the end of the season was 35.5 MW.

The first event was called on Friday, July 12. Participants were notified at 2 p.m. for a four-hour event from 4-8 p.m. The total nomination for this event was 36.3 MW. The average load reduction was 24 MW. The highest hourly load reduction was 25 MW during hour four. The realization rate for this event was 66 percent. The lower realization rate for this event was partially due to many sites not being able to curtail energy use on a Friday afternoon heading into the weekend due to operational and staffing constraints.

The second event was called on Monday, July 22. Participants were notified at 2 p.m. for a four-hour event from 4-8 p.m. The total nomination for this event was 35.7 MW. The average load reduction was 28.5 MW. The highest hourly load reduction was 31 MW during hour one. The realization rate for this event was 80 percent.

The third event was called on Tuesday, August 6. Participants were notified at 2 p.m. for a four-hour event from 4-8 p.m. The total nomination for this event was 35 MW. The average load reduction was 30 MW. The highest hourly load reduction was 30.5 MW during hour three. The realization rate for this event was 86 percent.

Enrollment specific to the Oregon service area included six participants totaling nine sites enrolled. These nine sites had an average nominated capacity for the season of 10.6 MW and achieved a maximum reduction during the season of 10.9 MW during hour four on the July 22 event.

Participation

The number of sites enrolled in the Program for 2019 was 145 from 64 participants, with ten new sites enrolling for the Program season. The average number of sites enrolled per participating customer was 2.3. The Program did not experience significant attrition and re-enrollment in the Program was high as 135 of the 140 sites participating from the prior season re-enrolled. Four sites from one participant did not re-enroll from the 2018 season because their businesses closed, and the other one site reduced its operating hours significantly which no longer made it a good program candidate.

This past season Idaho Power continued the auto-enrollment option where existing participants were re-enrolled in the Program automatically and mailed a confirmation packet early in March based on the prior year's enrollment information. Participants notified the Company in writing if they no longer wanted to participate as well as to change their nomination amount or update/change contact information regarding personnel for event notification. The auto-enrollment implementation was successful, and the Company anticipates utilizing this process in the future.

Pursuant to the Settlement Agreement approved in IPUC Case No. IPC-E-13-14[5] and OPUC UM 1653[6] ("Settlement"), Idaho Power did not actively seek to expand the agreed upon 35 MW enrollment capacity but did recruit nominated capacity slightly above 35 MW in case any customers would again need to reduce their nomination before the season started. The Company has continued to strive to maintain the number and size diversity (in terms of nominated load reduction) of sites enrolled. The breakout of nomination groups among the sites has stayed very consistent from the 2018 season with the largest quantity of sites falling within the 0-50 kW segment followed by 51-200 kW. The Company did not deny any Program applications in 2019.

Below is list of what was conducted in addition to the normal Energy Advisor visits with existing participants and potential future enrollees.

- February: New brochures and reduction tip sheets were created for distribution
- April: Article in *Energy@Work* print newsletter to over 24,700 customers
- April: Article in *Energy@Work* email newsletter to over 11,400 customers
- April: LinkedIn post
- April: LinkedIn ad
    - 143,673 impressions
    - 1,215 clicks to the Flex Peak web page
- August: LinkedIn post thanking participants

[5] *In the Matter of the Continuation of Idaho Power Company's A/C Cool Credit, Irrigation Peak Rewards, and FlexPeak Demand Response Programs for 2014 and Beyond*, Case No. IPC-E-13-14, Order No. 32923.

[6] *In the Matter of Idaho Power Company, Staff Evaluation of the Demand Response Programs*, UM 1653, Order No. 13-482.

Figure 1 represents Idaho Power's service area divided into three regional areas with two sub areas: Canyon, (Canyon West) Capital and Southern (South East).

Figure 1.

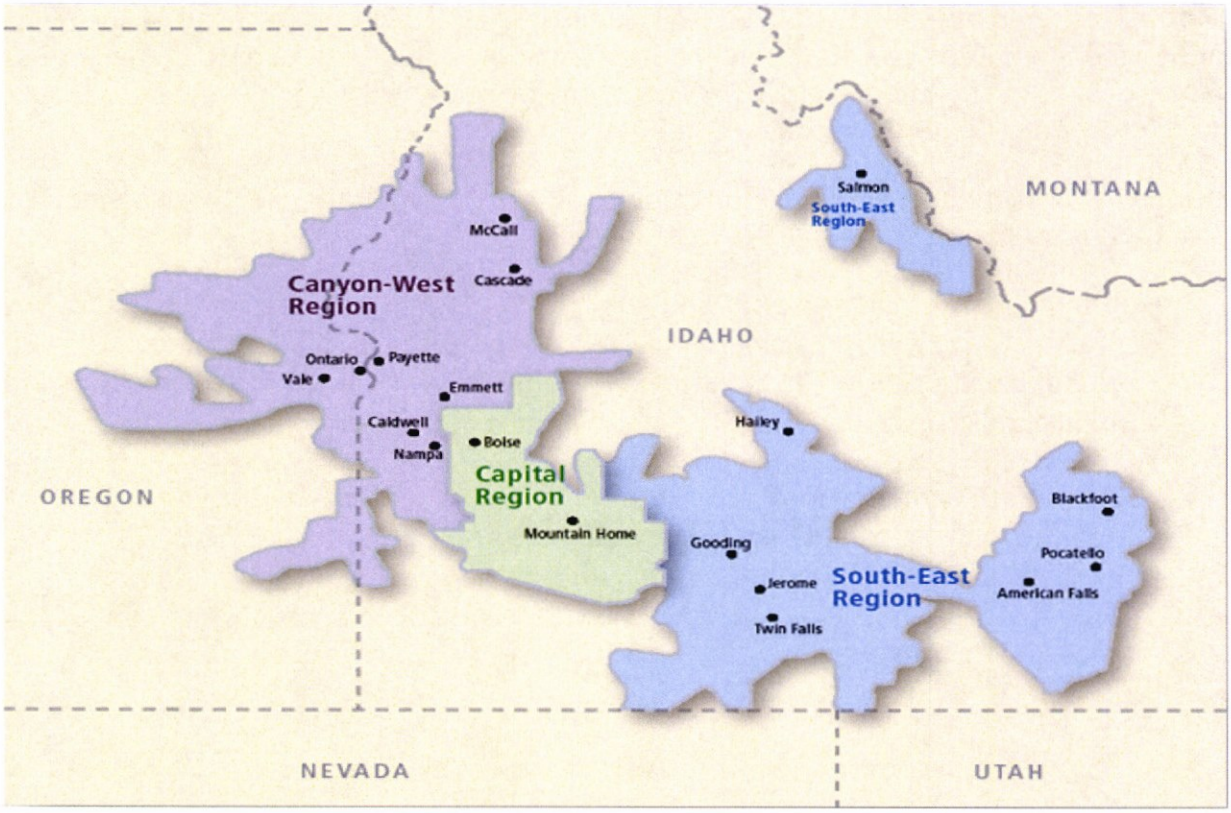


Figure 2 represents the enrolled capacity (total nominations) that were enrolled in 2019 and the distribution by Idaho Power's regional service areas.

Figure 2.

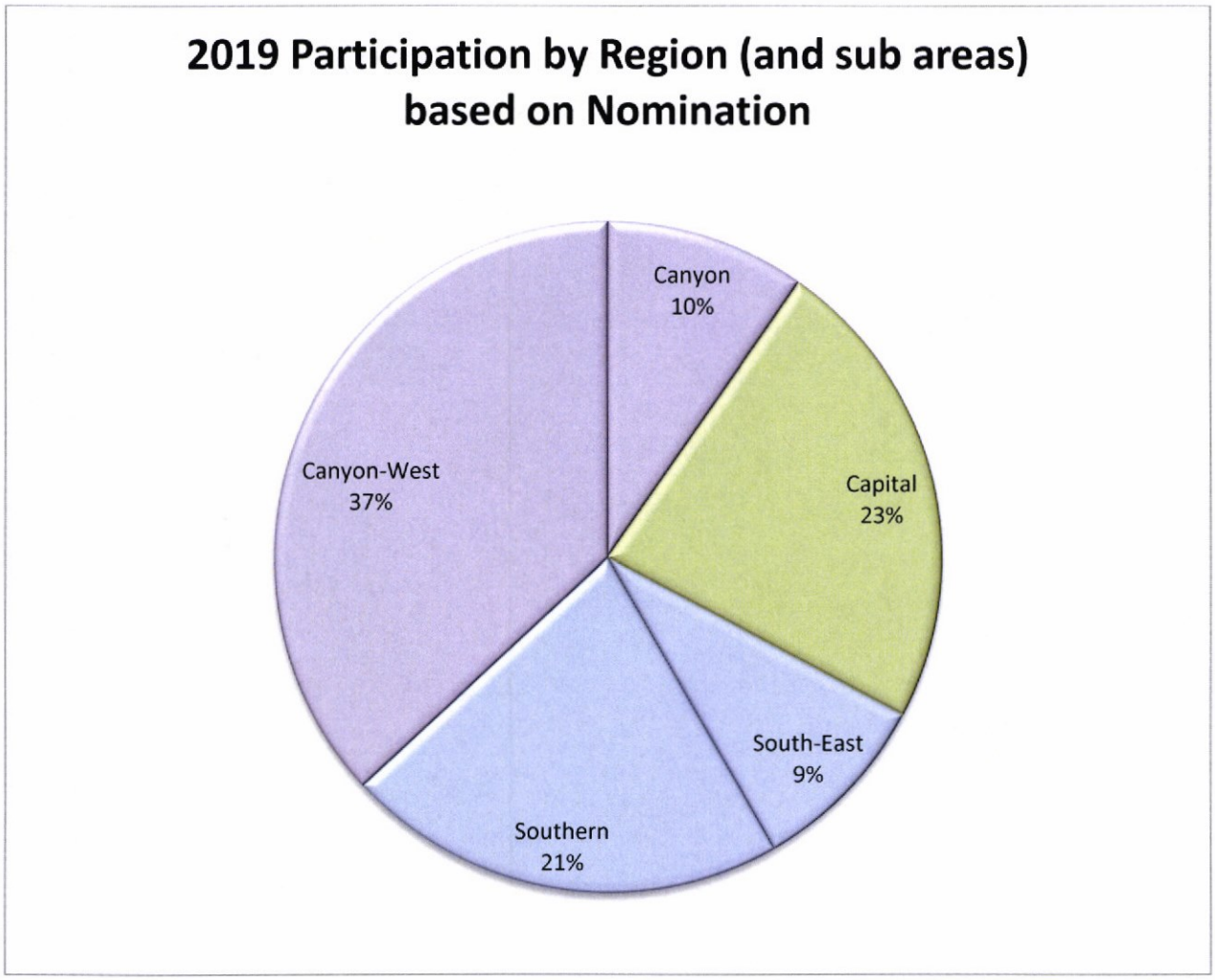
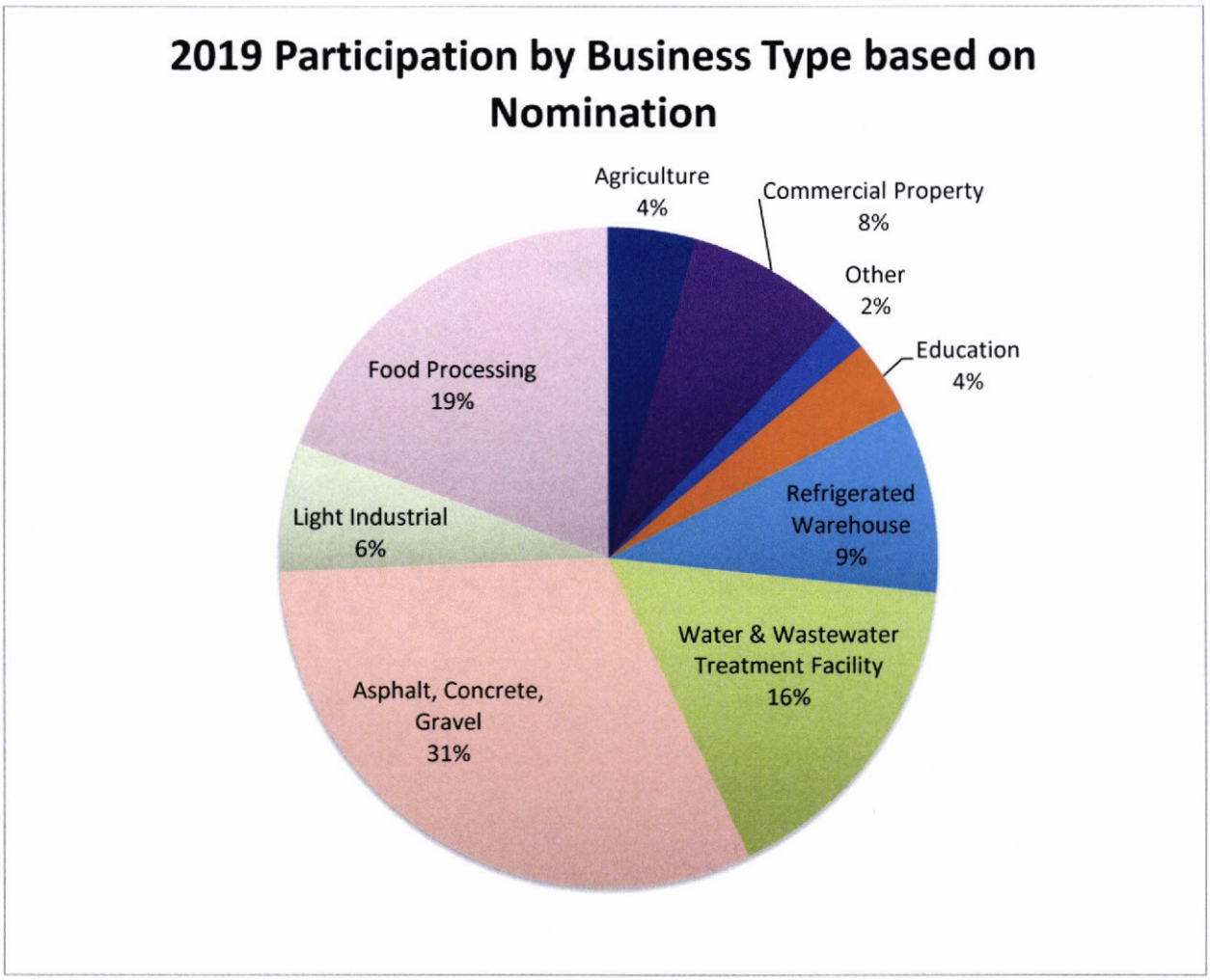


Figure 3 represents the enrolled capacity in 2019 and the diversity based on business type.

Figure 3.



Operations

Interval metering data provides Idaho Power the ability to view all participants' load after events. This metering data was used to calculate the reduction achieved per site during load reduction events. Using this data, Idaho Power provided participants post-event usage reports that showed hourly baseline, actual usage, and reduction during an event. This data is provided to assist participants in refining their nomination for future events. This data also provides information useful in determining which participating sites may have opportunity to provide more reduction or change their reduction strategy if nomination amounts were not achieved.

Load Reduction Analysis

An evaluation of the potential load reduction impacts in 2019 was conducted internally by Idaho Power. The goal of the review performed by Idaho Power was to calculate the load reduction in MW for the Program. The analysis also verified load reduction per site and per event.

The baseline methodology used in 2019 is the same methodology utilized in prior seasons. The baseline that load reductions are measured against during load reduction events is calculated using a 10-day period. The baseline is the average kW of the highest energy usage days during the event availability time (2-8 p.m.) from the highest three days out of the last 10 non-event weekdays. Individual baselines are calculated for each facility site. Once the original baseline is calculated, there is an adjustment included in the methodology called the Day-of-Adjustment ("DOA") that is used to arrive at the adjusted baseline.

Adjustments address situations where load is lower or higher than it has historically been, and the baseline does not accurately reflect the load behavior immediately prior to the event. The DOA is applied to each site's original baseline by accounting for the difference between the average baseline kW and the average curtailment day kW during hours 2-3 prior to the start of the event. The DOA is calculated as a flat kW and is applied to all baseline hours and capped at +/- 20 percent of the original baseline kW. The DOA is symmetrical, having either an upward or downward adjustment to the baseline, and is applied to the original baseline kW for each facility site for each hour during the Program event.

As Figure 4 below depicts, the most commonly nominated load reduction was in the 0-50 kW range, accounting for approximately 39 percent of the sites.

Figure 4.

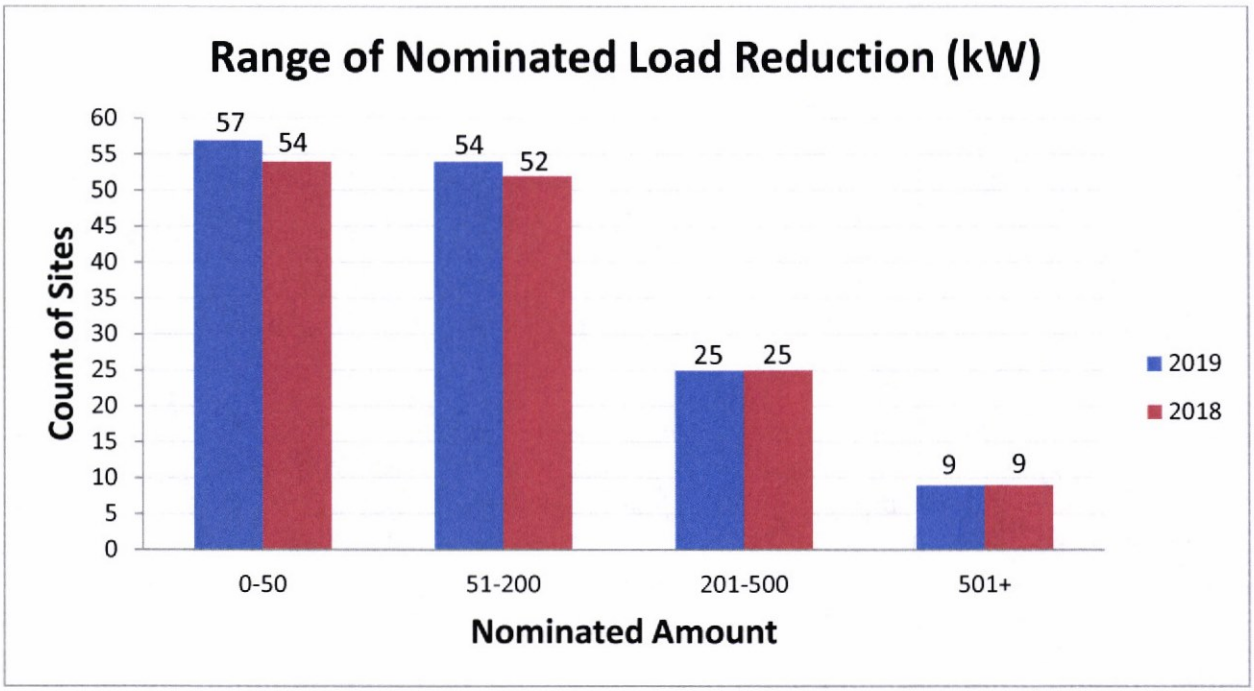


Table 2 shows the Program realization rates for 2019 based on average load reduction per event.

Table 2.

Curtailment Event	Event Timeframe	Nominated Demand Reduction	Average Demand Reduction (MW)	Max Demand Reduction (MW)	Realization Rate*
July 12	4-8 pm	36.3	24	25	66%
July 22	4-8 pm	35.7	28.5	31	80%
August 6	4-8 pm	35	30	30.5	86%
Average		35.6	27.5	28.8	77%

** Based on average reduction*

Figure 5 below shows both the average and peak demand reduction achieved during each of the three curtailment events. The maximum demand reduction achieved ranged from a low of 25 MW for the July 12 event to a high of 31 MW for the July 22 event. The July 12 event's average of 24 MW reduction achieved a realization rate of 66 percent, while the August 6 event's average of 30 MW reduction achieved a realization rate of 86 percent. Combined, the three events had an average realization rate of 77 percent.

Figure 5.

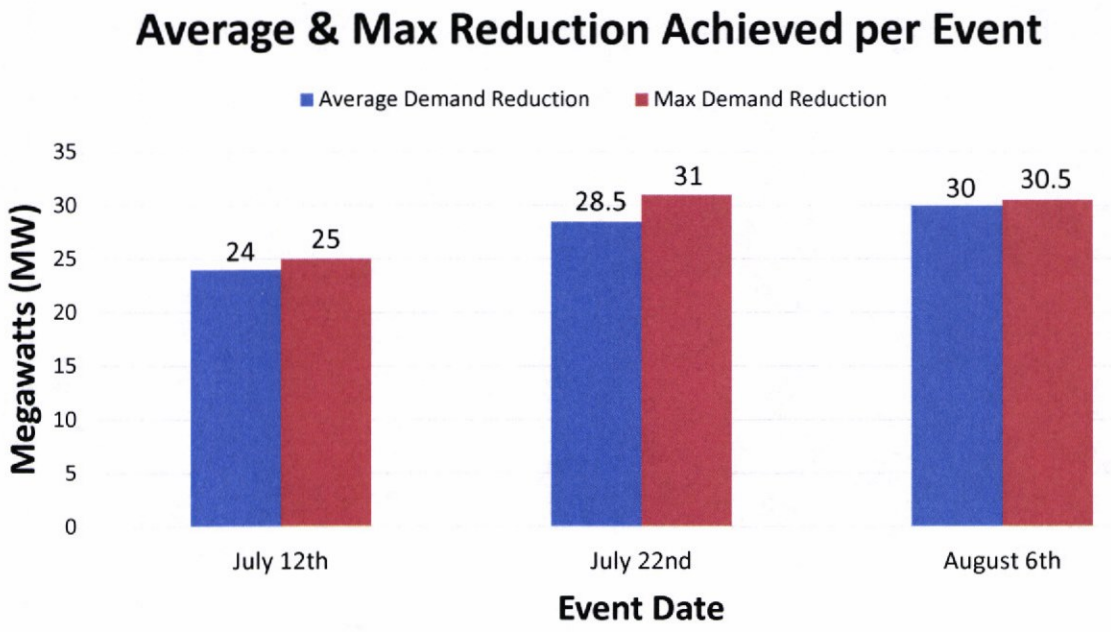


Table 3 shows the realization rate for each participant in the Program for 2019.

Table 3.

Participant Number	July 12 Event Realization	July 22 Event Realization	August 6 Event Realization	Season Realization
1	0%	103%	86%	63%
2	4%	4%	2%	3%
3	88%	110%	111%	103%
4	10%	76%	19%	35%
5	184%	135%	0%	106%
6	71%	112%	100%	94%
7	54%	69%	30%	51%
8	137%	134%	NA	135%
9	82%	111%	107%	100%
10	7%	28%	91%	42%
11	1%	1%	1%	1%
12	55%	53%	9%	39%
13	83%	92%	28%	68%
14	68%	132%	130%	110%
15	21%	35%	74%	43%
16	35%	6%	4%	15%
17	0%	2%	56%	19%
18	173%	85%	89%	116%
19	79%	109%	154%	114%
20	147%	132%	104%	126%
21	82%	323%	191%	199%
22	72%	37%	37%	49%
23	129%	97%	129%	118%
24	5%	10%	0%	5%
25	62%	74%	82%	73%
26	0%	125%	70%	65%
27	16%	105%	85%	69%
28	23%	30%	31%	28%
29	180%	214%	61%	152%
30	290%	126%	713%	377%
31	218%	179%	217%	205%
32	77%	157%	95%	110%
33	1%	41%	132%	58%
34	9%	260%	249%	173%
35	14%	4%	23%	14%

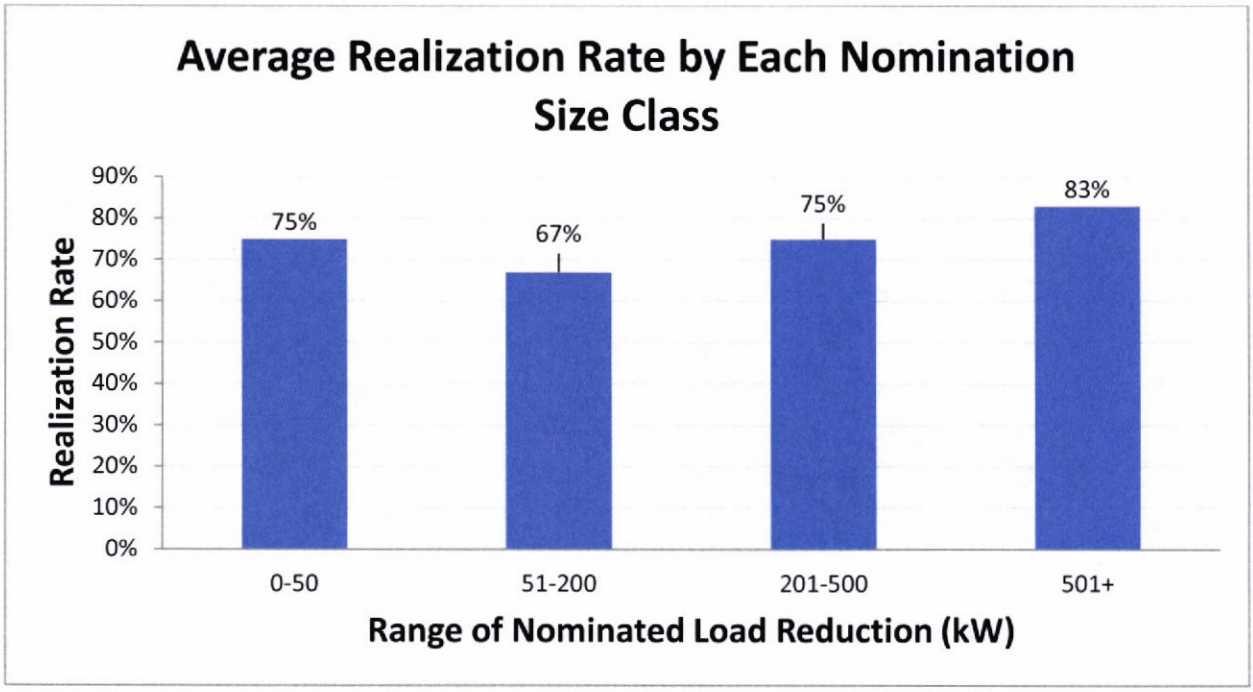
36	82%	82%	70%	78%
37	139%	99%	101%	113%
38	153%	14%	0%	55%
39	0%	87%	70%	52%
40	158%	0%	39%	66%
41	85%	25%	64%	58%
42	98%	64%	169%	111%
43	14%	10%	8%	11%
44	9%	11%	15%	12%
45	4%	0%	110%	38%
46	0%	74%	198%	90%
47	85%	182%	34%	100%
48	122%	0%	0%	41%
49	0%	14%	36%	17%
50	2%	NA	NA	2%
51	20%	3%	37%	20%
52	259%	0%	0%	86%
53	12%	NA	NA	12%
54	45%	7%	18%	23%
55	14%	56%	66%	45%
56	16%	30%	37%	28%
57	109%	122%	58%	96%
58	87%	122%	107%	105%
59	83%	28%	80%	64%
60	276%	0%	200%	135%
61	26%	0%	5%	10%
62	66%	52%	72%	63%
63	76%	147%	60%	94%
64	29%	6%	NA	18%

NA- signifies participants that opted out for that specific event or disenrolled mid-way through the 2019 season.

Broken out across four size segments, the sites with the smallest nominated load reduction, 0–50 kW, achieved a realization rate across the three events at 75 percent. The 0-50 kW group had the largest portion of sites enrolled in the Program, totaling 57 sites which accounted for 39 percent of total enrolled sites. The second smallest size class, 51–200 kW, had 54 sites enrolled and achieved the lowest average realization rate at 67 percent. The 201-500 kW group had 25 sites enrolled and achieved a realization rate of 75 percent. The largest size class, 501+ kW, had nine sites enrolled and achieved the highest average realization rate across the three events at 83 percent. Idaho Power will continue to work with all customer segments to help refine nominations to align closer with realistic reduction opportunities which will increase the overall program realization rate.

Figure 6 below represents the realization rate achieved by each nomination group, averaged across all three events. To calculate the results, each site's average load reduction (across three events) was divided by its average nomination across the three events and then grouped by size.

Figure 6.



Program Costs

Program costs totaled $606,129 through October 1, 2019. Incentive payments were the largest expenditure comprising approximately 90 percent of total costs.

The incentive payments from the three events called during the 2019 Program season were broken down as follows: the fixed capacity payments total was $547,527 and the variable energy payment total was $0. Variable energy payments were not made during the season because the variable energy payment is implemented starting with the fourth event.

Preliminarily,[7] the total Program costs for 2019 are estimated to be $19.55 per kW based on the maximum demand reduction of 31 MW, or $22.00 per kW, based on average load reduction for the season of 27.5 MW.

[7] Final Program costs for 2019 will be available after the close of the Company's 2019 financial reporting year, December 31, 2019.

Table 4 below displays the 2019 year-to-date ("YTD") Program costs by expense category.

Table 4.

Expense Category	2019 YTD Program Costs
Materials & Equipment	$1,113
Marketing & Administration	$57,489
Incentive payments	$547,527
Total	**$606,129**

Benefit-Cost Analysis

Idaho Power believes the purpose of demand response is to minimize or delay the need to build new supply-side peaking generation resources and to reduce load during extreme system peaks. The benefits of having the Program available, and with each load reduction event, provide Idaho Power a supply side resource to mitigate any system peak deficits. DR helps fulfill the current system capacity need and prolongs the need to build new generation resources.

The Benefit-Cost analysis for the Program is based on a 20-year model that uses financial and demand-side management alternate cost assumptions from the *2017 Integrated Resource Plan* ("IRP"). The Settlement, as approved in IPUC Order No. 32923 and OPUC Order No. 13-482, established a new method for valuing DR and defined the annual cost of operating Idaho Power's three DR programs for the maximum allowable 60 hours as no more than $16.7 million.

The annual value calculation will be updated with each IRP based on changes that include, but are not limited to, need, capital cost, or financial assumptions. This amount was reevaluated in the 2017 IRP to be $19.8 million.

In 2019, the preliminary cost estimate of operating all three of Idaho Power's DR programs was $8.1 million through October 1, 2019. It is estimated that if the three programs were dispatched for the full 60 hours, the total costs would have been approximately $11.3 million, which is below the total annual costs agreed upon in the Settlement as revised in the 2017 IRP.

The Company believes by calling at least three events per season the Program will be more effective in providing consistent and reliable reduction. Having a minimum of three events allows the Company to test processes and software and helps customers fine tune their curtailment plan. The Company did not call more than three load reduction events during the 2019 Program season because Idaho Power's generation resources were sufficient to satisfy system load. However, in all three events the Program provided a

resource to assist Load Serving Operators balancing the forecast when it did not align with actual peak load, as well as potentially avoid additional market purchases. Based on market prices for each of the days in 2019 the Program was dispatched, Idaho Power estimates the Program saved a total of $13,000 worth of energy purchases.

The variable energy price for utilizing the Program after the third event is $0.16/kWh and could be considered the dispatch price for calling load reduction events beginning with the fourth event. The price of $0.16/kWh is typically higher than the energy market price. The Company believes the variable energy price is appropriate because having a dispatch price below $0.16/kWh could cause the Company to call events more frequently resulting in reduced participant performance and event fatigue. The Company also believes that a lower dispatch price to trigger more load reduction events could send the wrong signal regarding the purpose of the Program and DR.

Idaho Power's cost-effectiveness evaluation for DR programs is updated annually. A more comprehensive cost-benefit analysis will be included in the Company's Demand-Side Management 2019 Annual Report when all the data will be available.

Customer Satisfaction Results

Idaho Power conducted a post-season online survey this year which was sent to all participants. The survey questions were based on a five-point rating scale. Idaho Power received feedback from 24 of 63 (excluding the Idaho Power facility that participates) participants enrolled for a response rate of 38 percent. Overall, the results from the survey were favorable with roughly 96 percent of respondents stating they would likely re-enroll in the Program in the future and about 88 percent of respondents stating they were satisfied with their overall experience with the Program. The results from the 2019 survey will be discussed in more detail in Supplement Two of the 2019 Demand-Side Management Annual Report.

In addition to the survey, the Company engaged customers at the end of the season by sending thank you cards to all participants with an average realization rate of 60 percent or greater across all three events during the 2019 season.

Program Activities for 2020

The primary improvement Idaho Power and the Program could benefit from is more consistent load reduction when events are called to achieve a higher realization rate. The Company will continue to communicate the value proposition with enrolled participants and the importance of active participation when events are called. Recruitment efforts for the 2020 season will begin the fourth quarter of 2019 to encourage participation. Idaho Power will meet with existing participants during the off-season to discuss past-season performance and upcoming season details. The Program Specialist has already started working with potential candidates for the 2020 season with an increased focus on enrolling national chain stores within our service area. This customer type makes a good candidate for the program due to extended operating hours, non-production load types and consistent energy usage profiles.

The Program will be jointly marketed along with Idaho Power's applicable energy efficiency programs as needed. The Company will utilize its Energy Advisors to retain the currently enrolled sites and encourage new sites to participate.

For the upcoming season, Idaho Power plans to focus on retaining currently enrolled participants and will more pro-actively work with the Marketing Specialist to promote the Program at Company sponsored events and trainings. The Company recognizes there is attrition over time and many participants may reduce their nomination based on operational and business needs, so it is important to consistently have approximately 37 MW of nominated capacity available. This level of nominated capacity will allow events to achieve 35 MW of load reduction considering the typical realization rate of nominated capacity ranging from 85-95 percent.

Conclusion

The Program currently contributes approximately ten percent of the Company's overall DR portfolio and can be relied on to provide dispatchable load reduction to the electrical grid. When analyzing the Program at the generation level, industrial and commercial customers have made noteworthy contributions to Idaho Power's DR programs. The cost of having this resource available was $22.00 per kW based on average reduction (27.5 MW) for the season.