215 South Cascade Street
PO Box 496
Fergus Falls, Minnesota 56538-0496
218 739-8200
www.otpco.com (web site)

May 1, 2020

Mr. Will Seuffert
Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, Minnesota 55101-2147

Acting Deputy Commissioner
Deputy Commissioner
Minnesota Department of Commerce
Division of Energy Resources
85 7th Place East, Suite 500
St. Paul, Minnesota 55101-2198

RE: 2019 Demand Side Management Financial Incentive Project
Docket No. E017/M-20-

Annual Filing to Update the Conservation Improvement Project Rider
Docket No. E017/M-20-

2019 Conservation Improvement Project Status Report
Docket No. E017/CIP-16-116.03

Dear Mr. Seuffert and Acting Deputy Commissioner:

Enclosed please find Otter Tail Power Company's filing in the above referenced matter which includes:

- Executive Summary
- Summary of Filing
- Petition of Otter Tail Power Company
- Financial Incentive
- Status Report
- Conservation Cost Recovery Adjustment
- Appendix A – Tables
- Appendix B – Third Party Evaluations
- Appendix C – Project Information Sheets

A Certificate of Service is also enclosed. Otter Tail Power Company has served a copy of this filing on all parties listed on the enclosed Service List. If you or Commission Staff have any questions, please contact me at (218) 739-8639 or JGrenier@otpco.com.

Very truly yours,

/s/ JASON GRENIER
Jason Grenier, Manager
Market Planning

kaw
Enclosures
By electronic filing
c: Service List

2019 DSM INCENTIVE, FILING TO UPDATE THE RIDER, AND STATUS REPORT EXECUTIVE SUMMARY

On May 1, 2020, Otter Tail Power Company (Otter Tail or the Company) files with the Minnesota Public Utilities Commission (Commission or MPUC) and the Minnesota Department of Commerce, Division of Energy Resources (DER) its annual report detailing the Company's previous year's Conservation Improvement Program (CIP) activities.

On May 1, 2020, Otter Tail Power Company files its 2019 Status Report.

On May 1, 2020, Otter Tail also files its annual filing to update the CIP Rider.

Otter Tail would like to emphasize the following points concerning the 2019 Conservation Improvement Program:

- The Company achieved 3.98[1] percent energy savings as a percent of retail energy sales, above our approved goal of 2.39 percent.
- The Company achieved energy savings of 69,248,477 kWh, exceeding goal by 167 percent. Demand savings were 123 percent of goal.
- The cost per kWh for *first year* savings is $0.13 (13 cents) compared to a budgeted cost of $0.17 (17 cents). Costs are in line with historical averages of $0.13 (13 cents).
- Expenditures were over budget (103 percent) at $9,116,722 based on an approved budget of $8,906,815.
- Net benefits of $33,504,362 were achieved excluding the negative net benefits from assessments.

Requests for Approval

- The Company is requesting approval for $2,718,378 in performance incentives for 2019 CIP activities, a small share of the total net benefits delivered to customers from investments in CIP.
- The Company is requesting the Conservation Cost Recovery Adjustment (CCRA) factor of $0.00485 per kWh be reflected on customers' bills through the Resource Adjustment starting with bills rendered (dated) on and after October 1, 2020.
- As in prior years, Otter Tail is requesting a variance to Minnesota Rule 7820.3500 (E & K), which require the Fuel Clause Adjustment (FCA) be stated as a separate line item on customer bills. The requested variance would allow the Company to continue to combine the FCA with the CCRA on customer bills.
- The Company is requesting approval of the 2019 CIP Tracker, resulting in a year-end balance of $3,955,955.

[1] Adjusted for one-third energy savings from behavioral change programs.

Otter Tail has committed resources and developed new, creative approaches in pursuit of higher conservation goals. This pursuit includes an appropriate balance of direct and indirect impact programs. New technologies, delivery mechanisms, and segmentation strategies emphasize Otter Tail's commitment to energy efficiency. Recent accomplishments are particularly noteworthy in the face of new building codes and equipment efficiencies and saturated markets. A consistent regulatory environment is critical to overcoming these challenges as utilities continue to pursue Minnesota's Next Generation Act energy goals. Otter Tail appreciates the support from Minnesota's regulatory agencies as we work together to sustain Minnesota's energy future.

Please note that this filing is available through the eDockets system maintained by the Minnesota Department of Commerce and the Minnesota Public Utilities Commission. Access this document by going to eDockets through the websites of the Department of Commerce or the Public Utilities Commission or going to the eDockets homepage at:

https://www.edockets.state.mn.us/EFiling/home.jsp

Once on the eDockets homepage, this document can be accessed through the Search Documents link and entering in docket number: 16-116.03.

Please contact Otter Tail at 800-493-3299 to request a complete copy of this filing.

STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION

In the Matter of Otter Tail Power Company's Annual Filing of the Demand Side Management Financial Incentive Project	Docket No. E017/M-20-
In the Matter of Otter Tail Power Company's Annual Filing to Update the Conservation Improvement Project Rider	Docket No. E017/M-20-
Status Report – 2019 CIP Activities	Docket No. E017/CIP-16-116.03

SUMMARY OF FILING

Otter Tail Power Company (Otter Tail or the Company) is pleased to report its 2019 DSM achievements. CIP program results for 2019 proved to be another successful year for Otter Tail and our customers exceeding the approved 2.39 percent energy savings goal and achieving 3.98 percent energy savings while delivering nearly $33.5 million in customer net benefits.

Otter Tail is requesting approval of a financial incentive of $2,718,378 to be approved and recovered through its Conservation Improvement Project (CIP) Tracker Account.

Otter Tail is requesting the Conservation Cost Recovery Adjustment (CCRA) factor of $0.00485 per kWh be reflected on customers' bills through the Resource Adjustment starting with bills rendered (dated) on and after October 1, 2020.

As in prior years, Otter Tail is requesting a variance to Minnesota Rule 7820.3500 K and Minnesota Rules part 7825.2600, which require the Fuel Clause Adjustment (FCA) be stated as a separate line item on customer bills. The requested variance would allow the Company to continue to combine the FCA with the CCRA on customer bills.

Lastly, Otter Tail is requesting approval of the 2019 CIP Tracker, resulting in a year-end 2019 balance of $3,955,955.

STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION

In the Matter of Otter Tail Power Company's Annual Filing of the Demand Side Management Financial Incentive Project	Docket No. E017/M-20-
In the Matter of Otter Tail Power Company's Annual Filing to Update the Conservation Improvement Project Rider	Docket No. E017/M-20-
Status Report – 2019 CIP Activities	Docket No. E017/CIP-16-116.03

PETITION OF OTTER TAIL POWER COMPANY

I. INTRODUCTION AND BACKGROUND

Otter Tail Power Company (Otter Tail or the Company) is requesting approval of a financial incentive of $2,718,378 to be approved and recovered through its Conservation Improvement Project (CIP) Tracker Account.

Otter Tail is requesting the Conservation Cost Recovery Adjustment (CCRA) factor of $0.00485 per kWh be reflected on customers' bills through the Resource Adjustment starting with bills rendered (dated) on and after October 1, 2020.

As in prior years, Otter Tail is requesting a variance to Minnesota Rule 7820.3500 K and Minnesota Rules part 7825.2600, which require that the Fuel Clause Adjustment (FCA) be stated as a separate line item on customer bills. The requested variance would allow the Company to continue to combine the FCA with the CCRA on customer bills.

Lastly, Otter Tail is requesting approval of the 2019 CIP Tracker, resulting in a year-end 2019 balance of $3,955,955.

On June 15, 1994, Otter Tail filed a petition for a CIP Adjustment to recover costs associated with CIP. On October 18, 1994, the Company filed a Motion to File Amended Petition and Accept Settlement Agreement. On December 23, 1994, the Minnesota Public Utilities Commission (Commission or MPUC) issued an Order Approving Settlement and Proposed CIP

Adjustment for Otter Tail.[2] In this Order, the Commission approved a CIP adjustment mechanism to be applied to customers' bills on or after July 1, 1995, which the Company began implementing on July 1, 1995.

On January 27, 2010, the MPUC approved a new shared savings model[3] for 2010 and indicated the new shared savings Demand Side Management (DSM) incentive shall be in operation for the length of each utility's triennial CIP plan.

On August 5, 2016 the MPUC revised the Shared Savings Model with the modifications specific to Otter Tail set forth below:

- Authorize financial incentives for a utility that achieves energy savings of at least 1.0 percent of the utility's retail sales. For a utility that achieves energy savings equal to 1.0 percent of retail sales, award the utility a share of the net benefits.
    - 8.25 percent in 2017,
    - 6.75 percent in 2018, and
    - 4.75 percent in 2019.
- For each additional 0.1 percent of energy savings the utility achieves, increase the net benefits awarded to the utility by an additional 0.75 percent until the utility achieves savings of 1.7 percent of retail sales.
- For savings levels of 1.7 percent and higher, award the utility a share of the net benefits equal to the following Net Benefits Cap.
    - 13.5 percent in 2017,
    - 12.0 percent in 2018, and
    - 10.0 percent in 2019.
- For all utilities, set the following Conservation Improvement Plan (CIP) Expenditure Caps:
    - 40 percent in 2017,
    - 35 percent in 2018, and
    - 30 percent in 2019.
- The costs of any mandated, non-third-party projects (e.g., the 2007 Next Generation Energy Act assessments, University of Minnesota Initiative for Renewable Energy and the Environment costs) shall be excluded from the calculation of net benefits and energy savings achieved and incentive awarded.
- Costs, energy savings, and energy production related to Electric Utility Infrastructure Costs, solar installation, and biomethane purchases shall not be included in energy savings for DSM financial incentive purposes.

[2] Docket No. E017/M-94-539.

[3] Docket No. E,G999/CI-08-133.

II. REQUEST FOR APPROVAL

Financial Incentive Filing

Otter Tail respectfully requests that a financial incentive of $2,718,378 be approved and recovered through its CIP Tracker Account.

Details of the incentive calculation and corresponding evaluations of direct impact projects are included in the attached report under the Section entitled "FINANCIAL INCENTIVE."

Conservation Improvement Project Rider

The Company is requesting the Conservation Cost Recovery Adjustment factor of $0.00485 be reflected on customers' bills through the Resource Adjustment starting with bills rendered (dated) on and after October 1, 2020.

III. LEGAL AUTHORITY

The Petition for approval of Otter Tail's Financial Incentive Filing is submitted in accordance with Minn. Stat. § 216B.16, subd. 6c. The Conservation Improvement Project Rider is submitted in accordance with the Miscellaneous Tariff rules.

IV. REQUEST FOR VARIANCE TO MINNESOTA RULES

Otter Tail requests a variance to Minnesota Rules 7820.3500 K and Minnesota Rules part 7825.2600, which require that the FCA be stated as a separate line item on customers' bills. The requested variance would allow the Company to continue to combine the FCA with the Conservation Improvement Adjustment on customer bills.

Minnesota Rules 7829.3200 authorizes the Commission to grant a variance to its rules when (1) enforcement of the rule would impose an excessive burden on the applicant, (2) the variance would not adversely affect the public interest, and (3) the variance would not conflict with standards imposed by law. Otter Tail believes the criteria for granting variances are met since the Company has been using the combined Resource Adjustment since July 1995, and customers have become familiar with the single-line item on their bill.

The continuation of the variance would not adversely affect the public interest and may avoid customer confusion if the bill presentment was altered at this time.

And finally, there are no statutory provisions that would prohibit the variance; therefore, the

requirement may be varied pursuant to Minnesota rules 7829.3200.

Once approved by the Commission, the Company will be notifying its Minnesota customers of the new CIP surcharge directly on its customers' bills. A surcharge notification will be printed on the back of each bill on the billing date following closest to October 1, 2020. In general, the notification will state "Beginning October 1, the Resource Adjustment includes a CCRA factor of $0.00485/kWh that has been applied based on the Commission's (date) order."

V. MISCELLANEOUS FILING AND REGULATORY REQUIREMENTS

A. All correspondence with respect to this filing should be sent to:

Jason Grenier
Otter Tail Power Company
215 South Cascade Street
P.O. Box 496
Fergus Falls, MN 56538-0496
(218) 739-8639 Phone
(218) 739-8941 FAX

B. The effective date of the CIP Rider is October 1, 2020. The effective date of the other filings is the date of Commission approval.

C. Otter Tail Power Company agrees that the notice and comment periods set forth in the Miscellaneous Tariff Filing rules control the time frame for processing this type of filing.

D. The reason for the filing and its impacts is explained above and in the attached report.

E. Minn. Rules Ch. 7690 contains the requirements and procedures for CIP filings. Minn. Stat. §§ 216B.2401, 216B.241, and 216B.2411 contain provisions utilities must meet in CIP. All compliance points are addressed in this section.

Statutory Requirements

2018 Minimum Spending Requirement

Minn. Stat. § 216B.241, requires that 1.5 percent of the Company's electric gross operating revenues be spent on CIP. Otter Tail's spending in relation to approved minimum spending is as follows:

Minimum Spending Requirement	$ 2,297,210
Approved Budget	$ 8,906,815[4]
2019 Actual Spending	$ 9,116,722

2019 Minimum Energy Savings Goal

The Company has complied with Minn. Stat. § 216B.241 which sets the minimum energy savings goal of 1.5 percent of MWh sales, determined as a percent of 2013-2015 weather normalized sales.

Energy savings goal @ 1.5%	26,128,129 kWh
Approved Energy Savings Goal	41,571,964 kWh
2019 Actual Energy Savings	69,248,477 kWh

2019 Low-Income Spending Requirement

The Company has complied with Minn. Stat. § 216B.241, subd. 7 requiring utilities to spend 0.2 percent of residential electric gross operating revenues on low-income programs.

Low-income minimum spend @ 0.2%	$ 110,165
Low-income approved budget	$ 225,000[4]
Low-income actual spend	$ 211,671

2019 Research and Development 10 Percent spending cap

The Company has complied with Minn. Stat. § 216B.241, subd. 2c that limits spending on Research and Development to 10 percent of the minimum spending requirement.

Minimum Spending Requirement	$ 2,297,210
10 percent R&D Spending Cap	$ 289,129
2019 Actual R&D Spending	$ 130,386

[4] Includes budget modification request approved by the DER on November 5, 2019.

Distributed Energy Resource Five Percent Spending Cap

The Company has complied with Minn. Stat. § 216B.2411, subd. 1(a) that allows utilities to spend up to five percent of the utility's minimum spending requirement on distributed generation project.

Lighting Use and Recycling Programs

The Company has complied with Minn. Stat. § 216B.241 that requires utilities to invest in projects that encourage the use of energy efficient lighting and reclamation and recycling of spent fluorescent and high intensity discharge lamps. Otter Tail met this requirement through its commercial and residential lighting programs.

Sustainable Buildings Certification

The Company has complied with Minn. Stat. § 216B.241, subd. 1f(c) that requires utilities to include in their CIP plans projects that facilitate professional engineering verification to qualify a building as ENERGY STAR labeled, Leadership in Energy and Environmental Design (LEED) certified, or Green Globes certified. The Company's Integrated Building Design Plus project facilitates sustainable building labeling and certification.

Sustainable Building 2030 Standards

The Company has complied with Minn. Stat. § 216B.241, subd. 9(e) that requires utilities to develop conservation improvement projects to support attaining energy efficiency goals consistent with Sustainable Buildings 2030 (SB 2030) standards. The Company's Integrated Building Design Plus project supports the SB 2030 standards.

Triennial Decision Requirements

The Company has complied with any additional requirements established in the DER Deputy Commissioner's Decision on November 3, 2016.

Budget Modifications

On October 10, 2013, the Deputy Commissioner of the DER issued an Order giving utilities budget flexibility criteria by segment rather than individual program budgets. Under this requirement, utilities are required to provide a letter for permission to exceed the overall budget for a segment by 25 percent or more.

Otter Tail requested a budget increase of $1,875,000 on October 14, 2019. The DER approved the request on November 5, 2019.

Measurement and Verification (M&V) Protocols for Large Custom CIP Projects.

On July 23, 2008, the Deputy Commissioner approved M&V Protocols for Large Custom CIP Projects. The protocols apply to custom projects that have savings greater than one GWh and are initiated after April 1, 2008.

In 2019 Otter Tail had one custom project under the Commercial & Industrial Focus Efficiency program estimated to save greater than one GWH. M&V on the project occurred in 2019. Otter Tail submitted the Pre- and Post-M&V reports to the DER on December 3, 2019. The Company received the DER's approval for the project on January 16, 2020.

Otter Tail had an additional project under its Recommissioning program exceeding the one GWH threshold. The Company is working with its third-party implementor of the program to submit the Pre- and Post-M&V reports to the DER.

CIP Employee Related Expenses

In its November 5, 2010 Order in Docket No. E017/M-10-220, the Commission agreed with and adopted the recommendations of the DER regarding reporting of employee expenses in utility status reports. The DER's recommendation included guidelines for public utilities to report employee related expenses that have been charged as Conservation Improvement Program (CIP) expenses. Public utilities must clearly identify all expenses in the four sections below:

- Travel expenses
- Employee meals
- Entertainment expenses, and
- Employee awards.

The DER further recommended, *"to limit the impacts on ratepayers, that these types of expenses remain a minor part of the overall annual budget or expenses, with a cap of 0.5 percent of total annual budgets or expenses."*

Otter Tail Power summarizes the Company's 2019 employee expenses as follows:

Section	Amount	Description
Travel Expense	$18,861	Travel expenses include mileage, rental vehicles, taxi services, and air fare for offsite meetings, customer site visits, and travel to training and conferences. All travel expenses are directly related to CIP program design, training, delivery, and promotion.
Lodging Expenses	$7,607	Lodging expenses include any lodging used for customer site offsite meetings, customer site visits, and lodging for training and conferences. All lodging expenses are directly related to CIP program design, training, delivery, and promotion.
Meal and Entertainment Expenses	$6,722	Meal and entertainment expenses include employee meals while attending offsite meetings, and meals while attending training and conferences. All meal and entertainment expenses are directly related to CIP program design, training, delivery, promotion, and review.
Conferences / Seminars / Trainings	$10,956	Conferences / Seminars / Training expenses consist of registration fees.
Miscellaneous Expenses	$310	Purchase of logo wear attire for employees while attending CIP public education forums and meetings.
TOTAL	$44,456	

Total 2019 employee expenses that were included in Otter Tail's CIP Tracker were $44,456. The total employee expense is 0.49 percent of the total 2019 CIP Tracker expenses of $9,116,722. This is below the DER's recommended employee expense of 0.5 percent of total CIP expenses.

Incorporation of the Average Savings Method (ASM) to account for Behavioral Savings.

On April 26, 2012, in Docket Nos. E,G999/CI-08-133 and E017/CIP-10-356, the Deputy Commissioner of the Department of Commerce made a decision in how to count energy savings from behavioral projects in CIP programs and the Shared Savings Demand-Side Management Financial Incentive calculations. The Commissioner ordered Average Savings Method (ASM) proposed by Staff be used with a three-year minimum lifetime, effective with the 2014 program year.

Otter Tail has implemented the Deputy Commissioner's decision for calculating the energy savings for behavioral projects. The results have been incorporated in the energy savings results counted towards the 1.5 percent energy savings goal.

VI. CONCLUSION

Based on information provided throughout this filing, Otter Tail requests the following:

From the MPUC:

1. Approval of the 2019 DSM Financial Incentive, totaling $2,718,378.
2. Approval of the 2019 CIP Tracker, resulting in a year-end balance of $3,955,955.
3. Approval to implement the CCRA factor of $0.00485/kWh reflected on customers' bills through the Resource Adjustment starting with bills rendered on and after October 1, 2020.
4. Approval of a variance to Minnesota Rule 7820.3500 to allow Otter Tail to continue to combine the FCA with the Conservation Improvement Adjustment on customer bills.

From the Division of Energy Resources:

1. Approval of the individual 2019 CIP Projects, Evaluations, Energy and Demand Savings.
2. Approval of Otter Tail's response to various DER orders as indicated in the Miscellaneous Filing and Regulatory Compliance section of this filing.

If there are any questions concerning this filing, please contact Jason Grenier at (218) 739-8639 or jgrenier@otpco.com.

Dated: May 1, 2020

Respectfully submitted,
OTTER TAIL POWER COMPANY
By: */s/ JASON GRENIER*

Jason Grenier
Manager, Market Planning
Otter Tail Power Company
P.O. Box 496
215 South Cascade Street
Fergus Falls, MN 56538-0496
(218) 739-8639

Financial Incentive

FINANCIAL INCENTIVE

Otter Tail Power Company (Company or Otter Tail) hereby submits this filing in compliance with the Minnesota Public Utilities Commission's (Commission or MPUC) January 27, 2010 Order Approving Demand Side Management (DSM) Financial Incentive Plans.[1]

The filing consists of the following items.

- Discussion of 2019 Financial Incentive
- Financial Incentive - Statutory Criteria
- Cost Comparisons / Net Benefits
- Request for Approval

Tables referenced in this Financial Incentive are located in Appendix A and include the following information.

Table 1	Calculation of Carrying Charge – 2019 CIP Tracker
Table 2	2019 Incentive Mechanism
Table 3	2019 Project Costs, Savings, and Benefits
Table 4	2019 Benefit Cost Ratios
Table 5	2019 CIP Program Status Report
Table 6	2019 CIP Program Status Report – Costs per kW & per kWh

[1] Docket No. E,G999/CI-08-133.

I. DISCUSSION OF 2019 FINANCIAL INCENTIVE

The current shared-savings financial incentive plan awards Otter Tail Power Company a share of the net benefits from investments in energy efficiency. The plan links the incentive to the utilities' performance in achieving cost-effective energy efficiency.

INCENTIVE CALCULATION

On January 27, 2010, the MPUC approved a new shared savings model[2] for 2010 and indicated the new shared savings DSM incentive shall be in operation for the length of each utility's triennial Conservation Improvement Project (CIP) plan. Otter Tail's triennial plan is approved for 2017-2019.

On August 5, 2016, the MPUC issued an order adopting additional modifications to the Shared Savings Model recommended by the DER. The MPUC's order incorporated the modifications set forth below. Included are the modifications that are specific to Otter Tail:

- Authorize financial incentives for a utility that achieves energy savings of at least 1.0 percent of the utility's retail sales.
- For each additional 0.1 percent of energy savings the utility achieves, increase the net benefits awarded to the utility by an additional 0.75 percent until the utility achieves savings of 1.7 percent of retail sales.
- For savings levels of 1.7 percent and higher, award the utility a share of the net benefits equal to the Net Benefits Cap of:
    - 13.5 percent in 2017,
    - 12.0 percent in 2018, and
    - 10.0 percent in 2019.
- For all utilities, the following Conservation Improvement Plan (CIP) Expenditure Caps are applied:
    - 40 percent in 2017,
    - 35 percent in 2018, and
    - 30 percent in 2019.
- The costs of any mandated, non-third-party projects (e.g., the 2007 Next Generation Energy Act assessments, University of Minnesota Initiative for Renewable Energy and the Environment costs) shall be excluded from the calculation of net benefits and energy savings achieved and incentive awarded.
- Costs, energy savings, and energy production related to Electric Utility Infrastructure Costs, solar installation, and biomethane purchases shall not be included in energy savings for DSM financial incentive purposes.

[2] Docket E,G999/CI-08-133.

As part of this April 1, 2020, filing under section II, the Company is providing the 2019 proposed incentive. The following steps are used in the incentive calculation:

1. The 2019 incentive is calculated using the model provided by the Department and detailed in Appendix A, Table 2.
2. At year-end, the utility calculates the net benefits for the CIP projects based on actual participation and costs. The net benefits are the avoided costs less the total CIP costs, including both direct and indirect projects.
3. Appendix A, Table 3 lists the 2019 CIP Programs, each as proposed and approved by the Department, and each with actual 2019 results. Also listed are total program costs, resulting benefits, and net benefits for each program and as a total CIP Program.
4. **Actual energy savings was 65,418,478 kWh, excluding the Company's Publicly-Owned Property (POP) Solar and Company-Owned Street and Area Lighting (Street Lighting) programs' allocated savings, or 3.76 percent of historic average retail sales. CIP costs totaled $9,116,722 and includes costs from the LED Street and Area Lighting Project[3] and excludes the return on the project's investment. The Company's total net benefits are calculated to be $33,006,480, excluding assessments, House Therapy, POP Solar, and Street Lighting.** The 2019 results for energy savings, costs, and net benefits are entered in the post-year financial incentive tool as shown in Appendix A, Table 2.
5. Appendix A, Table 4 outlines the benefit/cost ratios for each 2019 program. Figures are listed for each project "as filed" as part of the 2017-2019 CIP Triennial Filing and "as actual" reflecting 2019 actual participation, savings, and costs.
6. As detailed in Appendix A, Table 2, the total incentive amount achieved in 2019 is **$2,718,318**.

II. FINANCIAL INCENTIVE - STATUTORY CRITERIA

Minn. Stat. §216B.16, subd. 6c(b), sets forth four statutory criteria with respect to approval by the Minnesota Public Utilities Commission of utility financial incentive plans for energy conservation improvements. In approving incentive plans, the Commission shall consider:

1. whether the plan is likely to increase utility investments in cost-effective energy conservation.
2. whether the plan is compatible with the interest of utility ratepayers and other interested parties.
3. whether the plan links the incentive to the utility's performance in achieving cost-effective conservation.
4. whether the plan is in conflict with other provisions of this chapter.

[3] These costs were approved to be included in the financial incentive calculation per the MPUC's December 27, 2019 Order in Docket No. E-017/M-19-256.

Consistent with the Commission's January 27, 2010 Order Approving Demand Side Management Financial Incentive Plans in Docket No. E,G999/CI-08-133, the following discussion describes how Otter Tail's proposed 2019 Demand Side Management financial incentive in the present docket is consistent with each of these statutory criteria.

Otter Tail's financial incentive mechanism is consistent with the considerations set forth by the Commission as follows:

1. Increase investments: The incentive mechanism encourages increased utility investment in cost-effective conservation, recognizing higher incentives for greater net benefits.
2. Interest of ratepayers and others: The current mechanism is in the interest of ratepayers because it awards utilities a percentage of net benefits achieved. The mechanism does not award the incentives for simply complying with statutory spending, but encourages additional cost-effective energy-efficiency investment, which is in the ratepayer's interest.
3. Links incentive to performance: The current incentive is a shared savings mechanism that awards utilities a share of the net benefits from investments in energy efficiency. There is a direct link between the amount of the incentive and the utility's performance of achieving cost-effective efficiency. As cost-effectiveness increases, net benefits increase, and thus, the incentive increases until the utility reaches the expenditure cap.
4. Conflict with other provisions: Otter Tail does not believe the current incentive conflicts with other provisions of law. It does not result in unjust or unreasonable rates since the mechanism awards for cost-effective energy efficiency at a cost less than supply side options.

III. COST COMPARISONS / NET BENEFITS

In 2019, Otter Tail's average first year cost per kWh saved was 13 cents, which is equivalent to the five-year average of 13 cents. As noted in the Table 1, the average first year costs per kWh range have remained relatively consistent.

Table 1: History of Otter Tail's CIP Achievements, Tracker, and Incentives (2014-2019)

	2015	2016	2017	2018	2019
DSM Financial Incentive	$4,257,105	$5,031,678	$2,642,360	$3,004,311	$2,718,378
CIP Expenditures	$6,105,445	$7,770,781	$6,605,899	$9,027,762	$9,116,722
Achieved Energy Savings (kWh)	48,652,628	57,504,891	52,497,167	73,255,915	69,248,477
Average Cost per kWh Saved	$0.13	$0.14	$0.13	$0.12	$0.13

NET BENEFITS

The definition of "net benefits" used in the financial incentive calculation is the total utility benefits less the total utility costs for the entire CIP portfolio for a single year. These figures are derived from a single year (2019) benefit/cost analysis using DSMore™ software. The utility benefits are aggregated for the lifetime of all CIP energy efficiency measures, discounted back to 2019 dollars using the utility discount rate of 7.51 percent for the utility test as approved in the 2016 General Rate Case and 2.68 percent for the societal test as approved in the 2017-2019 CIP filing.

As shown in Table 3 of Appendix A, the estimated net benefits for the 2019 Proposed CIP are $24,150,264[4]. Additional details of the total costs and the total benefits from benefit/cost analysis of the 2019 Proposed CIP portfolio include:

Program Costs - Proposed 2019**	
Delivery/Implementation/Administration Costs	$3,828,878
Incentives	$3,202,937
Total Costs	$7,031,815
Program Benefits - Proposed 2019*	
Avoided T&D Electric	$4,176,809
Cost-Based Avoided Electric Production	$13,673,711
Cost-Based Avoided Electric Capacity	$6,299,744
Cost-Based Avoided Ancillary	$0
Total Benefits	$24,150,264
Net Benefits - Proposed 2019	$17,118,449
Benefit/Cost Results - Proposed 2019	3.43

* Benefits are based on lifetime benefits, discounted back to 2019 dollars using 7.51 percent utility discount rate.

** Costs include assessements.

As shown in Table 3 of Appendix A, the actual net benefits of $33,504,362[4] for 2019 CIP are higher than the proposed net benefits. Additional details of the total costs and the total benefits from the DSMore analysis of the 2019 Actual CIP portfolio include:

[4] This number reflects total net benefits and not the net benefits included in the calculation of the financial incentive.

Program Costs - Actual 2019**	
Delivery/Implementation/Administration Costs	$3,284,000
Incentives	$5,832,722
Total Costs	$9,116,722
Program Benefits - Actual 2019*	
Avoided T&D Electric	$8,192,617
Cost-Based Avoided Electric Production	$23,616,607
Cost-Based Avoided Electric Capacity	$10,811,859
Cost-Based Avoided Ancillary	$0
Total Benefits	$42,621,083
Net Benefits - Actual 2019	$33,504,362
Benefit/Cost Results - Actual 2019	4.68

* Benefits are based on lifetime benefits, discounted back to 2019 dollars using 7.51 percent utility discount rate.
** Costs include assessements.

CIP Cost Breakdown - 2019				
	Proposed Costs		**Actual Costs**	
Delivery	$3,828,878	54%	$3,284,000	36%
Incentives	$3,202,937	46%	$5,832,722	64%
Total CIP Costs	$7,031,815	100%	$9,116,722	100%

IV. SUMMARY OF PROPOSAL

Otter Tail's 2019 CIP energy savings more than doubled Minnesota's energy savings goal of 1.50 percent and finished at 3.76 percent of historical sales. The MPUC's August 5, 2016, Order adopting Modifications to Shared Savings Demand-Side Management Financial Incentive Plan reaffirmed the basis of the utility's financial incentive is to share the net benefits from the conservation programs between customers and the utility. For 2019 CIP results, the utility was eligible to receive 10 percent of the total net benefits delivered to its customers but not to exceed 30 percent of total expenses. Applying these factors Otter Tail qualifies for a $2,718,378 financial incentive.

Otter Tail's proposed 2019 financial incentive is consistent with Minn. Stat. §216B.16, subd. 6c(b), since it supports an increase in cost-effective utility investments, links the utility's performance to achieving cost-effective conservation, and does not conflict with other provisions of Minn. Stat. §216B.16.

V. REQUEST FOR APPROVAL

FINANCIAL INCENTIVE FILING

Otter Tail respectfully requests the MPUC to approve the 2019 CIP performance financial incentive amount of $2,718,378 be recoverable through its CIP Tracker Account.

If there are any questions concerning this filing, please contact Jason Grenier at (218)739-8639 or jgrenier@otpco.com.

Dated: May 1, 2020

Respectfully submitted,
OTTER TAIL POWER COMPANY

By: */s/ JASON GRENIER*

Jason Grenier, Market Planning
Otter Tail Power Company
P.O. Box 496
215 South Cascade Street
Fergus Falls, MN 56538-0496
(218) 739-8639

Status Report

Status Report

Table of Contents

STATUS REPORT - 2019 CIP PROGRAMS

The 2019 Conservation Improvement Program (CIP) Status Report has been combined with the 2019 Financial Incentive Filing, produced annually on April 1. The Status Report covers all 2019 programs, including direct impact, indirect impact, and miscellaneous programs. Participation, program costs, and energy and demand savings for all programs are outlined in Appendix A, Table 5. The programs described in this Status Report are approved for the 2020 CIP Plan unless stated otherwise.

Direct Impact Programs

Residential

- Air Conditioning Control
- Appliance Recycling
- Energy Star Lighting
- Electronically Commutated Motors
- Energy Feedback
- Heat Pumps
- Home Insulation
- Home Transformer
- School Kits
- Smart Thermostats
- Water Heater Store & Save

Low-Income

- House Therapy

Commercial

- Adjustable Speed Drives
- Air Conditioning Control
- Commercial Direct Install
- Compressed Air Efficiency
- Custom Efficiency Grants
- Heat Pumps
- Commercial & Industrial Focused Efficiency
- Lighting – Retrofits
- Lighting – New Construction
- Motors
- Recommissioning
- Refrigeration

Other

- Company-Owned Street & Area Lighting
- Publicly Owned Property (POP) Solar

Indirect Impact Programs / Regulatory Requirements

- Advertising & Education
- Compressed Air Audits
- Integrated Building Design Plus
- Financing
- Implementation & Training
- Program Development
- PUC / Regulatory (NGEA) Assessments
- Transmission & Distribution Cost Study

Miscellaneous / Inactive Program Costs

- Accounting Adjustments
- Town Energy Challenge Pilot
- Carrying Charges

DIRECT IMPACT – RESIDENTIAL

AIR CONDITIONING CONTROL

The CoolSavings air conditioning control program targets residential customers with central air conditioning. Customers are encouraged to enroll in the program and receive a $8.25/month credit prorated for each of the four summer months (June-September).

Otter Tail Power Company (the Company, Otter Tail) promotes air conditioning control using various resources listed below:

- Bill inserts sent to customers in February, March, April, July, and September 2019.
- A media campaign in conjunction with the Advertising and Education program.
- Customer care booklet sent to all new customers.
- Hero-spots on the Company website during March and April.
- Targeted mailing in October.
- Bill messages – January, April, and May.
- *Programs and services guide* provided to contractors and employees.
- Print advertisement to regional home magazine.
- Billboard spot in February, March, and April.
- Service representative training.
- Agency training for House Therapy contractors.
- Brochures available upon request.
- Program, rate, and rebate page described within the Company's web site.

In 2019, Otter Tail controlled air conditioning 15 days totaling 32 hours and 27 minutes. This control time is within the 300-hour control limit in the air conditioning rider.

Participation & Budget

PARTICIPATION AND BUDGET – 2019			
Air Conditioning Control (R)	**Actual**	**Proposed**	**% of Goal**
Participation	2,791	4,534	62%
Budget $	$31,452	$87,000	36%

Evaluation Methodology

Energy savings for this program are consistent with Attachment B: Electric Product Assumptions, approved in the Company's triennial plan.

Energy Savings & Adjustments

ENERGY AND DEMAND RESULTS – 2019	
Air Conditioning Control (R)	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	86,552
Demand Savings – kW	2,063.91

APPLIANCE RECYCLING

The Appliance Recycling program offers residential customers a $50 incentive to recycle inefficient but operating refrigerators and freezers at no cost to the customer. In 2019 we again offered four LED bulbs in addition to the $50 recycling incentive to participants. This has helped retain customer interest in the program as reflected in participation. We will continue with the additional incentive in 2020.

Otter Tail promotes appliance recycling using various resources:

- Bill inserts targeted at residential customers in May, July, and September.
- Print advertising in May.
- Radio campaign on targeted Minnesota stations in May.
- Web page content including hero ads placed on the Company's home page and program information including instructions about how to schedule appliance pickup.
- Billboard spot in May, June, and July.
- Bill message in May and June.
- Inclusion as appropriate on Home Energy Reports mailed to customers through the Energy Feedback program.

Participation & Budget

PARTICIPATION AND BUDGET – 2019			
Appliance Recycling	**Actual**	**Proposed**	**% of Goal**
Participation	447	230	194%
Budget $	$115,885	$65,000	178%

Evaluation Methodology

The Company uses figures from the Technical Reference Manual Version 2.0 (TRM) for calculating savings for the removal and recycling of second household refrigerators and freezers.

Energy Savings & Adjustments

ENERGY AND DEMAND RESULTS – 2019	
Appliance Recycling	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	461,940
Demand Savings – kW	66.18

ENERGY STAR LIGHTING

The Energy Star Lighting program aims to increase the market share for ENERGY STAR qualified LEDs, while educating both consumers and retailers about the benefits of energy efficient lighting. Promotion of LEDs was successfully expanded and will continue in 2020.

Through the services of SlipStream, Otter Tail offers the Energy Star Lighting campaign with the following objectives:

- Leverage manufacturer dollars for instant consumer rebate incentives averaging $1.68 per LED bulb.
- Leverage advertising dollars for retailers.
- Highlight Otter Tail's sponsorship of the promotions through press releases, in store displays, and special public relations events and LED bulb sales.
- Implement the program with seamless coordination with other Energy Star Lighting promotions throughout Minnesota and the Midwest.

There were approximately 30 retailers in our service territory that participated in the 2019 campaign, contributing to distribution of approximately 188,613 bulbs.

Otter Tail promotes the Energy Star Lighting program using various resources listed below:

- Bill inserts in July, September, and October.
- Billboards in January, February, September, October, and November.
- Television, radio, and digital media spots in conjunction with the Advertising and Education program.
- *Programs and services guide* provided to contractors and employees.
- The Company's web site.
- On-site promotions through radio remotes at the participating retailers.
- Energy efficient lighting modules on Home Energy Reports mailed to customers through the Energy Feedback program.
- Factsheets available upon request.

Other program promotions included the following:

- The Company provided a four pack of LED bulbs for each customer who recycled either a refrigerator or freezer through the Appliance Recycling program. This extended customer education about LED bulbs and increased the total bulb distribution.
- The Company distributed Holiday LED light strings in the 2019 program. The strands were given away to Otter Tail customers who donated food or money to the local food shelf. This program was held in Fergus Falls, Bemidji, Morris, and Crookston. The events resulted in collection of over 1,750 pounds of food and $1,700 in cash donations. There were approximately 7,540 light strands given out.

Participation & Budget

PARTICIPATION AND BUDGET – 2019			
Energy Star Lighting	**Actual**	**Proposed**	**% of Goal**
Participation	197,752	110,000	180%
Budget $	$574,825	$360,000	160%

Evaluation Methodology

Energy savings for this program are consistent with Attachment B: Electric Product Assumptions, approved in the Company's triennial plan.

Energy Savings & Adjustments

ENERGY AND DEMAND RESULTS – 2019	
Energy Star Lighting	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	7,075,261
Demand Savings – kW	789.98

ELECTRONICALLY COMMUTATED MOTORS

The Electronically Commutated Motors (ECM) program encourages customers to install an efficient ECM as a part of a new heating system rather than selecting a system with a lower efficiency motor option. ECMs use significantly less electricity to deliver warm air from the furnace and cool air from the central cooling system for space conditioning. ECMs can result in up to 75 percent less energy consumption than standard fan motors.

ECM efficiency was marketed to customers and contractors through:

- Bill inserts sent in July and September targeted at residential customers.
- *Programs and services guide* provided to contractors and employees.
- Program information on the Company's web page, www.otpco.com.

Otter Tail provides customers a $100 rebate for a contractor-installed unit.

Participation & Budget

PARTICIPATION AND BUDGET – 2019			
Electronically Commutated Motors	**Actual**	**Proposed**	**% of Goal**
Participation	283	120	236%
Budget $	$38,082	$30,000	127%

Evaluation Methodology

Energy savings for this program are consistent with Attachment B: Electric Product Assumptions, approved in the Company's triennial plan.

Energy Savings & Adjustments

ENERGY AND DEMAND RESULTS – 2019	
Electronically Commutated Motors	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	220,064
Demand Savings – kW	64.98

ENERGY FEEDBACK

The Energy Feedback program consists of two program components: Aclara Technologies Home Energy Analyzer (HEA) and an Opower Home Energy Report (HER). These behavior-based energy savings programs aim to maximize energy savings achieved through behavior changes that result from providing customers comparative energy use information.

The HEA component is an opt-in program that provides feedback to residential users through an online interface. The HER project is an opt-out program based on direct mail delivery of up to four comparative energy usage reports to participating Minnesota residential customers each year.

Home Energy Analyzer- HEA enables users to understand their individual energy use through online presentation of up to 24 months of billing history and analytics. It includes a "My Energy" portal that includes a home energy profile, into which details about the age and size of home, number and type of appliances in use, insulation and window features, heating system, and energy consumption are compiled and included in energy analysis. Participants that complete the home energy profile are presented with performance benchmarks, comparing their energy use to similar homes. Customers can set their money savings goal and are presented options that will help them achieve their desired energy savings goal.

In conjunction with Otter Tail Power Company's customer information system database conversion the Aclara Energy Prism HEA tool was upgraded to the Aclara ACE Platform tool that is built with responsive design, making it compatible with smart phones and tablets. The old system was taken down in early February 2019 and the new system came online at the end of March 2019.

Minnesota residential customers were encouraged to participate in use of the HEA tool in the following ways:

- Through the Company's web site, including hero-spot ads presented on the home page, and a program page within the website.
- Messaging presented on service statements during one billing period.
- Bill inserts sent in May, July, August, September, and December to all residential customers.
- Customer service guide sent to all new customers.
- Online services brochure sent to all new customers.

To rebuild customer participation starting in November and continuing through year end the Company offered an incentive to customers to use the tool to update their home energy profile. Customers completing the step were presented with more accurate energy benchmarking analysis within the ACE portal and received a $20 gift card. During the promotion period 3,052 customers logged on for home energy analysis. Customers were informed of the incentive through a bill insert in December, email and social media promotions in November and December.

Opower Home Energy Reports – The HER program delivers comparative energy usage information to selected Minnesota residential customers. The 2019 program included 32,392 participants. Report distribution was delayed during the 2019 summer months due to data issues, a residual effect of the customer information system upgrade Otter Tail Power Company completed during the year. Once the data issues were corrected, report distribution resumed. Participants received on average three reports during the year.

Each HER contained various personalized components, including:

- Comparisons of recent energy use to a group of 100 similar homes.
- Comparison of recent energy use to current use, tracking changes over time.
- Targeted energy efficiency tips selected based on the home's energy use pattern and season, and household heating type.

Participation in the program is defined as any Minnesota residential customer that received one or more personalized HER during 2019. In 2019, the evaluation demonstrated an average participant savings of 337.5 kWh per year as measured at the meter.

Participation & Budget

PARTICIPATION AND BUDGET – 2019			
Energy Feedback	**Actual**	**Proposed**	**% of Goal**
Aclara HEA Participation	2,046	2,500	82%
Opower HER Participation	32,392	28,000	116%
Budget $	$379,025	$302,100	94%

Evaluation Methodology – Home Energy Analyzer

Annually since 2010, Otter Tail contracted with Integral Analytics to perform an evaluation of the Bill Analyzer project. The methodology used in 2010 was approved by DER staff. The evaluation relied upon a statistical analysis of the actual billed electricity consumption before and after participation in the HEA project.

The evaluation found that savings varied by the component or level of the HEA tool the participant used. With the upgrade to the ACE platform, components differed. The evaluation of 2019 program results used only the components included with ACE. As in the past, in addition to calculating the savings by component, Integral Analytics also calculated an average overall savings calculation. In 2019, the evaluation demonstrated an average 376 kWh per year as measured at the meter.

In addition to analysis of post-participation usage compared to the customer's own pre-participation usage, Integral Analytics completed an analysis of the participant group against a randomly selected control group.

The HEA evaluation is included in Appendix B-Third Party Evaluations.

Evaluation Methodology – Opower HER

The 2019 evaluation of energy savings for the Opower HER program was completed by Opower using integrated data from a variety of sources that allow for detailed analysis of energy savings results. The evaluation is included in Appendix B – Third Party Evaluations. The data included:

1. **Consumption data:** Otter Tail provided weekly updates of monthly consumption data for all households in the program, including historical consumption information.

2. **Parcel data:** Opower received data, to the extent available from a third-party vendor, about household parcels, including house size, age and value, heating and cooling type, as well as pool and hot tub data. Parcel data elements for age and value are static. Other data elements may be updated at the customer's request.

3. **Demographic data:** Opower received demographic data, to the extent available from a third-party vendor, about participants, including household income, age of occupant(s), number of occupants, and an owner/renter indicator. The number of occupants is a field is available for update at customer's request.

Opower's analysis of the HERs program relies upon a fixed-effects regression model. This statistical methodology is standard procedure for the analysis of controlled experiments, is a well-accepted practice within the energy efficiency program measurement and verification community, and closely resembles the "Large Scale Data Analysis" techniques described in the Model Energy Efficiency Program Impact Evaluation Guide from the National Action Plan on Energy Efficiency.

In 2016, updates were made to the Modeled Savings Methodology to improve the accuracy of the reporting. These changes include:

- Establishing the relationship between the monthly savings rate and the cumulative number of print reports received per person in the wave up to that month.
- Applying the forecasted savings rate in each month to the usage of the modeled wave.
- Adapting the algorithm to apply to rolling enrollment waves.

Otter Tail received approval from the MN DER on October 7, 2016, to apply a revised Modeled Savings Methodology to calculate energy savings.

Overall adjusted energy savings associated with the HER program in 2019 totaled 10,932 MWh, equal to an average 337.49 kWh per participant household.

Energy Savings & Adjustments

In accordance with the Decision of the DER, these full savings are used in calculating the net benefits and cost effectiveness of the Energy Feedback program. For 2019, the energy savings associated with behavioral change has been reduced by two-thirds, based on the Decision[1] by the Deputy Commissioner of the DER.

ENERGY AND DEMAND RESULTS – 2019	
Aclara Home Energy Analyzer	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	276,023
Demand Savings – kW	130.51

ENERGY AND DEMAND RESULTS – 2019	
Opower Home Energy Reports	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	3,922,393
Demand Savings – kW	4,027.11

ENERGY AND DEMAND RESULTS – 2019	
Energy Feedback Combined Results	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	4,198,416
Demand Savings – kW	4,157.62

HEAT PUMPS
(Residential)

The Heat Pumps program targets residential customers currently using or considering the installation of less efficient resistance electric heating and cooling systems by offering rebates for high-efficiency air source heat pumps or geothermal heat pumps. The Company relies on Energy Star qualifications as the minimum equipment efficiency requirement for air source and geothermal heat pumps.

[1] April 26, 2012, Docket Nos. E,G999/CI-08-133, E017/CIP-10-356.

In 2019 air source heat pumps met the following minimum rating requirements.

Air Source Heat Pumps			
Energy Star	HSPF	SEER	EER
Split System	> or = 8.5	> or = 15.0	12.5
Package Terminal			> or = 12.0

A special category of air source heat pump, the cold climate heat pump (CCHP), was included in our 2019 program. CCHPs are identified as rated with a heating seasonal performance factor (HSPF) of 10 or greater and labeled Energy Star or have minimum ratings of 15 seasonal energy efficiency ratio (SEER) and 12.5 energy efficiency rating (EER).

In 2019 geothermal heat pumps met the following minimum rating requirements.

Geothermal Heat Pumps			
Type	**Loop Type**	**COP**	**EER**
Water to air	Open loop	4.1	21.1
Water to air	Closed loop	3.6	17.1
Water to water	Open loop	3.5	20.1
Water to water	Closed loop	3.1	16.1
Direct exchange		3.6	16.0

Starting in 2019 geothermal efficiency requirements also include proof of the minimum EER along with coefficient of performance (COP).

Otter Tail promotes energy efficient heat pumps using the following resources:

- *Taking care of business* commercial CIP brochure.
- *Programs and services guide* provided to contractors and employees.
- Media campaigns including television and radio during March and in conjunction with the Advertising and Education Program and a digital campaign in June and television and radio during September focused on educating customers about the high efficiencies of cold climate heat pumps.
- Bill messages included on customer statements during April, May, and August.
- Bill inserts during June, July, and September about heat pump efficiency and rebates.
- A billboard image from April through June.
- Training material covered with customer service and service representatives.
- Program, rate, technology, and rebate pages described within the Company's web site.
- Hero spots on the home page of the website April, May, September, and October.

Participation & Budget

PARTICIPATION AND BUDGET – 2019			
Heat Pumps (R)	**Actual**	**Proposed**	**% of Goal**
Participation	183	102	179%
Budget $	$362,566	$275,000	132%

Evaluation Methodology

Energy savings for this program are consistent with Attachment B: Electric Product Assumptions, approved in the Company's triennial plan.

Energy Savings & Adjustments

ENERGY AND DEMAND RESULTS – 2019	
Heat Pumps (R)	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	2,444,162
Demand Savings – kW	233.13

HOME INSULATION

The Home Insulation program targets residential customers with primary electric heat by offering rebates for contractor-installed weatherization and insulation measures.

Otter Tail promoted the Insulation program through:

- Bill inserts sent to all residential customers in the months of July and September.
- A digital media campaign during June.
- Promoted on digital billboards in the months of March through May.
- Program information included as a home page hero spot during March and September as well as on program pages on the Company's web site.
- Training material presented to customer service and service representatives.
- Inclusion as appropriate on Home Energy Reports mailed to customers through the Energy Feedback program.

We will continue to offer incentives and seek additional marketing channels to drive increased participation.

Participation & Budget

PARTICIPATION AND BUDGET – 2019			
Home Insulation	**Actual**	**Proposed**	**% of Goal**
Participation	32	40	80%
Budget $	$20,699	$45,000	46%

Evaluation Methodology

Otter Tail collected information on the measures completed by the customers, including weatherization, attic and ceiling/roof insulation, and/or wall insulation, square footage of area being insulated and the pre- and post-insulation values.

Energy savings for this program are consistent with Attachment B: Electric Product Assumptions, approved in the Company's triennial plan.

Energy Savings & Adjustments

ENERGY AND DEMAND RESULTS – 2019	
Home Insulation	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	200,193
Demand Savings – kW	5.64

HOME TRANSFORMER

The Home Transformer program aims to identify and assist customers in reducing energy loss and waste in their home and to save energy and money through efficiency improvements.

Through the program, the Company offers customers with homes featuring electric space- and water-heating an energy audit and installations of select energy-efficiency products at no cost to the customer. Products included:

- An energy audit, a blower door test, and thermal imaging analysis.
- A detailed report on audit findings, including recommendations for energy saving measures with estimated costs, annual savings, and simple payback for each measure.
- Efficiency products, installation demonstration, and education.
    - Electric measures – LED bulbs and engine block heater timer.
    - Heating and cooling measures – exterior door sweep, outlet gaskets, caulking, weather-stripping for windows.

- Water heating measures – pipe insulation, low-flow showerheads and faucet aerators, temperature assessment and setback of water heater temperature if warranted to enhance residence safety and energy savings.

Otter Tail relied on a local community action agency for the technical expertise needed to provide professional home energy audits and direct installs of energy efficiency measures. Otter Tail promoted the program through strategically scheduled bill inserts targeting customers with electric space- and water-heating systems.

Minnesota Energy Resources Partnership

Otter Tail also partnered with Minnesota Energy Resources Corporation (MERC) and Center for Energy and Environment (CEE) in 2019 to deliver energy saving audits and direct-install of energy saving measures for multifamily customers. Audits and energy saving measures were provided to eligible multifamily properties at no cost to the customer. These partnerships focused on natural gas-heated buildings with 5 or more units in the Bemidji and Appleton area.

Multifamily customers with 5 or more units received:

- A comprehensive analysis of the building's energy use.
- A building assessment report with information on cost-effective energy efficiency improvements for the property and no-cost control adjustments.
- Assessment of major energy end-uses and building components such as insulation levels, heating system, domestic hot water system, building controls, lighting, and appliances. Customers that pursued projects received referrals to authorized contractors and information on MERC and Otter Tail Power rebates.
- Boiler control assessment and adjustments to maximize energy savings and occupant comfort.
- Installation of energy saving measures including:
    - LED bulbs.
    - low-flow showerheads
    - faucet aerators
    - pipe wrap on boiler and domestic hot water pipes
    - temperature assessment and setback of water heater when warranted to maximize residence safety and energy savings

Two multifamily properties with 73 rental unit audits were visited through this program. Both properties were low-income.

Participation & Budget

PARTICIPATION AND BUDGET – 2019			
Home Transformer	**Actual**	**Proposed**	**% of Goal**
Participation	52	100	52%
Budget $	$10,949	$87,000	13%

Evaluation Methodology

Energy savings for this program are consistent with Attachment B: Electric Product Assumptions, approved in the Company's triennial plan.

Energy Savings & Adjustments

ENERGY AND DEMAND RESULTS – 2019	
Home Transformer	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	277,460
Demand Savings – kW	51.53

SCHOOL KITS

The School Kit program offered energy efficient items and educational materials primarily to fifth grade students, and on a limited bases to sixth grade students, in school districts throughout our service area. Otter Tail implemented the LivingWise program using Franklin Energy Services (formerly Resource Action Programs), a contracted third-party.

Franklin Energy Services' representatives successfully completed outreach by contacting schools throughout our service territory currently educating students of Otter Tail customers. Franklin Energy Services also ordered the kits, assembled in reusable tote bags, and shipped the needed inventory to participating schools. Kits included: a power cord timer, six 9-Watt LED Energy Star bulbs, two faucet aerators, low-flow showerhead and a temperature gauge for the refrigerator. Along with the products, the kits included information about the products and installation instructions.

Integration into lesson plans for teachers was another key deliverable for the School Kits program by providing all teachers at participating schools with an instruction guide and lesson plans. Participating students received a workbook and study guide following the teacher's instruction guide.

Participation & Budget

PARTICIPATION AND BUDGET – 2019			
School Kits	**Actual**	**Proposed**	**% of Goal**
Participation	1,487	1,000	149%
Budget $	$98,674	$130,000	76%

Evaluation Methodology

Energy and demand savings for this program are consistent with Attachment B: Electric Product Assumptions, approved in the Company's triennial plan.

Energy Savings & Adjustments

ENERGY AND DEMAND RESULTS – 2019	
School Kits	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	1,726,302
Demand Savings – kW	142.36

SMART THERMOSTATS

The Smart Thermostat program offers rebates to customers who buy and install a qualified Tier II or Tier III thermostat. Tier II thermostats are communicating thermostats that give users access to set points and schedule from anywhere using a smart device including a mobile phone, tablet, or computer. Tier III are analytics-capable thermostats that offer energy savings features in addition to those of the Tier II thermostats, including coaching, HVAC diagnostics, comparative information, and geofencing. The tier level and the type of heating system determined the level of rebate a customer received. A customer without primary electric heating but with a central cooling system would receive a lesser rebate.

Otter Tail promoted the Smart Thermostats program through:

- Bill inserts sent to all residential customers in July and September.
- Billboard display in January, August, September, and October
- Media and digital campaigns in August, in conjunction with the Advertising and Education program, and December.
- Company website pages and home page hero spots in June and July.

Participation & Budget

PARTICIPATION AND BUDGET – 2019			
Smart Thermostats	**Actual**	**Proposed**	**% of Goal**
Participation	184	140	131%
Budget $	$100,026	$50,000	200%

Evaluation Methodology

The Company uses the methodology from the TRM for calculating savings for installing a Tier II or Tier III smart thermostat. Otter Tail plans to continue offering a prorated rebate based on reduced savings for those customers installing a smart thermostat with electric cooling only.

Energy Savings & Adjustments

ENERGY AND DEMAND RESULTS – 2019	
Smart Thermostats	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	275,597
Demand Savings – kW	8.84

WATER HEATING STORE & SAVE
(Residential)

Controlled water heating storage is one of Otter Tail's largest residential direct load management programs. The program gives participating customers a discounted rate or a bill credit in exchange for the customer allowing the Company to curtail their water heating energy use during peak and high energy price periods. During a control event, water heaters are interrupted entirely for the duration of the control period, which can occur at any time of the year.

Water heaters were controlled approximately 173 hours in 2019 over 188 days. Otter Tail uses a control protocol of more frequent, shorter duration control events based on pricing signals aimed at maximizing savings to customers from water heater control.

Otter Tail promoted controlled-service water heating during 2019 using the following resources:

- Radio campaign.
- Bill messages included on customer statements in February.
- Bill inserts in April, July, September, and November.
- *Taking care of business* commercial CIP brochure.

- *Programs and services guide* provided to contractors and employees.
- Training material covered with service representatives.
- Home page hero ad in March, program, rate, and rebate pages within the Company's web site.

Effort was made to inform customers about technology changes for large capacity water heaters and to introduce customers and contractors to grid enabled water heater options.

Participation & Budget

Otter Tail initially filed the Water Heating Store & Save program with 100 percent residential participation. The program has a ratio of 94 percent residential and 6 percent commercial. Otter Tail has included participation data for both classes in this section of the Status Report.

PARTICIPATION AND BUDGET – 2019			
Water Heating Control	**Actual**	**Proposed**	**% of Goal**
Participation	16,074	16,165	99%
Budget $	$17,981	$35,000	51%

Evaluation Methodology

Energy savings for this program are consistent with Attachment B: Electric Product Assumptions, approved in the Company's triennial plan.

Energy Savings & Adjustments

ENERGY AND DEMAND RESULTS – 2019	
Water Heating Control (R&C)	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	582,560
Demand Savings – kW	11,765.40

DIRECT IMPACT – LOW INCOME

HOUSE THERAPY

The House Therapy program's primary focus is audit and weatherization services for low-income residential customers, both renters and owners. The following table provides details on measures installed and participant status as owners or renters.

House Therapy -- Owner / Renter Detail 2019			
Installed measures	**Owners**	**Renters**	**Total**
Audit	108	81	189
Attic Insulation Materials	2	21	23
Blower Door Test	2	1	3
Door Maintenance Materials	0	0	0
Engine Block Timer	89	5	94
Exterior Wall Insulation Materials	1	1	2
Foundation or Basement Insulation Materials	0	0	0
Faucet Aerator	157	55	212
Freezer	32	0	32
LED	1167	1545	2712
Low-flow Showerhead	73	20	93
Pipe Insulation	36	4	40
Refrigerator	50	50	100
Water Heater	15	0	15
Water Heater - Reduce Temperature	62	23	85
Water Heater--Controlled Ser. Rate	8	0	8
Weatherization	1	1	2

House Therapy -- Owner / Renter Detail - 2019				
	CAP Spending	**Percent**	**Participation**	**Percent**
Owners	$102,646	59%	108	57%
Renters	$71,463	41%	81	43%
Total	$174,100	100%	189	100%

The Company meets yearly with the local Community Action Program (CAP) Agencies to review the program and ensure House Therapy is implemented as cost-effectively as possible. The Company commends the agencies commitment to providing top-notch implementation services for this program.

Otter Tail promotes House Therapy using various resources:

- Residential bill inserts.
- As part of the environment disclosure insert posted on our website annually.
- Through the Company's website including providing a list of each of the agencies that implement the program.

Participation & Budget

PARTICIPATION AND BUDGET – 2019			
House Therapy	**Actual**	**Proposed**	**% of Goal**
Participation	189	130	145%
Budget $	$211,671	$225,000	94%

Evaluation Methodology

In 2019, the TRM was used for many of the House Therapy components. Where TRM was not available, engineering estimates were used. Energy and demand savings for this program are consistent with Attachment B: Electric Product Assumptions, approved in the Company's triennial plan.

Energy Savings & Adjustments

ENERGY AND DEMAND RESULTS – 2019	
House Therapy	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	302,610
Demand Savings – kW	36.83

DIRECT IMPACT – COMMERCIAL

ADJUSTABLE SPEED DRIVES

Induction motors are the workhorses of industry, used widely, and often exclusively, in virtually every manufacturing plant and office building. However, the single most potent source of energy savings in induction motor systems lies not in the motor itself but rather in the controls that govern the motor's operation. Adjustable speed drives are one method of modifying or controlling motor operation that is a proven option for improving performance and efficiency in drive systems.

Otter Tail promotes adjustable speed drives using various resources.

- *Taking care of business* commercial CIP brochure.
- *Programs and services guide* provided to contractors and employees.
- Bill inserts promoting drive power system efficiency to commercial and industrial customers.
- Program, technology, and rebate information available on the Company's web site.

Participation & Budget

PARTICIPATION AND BUDGET – 2019			
Adjustable Speed Drives	**Actual**	**Proposed**	**% of Goal**
Participation	131	164	80%
Budget $	$365,593	$390,000	94%

Evaluation Methodology

The Company utilizes engineering calculations that are based on methodologies developed by the Electric Power Research Institute for fan- and pump-based adjustable speed drive systems. Hours of operation and associated loading factors are provided by the customer as inputs for the energy and demand savings calculations. Energy and demand savings for this program are consistent with Attachment B: Electric Product Assumptions, approved in the Company's triennial plan.

Energy Savings & Adjustments

ENERGY AND DEMAND RESULTS – 2019	
Adjustable Speed Drives	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	4,983,370
Demand Savings – kW	631.29

AIR CONDITIONING CONTROL

The CoolSavings air conditioning control program targets small commercial customers in Minnesota with central air conditioning systems. Customers are encouraged to enroll in the program and receive a bill credit of $6 per ton of connected load for each summer month (June-September).

Otter Tail promotes the program through the following resources:

- Personal business contacts.
- Bill insert targeting commercial customers during February and April.
- *Taking care of business* commercial CIP brochure.
- *Programs and services guide* provided to contractors and employees.
- Program, technology, and rebate information available on the Company's web site.
- Otter Tail's Advertising and Education program targeting small- to mid-size businesses.

In 2019, Otter Tail controlled air conditioning 15 days, totaling 29 hours and 13 minutes. This control time is within the 300-hour control limit in the air conditioning rider.

PARTICIPATION AND BUDGET – 2019			
Air Conditioning Control (C)	**Actual**	**Proposed**	**% of Goal**
Participation	310	546	57%
Budget $	$7,674	$32,000	24%

Evaluation Methodology

Current energy and demand savings for this program are consistent with Attachment B: Electric Product Assumptions, approved in the Company's triennial plan.

Energy Savings & Adjustments

ENERGY AND DEMAND RESULTS – 2019	
Air Conditioning Control (C)	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	32,326
Demand Savings – kW	1,678.84

COMMERCIAL DIRECT INSTALL

The Commercial Direct Install (CDI) program offers free energy assessments and installation of low-cost energy efficiency measures for participating small- to mid-sized commercial customers. The program capitalizes on personal interactions to educate customers in this often-overlooked market segment on:

- Benefits of energy efficiency.
- Energy efficiency opportunities in the customer's business operations.
- Quick, easy, and affordable measures that have a direct, immediate impact on reducing energy bills.

The free energy assessment provides the customer with a simple two-page report identifying opportunities for investing in energy efficiency measures and further educates customers on the subject. At the same time, direct-installation of easily installed energy efficiency measures at no cost to the participant provides real-world examples of technologies readily available for reducing energy expenses in small- to mid-size businesses.

Otter Tail promotes the CDI program through a targeted strategy based on community size and geographic location. The Company relies on personal contacts with city administration and government, Chamber of Commerce personnel, and any other business organizations to determine overall interest in implementing the program. The Company has also leveraged valuable assistance from CERTs in conducting outreach with potential participants. Once Otter Tail has discussed the program with community civic and business leaders, promotion of the CDI program for potential participants includes the following steps:

1. Otter Tail coordinates a mutually convenient time between internal staff, CERTs staff, and the Company's third-party implementation partner to conduct door-to-door outreach efforts at the community business district level.
2. Otter Tail notifies community government and city leaders of the scheduled outreach and direct install dates, verifying that local law enforcement is aware of both door-to-door promotion efforts and implementation of the direct install measures.
3. CERTs staff spends one to two days visiting potential participants, providing information about the program, and scheduling dates for the program implementation while determining customer interest.

4. Otter Tail, CERTs, and Otter Tail's program implementation partner discuss results from CERTs outreach efforts and businesses requesting participation in the CDI program.
5. Otter Tail's program implementation partner completes assessments for participating businesses and installation of all pertinent measures complimentary to program participants.
6. Following completion of all direct installation measures, Otter Tail follows up with participating businesses on opportunities for efficiency identified during the assessment completed by the Company's implementation partner.

Participation & Budget

PARTICIPATION AND BUDGET – 2019			
Commercial Direct Install	**Actual**	**Proposed**	**% of Goal**
Participation	107	154	69%
Budget $	$33,660	$61,000	55%

Evaluation Methodology

The Company uses TRM savings algorithms and assumptions and customer-specific operational data where applicable.

Energy Savings & Adjustments

ENERGY AND DEMAND RESULTS – 2019	
Commercial Direct Install	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	444,955
Demand Savings – kW	53.37

COMPRESSED AIR EFFICIENCY

The Compressed Air Efficiency program provides incentives to commercial and industrial customers for implementing efficiency improvements in compressed air systems and for adhering to Otter Tail's proposed guidelines in completing studies focusing on compressed air system efficiency.

Compressed air systems afford users relatively easy distribution of and access to a robust power source present in nearly all industrial facilities, with this compressed air resource often referred to as the fourth utility in industrial plants. At the same time compressed air generation is one of the most energy-intensive utilities in industrial facilities with efficiency of compressed air

systems typically at only ten to fifteen percent. Consequently, any improvements in compressed air system efficiency can lead to reduction of facility energy consumption on the order of 20 to 50 percent

Otter Tail promoted Compressed Air Efficiency using various resources:

- *Taking care of business* commercial CIP brochure.
- *Programs and services guide* provided to contractors and employees.
- Program, technology, and rebate information available on the Company's web site.

Participation & Budget

PARTICIPATION AND BUDGET – 2019			
Compressed Air Efficiency	**Actual**	**Proposed**	**% of Goal**
Participation	12	23	52%
Budget $	$59,292	$140,000	42%

Evaluation Methodology

Otter Tail uses the TRM, when available, and the Wisconsin and Vermont TRMs in its absence. All savings algorithms include actual data from historical Otter Tail compressed air assessment performed by independent third-party engineers or vendors.

Energy Savings & Adjustments

ENERGY AND DEMAND RESULTS – 2019	
Compressed Air Efficiency	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	442,901
Demand Savings – kW	84.90

HEAT PUMPS
(Commercial)

The Air Source Heat Pump program targets commercial customers currently using or considering the installation of less efficient resistance electric heating and cooling systems by offering rebates for high-efficiency air source heat pumps. During 2019 Otter Tail relied on Energy Star qualifications as the minimum equipment efficiency requirement.

Air source heat pumps met the following rating requirements:

Air Source Heat Pumps			
Energy Star	**HSPF**	**SEER**	**EER**
Split System	> or = 8.5	> or = 15.0	12.5
Package Terminal			> or = 12.0

For 2019, Otter Tail also promoted a special category of air source heat pumps, the CCHP. CCHPs are identified as rated with a HSPF of 10 or greater and be labeled Energy Star or have minimum ratings of 15 SEER and 12.5 EER.

The Geothermal Heat Pump program capitalizes on a renewable technology and targets commercial customers currently using or considering the installation of less efficient resistance electric heating and cooling systems by offering rebates for high-efficiency geothermal heat pumps. Geothermal heat pumps met the following rating requirements:

Geothermal Heat Pumps			
Type	**Loop Type**	**COP**	**EER**
Water to air	Open loop	4.1	21.1
Water to air	Closed loop	3.6	17.1
Water to water	Open loop	3.5	20.1
Water to water	Closed loop	3.1	16.1
Direct exchange		3.6	16.0

Starting in 2019 geothermal efficiency requirements include proof of the minimum COP and EER.

Otter Tail promotes energy efficient heat pumps using various resources:

- *Taking Care of Business* commercial CIP brochure.
- *Programs and services guide* provided to contractors and employees.
- Media campaigns including television and radio during March and in conjunction with the Advertising and Education Program and a digital campaign in June and television and radio during September focused on educating customers about the high efficiencies of cold climate heat pumps
- Bill messages included on customer statements during April, May, June, and August.
- Bill inserts during June about heat pump efficiency and rebates.
- A billboard image from April, through June.
- Hero spots on the home page of the website April, May, September, and October.
- Brochures available upon request.

- Directly to potential program participants at the annual Minnesota School Board Association conference.
- Training material covered with service representatives.
- Program, technology, and rebate information available on the Company's web site.
- Otter Tail's Advertising and Education program targeting small- to mid-size businesses.
- Participation in the Company's Integrated Building Designs Plus program.
- International Ground Source Heat Pump Association training offered to participating architectural and mechanical design professionals.

To increase participation, the Company offered rebates and financing at 1.9 percent in 2019.

Participation & Budget

PARTICIPATION AND BUDGET – 2019			
Heat Pumps (C)	**Actual**	**Proposed**	**% of Goal**
Participation	172	84	205%
Budget $	$485,611	$205,000	237%

Evaluation Methodology

Energy savings for this program are consistent with Attachment B: Electric Product Assumptions, approved in the Company's triennial plan.

Energy Savings & Adjustments

ENERGY AND DEMAND RESULTS – 2019	
Heat Pumps (C)	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	3,066,614
Demand Savings – kW	365.33

GRANTS (CUSTOM PROJECTS)

The Grants program offers customized incentives to commercial and industrial customers for conservation and efficiency improvements. In 2019 Otter Tail analyzed a variety of customer-submitted grant projects with 41 of these projects approved for incentives.

Custom Projects	Quantity
Appliances	1
Building Envelope Improvements	3
Chiller System	1
Cooling System	18
Heating System	1
Heating System – Heat Pumps	1
Integrated Building Design Plus	4
Process Improvements	8
Production Equipment	1
Variable Speed Drive	3
Total	**41**

Otter Tail promotes the Grant program through a variety of resources:

- *Taking Care of Business* commercial CIP brochure.
- *Programs and services guide* provided to contractors and employees.
- Bill inserts.
- Program, technology, and rebate information available on the Company's web site.
- Participation in the Company's Integrated Building Designs Plus program.

Participation & Budget

PARTICIPATION AND BUDGET – 2019			
Custom Efficiency Grants	**Actual**	**Proposed**	**% of Goal**
Participation	41	37	111%
Budget $	$362,473	$339,000	131%

Evaluation Methodology

Each custom grant measure is evaluated on an individual basis and estimated energy savings are calculated by Otter Tail and are specific to each individual measure. The Company will also consider and verify estimated energy savings when submitted by a qualified and independent third-party energy services provider. Otter Tail helps as needed for our commercial and industrial customers to help determine the energy and demand savings needed to develop a grant proposal and often works with internal or third-party engineers to determine and verify savings.

The Large Custom Grant Measurement and Verification (M&V) protocols affect any large project with estimated savings exceeding one million kilowatts hours. The protocols include several options for measurement and verification of large grant projects that meet the protocol

criteria. Otter Tail had one project that qualified for formal M&V in 2019 under the Custom Efficiency Grants program.

Energy Savings & Adjustments

ENERGY AND DEMAND RESULTS – 2019	
Custom Efficiency Grants	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	2,547,385
Demand Savings – kW	1,028.25

COMMERCIAL & INDUSTRIAL FOCUSED EFFICIENCY

Otter Tail's largest industrial customers collectively make up less than two percent of all Minnesota customers but account for more than 60 percent of total retail energy sales. As significant consumers of electricity, the industrial sector often provides abundant opportunities for improvements in energy management practices and implementation of energy efficiency upgrades.

The Commercial and Industrial Focused Efficiency program targets Otter Tail's largest energy-using customers with potential for improvements in production processes, end-use efficiency, and energy management practices. The program uses a proactive approach to benchmarking energy management practices and identifies specific opportunities for efficiency improvements in large commercial and industrial facilities.

Implementation of the Commercial and Industrial Focused Efficiency program consists of the following strategies:

1. **Proactive participant identification.** Otter Tail considers anticipated customer engagement and energy savings potential while screening potential participants. The program focuses on customers with annual savings potential of 250,000 kWh or greater, typically requiring annual consumption of at least 5,000,000 kWh. Potential participants bringing engaged, enthusiastic management and employee teams to the table are more likely to pursue the most cost-effective energy saving behaviors and opportunities.

2. **Energy management benchmarking.** For qualifying customers, Otter Tail funds the Envinta One2Five energy management benchmarking analysis. The benchmarking session focuses on management practices related to energy efficiency by incorporating participation from across the customer's organization.

3. **Project identification.** Forming an engaged and knowledgeable energy management team is imperative to identifying efficiency opportunities on the customer site. To further

facilitate identification of efficiency measures, Otter Tail funds the cost of 50 percent of engineering studies needed to identify and evaluate energy savings opportunities. Possible efficiency measures include lighting, drive-power systems, process efficiency improvements, refrigeration systems, compressed air systems, and custom efficiency projects.

4. **Project implementation.** Working in tandem with the customer's representation on the energy management team, Otter Tail develops a schedule of efficiency projects with bonus incentives provided in exchange for the participant's completion of all measures before established deadlines. Efficiency measures might include projects traditionally accounted for under Otter Tail's prescriptive rebate programs, but Otter Tail attributes energy savings for each efficiency measure to the Commercial and Industrial Focused Efficiency program.

5. **Measurement and verification.** Otter Tail follows the Measurement and Verification Protocols for end-use efficiency projects meeting the formal measurement and verification requirements established by the DER.

Participation & Budget

PARTICIPATION AND BUDGET – 2019			
Industrial Focused Efficiency	**Actual**	**Proposed**	**% of Goal**
Participation	3	1	300%
Budget $	$545,901	$220,000	248%

Evaluation Methodology

Otter Tail developed energy savings estimates through both established methodologies for prescriptive measures and through engineering calculations for custom measures implemented by the customer.

Energy Savings & Adjustments

ENERGY AND DEMAND RESULTS – 2019	
Industrial Focused Efficiency	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	3,627,219
Demand Savings – kW	588.32

LIGHTING RETROFIT

The U.S. Energy Information Administration (EIA) estimates that in 2019, the U.S. residential and commercial sectors used about 216 billion kWh of electricity for lighting. This was about 8 percent of the total electricity consumed by these sectors and about 5 percent of total U.S. electricity consumption. The commercial sector, which includes commercial and institutional buildings, and public street and highway lighting, consumed about 141 billion kWh for lighting, equal to about 10 percent of total commercial sector electricity consumption in 2019. Otter Tail's Lighting Retrofit program provides cash incentives to commercial and industrial customers for purchasing and installing energy-efficient lighting technologies, including LED lamps and fixtures and lighting controls.

Otter Tail actively promotes the Lighting program through a variety of strategies:

- *Taking Care of Business* commercial and industrial CIP brochure.
- Bill inserts targeting commercial and industrial customers.
- Personal interactions between customers and Company program implementation staff.
- *Programs and services guide* provided to contractors and employees.
- Program, technology, and rebate information available on the Company's web site.
- Otter Tail's Advertising and Education program targeting small- to mid-size businesses.

Participation & Budget

PARTICIPATION AND BUDGET – 2019			
Lighting Retrofit	**Actual**	**Proposed**	**% of Goal**
Participation	1,215	560	217%
Budget $	$2,679,807	$1,086,000	247%

Evaluation Methodology

Otter Tail uses the TRM to calculate impact savings for the Lighting Retrofit program. The Company documents all existing lighting wattage removed at each site and compares it to the actual energy efficient lighting wattage being installed to calculate energy savings. The TRM establishes hours of operation. In accordance with the TRM protocols, energy and demand savings adjustments of 9.5 and 25.4 percent respectively were allocated to those businesses having electric mechanical cooling. This is consistent with Attachment B: Electric Product Assumptions, approved in the Company's triennial plan.

Energy Savings & Adjustments

ENERGY AND DEMAND RESULTS – 2019	
Lighting Retrofit	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	25,988,724
Demand Savings – kW	3,830.70

LIGHTING – NEW CONSTRUCTION

Opportunities exist for customers to implement lighting technologies that are more efficient than widely accepted, standard efficiency lighting systems during the new construction process. Examples of these technologies and systems include:

- High intensity fluorescent.
- High performance T8 lamps & ballasts/reduced wattage T8 lamps.
- LED fixtures and lamps.
- Occupancy, daylighting, and networked-based lighting controls.

Otter Tail promotes the Lighting-New Construction program using various resources:

- *Taking Care of Business* commercial CIP brochure.
- Bill inserts targeting commercial and industrial customers.
- *Programs and services guide* provided to contractors and employees.
- Program, technology, and rebate information available on the Company's web site.
- Personal consultations between program implementation staff and customers.
- Otter Tail's Advertising and Education program targeting small- to mid-size businesses.
- Participation in the Company's Integrated Building Designs Plus program.

Participation & Budget

PARTICIPATION AND BUDGET – 2019			
Lighting – New Construction	**Actual**	**Proposed**	**% of Goal**
Participation	375	241	156%
Budget $	$180,546	$211,000	86%

Evaluation Methodology

Otter Tail uses the TRM to calculate impact savings for the program. For newly installed lighting systems, qualifying installed measures are compared to baseline efficiency systems to determine kilowatt-hour savings. Hours of operation are determined by the TRM according to customer

type. In accordance with the TRM protocols, energy and demand savings adjustments of 9.5 and 25.4 percent respectively were allocated to those businesses having electric mechanical cooling.

Energy Savings & Adjustments

ENERGY AND DEMAND RESULTS – 2019	
Lighting – New Construction	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	3,544,848
Demand Savings – kW	505.69

MOTORS

The goal of the Motors program is to reduce system peak demand and energy use by offering customers incentives to purchase and install motors that meet and/or exceed NEMA Premium® efficiency ratings in various applications. The Motors program covers motor sizes from one horsepower up to 500 horsepower in size and includes additional incentives for customers upgrading to high-efficiency motors with explosion-proof enclosures.

Otter Tail promotes the Motors program through a variety of resources:

- *Taking Care of Business* commercial CIP brochure.
- *Programs and services guide* provided to contractors and employees.
- Through bill inserts targeting commercial and industrial customers.
- Otter Tail's Advertising and Education program targeting small- to mid-size businesses.
- Personal consultations between program implementation staff and customers.
- Program, technology, and rebate information available on the Company's web site.
- Participation in the Company's Integrated Building Designs Plus program.

Participation & Budget

PARTICIPATION AND BUDGET – 2019			
Motors	**Actual**	**Proposed**	**% of Goal**
Participation	174	215	81%
Budget $	$105,186	$137,000	77%

Motor Types Rebated	
New / replace non-operating	24
Replace operating	150
Total Motors Rebated	174

Evaluation Methodology

Otter Tail used Minnesota's TRM data, when applicable, along with engineering estimates and MotorMaster software to determine energy savings for specialty motors currently not in the TRM. For 1 to 200 horsepower motors installed in new applications and for motors replaced at failure, Otter Tail used NEMA Premium efficiency levels as baseline efficiency for totally enclosed fan-cooled and open drip-proof motors. NEMA efficiency rating, horsepower, motor speed, run-time hours, and quantity are taken from the customer's application form.

Energy Savings & Adjustments

ENERGY AND DEMAND RESULTS – 2019	
Motors	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	719,110
Demand Savings – kW	116.30

RECOMMISSIONING/RETROCOMMISSIONING (RCx)

The *Energy Star Building Manual* defines commissioning as the process of ensuring that systems are designed, installed, functionally tested, and capable of being operated and maintained to the owner's operational needs.

- Recommissioning is the term used for applying the process to a building that has been commissioned previously (either during construction or as an existing building).
- Retrocommissioning is the systematic process applied to existing buildings that have never been commissioned to ensure that their systems can be operated and maintained according to the owners' needs.

Building tune-ups, RCx Lite, and building optimization all refer to an evolution of the traditional RCx process. The approach starts by targeting the most common RCx measures with the highest chances of returning payback on operations and maintenance improvements. Often, these operation and maintenance improvements are associated with advanced control strategies. Engineering firms completing RCx Lite studies are often capable of identifying these measures through spot inspections and direct digital control systems without the added costs of seasonal monitoring and functional performance testing completed through formal RCx studies. Consequently, the RCx Lite process can identify up to 75 percent of the savings of a more formal RCx study at approximately 25 percent of the cost.

Otter Tail's RCx program provides incentives to qualifying commercial customers to complete RCx studies and implement cost effective, energy savings measures. The RCx program proposes

a tiered approach to delivering RCx services. The RCx Lite tier provides incentives for building tune-ups, where the RCx tier incentivizes customers to implement formal RCx studies with more expansive measures. Potential participants must complete a pre-approval application form prior to initiating any RCx projects to be assured of eventual study funding from Otter Tail. Not all buildings and building types are ideal candidates for achieving energy savings through traditional RCx efficiency measures; the pre-approval process increases the likelihood that customers with buildings and building types with the best RCx opportunities capitalize on the RCx process.

Otter Tail promotes the RCx program through a variety of resources:

- *Taking Care of Business* commercial CIP brochure.
- *Programs and services guide* provided to contractors and employees.
- Bill inserts targeting commercial and industrial customers.
- Targeted campaigns featuring direct customer contact based on business type, energy use intensity, and geographic location.
- Brochures and literature explaining the RCx process and program.
- Directly with customers in the educational sector at the annual Minnesota School Board Association conference.
- Personal consultations between program implementation staff and customers.
- Program, technology, and rebate information available on the Company's web site.

Participation & Budget

PARTICIPATION AND BUDGET – 2019			
RCx	**Actual**	**Proposed**	**% of Goal**
Participation	3	4	75%
Budget $	$120,857	$188,000	64%

Evaluation Methodology

Traditional RCx

Otter Tail, together with a third-party engineering consulting firm, reviews the RCx study for accuracy of calculations, assumptions, and completion of all required RCx study requirements. The third-party engineering firm does not provide direct RCx services for customers or compete with engineering firms providing these services. Otter Tail works with the customer and the customer's engineering firm as needed to assure engineering calculations, assumptions, and the study all meet the Company's RCx program requirements.

Turn-key RCx

Otter Tail uses savings calculations developed by the Company's program implementation

consultant using engineering fundamentals, site data, and energy modeling. To evaluate those savings, Otter Tail and its third-party program implementation consultant perform post-installation functional testing at each facility. This on-site M&V confirms each measure's implementation in accordance with the engineering recommendations. The savings calculations are revised based on observed conditions post-implementation and reflect any alternation to the measure that results from customer implementation.

The Large Custom Grant Measurement and Verification (M&V) protocols affect any large project with estimated savings exceeding one million kilowatts hours. The protocols include several options for measurement and verification of large projects that meet the protocol criteria. Otter Tail had one project that qualified for formal M&V in 2019 under the RCx program.

Energy Savings

ENERGY AND DEMAND RESULTS – 2019	
RCx	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	1,239,982
Demand Savings – kW	107.64

REFRIGERATION

The U.S. Energy Information Administration estimates in 2018 refrigeration was the largest single use of electricity in the commercial sector. Otter Tail's Refrigeration program is designed to promote high-efficiency refrigeration technologies, including measures to upgrade compressor, condenser, and display case efficiency. The program incentivizes the installation of efficiency measures in both retrofit and new-construction applications in commercial sectors with intensive demand for commercial refrigeration.

Otter Tail promotes the Refrigeration program using various promotional resources:

- *Taking care of business* commercial CIP brochure.
- *Programs and services guide* provided to contractors and employees.
- Program, technology, and rebate information available on the Company's web site.

Participation & Budget

PARTICIPATION AND BUDGET – 2019			
Refrigeration	**Actual**	**Proposed**	**% of Goal**
Participation	83	86	97%
Budget $	$128,433	$130,000	99%

Evaluation Methodology

The Company uses the TRM and engineering estimates for each refrigeration measure. Energy and demand savings for this program are consistent with Attachment B: Electric Product Assumptions, approved in the Company's triennial plan.

Energy Savings & Adjustments

ENERGY AND DEMAND RESULTS – 2019	
Refrigeration	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	929,927
Demand Savings – kW	137.82

DIRECT IMPACT – OTHER

COMPANY-OWNED STREET & AREA LIGHTING

Otter Tail provides illumination services to 161 Minnesota communities and other customers through company ownership, operation, and maintenance of approximately 19,677 street and area lighting fixtures. Customers receive hassle-free illumination service, including equipment installation, asset rental, electricity, and maintenance for a convenient monthly charge on the customer's electric service bill. Otter Tail installs street and area lighting fixtures at the request of our customers and, consequently, classifies electricity consumption for company-owned street and area lighting fixtures as customer electricity usage.

The objective of the Company-owned Street and Area Lighting program is to retrofit all Company-owned street and area light fixtures used in providing illumination services for retail customers from HID to LED technology.

Participation & Budget

PARTICIPATION AND BUDGET – 2019			
Company-Owned Street & Area Lighting	**Actual**	**Proposed**	**% of Goal**
Participation	5,995	3,892	154%
Budget $	$643,674	$810,995	79%

Otter Tail worked closely with leaders of municipal governments in launching its successful street and area lighting retrofit campaign in 2018 and continued this strategy through 2019. Critical public relations milestones accomplished jointly with municipal streetlighting customers included:

- In-person discussions and meetings with key municipal administrators and government leaders.
- Development of public relations kits, including direct mailers, community posters, and news releases.
- Web pages with specialized LED street and area light information.
- Training for internal Otter Tail staff, including talking points and frequently asked questions.

The Company was able to minimize third party-program administration expenses services by leveraging services offered through existing relationships with key vendors as well as internal procedures already in place for existing street and area lighting services. Otter Tail is very pleased with the quality and performance of LED lighting products used in the retrofits. Customer feedback on the new LEDs has also been extremely positive, with little to no customer

complaints. Field representatives for Otter Tail report how well the project has been received for being such a significant change in our communities.

The Company-owned Street and Area Lighting program has been a success from the operations/installation side as well. Otter Tail was able to install 154 percent or 5,995 LEDs, while only spending 79 percent of budget or $643,674. By managing expenses closely Otter Tail has ultimately saved customers money, in addition to the energy savings of the LEDs. This project has become an immense value for customers reducing energy use, increasing customer satisfaction, improving safety, all at a low cost. The following table summarizes expenses for the Company-owned Street and Area Lighting program for the year:

Summary of 2019 Tracker Account for Street & Area Lighting	**Budgeted Expenses**	**Actual Expenses**
CIP Program Evaluation	$3,000	$2,978
CIP Rebate (reduction to rate base)	$178,572	$290,284
Admin. Costs (external project management and adverting/printing)	$125,000	$5,526
Retirement and Disposal Costs	$432,803	$289,426
Return on Incremental Costs of New Lights	$71,620	$55,461
Total Recovery through CIP Tracker	**$810,995**	**$643,674**

Evaluation Methodology

The Company compares the fixtures being installed to the fixtures being removed to determine energy and demand savings. The savings calculation utilizes the TRM values for hours of operation. Specifics are included in Attachment B: Electric Product Assumptions.

Energy Savings & Adjustments

ENERGY AND DEMAND RESULTS – 2019	
Company-Owned Street & Area Lighting	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	3,829,999
Demand Savings – kW	0.00

PUBLICLY OWNED PROPERTY (POP) SOLAR

The objective of the POP Solar program is to demonstrate the benefits of solar PV generation to rural Minnesota communities, educational facilities, and local and tribal governments by offering incentives for universal solar projects. The project provides incentives for installation of non-residential solar PV systems in public sector facilities. The POP Solar program is an example of

universal solar, which shares the benefits of solar with all members of the community, university, public school, tribal properties, or other public owned properties.

Participation & Budget

PARTICIPATION AND BUDGET – 2019			
Publicly Owned Property Solar	**Actual**	**Proposed**	**% of Goal**
Participation	2	16	13%
Budget $	$182,608	$229,720	79%

Otter Tail's Energy Management Representatives continually promote the POP program to public entities across Otter Tail's service territory. The Company fell short of our participation goal for 2019, but one of the customer's was a University that installed three separate 40kW solar projects. The 2019 POP solar projects did not register any solar energy production in 2019 since interconnection agreements are still in the review process.

Even with Otter Tail's attractive 40 percent rebate for solar projects, customers are still expressing concerns over the upfront costs competing with other capital projects, age of current roof surface, long payback period, and adequate land availability. Otter Tail is concerned about the likelihood of future solar projects, even with great interested expressed by public institutions. The Company will be revisiting its rebate level for the program for 2020. Increasing the rebates beyond 40 percent would be quite high as Otter Tail still prefers to see the customer have the majority of the investment responsibility.

Evaluation Methodology

Otter Tail installs production metering with data recorders and the required communications infrastructure needed to store customer-owned, solar PV production in the Company's web-based Power Profiler application. Otter Tail uses this production data to accumulate solar renewable energy credits to comply with Minnesota's Solar Energy Standard.

Energy Savings & Adjustments

ENERGY AND DEMAND RESULTS – 2019	
Publicly Owned Property Solar	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	0
Demand Savings – kW	0.00

INDIRECT IMPACT PROGRAMS / REGULATORY REQUIREMENTS
ADVERTISING & EDUCATION – Residential & Commercial

Advertising & Education – Residential

The Advertising & Education program for 2019 targeted Minnesota customers and students with reinforcing messages to make conserving energy a lifestyle. Three approaches were used:

- *Advertising* that increases awareness of and educates about energy efficient technologies and motivates individuals to act to conserve energy.
- *Internet-based resources* including YouTube.com videos and web-based content on the Company website.
- *Classroom based presentations* targeting fourth through sixth graders with educational messages about energy production, energy use, and conservation that reaches across all economic groups.

Advertising

Several full media campaigns ran in 2019 that focused on reaching residential customers with energy efficient technology options. These included:

- LEDs: A media campaign that included television, radio, and digital media, was completed to educate customers about the energy saving opportunity offered by installing LED bulbs in home lighting.
- Cold Climate Heat Pumps: A media campaign that included television, radio, and digital media was completed to educate customers about new higher-efficiency air source heat pumps.
- Air conditioning cycling: A media campaign that included television and radio was completed to educate customers about the energy saving and peak demand reducing option available through allowing the company to cycle central cooling systems during peak summer periods.
- Smart thermostats: Developed and produced an animated television ad to support the smart thermostat project.

Additional advertising support included preparation of consistent energy efficiency messaging about residential CIP programs including a catalog of Conservation Improvement Program offerings available to the Minnesota residential customers and contractor education pieces.

Internet-based resources

This program supports development of promotional and educational materials for the Company website and social media channels. These materials encourage participation in direct impact energy efficiency programs in the CIP portfolio. Data are collected from web analytic tools used on the company websites. Minnesota customer web participation is calculated as 45 percent of the unique visitor count to the website material. This represents the portion of Company

customers located in Minnesota.

Home page and program support pages are placed on www.otpco.com to promote CIP programs including insulation rebates, air-conditioning cycling program, Energy Star lighting, Home Energy Analyzer, heat pumps, smart thermostats, off-peak water heating, and appliance recycling. Visitors were tracked as participation resulting from these ads.
An educational YouTube video series continued to be presented to customers focused on home insulation and maintenance topics:

- Weatherization.
- Furnace filter change out.
- Sealing attic access doors.
- Sealing attic bypass leaks.
- Insulating and sealing rim joists.

Classroom presentations
The Science Museum of Minnesota conducted an interactive lyceum program reaching Minnesota schools over 20 days during October and November 2019. In small community schools, students primarily in fourth through sixth grades are invited to attend. The invitation schedule aims to reach out to all students in the Otter Tail service territory every three years. Participation is dependent on school administrators requesting the program. During the 2019 tour, 27 schools were visited, and 3,283 students participated in the lyceums. The program remains popular with the school districts and program material is in line with the Minnesota school curriculum standards.

Additional activities
Energy efficiency and conservation related literature is made available to Minnesota customers upon request including conservation articles included in the Company's bimonthly newsletter including one issue specially designed for kids.

Participation & Budget

2019 A&E Residential Detailed Participation	
Science Museum School Tour	3,283
Web visits tied to advertising spots	11,050
YouTube videos	8018
Total	22,351

PARTICIPATION AND BUDGET – 2019			
Advertising & Education	**Actual**	**Proposed**	**% of Goal**
Participation	22,351*	10,000	224%
Commercial Budget $	$234,525	$175,000	134%

*Web-based ad participation was not included when the original participation goal was established but was added as an effective means to reach customers. In addition, participation in web visits to www.otpco.com has increased significantly from past years.

Advertising and Education – Commercial

Otter Tail's Advertising and Education program operated in conjunction with the Company's Commercial Direct Install program again in 2019. The combined program effort provided participating customers in the hard-to-reach small- to mid-sized commercial segment with no-cost energy assessments identifying the top energy efficiency opportunities in the customer's business. The Company's Advertising and Education budget provided funds for free customer assessments, while the Commercial Direct Install program provided customers with installation of low-cost, easily installed energy efficiency measures while the assessment was taking place in the customer's place of business.

Participating customers anecdotally expressed satisfaction with the Company's effort to provide free installation of energy efficient technologies. Otter Tail is also following up with all participating customers regarding efficiency opportunities identified during facility assessments. The Company appreciates the opportunity to facilitate completion of efficiency measures by reaching out to local contractors and providing expertise to small- to mid-sized commercial customers on energy efficient opportunities in the customers' businesses.

Participation & Budget

2019 A&E Commercial Detailed Participation	
Crookston	80
Morris	73
Total	153

ACTUAL / BUDGET – 2019			
Advertising & Education	**Actual**	**Proposed**	**% of Goal**
Participation	153	100	153%
Commercial Budget $	$58,219	$67,000	87%

COMPRESSED AIR AUDITS - Commercial

The Compressed Air Audit program pays up to 50 percent of compressed audit costs, with a maximum of $10,000 per participant. The project relies on industry consultants to provide professional audit services with an unbiased report on saving energy with compressed air system improvements.

Participation & Budget

PARTICIPATION AND BUDGET – 2019			
Compressed Air Audits	**Actual**	**Proposed**	**% of Goal**
Participation	0	4	0%
Budget $	$236	$20,000	1%

Otter Tail attributes the low participation in the Compressed Air Audit program to the higher customer interest in the Compressed Air Efficiency program.

FINANCING – Commercial

The Financing program is designed to provide low-interest loans for energy-efficiency improvement projects currently included in the Company's CIP. These improvements include, but are not limited to, lighting, motors, variable speed drives, and heat pumps. The difference between the interest expense at the Company's after-tax cost of capital and the expense at the customer's interest rate is the cost charged to the CIP Tracker Account. The interest rate was 1.9 percent for 2019. Commercial customers are given a choice between rebates and financing except for heat pumps where both were offered.

Otter Tail promotes the low-interest Financing program in various resources.

- *Taking Care of Business* commercial CIP booklet.
- *Programs and services guide* provided to contractors and employees.

Participation & Budget

PARTICIPATION AND BUDGET – 2019			
Financing	**Actual**	**Proposed**	**% of Goal**
Participation	0	5	0%
Commercial Budget $	$9,056	$50,000	18%

INTEGRATED BUILDING DESIGN PLUS - Commercial

In the integrated building design process, architects, engineers, and energy experts team up early in the design process to coordinate and optimize the design of all components and systems. This team functions and works according to clearly defined goals:

- Design a building with operating costs as low as possible without sacrifices to occupant comfort.
- Design a building with as little environmental impact as possible.
- Design a building that will boost worker productivity.
- Incorporate all features with minimal increases in first costs.

The greatest opportunities to reduce the future energy use of a new building occur during the design development phase. However, the decisions made during commercial building design are often driven by aesthetics, capital costs, and designer familiarity. Information on how these decisions will impact energy consumption and operating costs is often not readily available to building design teams. Obtaining data on energy impacts is the primary barrier to analyzing effects of various design decisions on building energy efficiency, as accurate projections require complex, detailed analysis and energy modeling. Most design firms do not have the time or budget to perform the required analyses, and without the need to regularly exercise such skills, the firms also lack the critical staffing needed to perform specialized energy analysis and modeling.

The objective of Otter Tail's Integrated Building Design Plus (IBD+) program is to optimize the energy efficiency of new construction projects by encouraging greater design team cooperation in an integrated building design process. Otter Tail encourages participation in the IBD+ program by providing:

- design assistance consulting services for participating customers and design teams,
- reimbursements to design team members for added time required to participate in the integrated building design process,
- identification of energy savings for various design packages compared to the baseline design efficiency of Minnesota State Energy Code,
- identification of incentives available through the Otter Tail's prescriptive Lighting, Motors, Adjustable Speed Drives, Heat Pumps, and custom Grants programs, and Training for design team professionals in proper design of geothermal and other high efficiency HVAC systems.

Otter Tail promotes the IBD+ program using the following resources:

- *Taking Care of Business* commercial CIP brochure mailed to targeted commercial and industrial customers annually.
- Annual *Program and Services Guide* sent to contractors and dealers.

- The Company's website. The website also features a link to an electronic CDA program application form.
- Through the design assistance consultant's network, membership, and participation as professionals in architectural and engineering organizations, including ASHRAE, AIA and IES.
- Funding for the added costs of design team participation.
- Incentives to building owners for construction of buildings that exceed Minnesota State Energy Code efficiency levels by at least five percent.
- Payment of all approved energy design assistance fees for customers.

Participation & Budget

PARTICIPATION AND BUDGET – 2019			
Integrated Building Design Plus	**Actual**	**Proposed**	**% of Goal**
Participation	4	6	67%
Budget $	$139,732	$234,000	60%

IMPLEMENTATION & TRAINING – Residential & Commercial

The Implementation and Training program provides instruction about energy efficient technologies and DSM trends for the Company's design, implementation, and customer service staff. This program also provides training for customers, electricians, realtors, insulation installers, and other contractors. Several energy efficiency workshops are held at various times through the year in locations in and around the service territory. Otter Tail co-sponsored several of these events with Minnkota Electric Cooperative. Workshops were promoted on our website, in newsletters, and through direct mail pieces.

Participation & Budget

ACTUAL / BUDGET – 2019			
Implementation & Training	**Actual**	**Proposed**	**% of Goal**
Residential Participation	3	175	2%
Residential Budget $	$35,479	$40,000	89%
Commercial Participation	442	250	177%
Commercial Budget $	$40,621	$60,000	68%

PROGRAM DEVELOPMENT

Program Development includes CIP strategic market planning analysis, CIP-related resource planning work, and CIP-related regulatory coordination. It also includes program development time for research and studying new energy efficient and DSM technologies.

In 2017, Otter Tail began seeking ways to further enhance load-control strategies for electric water heating. Otter Tail's Water Heating Store & Save, which is included in CIP, has high customer participation delivering energy savings and dollar savings to customers. Otter Tail has hired a Minneapolis based technology firm to help investigate ways to deliver even more benefits to these customers. The project officially began in 2017 with significant research completed on control equipment for existing water heaters as well as a new water heater solution enabled with advanced communication technology. Equipment vendor selection took place in 2017, and a small test group of approximately thirty Otter Tail employees have volunteered to allow the equipment installed at their home. Allowing the Company to optimize the load-control algorithm for each water heater should enhance overall net benefits for all customers. Additional information regarding the water heater control pilot is included in this filing within Appendix B – Other Evaluations. The water heater pilot project operationally concluded in March 2020. The final report constructed by Otter Tail and the vendor will be issued in April 2020 which will include an assessment on energy savings potential. This report will be included in Otter Tail's 2020 CIP Status Report filed April 1, 2021.

Otter Tail also used development funding for appropriate development research and information from internal and external sources, including E-Source.

Otter Tail's 2011-2013 CIP plan included developing and maintaining a system capable of providing the data necessary for reporting, forecasting, tracking, and processing CIP rebates. The 2017-2019 CIP plan continues work on this system, which is now operating as our rebate processing and data tracking tool. Continuing work includes adding new programs, development of management dashboards, and reporting tools for program management.

BUDGET – 2019			
Program Development	**Actual**	**Proposed**	**% of Goal**
Planning – Regulatory Affairs	$335,085	$300,000	112%
Research & Development	$130,386	$180,000	72%

REGULATORY REQUIREMENTS

PUC ASSESSMENTS / REGULATORY (NGEA) ASSESSMENTS

PUC ASSESSMENTS / REGULATORY (NGEA) ASSESSMENTS			
	Actual	**Proposed**	**% of Goal**
PUC Assessments	$29,140	$20,000	146%
Regulatory Assessments (NGEA)	$98,307	$110,000	89%
Transmission & Distribution Cost Study	$3,872	$0	0%

ASSESSMENTS	
NGEA Assessment – Technical Assistance	$16,050
NGEA Assessment – R&D Grant	$72,226
NGEA Assessment – Facilities Efficiency	$10,031
Total NGEA Assessments	**$ 98,307**
Direct PUC Assessments	$29,140
Transmission & Distribution Cost Study	$3,872
Total	**$131,318**

MISCELLANEOUS / INACTIVE PROGRAM COSTS

These are inactive and miscellaneous programs. The associated costs, including closing costs for these programs, were charged to the 2019 CIP tracker account. Each is detailed separately below.

ACCOUNTING ADJUSTMENTS

Four accounting adjustments were required in 2019 totaling $120: an adjustment in the Advertising and Education program to record a true up to the 2018 year-end estimated billing for CDI assessments reflecting in an increase in costs of $4,735; two adjustments in the Energy Star Lighting program to record a true up to the 2018 year-end estimated billing from SlipStream and bulbs purchased in 2018 but handed out in 2019 in the Appliance Recycling program reflecting a decrease in costs of $2,237; an adjustment in the CDI program to record a true up to the 2018 incentives and service provider costs resulting in an increase in costs of $2,357.

Since 1993, Otter Tail has implemented an internal process to handle moving incorrect charges between project work orders. A line item has been added to the CIP Tracker Account to reflect those charges in transition. The Company believes this method allows us to report current year program costs more accurately.

INACTIVE PROGRAMS

TOWN ENERGY CHALLENGE PILOT

The Rothsay High School SC/EC (Student's for Community Energy Challenge) team (seventh through twelfth grade) promoted conservation at the school and in the community for a five-year commitment. Although the project is now completed, the students who served on the team were given small college scholarships based on the number of years of service to be collected their first year of college. The scholarships will continue through 2021.

CARRYING COSTS

Charges totaled $59,342 for carrying costs on the balance of the CIP Tracker, as shown in Appendix A, Table 1.

The Commission and Otter Tail have agreed that allowing carrying charges to be added to the CIP Tracker Account will compensate the Company for the time value of the money invested in CIP programs.

As set in the MNPUC's September 26, 2015 Order, E017/M-14-201, the monthly carrying charge has been modified on the CIP tracker-account balance to the short-term cost of debt set in the Company's last rate case, E017/GR-15-1033.

Otter Tail does not count the carrying costs charges toward the spending requirement (see Appendix A, Table 5 Status Report Recap) but does include the charges in the CIP Tracker for recovery.

Conservation Cost Recovery Adjustment

CONSERVATION COST RECOVERY ADJUSTMENT

This filing constitutes the 26th Annual Filing to Update the Conservation Improvement Program (CIP) Rider (Annual Filing) that Otter Tail Power Company (Otter Tail, the Company) has made with the Minnesota Public Utilities Commission (Commission, MPUC) to update the CIP Rider adjustment, more commonly referred to as the Conservation Cost Recovery Adjustment (CCRA).

The CCRA may be adjusted annually by approval of the Commission. The recoverable CIP tracker balance is determined as described below, starting with the Commission accepted CIP tracker account balance as of the end of the prior year. The following adjustments are made from this starting point:

1. Add financial incentives awarded by the Commission not reflected in the prior year-end CIP tracker balance;
2. Add current year CIP approved spending levels;
3. Subtract current year CIP cost recovery through base rates as estimated based on Company's projected retail sales.

All costs appropriately charged to the CIP tracker account shall be eligible for recovery through this rider and all revenues received from the application of the CCRA shall be credited to the CIP tracker account. Table 1 illustrates the last ten years of the CCRA charge.

Table 1

Year	CIP Surcharge / CCRA Factor	Previous Year Ending Tracker Balance
Jul 2011 / Jun 2012	3.00% / 3.80%	$3,721,665
Jul 2012 / Jun 2013	3.80% / $0.00142/kWh	$5,188,129
Jul 2013 / Jun 2014	$0.00175/kWh	$3,572,621
Oct 2014 / Sep 2015	$0.00263	$4,835,558
Oct 2015 / Sep 2016	$0.00287	$5,731,183
Oct 2016 / Sep 2017	$0.00275	$4,333,061
Oct 2017 / Sep 2018	$0.00536	$4,835,852
Oct 2018 / Dec 2019	$0.00600	$7,365,957
Jan 2020 / Sept 2020	$0.00710	$5,994,017
Oct 2020 / Sept 2021	$0.00485	$3,955,955

Otter Tail has included the CIP tracker, Exhibit 1, which uses the Commission approved per-kWh method from January 2020 through September 2020. For October 2020 through September 2021, Otter Tail is proposing to change the surcharge to $0.00485/kWh. Exhibit 2 illustrates the monthly impacts for each of the Company's ten rate classes.

Calculation of CCRA and Conservation Cost Recovery Charge (CCRC)

During the 21-month period from end of year 2019 through the end of September 2021, Otter Tail plans to reduce the CIP Tracker balance of $3,955,955 to an estimated negative $36,570 as illustrated in Table 2 below.

Table 2

	Jan 2020 - Sep 2020	Oct 2020 - Sep 2021
Beginning Balance	**$3,955,955**	**$319,969**
Carrying Charges	$14,503	($17,504)
CIP Program Expenses	$5,181,346	$9,000,000
CIP Incentive Proposed	$2,718,378	$2,700,000
CCRC through Base Rates	($2,792,751)	($3,791,956)
CCRA - CIP Rider	($8,757,461)	($8,247,080)
Ending Balance	**$319,969**	**($36,570)**
CCRA Method	**$0.00710/ kWh**	**$0.00485/ kWh**

In addition, Otter Tail estimates the following impacts to the CIP Tracker balance during the 21-month period:

- $19,596,723 of additional expenses from carrying charges, CIP incentive, and CIP program expenses.
- $6,584,707 collected from the CCRC.
- $17,004,540 collected from the CCRA, of which $8,247,080 will be collected during the 12 months from October 2020-September 2021.

As illustrated in Exhibit 1, the proposed change in the surcharge will decrease the CCRA by approximately 37 percent. By October 1, 2020, the CIP tracker balance is projected to decrease to an estimated negative $36,570. Otter Tail currently receives a carrying charge on the outstanding CIP tracker account balance based on its short-term cost of debt rate of 2.55 percent.

The amounts on lines 4 and 5 of Exhibit 1 reflect the projected expenditures and financial incentive for 2019 and 2020 through September 2021. Line 6 removes from the CIP tracker the portion of CIP costs that are included in base rates. The base rate amount from January 2020 through September 2021 is calculated each month as forecasted retail sales multiplied by the approved CCRC in base rates of $0.00223 per kWh. This rate was approved in Otter Tail's 2016 general rate case (Docket No. E017/GR-15-1033).

The proposed 2020/2021 CCRA is calculated assuming the rate is approved and is effective October 1, 2020. If implementation of the 2020/2021 CCRA occurs after October 1, 2020, the

CCRA may need to be adjusted to recover the approved revenue requirements over the remaining months of the period, through September 2021. This approach would ensure cost recovery and approved eligible costs match. If it is necessary to adjust the CCRA, Otter Tail proposes to calculate the final 2020/2021 CCRA and include it with the corresponding rate schedule pages in a compliance filing in this docket.

The redline and final versions of the CIP rider rate schedules are included immediately following Exhibits 1 and 2. The CIP rider rate schedule included in this filing accommodates the change to the CCRA based on the proposed $0.00485 per-kWh method of recovery. Once the 2020/2021 CCRA is approved, the Otter Tail will file the corresponding rate schedule that complies with the Commission's Order in this docket.

CONCLUSION

Otter Tail respectfully requests the following from the MPUC:

1. Approval of the 2019 CIP Tracker, resulting in a year-end balance of $3,955,955.
2. Approval to implement the CCRA factor of $0.00485/kWh reflected on customers' bills through the Resource Adjustment starting with bills rendered on and after October 1, 2020.
3. Approval of a variance to Minnesota Rule 7820.3500 to allow Otter Tail to continue to combine the FCA with the Conservation Improvement Adjustment on customer bills.

Otter Tail Power Company **Exhibit 2**

Comparison of Monthly Bill Impacts

CIP Surcharge (CCRA) is based on $0.00485 / kWh

			Monthly Impacts			
Rate Class	**Average kWh/Bill**	**Average $/Bill before CCRA**	**Current CCRA**	**Proposed CCRA**	**Monthly Bill $ Change**	**Monthly Bill % Change**
Residential	803	$81.96	$5.70	$3.89	($1.81)	-2.20%
Farm	2,139	$203.53	$15.18	$10.37	($4.81)	-2.36%
General Service	2,661	$249.14	$18.89	$12.91	($5.99)	-2.40%
Large General Service	117,853	$8,089.67	$836.75	$571.58	($265.17)	-3.28%
Irrigation	1,617	$138.76	$11.48	$7.84	($3.64)	-2.62%
Outdoor Lighting	80	$12.32	$0.57	$0.39	($0.18)	-1.47%
Municipal Pumping	3,119	$240.38	$22.14	$15.13	($7.02)	-2.92%
Water Heating Control	219	$17.05	$1.55	$1.06	($0.49)	-2.89%
Interruptible Load	1,838	$99.14	$13.05	$8.91	($4.13)	-4.17%
Deferred Load	1,423	$79.20	$10.10	$6.90	($3.20)	-4.04%

*All average data comes from Otter Tail's approved rates in Schedule-E that was filed January 20, 2017, in compliance to the ALJ's (Docket no. E017/GR-15-1033).

CONSERVATION IMPROVEMENT PROJECT (CIP) RIDER

DESCRIPTION	RATE CODE
Conservation Surcharge	MCIP
CIP Exempt Adjustment Credit	MCCRC

RULES AND REGULATIONS: Terms and conditions of this electric rate schedule and the General Rules and Regulations govern use of this rider.

APPLICATION OF RIDER: This rider is applicable to any electric service under all of the Company's retail rate schedules, except for Standby Service, Section 11.01 and those customers who have been granted an exemption under a large customer facility. The exemptions are as follows:

"Large Customer Facility" customers that have been exempted from the Company's Conservation Improvement Program charges pursuant to Minn. Stat. 216B.241, Subd. 1a (b) shall receive a monthly exemption from conservation improvement program charges pursuant to Minn. Stat.216B.16, subd. 6b Energy Conservation Improvement. Such monthly exemption will be effective beginning January 1 of the year following the grant of exemption. Upon exemption from conservation program charges, the "Large Customer Facility" customers can no longer participate in the Company's Energy Conservation Improvement Program.

CONSERVATION SURCHARGE AND EXEMPTION ADJUSTMENT: There shall be added to each non-exempt Customer's bill a Conservation Surcharge based on the applicable Conservation Surcharge Factor multiplied by the Customer's monthly energy use. The Conservation Surcharge shall not be applied to Meter(s) on Customer Account(s) granted exemption by the Commissioner of the Minnesota Department of Commerce, Division of Energy Resources (or successor agency) from CIP costs pursuant to Minn. Stat. 216B.241. Meter(s) on Customer Account(s) granted an exemption shall receive a Conservation Cost Recovery Charge (CCRC) Exemption Adjustment Credit.

The Conservation Surcharge Factor is $0.~~00710~~ 00485 per kWh.

DETERMINATION OF CONSERVATION SURCHARGE FACTOR: The Conservation Surcharge shall be the quotient of the Recoverable CIP Tracker Balance, divided by projected Minnesota non-exempt retail energy sales for a designated 12-month recovery period. The Surcharge may be adjusted annually by approval of the Minnesota Public Utilities Commission (MNPUC). The Recoverable CIP Tracker Balance is determined as described below, starting with the MNPUC accepted CIP Tracker account balance as of the end of the prior year. From this starting point:

1. Add financial incentives awarded by the MNPUC not reflected in the prior year-end CIP Tracker balance;

CONSERVATION IMPROVEMENT PROJECT (CIP) RIDER

DESCRIPTION	RATE CODE
Conservation Surcharge	MCIP
CIP Exempt Adjustment Credit	MCCRC

RULES AND REGULATIONS: Terms and conditions of this electric rate schedule and the General Rules and Regulations govern use of this rider.

APPLICATION OF RIDER: This rider is applicable to any electric service under all of the Company's retail rate schedules, except for Standby Service, Section 11.01 and those customers who have been granted an exemption under a large customer facility. The exemptions are as follows:

"Large Customer Facility" customers that have been exempted from the Company's Conservation Improvement Program charges pursuant to Minn. Stat. 216B.241, Subd. 1a (b) shall receive a monthly exemption from conservation improvement program charges pursuant to Minn. Stat.216B.16, subd. 6b Energy Conservation Improvement. Such monthly exemption will be effective beginning January 1 of the year following the grant of exemption. Upon exemption from conservation program charges, the "Large Customer Facility" customers can no longer participate in the Company's Energy Conservation Improvement Program.

CONSERVATION SURCHARGE AND EXEMPTION ADJUSTMENT: There shall be added to each non-exempt Customer's bill a Conservation Surcharge based on the applicable Conservation Surcharge Factor multiplied by the Customer's monthly energy use. The Conservation Surcharge shall not be applied to Meter(s) on Customer Account(s) granted exemption by the Commissioner of the Minnesota Department of Commerce, Division of Energy Resources (or successor agency) from CIP costs pursuant to Minn. Stat. 216B.241. Meter(s) on Customer Account(s) granted an exemption shall receive a Conservation Cost Recovery Charge (CCRC) Exemption Adjustment Credit.

The Conservation Surcharge Factor is $0.00485 per kWh. **R**

DETERMINATION OF CONSERVATION SURCHARGE FACTOR: The Conservation Surcharge shall be the quotient of the Recoverable CIP Tracker Balance, divided by projected Minnesota non-exempt retail energy sales for a designated 12-month recovery period. The Surcharge may be adjusted annually by approval of the Minnesota Public Utilities Commission (MNPUC). The Recoverable CIP Tracker Balance is determined as described below, starting with the MNPUC accepted CIP Tracker account balance as of the end of the prior year. From this starting point:

1. Add financial incentives awarded by the MNPUC not reflected in the prior year-end CIP Tracker balance;

Appendix A- Tables

APPENDIX A

Table 1
2019 CALCULATION OF CARRYING CHARGE ON CONSERVATION DOLLARS HELD IN CIP TRACKER ACCOUNT
Financial Incentive Project - Conservation Improvement Programs
Otter Tail Power Company

	Capital Expenditures (A)	Operating Expenses (B)	Revenues Received (C)	Dr. 1860.3100 Cr. 4310.4000 Carrying Charge 2.55% (D)	Balance Account 1860.3000 + 1860.3100 (E)
Balance Dec. 31, 2018					5,994,429.90
January:					
Carrying Charge	--	--	--	12,762.64	12,762.64
Trf Carrying Charge Bal					0.00
Labor Accrual Adj					0.00
Activity	0.00	492,741.74	(1,555,491.46)	--	(1,062,749.72)
Deferred Taxes	--	--	--	--	--
Balance January 31, 2019	0.00	492,741.74	(1,555,491.46)	12,762.64	4,944,442.82
February:					
Carrying Charge	--	--	--	10,527.13	10,527.13
Labor Accrual Adj					0.00
Activity	0.00	466,127.31	(1,589,692.20)	--	(1,123,564.89)
Deferred Taxes	--	--	--	--	--
Balance February 28, 2019	0.00	958,869.05	(3,145,183.66)	23,289.77	3,831,405.06
March:					
Carrying Charge	--	--	--	8,157.38	8,157.38
Labor Accrual Adj					0.00
Activity	0.00	531,765.32	(1,290,728.24)	--	(758,962.92)
Deferred Taxes	--	--	--	--	--
Balance March 31, 2019	0.00	1,490,634.37	(4,435,911.90)	31,447.15	3,080,599.52
April:					
Carrying Charge	--	--	--	6,558.85	6,558.85
Labor Accrual Adj					0.00
Activity	0.00	998,905.24	(1,095,117.24)	--	(96,212.00)
Deferred Taxes	--			--	--
Balance April 30, 2019	0.00	2,489,539.61	(5,531,029.14)	38,006.00	2,990,946.37
May:					
Carrying Charge	--	--	--	6,367.97	6,367.97
Bonus/Incentive					0.00
Labor Accrual Adj					0.00
Activity	0.00	626,580.76	(1,016,687.54)	--	(390,106.78)
Deferred Taxes	--	--	--	--	--
Balance May 31, 2019	0.00	3,116,120.37	(6,547,716.68)	44,373.97	2,607,207.56
June:					
Carrying Charge	--	--	--	5,550.96	5,550.96
Bonus/Incentive					0.00
Labor Accrual Adj					0.00
Activity	0.00	347,044.94	(981,431.90)	--	(634,386.96)
Deferred Taxes	--	--	--	--	--
Balance June 30, 2019	0.00	3,463,165.31	(7,529,148.58)	49,924.93	1,978,371.56
July:					
Carrying Charge	--	--	--	4,212.12	4,212.12
Bonus/Incentive					0.00
Labor Accrual Adj					
Activity	0.00	307,235.85	(1,114,869.85)	--	(807,634.00)
Deferred Taxes	--	--	--	--	--
Balance July 31, 2019	0.00	3,770,401.16	(8,644,018.43)	54,137.05	1,174,949.68

Table 1
2019 CALCULATION OF CARRYING CHARGE ON CONSERVATION DOLLARS HELD IN CIP TRACKER ACCOUNT
Financial Incentive Project - Conservation Improvement Programs
Otter Tail Power Company

	Capital Expenditures (A)	Operating Expenses (B)	Revenues Received (C)	Dr. 1860.3100 Cr. 4310.4000 Carrying Charge 2.55% (D)	Balance Account 1860.3000 + 1860.3100 (E)
August:					
Carrying Charge	--	--		2,501.57	2,501.57
Bonus/Incentive					0.00
Labor Accrual Adj					0.00
Activity	0.00	703,585.94	(1,129,248.29)	--	(425,662.35)
Deferred Taxes	--	--	--	--	--
Balance August 31, 2019	0.00	4,473,987.10	(9,773,266.72)	56,638.62	751,788.90
September:					
Carrying Charge	--	--	--	1,600.62	1,600.62
Lost Margin & Bonus/Incentive					0.00
Labor Accrual Adj					0.00
Activity	0.00	745,080.64	(1,010,041.40)	--	(264,960.76)
Deferred Taxes	--	--	--	--	--
Balance September 30, 2019	0.00	5,219,067.74	(10,783,308.12)	58,239.24	488,428.76
October:					
Carrying Charge	--	--	--	1,039.91	1,039.91
Lost Margin & Bonus/Incentive					0.00
Labor Accrual Adj					0.00
Activity	0.00	723,984.89	(998,999.42)	--	(275,014.53)
Deferred Taxes	--	--	--	--	--
Balance October 31, 2019	0.00	5,943,052.63	(11,782,307.54)	59,279.15	214,454.14
November:					
Carrying Charge	--		--	456.59	456.59
Labor Accrual Adj					0.00
Activity	0.00	748,241.31	(1,148,205.52)	--	(399,964.21)
Deferred Taxes	--	--	--	--	--
Balance November 30, 2019	0.00	6,691,293.94	(12,930,513.06)	59,735.74	(185,053.48)
December:					
Carrying Charge	--	--	--	(393.99)	(393.99)
Lost Margin & Bonus/Incentive		3,004,311.00			3,004,311.00
Labor Accrual Adj					0.00
Activity	0.00	2,425,427.78	(1,288,336.71)	--	1,137,091.07
Deferred Taxes	--	--	--	--	--
Balance December 31, 2019	0.00	12,121,032.72	(14,218,849.77)	59,341.75	3,955,954.60

Table 2
2019 INCENTIVE MECHANISM
Financial Incentive Project - Conservation Improvement Programs
Otter Tail Power Company

Inputs	**2019**	
3-year Weather-Normalized Sales Average (kWh)	1,741,875,298	(2013-2015 WN Sales)
1.0% Energy Savings	17,418,753	
Size of steps in Energy Savings	1,741,875	
Estimated CIP Expenditures	$8,906,815	
Estimated CIP Energy Goal	41,571,964	
Estimated Net Benefits at Approved Goal	$22,360,736	excludes Company-Owned Street Lighting, POP Solar, and Assessments
Energy savings at 1.5%	26,128,129	

Incentive Calibration	**2019**	
Max Percent of Benefits Awarded	10.0%	maximum net benefits awarded
Earning Threshold	1.0%	
Max Achievement Level	1.7%	
Max Percent of Expenditures	30.0%	
Increment (% Points)	7.5	% Points

Actual Electric CIP Incentive Results	**2019**	
Spending	$9,116,722	
Energy Saved	65,418,478	excludes Company-Owned Street Lighting and POP Solar
Net Benefits Achieved	$33,006,480	excludes House Therapy, Company-Owned Street Lighting, POP Solar, and Assessments
Resulting Incentive		
Achievement Level	3.76%	
Percent of Net Benefits Awarded	10.00%	
Financial Incentive without Expenditure Cap	$3,300,648	
Expenditure Cap	$2,718,378	excludes Company-Owned Street Lighting return on incremental costs
Financial Incentive Award -- 2019 Results	**$2,718,378**	

Incentive/First Year kWh Saved $	$0.0416
Incentive/Net Benefits	8.24%
Incentive/CIP Expenditures	29.82%

Table 3

APPENDIX A

2019 PROJECT COSTS, SAVINGS, AND BENEFITS
Financial Incentive Project
Otter Tail Power Company

	2019 Proposed Savings, Costs, and Benefits				2019 Actual Savings, Costs, and Benefits			
	kWh Savings	Expenditures	Total Benefits	Net Benefits	kWh Savings	Expenditures	Total Benefits	Net Benefits
Residential								
Residential Air Conditioning Control	140,604	$87,000	$334,696	$247,696	86,552	$31,452	$226,102	$194,650
Appliance Recycling	241,851	$65,000	$95,486	$30,486	461,940	$115,885	$194,414	$78,529
Energy Star Lighting	3,939,958	$360,000	$2,306,802	$1,946,802	7,075,261	$574,825	$4,347,937	$3,773,111
Electronically Commutated Motors	90,418	$30,000	$101,344	$71,344	220,064	$38,082	$251,607	$213,525
Energy Feedback Program	3,322,502	$302,100	$681,257	$379,157	4,198,416	$379,025	$990,392	$611,366
Residential Heat Pumps	1,639,537	$275,000	$1,192,570	$917,570	2,444,162	$362,566	$1,729,207	$1,366,640
Home Insulation	165,584	$45,000	$98,393	$53,393	200,193	$20,699	$114,227	$93,528
Home Transformer	540,788	$87,000	$430,819	$343,819	277,460	$38,654	$314,571	$275,917
School Kit Program	1,154,443	$130,000	$488,660	$358,660	1,726,302	$98,674	$1,694,282	$1,595,608
Smart Thermostats	312,221	$50,000	$94,147	$44,147	275,597	$100,026	$98,031	($1,995)
Water Heater Store & Save	585,858	$35,000	$917,849	$882,849	582,560	$17,981	$1,291,463	$1,273,482
Advertising & Education	0	$175,000	$0	($175,000)	0	$234,525	$0	($234,525)
Implementation & Training	0	$40,000	$0	($40,000)	0	$35,479	$0	($35,479)
Budget Modification Request	0	$300,000	$0	($300,000)	0	$0	$0	$0
Total - Residential	12,133,764	$1,981,100	$6,742,021	$4,760,921	17,548,507	$2,047,874	$11,252,233	$9,204,359
Low-Income								
House Therapy	230,355	$150,000	$113,584	($36,416)	302,610	$211,671	$162,112	($49,559)
Budget Modification Request	0	$75,000	$0	($75,000)	0	$0	$0	$0
Total - Low-Income	230,355	$225,000	$113,584	($111,416)	302,610	$211,671	$162,112	($49,559)
Commercial								
Adjustable Speed Drives	5,563,485	$390,000	$2,918,996	$2,528,996	4,983,370	$365,593	$3,034,642	$2,669,049
Commercial Cool Savings	58,960	$32,000	$364,260	$332,260	32,326	$7,674	$211,908	$204,234
Commercial Direct Install	505,708	$41,000	$88,501	$47,501	444,955	$61,687	$97,647	$35,960
Compressed Air Efficiency	1,026,919	$140,000	$457,064	$317,064	442,901	$59,292	$274,938	$215,646
Custom Effiency Grants	2,389,608	$339,000	$2,126,549	$1,787,549	2,547,385	$445,258	$2,411,879	$1,966,621
Commercial Heat Pumps	1,125,092	$205,000	$3,954,267	$3,749,267	3,066,614	$485,611	$3,111,697	$2,626,086
Commercial & Industrial Focused Efficiency	1,614,600	$220,000	$1,072,256	$852,256	3,627,219	$545,901	$1,144,262	$598,361
Lighting Retrofit	6,538,110	$1,086,000	$8,301,037	$7,215,037	25,988,724	$2,679,807	$16,085,748	$13,405,941
Lighting - New Construction	3,625,635	$211,000	$2,175,926	$1,964,926	3,544,848	$180,546	$2,205,130	$2,024,584
Motors	761,519	$137,000	$438,626	$301,626	719,110	$105,186	$484,484	$379,298
Recommissioning/Retrocommissioning	2,174,328	$188,000	$499,336	$311,336	1,239,982	$120,857	$366,165	$245,308
Refrigeration	1,243,764	$130,000	$449,997	$319,997	929,927	$128,508	$273,196	$144,688
Advertising & Education	0	$67,000	$0	($67,000)	0	$58,219	$0	($58,219)
Compressed Air Audits	0	$20,000	$0	($20,000)	0	$236	$0	($236)
Integrated Building Design Plus	0	$234,000	$0	($234,000)	0	$139,732	$0	($139,732)
Financing	0	$50,000	$0	($50,000)	0	$9,056	$0	($9,056)
Implementation & Training	0	$60,000	$0	($60,000)	0	$40,621	$0	($40,621)
Budget Modification Request	0	$1,500,000	$0	($1,500,000)	0	$0	$0	$0
Total - Commercial	26,627,727	$5,050,000	$22,846,815	$17,796,815	47,567,362	$5,433,784	$29,701,697	$24,267,913

Table 3

APPENDIX A

2019 PROJECT COSTS, SAVINGS, AND BENEFITS
Financial Incentive Project
Otter Tail Power Company

	2019 Proposed Savings, Costs, and Benefits				2019 Actual Savings, Costs, and Benefits			
	kWh Savings	**Expenditures**	**Total Benefits**	**Net Benefits**	**kWh Savings**	**Expenditures**	**Total Benefits**	**Net Benefits**
Other Projects								
Company-Owned Street & Area Lighting	2,355,868	$810,995	$908,914	$97,919	3,829,999	$643,674	$1,505,042	$861,367
Publicy-Owned Property Solar	224,250	$229,720	$244,024	$14,304	0	$182,608	$0	($182,608)
Total - Other	2,580,118	$1,040,715	$1,152,938	$112,223	3,829,999	$826,282	$1,505,042	$678,759
Program Development And Regulatory Requirements								
Planning - Regulatory Affairs	0	$300,000	$0	($300,000)	0	$335,085	$0	($335,085)
Research & Development	0	$180,000	$0	($180,000)	0	$130,386	$0	($130,386)
NGEA - Regulatory Assessments	0	$110,000	$0	($110,000)	0	$98,307	$0	($98,307)
PUC Assessments	0	$20,000	$0	($20,000)	0	$29,140	$0	($29,140)
Transmission & Distribution Cost Study	0	$0	$0	$0	0	$3,872	$0	($3,872)
Total - Development & Regulatory Requirements	0	$610,000	$0	($610,000)	0	$596,789	$0	($596,789)
Miscellaneous/Inactive								
Town Energy Challenge	0	$0	$0	$0	0	$200	$0	($200)
Company CIP Projects	0	$0	$0	$0	0	$0	$0	$0
Accounting Adjustments	0	$0	$0	$0	0	$120	$0	($120)
Total - Miscellaneous	0	$0	$0	$0	$0	$320	$0	($320)
Total - All CIP	41,571,964	$8,906,815	$30,855,358	$21,948,543	69,248,477	$9,116,722	$42,621,083	$33,504,362

All numbers are for a single year - 2019. DSMORE software was used for the analysis, with figures discounted to 2019.

Table 4

APPENDIX A

2019 CIP Program Status Report / CIP Tracker Recap
Financial Incentive Project -- 2018 Conservation Improvement Programs
Otter Tail Power Company

	As Filed - 2019 Proposed Benefit/Cost Ratios				Actual - 2019 Benefit/Cost Ratios			
	Utility Test	**RIM Test**	**Societal Test**	**Participant Test**	**Utility Test**	**RIM Test**	**Societal Test**	**Participant Test**
Residential								
Residential Air Conditioning Control	4.22	3.55	4.24	inf.	7.19	5.40	7.22	inf.
Appliance Recycling	1.56	0.41	2.53	inf.	1.68	0.41	2.79	inf.
Energy Star Lighting	6.99	0.47	6.93	17.39	7.56	0.45	5.65	13.49
Electronically Commutated Motors	3.51	0.61	3.68	8.31	6.61	0.63	5.25	8.84
Energy Feedback Program	2.47	0.55	2.82	inf.	2.61	0.56	2.97	inf.
Residential Heat Pumps	4.49	0.46	2.82	6.44	4.77	0.44	2.43	5.53
Home Insulation	2.27	0.33	1.83	6.05	5.52	0.33	3.03	9.39
Home Transformer	5.15	0.54	9.78	inf.	8.14	0.71	44.04	inf.
School Kit Program	3.93	0.43	12.14	inf.	17.17	0.97	74.31	inf.
Smart Thermostats	1.96	0.29	2.78	22.71	0.98	0.27	1.22	11.00
Water Heater Store & Save	27.88	10.02	28.06	inf.	71.82	15.72	72.17	inf.
Advertising & Education	0.00	0.00	0.00	inf.	0.00	0.00	0.00	inf.
Implementation & Training	0.00	0.00	0.00	inf.	0.00	0.00	0.00	inf.
Total - Residential	4.29	0.56	4.43	14.29	5.49	0.57	4.59	11.64
Low-Income								
House Therapy	0.79	0.30	9.40	inf.	0.77	0.30	8.29	inf.
Total - Low-Income	0.79	0.30	9.40	inf.	0.77	0.30	8.29	inf.
Commercial								
Adjustable Speed Drives	7.79	0.63	5.96	6.60	8.30	0.64	6.02	6.40
Commercial Cool Savings	12.08	4.72	12.10	inf.	27.61	6.02	27.66	inf.
Commercial Direct Install	2.27	0.50	6.48	inf.	1.58	0.44	2.74	8.93
Compressed Air Efficiency	3.43	0.68	3.53	4.30	4.64	0.70	2.34	2.47
Commercial Heat Pumps	6.51	0.85	2.37	1.74	4.97	0.67	1.57	1.62
Custom Effiency Grants	3.96	0.60	2.39	2.89	6.99	1.24	2.77	1.57
Commercial & Industrial Focused Efficiency	5.11	0.79	3.19	3.27	2.10	0.54	0.41	0.49
Lighting Retrofit	3.46	0.63	1.54	1.71	6.00	0.63	2.83	3.09
Lighting - New Construction	10.75	0.70	7.91	8.08	12.21	0.65	5.64	5.91
Motors	3.34	0.60	1.91	2.22	4.61	0.64	4.63	5.46
Recommissioning/Retrocommissioning	2.81	0.61	2.46	4.03	3.03	0.59	2.16	3.76
Refrigeration	3.64	0.68	3.63	4.95	2.13	0.55	4.62	7.55
Advertising & Education	0.00	0.00	0.00	inf.	0.00	0.00	0.00	inf.
Compressed Air Audits	0.00	0.00	0.00	inf.	0.00	0.00	0.00	inf.
Integrated Building Design Plus	0.00	0.00	0.00	0.00	0.00	0.00	0.00	inf.
Financing	0.00	0.00	0.00	inf.	0.00	0.00	0.00	inf.
Implementation & Training	0.00	0.00	0.00	inf.	0.00	0.00	0.00	inf.
Total - Commercial	4.40	0.68	1.77	1.85	5.47	0.67	2.34	2.45

Table 4
2019 CIP Program Status Report / CIP Tracker Recap
Financial Incentive Project -- 2018 Conservation Improvement Programs
Otter Tail Power Company

	As Filed - 2019 Proposed Benefit/Cost Ratios				Actual - 2019 Benefit/Cost Ratios			
	Utility Test	**RIM Test**	**Societal Test**	**Participant Test**	**Utility Test**	**RIM Test**	**Societal Test**	**Participant Test**
Other Projects								
Company-Owned Street & Area Lighting	1.16	0.27	2.90	inf.	2.34	1.56	8.30	inf.
Publicy-Owned Property Solar	1.12	0.50	0.67	0.81	0.00	0.00	0.00	inf.
Total - Other	1.15	0.30	1.77	5.54	1.82	1.31	8.08	inf.
Program Development And Regulatory Requirements								
Planning - Regulatory Affairs	0.00	0.00	0.00	inf.	0.00	0.00	0.00	inf.
Research & Development	0.00	0.00	0.00	inf.	0.00	0.00	0.00	inf.
NGEA - Regulatory Assessments	0.00	0.00	0.00	inf.	0.00	0.00	0.00	inf.
PUC Assessments	0.00	0.00	0.00	inf.	0.00	0.00	0.00	inf.
Transmission & Distribution Cost Study	0.00	0.00	0.00	inf.	0.00	0.00	0.00	inf.
Total - Development & Regulatory Requirements	0.00	0.00	0.00	inf.	0.00	0.00	0.00	inf.
Miscellaneous/Inactive								
Town Energy Challenge - Inactive	0.00	0.00	0.00	inf.	0.00	0.00	0.00	inf.
Company CIP Projects	0.00	0.00	0.00	inf.	inf.	inf.	inf.	inf.
Accounting Adjustments	0.00	0.00	0.00	inf.	0.00	0.00	0.00	inf.
Total - Miscellaneous	0.00	0.00	0.00	inf.	0.00	0.00	0.00	inf.
Total - All CIP	3.43	0.59	2.07	3.10	4.68	0.64	2.70	3.51

Table 5 **APPENDIX A**

2019 CIP Program Status Report / CIP Tracker Recap
Financial Incentive Project -- 2019 Conservation Improvement Programs
Otter Tail Power Company

	2019 Expenditures			2019 Participation			2019 Energy Savings - kWh			2019 Coincident Demand Savings - kW		
	Actual	Budget	% of Goal	Actual	Budget	% of Goal	Actual	Budget	% of Goal	Actual	Budget	% of Goal
Residential												
Residential Air Conditioning Control	$31,452	$87,000	36%	2,791	4,534	62%	86,552	140,604	62%	2,063.91	3,352.83	62%
Appliance Recycling	$115,885	$65,000	178%	447	230	194%	461,940	241,851	191%	66.18	34.05	194%
Energy Star Lighting	$574,825	$360,000	160%	197,752	110,000	180%	7,075,261	3,939,958	180%	789.98	477.29	166%
Electronically Commutated Motors	$38,082	$30,000	127%	283	120	236%	220,064	90,418	243%	64.98	27.55	236%
Energy Feedback Program	$379,025	$302,100	125%	34,438	30,500	113%	4,198,416	3,322,502	126%	4,157.62	2,994.15	139%
Residential Heat Pumps	$362,566	$275,000	132%	183	102	179%	2,444,162	1,639,537	149%	233.13	165.44	141%
Home Insulation	$20,699	$45,000	46%	32	40	80%	200,193	165,584	121%	5.64	8.76	64%
Home Transformer	$38,654	$87,000	44%	52	100	52%	277,460	540,788	51%	51.53	100.10	51%
School Kit Program	$98,674	$130,000	76%	1,487	1,000	149%	1,726,302	1,154,443	150%	142.36	96.00	148%
Smart Thermostats	$100,026	$50,000	200%	184	140	131%	275,597	312,221	88%	8.84	1.55	570%
Water Heater Store & Save	$17,981	$35,000	51%	16,074	16,165	99%	582,560	585,858	99%	11,765.40	8,839.20	133%
Advertising & Education	$234,525	$175,000	134%	22,351	10,000	224%	0	0	0%	0.00	0.00	0%
Implementation & Training	$35,479	$40,000	89%	3	175	2%	0	0	0%	0.00	0.00	0%
Budget Modification Request	$0	$300,000	0%									
Total - Residential	$2,047,874	$1,981,100	103%	276,077	173,106	159%	17,548,507	12,133,764	145%	19,349.55	16,096.93	120%
Low-Income												
House Therapy	$211,671	$150,000	141%	189	130	145%	302,610	230,355	131%	36.83	24.45	151%
Budget Modification Request	$0	$75,000	0%									
Total - Low-Income	$211,671	$225,000	94%	189	130	145%	302,610	230,355	131%	36.83	24.45	151%
Commercial												
Adjustable Speed Drives	$365,593	$390,000	94%	131	164	80%	4,983,370	5,563,485	90%	631.29	516.30	122%
Commercial Cool Savings	$7,674	$32,000	24%	310	546	57%	32,326	58,960	55%	1,678.84	3,061.99	55%
Commercial Direct Install	$61,687	$41,000	150%	107	154	69%	444,955	505,708	88%	53.37	71.51	75%
Compressed Air Efficiency	$59,292	$140,000	42%	12	23	52%	442,901	1,026,919	43%	84.90	147.20	58%
Custom Effiency Grants	$445,258	$339,000	131%	41	37	111%	2,547,385	2,389,608	107%	1,028.25	517.75	199%
Commercial Heat Pumps	$485,611	$205,000	237%	172	84	205%	3,066,614	1,125,092	273%	365.33	128.96	283%
Commercial & Industrial Focused Efficiency	$545,901	$220,000	248%	3	1	300%	3,627,219	1,614,600	225%	588.32	382.77	154%
Lighting Retrofit	$2,679,807	$1,086,000	247%	1,215	560	217%	25,988,724	6,538,110	397%	3,830.70	1,142.16	335%
Lighting - New Construction	$180,546	$211,000	86%	375	241	156%	3,544,848	3,625,635	98%	505.69	559.95	90%
Motors	$105,186	$137,000	77%	174	215	81%	719,110	761,519	94%	116.30	92.79	125%
Recommissioning/Retrocommissioning	$120,857	$188,000	64%	3	4	75%	1,239,982	2,174,328	57%	107.64	75.35	143%
Refrigeration	$128,508	$130,000	99%	83	86	97%	929,927	1,243,764	75%	137.82	178.85	77%
Advertising & Education	$58,219	$67,000	87%	153	100	153%	0	0	0%	0.00	0.00	0%
Compressed Air Audits	$236	$20,000	1%	0	4	0%	0	0	0%	0.00	0.00	0%
Integrated Building Design Plus	$139,732	$234,000	60%	4	6	67%	0	0	0%	0.00	0.00	0%
Financing	$9,056	$50,000	18%	0	5	0%	0	0	0%	0.00	0.00	0%
Implementation & Training	$40,621	$60,000	68%	442	250	177%	0	0	0%	0.00	0.00	0%
Budget Modification Request	$0	$1,500,000	0%									
Total - Commercial	$5,433,784	$5,050,000	108%	3,225	2,480	130%	47,567,362	26,627,727	179%	9,128.45	6,875.59	133%
Other Projects												
Company-Owned Street & Area Lighting	$643,674	$810,995	79%	5,995	3,892	154%	3,829,999	2,355,868	163%	0.00	0.00	0%
Publicy-Owned Property Solar	$182,608	$229,720	79%	2	16	13%	0	224,250	0%	0.00	96.64	0%
Total - Other	$826,282	$1,040,715	79%	5,997	3,908	153%	3,829,999	2,580,118	148%	0.00	96.64	0%

Table 5 **APPENDIX A**

2019 CIP Program Status Report / CIP Tracker Recap
Financial Incentive Project -- 2019 Conservation Improvement Programs
Otter Tail Power Company

	2019 Expenditures			2019 Participation			2019 Energy Savings - kWh			2019 Coincident Demand Savings - kW		
	Actual	**Budget**	**% of Goal**	**Actual**	**Budget**	**% of Goal**	**Actual**	**Budget**	**% of Goal**	**Actual**	**Budget**	**% of Goal**
Program Development And Regulatory Requirements												
Planning - Regulatory Affairs	$335,085	$300,000	112%									
Research & Development	$130,386	$180,000	72%									
NGEA - Regulatory Assessments	$98,307	$110,000	89%									
PUC Assessments	$29,140	$20,000	146%									
Transmission & Distribution Cost Study	$3,872	$0	0%									
Total - Development & Regulatory Requirements	$596,789	$610,000	98%									
Miscellaneous/Inactive Projects												
Town Energy Challenge	$200	$0	0%									
Company CIP Projects	$0	$0	0%									
Accounting Adjustments	$120	$0	0%									
Total - Miscellaneous/Inactive	$320	$0	0%	0	0	0%	0	0	0%	0.00	0.00	0%
Total - 2019 CIP Project Costs	$9,116,722	$8,906,815	102%	285,488	179,624	159%	69,248,477	41,571,964	167%	28,514.82	23,093.60	123%
CIP Tracker Carrying Costs	$59,342											
Total - 2019 CIP with Carrying Costs	$9,176,063	$8,906,815	103%	285,488	179,624	159%	69,248,477	41,571,964	167%	28,514.82	23,093.60	123%
Incentives - 2018 [Bonus]	$3,004,311											
CIP Recovery Mechanism	($10,360,172)											
Recovered Through Rates	($3,858,678)											
Prior Year Carry Forward Balance	$5,994,430											
Tracker Balance - Year End 2019	$3,955,955											

Table 6
2019 CIP PROGRAM STATUS REPORT / CIP TRACKER RECAP - COST PER KW / KWH
Financial Incentive Project -- 2019 Conservation Improvement Programs
Otter Tail Power Company

	2019 Expenditures		2019 Energy Savings - kWh		Cost per kWh		2019 Coincident Demand Savings - kW		Cost per kW	
	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget
Residential										
Residential Air Conditioning Control	$31,452	$87,000	86,552	140,604	$0.36	$0.62	2,063.91	3,352.83	$15	$26
Appliance Recycling	$115,885	$65,000	461,940	241,851	$0.25	$0.27	66.18	34.05	$1,751	$1,909
Energy Star Lighting	$574,825	$360,000	7,075,261	3,939,958	$0.08	$0.09	789.98	477.29	$728	$754
Electronically Commutated Motors	$38,082	$30,000	220,064	90,418	$0.17	$0.33	64.98	27.55	$586	$1,089
Energy Feedback Program	$379,025	$302,100	4,198,416	3,322,502	$0.09	$0.09	4,157.62	2,994.15	$91	$101
Residential Heat Pumps	$362,566	$275,000	2,444,162	1,639,537	$0.15	$0.17	233.13	165.44	$1,555	$1,662
Home Insulation	$20,699	$45,000	200,193	165,584	$0.10	$0.27	5.64	8.76	$3,670	$5,136
Home Transformer	$38,654	$87,000	277,460	540,788	$0.14	$0.16	51.53	100.10	$750	$869
School Kit Program	$98,674	$130,000	1,726,302	1,154,443	$0.06	$0.11	142.36	96.00	$693	$1,354
Smart Thermostats	$100,026	$50,000	275,597	312,221	$0.36	$0.16	8.84	1.55	$11,317	$32,258
Water Heater Store & Save	$17,981	$35,000	582,560	585,858	$0.03	$0.06	11,765.40	8,839.20	$2	$4
Budget Modificaiton Request		$300,000								
Total - Residential	$1,777,871	$1,766,100	17,548,507	12,133,764	$0.10	$0.15	19,349.55	16,096.93	$92	$110
Low-Income										
House Therapy	$211,671	$150,000	302,610	230,355	$0.70	$0.65	36.83	30.49	$5,748	$4,920
Budget Modificaiton Request		$75,000								
Total - Low-Income	$211,671	$225,000	302,610	230,355	$0.70	$0.98	36.83	30.49	$5,748	$7,379
Commercial										
Adjustable Speed Drives	$365,593	$390,000	4,983,370	5,563,485	$0.07	$0.07	631.29	516.30	$579	$755
Commercial Cool Savings	$7,674	$32,000	32,326	58,960	$0.24	$0.54	1,678.84	3,061.99	$5	$10
Commercial Direct Install	$61,687	$41,000	444,955	505,708	$0.14	$0.08	53.37	71.51	$1,156	$573
Compressed Air Efficiency	$59,292	$140,000	442,901	1,026,919	$0.13	$0.14	84.90	147.20	$698	$951
Custom Effiency Grants	$445,258	$339,000	2,547,385	2,389,608	$0.17	$0.14	1,028.25	517.75	$433	$655
Commercial Heat Pumps	$485,611	$205,000	3,066,614	1,125,092	$0.16	$0.18	365.33	128.96	$1,329	$1,590
Commercial & Industrial Focused Efficiency	$545,901	$220,000	3,627,219	1,614,600	$0.15	$0.14	588.32	382.77	$928	$575
Lighting Retrofit	$2,679,807	$1,086,000	25,988,724	6,538,110	$0.10	$0.17	3,830.70	1,142.16	$700	$951
Lighting - New Construction	$180,546	$211,000	3,544,848	3,625,635	$0.05	$0.06	505.69	559.95	$357	$377
Motors	$105,186	$137,000	719,110	761,519	$0.15	$0.18	116.30	92.79	$904	$1,476
Recommissioning/Retrocommissioning	$120,857	$188,000	1,239,982	2,174,328	$0.10	$0.09	107.64	75.35	$1,123	$2,495
Refrigeration	$128,508	$130,000	929,927	1,243,764	$0.14	$0.10	137.82	178.85	$932	$727
Budget Modificaiton Request		$1,500,000								
Total - Commercial	$5,185,920	$4,619,000	47,567,362	26,627,727	$0.11	$0.17	9,128.45	6,875.59	$568	$672
Other Projects										
Company-Owned Street & Area Lighting	$643,674	$810,995	3,829,999	2,355,868	$0.17	$0.34	0.00	0.00	$0	$0
Publicy-Owned Property Solar	$182,608	$229,720	0	224,250	$0.00	$1.02	0.00	0.00	$0	$0
Total - Other	$826,282	$1,040,715	3,829,999	2,580,118	$0.22	$0.40	0.00	0.00	$0	$0
Total - Direct Impact	$8,001,744	$7,650,815	69,248,477	41,571,964	$0.12	$0.18	28,514.82	23,003.01	$281	$333
Miscellaneous/Inactive Projects										
Town Energy Challenge - Inactive	$200	$0	0	0	$0.00	$0.00	0.00	0.00	$0	$0
Company CIP Projects	$0	$0	0	0	$0.00	$0.00	0.00	0.00	$0	$0
Accounting Adjustments	$120	$0	0	0	$0.00	$0.00	0.00	0.00	$0	$0
Total - Miscellaneous	$320	$0	0	0	$0.00	$0.00	0.00	0.00	$0	$0
Total - Indirect Impact	$1,114,657	$1,256,000	0	0	$0.00	$0.00	0.00	0.00	$0	$0
Total - 2019 CIP Project Costs	$9,116,722	$8,906,815	69,248,477	41,571,964	$0.13	$0.21	28,514.82	23,003.01	$320	$387

Appendix B- Other Evaluations

- **Bill Analyzer Evaluation Program Year 2018**
- **OPOWER 2018 Results Report**
- **OATI Water Heater Pilot Program Report**

123 E. 4th St, Cincinnati Ohio 45202

Final Memorandum

To: **Otter Tail Power Company**

From: Ken Skinner, Integral Analytics

Date: **February 28, 2020**

RE: **Impact Evaluation Results for the Bill Analyzer Program (Program Year 2019)**

This memo presents the final results from the billing analysis of Otter Tail Power Company's (OTPCo's) Bill Analyzer energy efficiency program. This analysis relied upon a statistical analysis of actual customer billed electricity consumption before and after participation in the program to estimate the impact of the program. Table 1 presents the results of this billing analysis.

Table 1: Average Annual kWh Savings:

Participation Level	Savings (kWh/year)
Overall	376

For this impact evaluation, data are available both across households (i.e., cross-sectional) and over time (i.e., time-series). With this type of data, known as "panel" data, it becomes possible to control, simultaneously, for differences across households as well as differences across periods in time through the use of a "fixed-effects" panel model specification. The fixed-effect refers to the model specification aspect that differences across homes that do not vary over the estimation period (such as square footage, heating system, etc.) can be explained, in large part, by customer-specific intercept terms that capture the net change in consumption due to the program, controlling for other factors that do change with time (e.g., the weather).

Because the consumption data in the panel model includes months before and after the installation of measures through the program, the period of program participation (or the participation window) may be defined specifically for each customer. This feature of the panel model allows for the pre-installation months of consumption to effectively act as controls for post-participation months. In addition, this model specification, unlike annual pre/post-participation models such as annual change models, does not require a full year of post-participation data. Per OTP's request in this analysis a control group was used to explicitly control for any bias that might not have been captured in a fixed effect model with only participants.

We know the exact month of participation in the program for each participant, and are able to construct customer specific models that measure the change in usage consumption immediately before and after the date of program participation, controlling for weather and customer characteristics.

The fixed effects model can be viewed as a type of differencing model in which all characteristics of the home, which (1) are independent of time and (2) determine the level of energy consumption, are captured within the customer-specific constant terms. In other words, differences in customer characteristics that cause variation in the level of energy consumption, such as building size and structure, are captured by constant terms representing each unique household.

Algebraically, the fixed-effect panel data model is described as follows:

Figure 1. Fixed-effects Panel Data Model

$$y_{it} = \alpha_i + \beta x_{it} + \varepsilon_{it},$$

where:

y_{it} = energy consumption for home *i* during month *t*

α_i = constant term for site *i*

β = vector of coefficients

x = vector of variables that represent factors causing changes in energy consumption for home *i* during month *t* (i.e., weather and participation) including a binary variable which tracks months of participation. This binary variable is defined as being 1 for all months since inception of program participation. It is defined as being 0 for all the control group members and for treatment group participants in any month before participation

ε = error term for home *i* during month *t*.

With this specification, the only information necessary for estimation is those factors that vary month to month for each customer, and that will affect energy use, which effectively are weather conditions and program participation. Other non-measurable factors can be captured through the use of monthly indicator variables (e.g., to capture the effect of potentially seasonal energy loads).

The effect of the program was estimated by including a variable which is equal to one for all months after the customer first logged into the Bill Analyzer website. For those control group members this variable is set to zero in all months. Thus the coefficient on this variable is the savings associated with any general interaction with the website. In order to determine if there is any savings associated with going deeper in the tools available on the website, additional models were estimated that determined the savings from using various features on the site, as well as the highest level achieved by the customer.[2] Finally, in order to account for differences in billing days, billing data was standardized according to calendar months.

Data

The statistical model used to determine the impact of Bill Analyzer incorporates monthly billing data from Jan. 1, 2009 to December 2019 from participants in Minnesota, a control group of nonparticipating OTPC residential customers also in Minnesota, weather data (average monthly temperate) for the same period, other OTP program participation and information about each participants use of Bill Analyzer (login date and tool used). Table 2 presents the number of households in the participant and non-participant group included in the model.

Table 2: Sample used for estimation.

	Participants	Non-participants
Original Sample size	2046	1284
Eliminated due to excessive missing or zero reads or extremely small reads in most months	6	10
Eliminated Dashboard (IBP) only customers[3]	0	0
Estimation Sample	2040	1274
Total Sample Size	3314 homes	

The numbers of 2019 participants that used the Home Energy Center (HEC), CSR, or bill history or bill analysis (CCSS) tools or have completed Level 1, Level2, or Level 3 were not available in the data, most likely due to small sample sizes or restructuring of the classifications in the tool itself. Below are the prior year's (2018) sample sizes presented in Table 3. Since a customer can log in multiple times and use different combinations of the Bill Analyzer each time, the total across the different tools/levels will be greater than the number of individual users.

Table 3: Bill Analyzer featured used Previously (2018).
2019 Data not available

	HEC	CSR	CCSS	Completed		
				Level 1	Level 2	Level 3
Number	213	8	220	902	273	146
% of total	12%	<1%	12%	51%	15%	8%

[2] The features used by the customer and the levels (1, 2, and 3) achieved were defined in the dataset obtained from Otter Tail Power prior to 2019.

[3] Dashboard viewers (those accounts that participated ONLY in IBP) are removed given they are not considered interactive.

Finally, table 4 presents that average annual kWh usage for both the participants and non-participants for 2008 to 2019.

Table 4: Average annual electricity usage (kWh), by year and group.

Year	Participants	Non-participants
2008	16,908	13,267
2009	17,309	13,628
2010	16,330	12,929
2011	17,589	14,158
2012	15,696	12,834
2013	17,459	14,461
2014	18,398	14,309
2015	14,682	11,831
2016	12,797	11,166
2017	14,397	10,687
2018	12,667	11,496
2019	12,811	11,676

Estimation

The estimated models are presented in Table 5.[1]

Table 5: Estimated Overall Savings – dependent variable is monthly kWh usage, using usage from Jan. 2009 through Dec. 2019 (savings are negative and represent average monthly savings).

Independent Variable	Coefficient (kWh/month)	t-value
Logged into the Bill Analyzer website	-31.33	15.84
Sample Size	96,760 obs	
R-Squared	87%	

[1] The models include weather terms of cooling degree days(cdd) and heating degree days (hdd), monthly indicator terms and other OTP program participation in addition to the variables presented in these tables. These variables were not included in order make interpretation clearer. The full models are included in the Appendix.

These estimated models show that the Bill Analyzer program does induce energy conservation by participants, with a statistically significant average annual savings of 376 kWh / year.

In the past, there has been little to no statistically significant savings by levels within the Bill Analyzer, and therefore no longer estimated.

Conclusion

In summary, these results show that the Bill Analyzer program does induce some energy conservation by participants, with a statistically significant average annual savings of 376 kWh. This savings estimation per customer is consistent with the savings achieved in 2018. An increase in activity in the Bill Analyzer occurred near the end of 2019, therefore it is anticipated that if OTP continues to promote the online tool, the savings will remain steady or increase.

Based on the estimated results and their statistical significance, the most appropriate savings estimate for the Bill Analyzer program is the overall estimate of 376 kWh / year per participant based on the sample of 2046 participating accounts.

APPENDIX:

Estimated Overall Model

Dependent Variable: kwh

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2190	110801977790	50594510.407	288.95	<.0001
Error	94570	16558984208	175097.64416		
Corrected Total	96760	127360961998			

R-Square	Coeff Var	Root MSE	kwh Mean
0.869984	40.30817	418.4467	1038.119

Source	DF	Type I SS	Mean Square	F Value	Pr > F
guid	20751	10020459564	53021908.224	302.81	<.0001
hdd*cdd*yearmo	111	779347343	7021147.2343	40.10	<.0001
ba	1	320160.23885	320160.23885	1.83	0.1763
hec	1	688530.0962	688530.0962	3.93	0.0474
opower	1	39961.997995	39961.997995	0.23	0.6328
other	1	1122231.0997	1122231.0997	6.41	0.0114

Source	DF	Type III SS	Mean Square	F Value	Pr > F
hdd*cdd*yearmo	111	779039694.6	7018375.6	40.08	<.0001
ba	1	684129.7	684129.7	3.91	0.0481
hec	1	385631.3	385631.3	2.20	0.1378
opower	1	7992.4	7992.4	0.05	0.8308
other	1	1122231.1	1122231.1	6.41	0.0114

Parameter	Estimate	Standard Error	t Value	Pr > |t|
hdd*cdd*yearmo 200903	0.51065197	0.06552596	7.79	<.0001
hdd*cdd*yearmo 200904	0.03403623	0.00628431	5.42	<.0001
hdd*cdd*yearmo 200905	-0.01274927	0.00241695	-5.27	<.0001
hdd*cdd*yearmo 200906	-0.01652700	0.00174824	-9.45	<.0001
hdd*cdd*yearmo 200907	-0.02435343	0.00458038	-5.32	<.0001
hdd*cdd*yearmo 200908	-0.01914365	0.00395870	-4.84	<.0001
hdd*cdd*yearmo 200909	-0.01169379	0.00156481	-7.47	<.0001
hdd*cdd*yearmo 200910	0.01685809	0.00233671	7.21	<.0001
hdd*cdd*yearmo 201003	0.21509796	0.08016422	2.68	0.0073
hdd*cdd*yearmo 201004	-0.05361451	0.01518353	-3.53	0.0004
hdd*cdd*yearmo 201005	-0.00952322	0.00143280	-6.65	<.0001
hdd*cdd*yearmo 201006	-0.01964901	0.00293314	-6.70	<.0001
hdd*cdd*yearmo 201007	0.01436157	0.00762508	1.88	0.0596
hdd*cdd*yearmo 201008	0.00727736	0.00169815	4.29	<.0001
hdd*cdd*yearmo 201009	-0.01799321	0.00144424	-12.46	<.0001
hdd*cdd*yearmo 201010	-0.01720799	0.00617107	-2.79	0.0053
hdd*cdd*yearmo 201011	0.32743220	0.03197696	10.24	<.0001
hdd*cdd*yearmo 201012	-43.20861114	14.93613288	-2.89	0.0038
hdd*cdd*yearmo 201104	0.18418248	0.02058320	8.95	<.0001
hdd*cdd*yearmo 201105	-0.00787147	0.00165420	-4.76	<.0001
hdd*cdd*yearmo 201106	-0.01371551	0.00151522	-9.05	<.0001
hdd*cdd*yearmo 201107	0.02537697	0.00335614	7.56	<.0001
hdd*cdd*yearmo 201108	0.00330938	0.00261102	1.27	0.2050
hdd*cdd*yearmo 201109	-0.01861328	0.00142363	-13.07	<.0001
hdd*cdd*yearmo 201110	-0.00779752	0.00144991	-5.38	<.0001
hdd*cdd*yearmo 201111	0.13740758	0.01726624	7.96	<.0001
hdd*cdd*yearmo 201112	-0.06243951	0.22966890	-0.27	0.7857
hdd*cdd*yearmo 201201	-0.05542741	0.22943522	-0.24	0.8091
hdd*cdd*yearmo 201202	0.22777135	0.01626514	14.00	<.0001
hdd*cdd*yearmo 201203	0.02389531	0.00506223	4.72	<.0001
hdd*cdd*yearmo 201204	-0.02952125	0.00475584	-6.21	<.0001

hdd*cdd*yearmo 201205	-0.01210143	0.00104824	-11.54	<.0001
hdd*cdd*yearmo 201206	-0.00376936	0.00118187	-3.19	0.0014
hdd*cdd*yearmo 201207	0.03484982	0.00396918	8.78	<.0001
hdd*cdd*yearmo 201208	-0.00107499	0.00159673	-0.67	0.5008
hdd*cdd*yearmo 201209	-0.00811322	0.00080768	-10.05	<.0001
hdd*cdd*yearmo 201210	-0.00558002	0.00686751	-0.81	0.4165
hdd*cdd*yearmo 201211	-0.48319491	0.64345504	-0.75	0.4527
hdd*cdd*yearmo 201303	1.17246554	0.69999748	1.67	0.0939
hdd*cdd*yearmo 201304	0.04334230	0.00436083	9.94	<.0001
hdd*cdd*yearmo 201305	-0.01168615	0.00176793	-6.61	<.0001
hdd*cdd*yearmo 201306	-0.00943655	0.00125553	-7.52	<.0001
hdd*cdd*yearmo 201307	0.00519254	0.00277005	1.87	0.0609
hdd*cdd*yearmo 201308	-0.00131880	0.00168939	-0.78	0.4350
hdd*cdd*yearmo 201309	-0.00520334	0.00072870	-7.14	<.0001
hdd*cdd*yearmo 201310	0.00259569	0.00269560	0.96	0.3356
hdd*cdd*yearmo 201311	0.36101300	0.05814028	6.21	<.0001
hdd*cdd*yearmo 201403	0.37964288	0.13040746	2.91	0.0036
hdd*cdd*yearmo 201404	0.05010017	0.00988072	5.07	<.0001
hdd*cdd*yearmo 201405	-0.00298530	0.00084362	-3.54	0.0004
hdd*cdd*yearmo 201406	-0.01556273	0.00173463	-8.97	<.0001
hdd*cdd*yearmo 201407	-0.00468102	0.00282680	-1.66	0.0977
hdd*cdd*yearmo 201408	-0.00878883	0.00224088	-3.92	<.0001
hdd*cdd*yearmo 201409	-0.01935404	0.00142755	-13.56	<.0001
hdd*cdd*yearmo 201410	-0.00070745	0.00251859	-0.28	0.7788
hdd*cdd*yearmo 201411	0.16598894	0.26347095	0.63	0.5287
hdd*cdd*yearmo 201503	0.74753912	0.16600644	4.50	<.0001
hdd*cdd*yearmo 201504	-0.05941654	0.04293746	-1.38	0.1664
hdd*cdd*yearmo 201505	-0.02650948	0.00212544	-12.47	<.0001
hdd*cdd*yearmo 201506	-0.02002746	0.00175028	-11.44	<.0001
hdd*cdd*yearmo 201507	0.00310280	0.00328585	0.94	0.3450
hdd*cdd*yearmo 201508	-0.00148311	0.00141854	-1.05	0.2958
hdd*cdd*yearmo 201509	-0.00965539	0.00080401	-12.01	<.0001
hdd*cdd*yearmo 201510	-0.01181093	0.00146402	-8.07	<.0001
hdd*cdd*yearmo 201511	0.08155187	0.01987848	4.10	<.0001
hdd*cdd*yearmo 201512	-0.03397167	0.12765831	-0.27	0.7902
hdd*cdd*yearmo 201601	-0.03397167	0.12765831	-0.27	0.7902
hdd*cdd*yearmo 201602	-0.04022156	0.14587348	-0.28	0.7828
hdd*cdd*yearmo 201603	0.10019793	0.04810446	2.08	0.0373
hdd*cdd*yearmo 201604	-0.02444741	0.00543941	-4.49	<.0001
hdd*cdd*yearmo 201605	-0.01540440	0.00111754	-13.78	<.0001
hdd*cdd*yearmo 201606	-0.01790760	0.00181541	-9.86	<.0001
hdd*cdd*yearmo 201607	0.00497586	0.00396917	1.25	0.2100
hdd*cdd*yearmo 201608	-0.00303339	0.00232702	-1.30	0.1924
hdd*cdd*yearmo 201609	-0.02453184	0.00160006	-15.33	<.0001
hdd*cdd*yearmo 201610	-0.05941032	0.00741088	-8.02	<.0001
hdd*cdd*yearmo 201611	-0.10563138	0.45065214	-0.23	0.8147
hdd*cdd*yearmo 201612	-0.03881576	0.13717867	-0.28	0.7772
hdd*cdd*yearmo 201701	-0.03881576	0.13717867	-0.28	0.7772
hdd*cdd*yearmo 201702	-0.04972999	0.16814867	-0.30	0.7674
hdd*cdd*yearmo 201703	0.10827395	0.09497347	1.14	0.2543
hdd*cdd*yearmo 201704	-0.04463601	0.00899746	-4.96	<.0001
hdd*cdd*yearmo 201705	-0.00993286	0.00093525	-10.62	<.0001
hdd*cdd*yearmo 201706	-0.01199443	0.00111620	-10.75	<.0001
hdd*cdd*yearmo 201707	-0.00331930	0.00237124	-1.40	0.1616
hdd*cdd*yearmo 201708	-0.02597565	0.00303254	-8.57	<.0001
hdd*cdd*yearmo 201709	-0.01878800	0.00126559	-14.85	<.0001
hdd*cdd*yearmo 201710	0.00130822	0.00196100	0.67	0.5047
hdd*cdd*yearmo 201711	0.21706759	0.03457647	6.28	<.0001
hdd*cdd*yearmo 201712	-2.23435359	3.63706473	-0.61	0.5390
hdd*cdd*yearmo 201801	-2.23435359	3.63706473	-0.61	0.5390
hdd*cdd*yearmo 201802	-2.79928615	4.45819505	-0.63	0.5301
hdd*cdd*yearmo 201803	3.70300843	0.30607927	12.10	<.0001

hdd*cdd*yearmo 201804	0.01597981	0.00220632	7.24	<.0001
hdd*cdd*yearmo 201805	-0.00458230	0.00053495	-8.57	<.0001
hdd*cdd*yearmo 201806	-0.00252865	0.00222731	-1.14	0.2563
hdd*cdd*yearmo 201807	0.03991467	0.00472040	8.46	<.0001
hdd*cdd*yearmo 201808	-0.00392913	0.00230812	-1.70	0.0887
hdd*cdd*yearmo 201809	-0.00703926	0.00063978	-11.00	<.0001
hdd*cdd*yearmo 201810	0.00806385	0.00153846	5.24	<.0001
hdd*cdd*yearmo 201901	-0.00347026	0.00614231	-0.56	0.5721
hdd*cdd*yearmo 201902	0.00109542	0.00350267	0.31	0.7545
hdd*cdd*yearmo 201903	0.00851577	0.00350668	2.43	0.0152
hdd*cdd*yearmo 201904	0.01166331	0.00442515	2.64	0.0084
hdd*cdd*yearmo 201905	-0.00562585	0.00075761	-7.43	<.0001
hdd*cdd*yearmo 201906	-0.00677655	0.00085233	-7.95	<.0001
hdd*cdd*yearmo 201907	0.01452026	0.00311104	4.67	<.0001
hdd*cdd*yearmo 201908	-0.00654515	0.00154966	-4.22	<.0001
hdd*cdd*yearmo 201909	-0.01249818	0.00094312	-13.25	<.0001
hdd*cdd*yearmo 201910	0.00764030	0.00101424	7.53	<.0001
hdd*cdd*yearmo 201911	-0.01083970	0.02733838	-0.40	0.6917
ba	-31.32793806	15.84903175	-1.98	0.0481
hec	14.82361442	9.98868047	1.48	0.1378
opower	-1.58917962	7.43830591	-0.21	0.8308
other	26.11979148	10.31736291	2.53	0.0114

ORACLE
Utilities

Otter Tail Home Energy Reports Program: 2019 Results Report

Section 1: Program Overview

In June 2011, Otter Tail Power Company (Otter Tail) and Opower launched the Home Energy Reports pilot, a behavioral program designed to boost customer engagement and reduce residential energy consumption. Initially, 30,000 households were selected for the program, and the vast majority received a series of personalized Home Energy Reports designed to motivate and educate recipients to take actions to improve the energy efficiency of their homes.

- Annually in 2012, 2013, and 2014, additional residential customers in Otter Tail's Minnesota service territory were added to the program as a refill to offset attrition (primarily from utility account turnover) and return the program to its original size. At the onset of the program a control group was put in place, and in August 2015, the control group was discontinued, and program design was expanded to reach as many eligible customers as possible.
    - Refill groups were measured utilizing the Modeled Savings Protocol approved by the Minnesota Department of Energy Resources (MN DER, formerly Office of Energy Security) in 2010. This method is discussed in more detail in Section 2.
    - An update to the Modeled Savings Protocol was submitted for approval to the MN DER with a request to apply the revised methodology to all waves of the program in 2016. The revised methodology is described in more detail in Section 2.

- In January 2017, the program size was reduced to 28,000 households. An additional 4,000 households were added to the program in September 2019 to maintain the 28,000-household program goal and to provide a level of over selection to plan for near term attrition. During 2019 Otter Tail Power Company implemented a new billing system, and due to data issues, the number of eligible recipients increased in all waves to maximize households in the territory that received four reports in 2019.

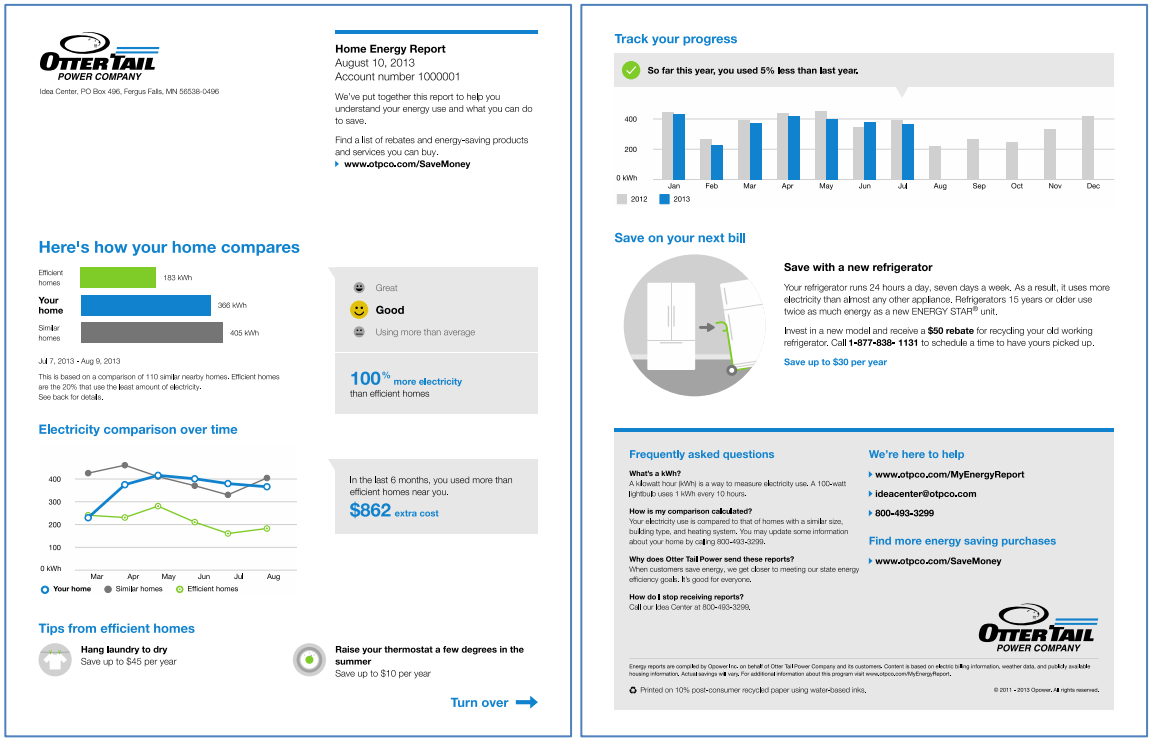
Figure 1: 2019 Report Recipients by Wave (households receiving at least 1 report in 2019)

Waves	Recipients	Recipients with 4 Reports
June 2011 Wave	**13,082**	**3,761**
October 2012 Wave	**1,801**	**472**
July 2013 Wave	**1,494**	**406**
July 2014 Wave	**1,264**	**307**
August 2015 Wave	**4,572**	**1,329**
July 2016 Wave	**1,812**	**467**
October 2018 Wave	**4,471**	**927**
September 2019 Wave	**3,896**	**0**
2019 Total	**32,392**	**7,669**

Home Energy Reports, pictured in Figure 2, contain various personalized components designed to motivate and educate customers on energy efficiency actions. Report components include:

- Comparisons of recent energy use to a group of comparable 'similar homes'; this section includes both normative and injunctive messages designed to motivate action.
- Comparison of recent energy use to historical energy use, tracking household improvement over time.
- Targeted energy efficiency advice; specific tips are selected based on the home's energy use pattern, housing characteristics, and household demographics.
- Dynamic modules to promote programs and include seasonal information.
- An informative Frequently Asked Questions section.

Figure 2: Example of Otter Tail Home Energy Report (Front & Back)



Cumulatively, 19 customers chose to opt out of the program in 2019, which corresponds to an opt-out rate of 0.05 percent for the year. The 2019 opt-out rate compares favorably to opt-out rates of between 1 and 3 percent at other Minnesota utilities and is lower than the Opower overall average. In the same timeframe, 2,682 participants closed their electric accounts with Otter Tail, effectively removing them from the program. Depending on when these events occurred, these customers may have received fewer than four reports in 2019 but are included as participants.

Figure 3: 2019 Account Closures & Opt-Outs by Wave

Month	Account Closures	Opt-Outs
June 2011 Wave	925	12
October 2012 Wave	159	1
July 2013 Wave	152	0
July 2014 Wave	150	1
August 2015 Wave	494	4
July 2016 Wave	316	1
October 2018 Wave	0	0
September 2019 Wave	486	0
2019 Total	**2,682**	**32**

Section 2: Savings Calculation Methodology

This section describes the criteria used to define the population eligible to receive Home Energy Reports, the methodology originally used to assign homes to treatment and control groups, the methodology for assigning homes to certain customer segments, and the measurement and verification techniques used to derive program savings.

Opower integrates data from a variety of sources to ensure the Home Energy Reports are personalized, accurate, and meaningful for all recipients. These data integration efforts also allow for detailed analysis of energy savings results that enable the optimization of feature design and targeting of specific energy efficiency messages. The data used for the various analyses presented herein were collected from three primary sources:

1. *Consumption data:* Otter Tail provides Opower with weekly updates of monthly consumption data for all households in the program, including historical consumption information.

2. *Parcel data:* Opower received, to the extent available from a third-party vendor, data about household parcels, including home size, age and value, heating and cooling type, as well as pool and hot tub data. These data elements are static with the exception of square footage, heating and cooling type, and pool and hot tub data, which may be updated at the customer's request.

3. *Demographic data:* Opower received, to the extent available from a third-party vendor, demographic data about participants, including household income, number of occupants, age of occupant(s), and an owner/renter indicator. These fields were used to recommend customized energy efficiency tips to customers by using relevant demographic targeting. Household size may be updated at the customer's request.

The primary measure of success for the Home Energy Reports program is the difference between the average energy consumption of homes in the treatment group and homes in the control group. Because of the statistical homogeneity of these two groups, any difference in their respective energy consumption from June 2011 (program start) to August 2015 (end of randomized controlled trial (RCT)) can be attributed to the Home Energy Reports.

The analysis of the Home Energy Reports program relies upon a fixed-effects regression model. The rationale for using a regression model to interpret the results of the 2011 wave are threefold: 1) the model eliminates variability due to other factors and allows for tighter error bars around the estimate of report impact; 2) in order to isolate the impact of the Home Energy Reports on energy use, it is appropriate to control for slight differences in the housing and demographic characteristics present in the treatment and control population; and 3) the model makes the search for population segments with better or worse than average impact much more manageable. This statistical methodology is standard procedure for the analysis of controlled experiments and is a well-accepted practice within the energy efficiency program measurement and verification community. This was the statistical methodology used to measure results for the initial wave of 30,000 households up until the expansion to territory-wide deployment in August 2015.

2.1 Modeled Savings Methodology

Without the benefit of a control group, the Modeled Savings Methodology was applied to measure the impact of the Home Energy Reports program in the 2012 through 2019 waves. This approach was approved by the MN DER in October 2010. This protocol aimed to leverage Opower expertise from ongoing programs in Minnesota with treatment and control populations, thus offering better safeguards to control for weather and other conditions specific to the state. With the Otter Tail program, savings associated with Otter Tail's 2012 through 2019 waves have been modeled using RCT-measured results from Otter Tail's own 2011 wave.

2.2 RCT Disbanded

As of August 2015, the control group associated with the 2011 pilot wave was converted to recipient status and began receiving reports as participants in the program. Measuring savings for the 2011 wave via a RCT became no longer possible. Therefore, Opower began reporting all savings for the program under the Modeled Savings Protocol. The Modeled Savings Protocol states that:

> "Larger utilities in Minnesota (greater than 15,000 customers) could also have the option of deploying the Opower platform to the entire service territory. Should this case arise, Opower proposes that this protocol also be extended to larger utilities that have a minimum of two years of experimental data from a program administered by Opower. In this case, the model should be based only on results for that particular client, not a sampling of clients across the state."

Otter Tail's Opower program had over four years of measured savings, meeting the approved threshold. Therefore, consistent with the recommendations of the Modeled Savings Protocol, Opower is able to rely on Otter Tail's own results to inform the model for calculating savings going forward.

2.3 Update to the *Modeled Savings Methodology*

In 2016, updates were made to the Modeled Savings Methodology to improve the accuracy of the reporting. These changes include:

- Establishing the relationship between the monthly savings rate and the cumulative number of print reports received per person in the wave up to that month.
- Applying the forecasted savings rate in a given month to the usage of the modeled wave.
- Adapting the algorithm to apply to rolling enrollment waves.

This methodology for measuring savings in territory-wide deployments, described in more detail below, has also been used successfully at Rochester Public Utilities in Minnesota and Fort Collins Utilities in Colorado.

Otter Tail received approval from the MN DER on October 7, 2016, to apply a revised Modeled Savings Methodology to calculate energy savings.

2.2.1 Regression Model & Modeled Savings Methodology

The regression model of program results includes regressors for heating and cooling degree days, baseline usage, home square footage, age of the home, and a treatment variable interacted with an indicator of whether the billing period is pre-treatment or post-treatment. Opower then scores the model based on the coefficients for treatment times post-deployment, baseline usage, home square footage, and age of the home.

Output is a function that describes energy savings as a function of observable household or customer characteristics. The final form of the model is determined based on the statistical significance of the candidate variables. A simplified equation using square footage and age of the customer's home, the number of occupants, the baseline usage in the pre-treatment period, and an indicator of whether the customer owns or rents their home is given below:

$$Savings = b0 + b1(sqft) + b2(age) + b3(\#\ of\ occupants) + b\ 4(baseline\ usage) + b5(owner)$$

Model output is the result of a similar equation, depending on the statistically significant variables.

The average of the 'scored' savings is the predicted per household savings for each customer in the utility. Multiplying this score by the number of customers yields the total savings over the time period in question.

Opower recognizes that because this methodology does not employ experimental design, it may be prudent to adjust the savings percentage accordingly. The resolved solution is to cap the savings calculated through this protocol at the maximum measured savings across the experimentally designed programs in Minnesota.

Section 3: Program Energy Savings

The Home Energy Reports program demonstrated a clear and significant reduction in residential energy consumption. Gross total savings for the program in 2019 amounted to 11,087 MWh. Over the course of 2019, participants saved at a rate of 2.76 percent. A month-by-month breakdown of savings by deployment wave is shown below in Figure 4.

Figure 4: 2019 Monthly Electric Savings Impact Broken Down by Deployment Wave

Month	2011 Wave Savings (MWh)	2012 Wave Savings (MWh)	2013 Wave Savings (MWh)	2014 Wave Savings (MWh)	2015 Wave Savings (MWh)	2016 Wave Savings (MWh)	2018 Wave Savings (MWh)	2019 Wave Savings (MWh)
1-2019	605	88	69	52	168	66	63	-
2-2019	686	100	78	59	194	75	99	-
3-2019	622	91	72	55	175	68	97	-
4-2019	462	67	53	41	129	49	71	-
5-2019	397	58	45	34	110	42	59	-
6-2019	372	54	43	32	105	39	53	-
7-2019	442	63	51	37	125	46	62	-
8-2019	379	54	43	32	108	40	53	-
9-2019	305	44	33	26	91	32	45	-
10-2019	437	62	50	37	121	45	70	4
11-2019	527	76	60	45	146	56	194	31
12-2019	612	89	69	52	172	66	115	47
Total	**5,846**	**846**	**665**	**501**	**1,644**	**622**	**881**	**82**

Opower Home Energy Report programs increase customer participation in other utility energy efficiency programs. The evidence for this comes from Opower's RCTs. Treatment customers who receive reports participate in utility energy efficiency programs at higher rates than do control customers. The most recent Opower meta-analyses of the impact on program participation show a 15 percent lift across all utility energy efficiency programs. The increase in participation impacts savings for the reports program in the form of jointly attributable savings. Opower will remove these jointly attributable savings, to avoid the risk of 'double-counting'.

With a control group no longer available for program participation measurement, Opower has applied a value measured by Xcel Energy in its Minnesota program evaluation, entitled *Verification of Savings from Xcel Energy Minnesota's Print Energy Feedback Pilot Project* from March 2014, performed by the Center for Energy and Environment. The value is an average of the jointly attributable percentage savings from 2010-2012, which equates to 1.4 percent of program annual savings. Gross savings in 2019 will be reduced by 155.21 MWh to account for these jointly attributable savings. Net annual savings for the program in 2019 is therefore adjusted to 10,932 MWh, which is equal to an average of 337.49 kilowatt-hours in energy savings per participant household.

Section 4: Program Design

Figure 5 displays the frequency with which Home Energy Reports were sent to program participants in 2019. During the 2019 program, Otter Tail power Company implemented a new billing system. Due to data issues, spring and summer reports were distributed later than planned and altered the number of reports all households received. Participants received, on average, three reports per year on a bi-monthly cadence.

Figure 5: Updated Program Design for 2019 due to data issues

WATER HEATER PILOT PROGRAM REPORT 2020 v1.0

OTTER TAIL POWER COMPANY

PROJECT #7110

MARCH 2020

PROPRIETARY AND CONFIDENTIAL

OPEN ACCESS TECHNOLOGY INTERNATIONAL, INC.
3660 Technology Drive NE | Minneapolis, MN 55418 | Phone 763.201.2000 | Fax 763.201.5333 | www.oati.com

TRADE SECRET

This document and attachments contain confidential and proprietary information of Open Access Technology International, Inc. This information is not to be used, disseminated, distributed, or otherwise transferred without the expressed written permission of Open Access Technology International, Inc.

PROPRIETARY NOTICE

Table of Contents

1. Project Overview

OATI worked with Otter Tail Power Company (OTPSG) on a Pilot Program to test out different thermal storage technologies and to control a fleet of devices strategically to reduce energy costs and derive value by providing services to the grid. The Pilot Program was used to demonstrate new technology and new control strategies which may improve financial performance, increase energy conservation, improve customer comfort, and increase customer participation over OTPSG's existing residential demand response water heater program.

During the Pilot Program, multiple technology vendors and differing control strategies have been considered with two technologies selected for deployment into OTPSG customer homes for evaluation.

This report is intended to provide a high level understanding of the pilot.

1.1 Project Goals and Challenges

The goals of the Pilot Program were: 1) to enable control program for water heaters which would allow OTPSG to perform traditional control of a water heater load via deferment (e.g., turning off the water heater), 2) to allow for optimizing the load to OTPSG's system when market prices are low, and 3) to investigate the timing and magnitude for energy savings and energy consumption. OTPSG was also interested in having the control capability responsive enough to use in the Mid-Continent Independent System Operator (MISO) Ancillary Services Market (through the Demand Response Resource [DRR] participation model). Ultimately, OTPSG was targeting control response time at four seconds to meet MISO's current requirements for regulation.

The Pilot Program has identified several challenges with implementing these control strategies. First, the new technology must provide some measure of internal water temperature or energy storage for calculation and control purposes. These measures, temperature and stored energy, must be observed and monitored to meet customer comfort levels and the unit's availability to be controlled (e.g., turned on or off to optimize its power consumption). The second challenge is providing the monitored information and controls within the timeframes required (from five minutes down to four seconds) to meet the MISO operational requirements to participate in the MISO Ancillary Services Market. The third challenge is developing algorithms for optimizing control strategies to meet both customer and energy market constraints. A fourth challenge is

providing technology solutions that can work with existing water heaters and also work with the newer smart water heaters that are available for consumers to purchase. The fifth major challenge is verifying that the technologies can scale up to OTPSG's needs and be cost effective for both the consumer and OTPSG.

1.2 Project Scope

OATI and OTPSG developed a project scope to meet the project goals in a timely and cost-effective manner.

The first step was to select a small subset of OATI's existing field-proven webDistribute Demand Response software for creating OTPSG operational strategies, and to limit the pilot to two customer use cases: retro fitting an existing water heater, and the purchase of a new replacement water heater.

The next step was to survey existing technology solutions and narrow down the equipment selections to no more than one selection for each customer use case. Once technology was selected, Pilot Program customers for each technology were chosen and a broad outline for technology deployment and testing was developed.

During the deployment phase, the control strategies were implemented, tuned to test different operational assumptions, and to gather real-world results. Once technology and basic control strategies were deployed and tested, the planning stages for the second set of technology strategies were being developed. This allowed the teams to learn from the first deployment and apply these lessons to the second technology deployment.

Finally, during the Final Reporting phase steps for decommissioning the field technology were done to remove the retrofit and replacement solutions at the participant sites and re-connect the water heaters to the legacy load control solution in place prior to the pilot.

1.3 Equipment Survey and Selection

Based upon market research and prior experience, OATI and OTPSG developed a list of potential vendors for the equipment survey. Depending on the equipment vendor's technology, there were two general methods for integration and implementation. Figure 1 depicts the two general methods: OATI Distributed Energy Resource Management System (DERMS) Headend to Vendor Headend and OATI Headend to Vendor Device.

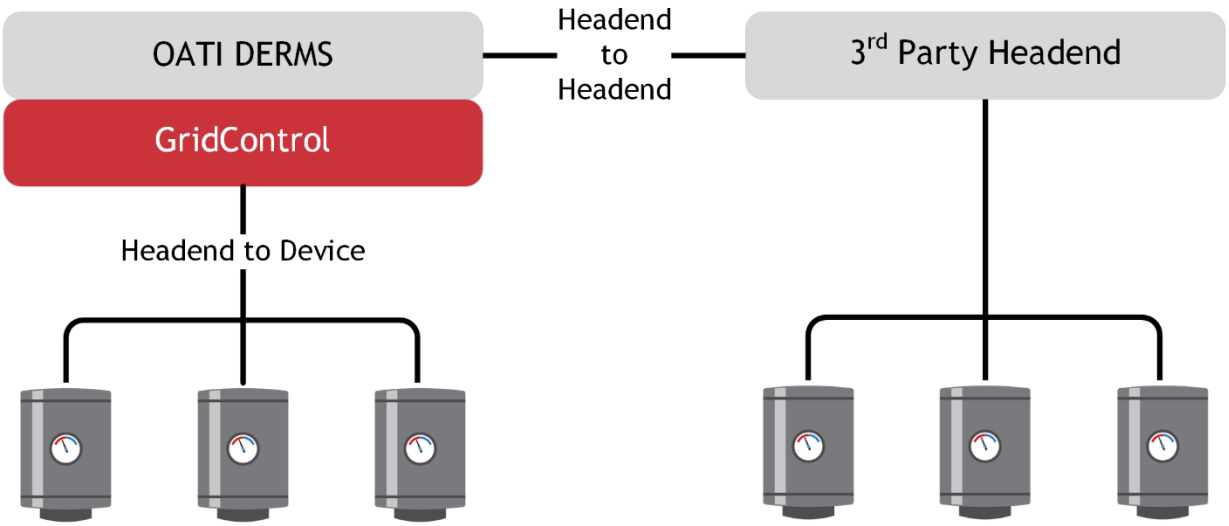


Figure 1: Potential Integration Methods

OATI surveyed each of the equipment vendors to gather specific details on the technical capabilities for each proposed solution. Note that each vendor may have more than one possible technical solution. Key criteria for the selections included: 1) the ability to collect the temperature or stored energy; 2) the ability to control the devices and to receive confirmation of the control; 3) the timeliness of the data and controls (e.g., MISO DRR participation requires ten minute telemetry for provision of Spin and Supplemental reserves, and four second controls for provision of the more desirable and lucrative regulation service); and 4) the vendor's ability to support an industry standard protocol for communications. During the survey and selection process, additional information was collected about the vendor's market presence and the costs associated with the technology solutions.

The selected technologies for both use cases, Retrofit and Replacement, were intended to meet all four key criteria. Beyond the key criteria, each of the selected technologies had additional features that proved to be beneficial as the pilot proceeded into real-world testing and analysis.

2. Project Timeline

The project timeline is shown below in Figure 2. During 2018, the project completed the Analysis phase, made significant progress on the Retrofit use case, and started initial integration testing on the Replacement use case. Field testing, and fine tuning was the main focus in 2019, and in 2020 the final field tests were run while the final report was drafted for the project.

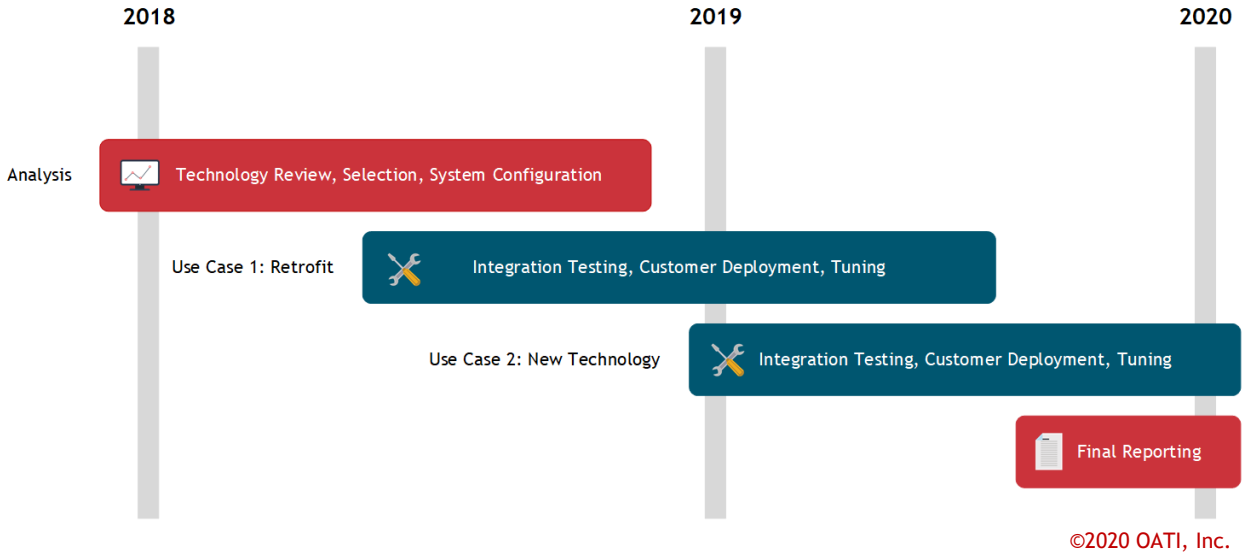


Figure 2: OATI – OTPSG Pilot Project Timeline

2.1 What Has Been Accomplished to Date

Major activities completed to date:

- Market survey and technology selection for both use cases (Retrofit and Replacement).
- 15 Customers selected to participate in each use case.
- OATI webDistribute software configured for deployment.
- Retrofit Use Case:
  - Complete hardware/software deployed and tested at the OATI Smart House.
  - Complete hardware/software deployed at OTPSG's local office site.
  - Complete hardware/software deployed at 15 Customer sites.
  - 50 test runs using the Retrofit technology with differing control strategies.
- Replacement Use Case:
  - Complete hardware/software deployed and tested at the OATI Smart House.

  - Complete hardware/software deployed at OTPSG's local office site (including new water heater).
  - Complete hardware/software deployed at 15 Customer sites (including new water heaters).
  - 25 test runs using the Replacement technology with differing control strategies.
- Combined Retrofit and Replacement testing:
  - 21 test runs using a single system level solution with differing control strategies.

Remaining project activities for 2020 include:

- Decommissioning the pilot field hardware and software.
- Complete Final Report.

3. Optimize Water Heating Control to Respond to Market Economics

The OATI Pilot Program focused on providing a potential solution that meets the requirements of MISO for DRR Type 1 or Type 2 resources. Within each of these resource categories are further breakdowns for specific wholesale product requirements that must be met.

Depending on the hourly market prices for these wholesale products, the economic value for controlling the water heaters can vary substantially over a day, week, month, and season. By optimizing the control of the water heaters, OTPSG can purchase lower priced energy from the wholesale markets which in turn lowers the costs to the end customer.

A key component of the pilot was to use the water heaters to optimize energy consumption at specific times. During a weekday morning, OTPSG may need to shave the peak load to reduce its wholesale costs. This means creating a control strategy so that the total energy consumption (and/or energy cost) of all of the water heaters is reduced while also maintaining a minimum water temperature across all water heaters.

Similarly, during other times of the day, energy prices may go lower and the control strategy can be configured to consume more energy (valley filling) while the energy prices are lower. The control strategy can accept new energy consumption targets on an hourly, sub-hourly, minute, or sub-minute basis. Significant economic value can be created depending on the frequency of control, the time of day, the amount of energy requested, and the market pricing.

3.1 Analysis of Energy and Economic Savings

During 2019, the project team collected large amounts of operational data by running many tests for the Replacement water heater use case. Additional testing was done by combining both the Retrofit and Replacement units into events for gathering operational data.

A high-level financial analysis was computed and discussed in the Final Report.

Appendix C- Project Information Sheets

CERTIFICATE OF SERVICE

RE: In the Matter of Otter Tail Power Company's 2019 Demand Side Management Financial Incentive Project, Annual Filing to Update the Conservation Improvement Project Rider, and 2019 CIP Status Report
Docket Nos. E017/M-20-___, E017/CIP-16-116.03

I, Kim Ward, hereby certify that I have this day served a copy of the following, or a summary thereof, on Will Seuffert and Sharon Ferguson by e-filing, and to all other persons on the attached service list by electronic service or by First Class mail.

Otter Tail Power Company
Initial Filing

Dated this **1st** day of **May**, **2020**

/s/ KIM WARD
Kim Ward
Regulatory Filing Coordinator
Otter Tail Power Company
215 South Cascade Street
Fergus Falls MN 56537
(218) 739-8268

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	Residential Air Conditioning Control					
Status:	Existing					
Year:	**2017 Proposed**	**2017 Actual**	**2018 Proposed**	**2018 Actual**	**2019 Proposed**	**2019 Actual**
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$41,250.00	$28,166.60	$41,250.00	$28,035.04	$41,250.00	$15,349.81
Administration	$17,060.00	$9,352.54	$17,625.00	$7,438.57	$18,190.00	$3,204.42
Evaluation, Measurement & Verification	$3,000.00	$219.62	$3,000.00	$676.33	$3,000.00	$735.20
Advertising & Promotion	$20,000.00	$18,813.05	$20,000.00	$9,748.54	$20,000.00	$12,162.56
Incentives	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Other	$3,690.00	$0.00	$4,125.00	$0.00	$4,560.00	$0.00
Total Utility Costs	$85,000.00	$56,551.81	$86,000.00	$45,898.48	$87,000.00	$31,451.99
Total Participants	4,244	2,627	4,389	2,729	4,534	2,791
% of Spending by Customer Segments						
Residential	100%	100%	100%	100%	100%	100%
Commercial	0%	0%	0%	0%	0%	0%
Industrial	0%	0%	0%	0%	0%	0%
Farm	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%
Total % of Spending	100%	100%	100%	100%	100%	100%
Low-Income Participation*						
Participants % (% of Total Participants)	31%	31%	31%	31%	31%	31%
Budget % (% of Total Utility Costs)	31%	31%	31%	31%	31%	31%
Renter Participation*						
Participants % (% of Total Participants)	21%	21%	21%	21%	21%	21%
Budget % (% of Total Utility Costs)	21%	21%	21%	21%	21%	21%
Energy Savings						
Annual kWh Savings at Meter	126,447	75,684	126,447	78,622	130,625	80,409
Annual kWh Savings at Generator	136,907	81,944	136,907	85,126	141,430	87,060
Cost per Annual kWh Saved at Generator	$0.6209	$0.6901	$0.6282	$0.5392	$0.6151	$0.3613
Peak kW Savings at Meter	2,915.628	1,804.749	3,015.243	1,874.823	3,114.858	1,917.417
Peak kW Savings at Generator	3,156.808	1,954.037	3,264.663	2,029.908	3,372.518	2,076.025
Cost per Peak kW Saved at Generator	$26.93	$28.94	$26.34	$22.61	$25.80	$15.15
Utility Ratio	4.00	3.72	3.89	4.53	4.22	7.19
Utility NPV	$254,622	$153,671	$248,696	$162,209	$280,305	$194,650
Ratepayer Ratio	3.50	3.22	3.41	3.74	3.67	5.40
Ratepayer NPV	$242,591	$144,966	$236,413	$152,428	$267,109	$184,247
Participant Ratio	inf.	inf.	inf.	inf.	inf.	inf.
Participant NPV	$12,587	$9,107	$12,850	$10,233	$13,806	$10,884
Societal Ratio	4.02	3.74	3.91	4.56	4.24	7.22
Societal NPV	$256,485	$154,825	$250,553	$163,364	$281,807	$195,575

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	Appliance Recycling					
Status:	Existing					
Year:	2017 Proposed	2017 Actual	2018 Proposed	2018 Actual	2019 Proposed	2019 Actual
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$33,500.00	$47,825.95	$33,500.00	$49,347.06	$33,500.00	$59,105.41
Administration	$4,000.00	$10,790.51	$4,000.00	$11,996.13	$4,000.00	$6,788.35
Evaluation, Measurement & Verification	$2,000.00	$188.74	$2,000.00	$733.51	$2,000.00	$901.37
Advertising & Promotion	$14,000.00	$14,085.73	$14,000.00	$26,338.53	$14,000.00	$26,739.68
Incentives	$11,500.00	$19,400.00	$11,500.00	$19,800.00	$11,500.00	$22,350.00
Other	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total Utility Costs	$65,000.00	$92,290.93	$65,000.00	$108,215.23	$65,000.00	$115,884.81
Total Participants	230	388	230	396	230	447
% of Spending by Customer Segments						
Residential	100%	100%	100%	100%	100%	100%
Commercial	0%	0%	0%	0%	0%	0%
Industrial	0%	0%	0%	0%	0%	0%
Farm	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%
Total % of Spending	100%	100%	100%	100%	200%	100%
Low-Income Participation*						
Participants % (% of Total Participants)	31%	31%	31%	31%	31%	31%
Budget % (% of Total Utility Costs)	31%	31%	31%	31%	31%	31%
Renter Participation*						
Participants % (% of Total Participants)	21%	21%	21%	21%	21%	21%
Budget % (% of Total Utility Costs)	21%	21%	21%	21%	21%	21%
Energy Savings						
Annual kWh Savings at Meter	224,685	373,197	224,685	381,612	224,685	429,153
Annual kWh Savings at Generator	243,271	404,068	243,271	413,179	243,271	464,652
Cost per Annual kWh Saved at Generator	$0.2672	$0.2284	$0.2672	$0.2619	$0.2672	$0.2494
Peak kW Savings at Meter	36.570	53.364	36.570	54.464	36.570	61.478
Peak kW Savings at Generator	39.595	57.778	39.595	58.969	39.595	66.564
Cost per Peak kW Saved at Generator	$1,641.62	$1,597.34	$1,641.62	$1,835.12	$1,641.62	$1,740.96
Utility Ratio	1.33	1.62	1.42	1.51	1.56	1.68
Utility NPV	$21,292	$57,119	$27,169	$54,801	$36,105	$78,529
Ratepayer Ratio	0.41	0.42	0.44	0.40	0.41	0.41
Ratepayer NPV	($126,088)	($209,329)	($118,897)	($241,023)	($147,981)	($285,046)
Participant Ratio	inf.	inf.	inf.	inf.	inf.	inf.
Participant NPV	$199,707	$348,740	$197,955	$385,328	$240,293	$474,222
Societal Ratio	2.35	2.88	2.45	2.53	2.53	2.79
Societal NPV	$72,209	$136,950	$77,354	$134,848	$82,079	$166,993

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	Energy Star Lighting					
Status:	Existing					
Year:	2017 Proposed	2017 Actual	2018 Proposed	2018 Actual	2019 Proposed	2019 Actual
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$95,000.00	$67,100.07	$103,000.00	$74,820.48	$108,000.00	$77,583.73
Administration	$8,000.00	$25,507.33	$7,000.00	$26,448.48	$9,000.00	$14,502.48
Evaluation, Measurement & Verification	$2,000.00	$568.82	$2,000.00	$837.16	$2,000.00	$2,614.46
Advertising & Promotion	$10,000.00	$4,528.77	$10,000.00	$78,494.97	$10,000.00	$75,815.71
Incentives	$285,000.00	$238,578.21	$273,000.00	$484,835.20	$231,000.00	$402,113.11
Other	$0.00	$0.00	$0.00	$45.10	$0.00	$2,195.81
Total Utility Costs	$400,000.00	$336,283.20	$395,000.00	$665,481.39	$360,000.00	$574,825.30
Total Participants	100,000	129,587	105,000	176,552	110,000	197,752
% of Spending by Customer Segments						
Residential	100%	100%	100%	100%	100%	100%
Commercial	0%	0%	0%	0%	0%	0%
Industrial	0%	0%	0%	0%	0%	0%
Farm	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%
Total % of Spending	100%	100%	100%	100%	100%	100%
Low-Income Participation*						
Participants % (% of Total Participants)	31%	31%	31%	31%	31%	31%
Budget % (% of Total Utility Costs)	31%	31%	31%	31%	31%	31%
Renter Participation*						
Participants % (% of Total Participants)	21%	21%	21%	21%	21%	21%
Budget % (% of Total Utility Costs)	21%	21%	21%	21%	21%	21%
Energy Savings						
Annual kWh Savings at Meter	3,493,933	4,386,741	3,493,933	6,001,199	3,660,310	6,573,077
Annual kWh Savings at Generator	3,782,950	4,749,611	3,782,950	6,497,617	3,963,091	7,116,801
Cost per Annual kWh Saved at Generator	$0.1057	$0.0708	$0.1044	$0.1024	$0.0908	$0.0808
Peak kW Savings at Meter	403.104	512.142	423.259	678.281	443.414	733.906
Peak kW Savings at Generator	436.449	554.506	458.271	734.388	480.094	794.615
Cost per Peak kW Saved at Generator	$916.49	$606.46	$861.94	$906.17	$749.85	$723.40
Utility Ratio	4.93	8.12	5.84	5.77	6.99	7.56
Utility NPV	$1,570,109	$2,394,722	$1,911,802	$3,173,714	$2,157,093	$3,773,111
Ratepayer Ratio	0.53	0.53	0.52	0.49	0.47	0.45
Ratepayer NPV	($1,736,127)	($2,470,129)	($2,157,880)	($3,963,349)	($2,886,819)	($5,405,748)
Participant Ratio	10.65	11.19	14.56	11.79	17.39	13.49
Participant NPV	$4,824,720	$6,572,104	$5,695,007	$9,789,445	$7,213,425	$12,820,308
Societal Ratio	5.50	5.88	6.75	5.58	6.93	5.65
Societal NPV	$2,767,543	$3,651,063	$3,115,910	$4,997,118	$3,372,404	$5,598,515

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	Electroncially Commutated Motors					
Status:	Existing					
Year:	2017 Proposed	2017 Actual	2018 Proposed	2018 Actual	2019 Proposed	2019 Actual
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$10,000.00	$6,921.97	$10,000.00	$6,779.87	$10,000.00	$6,548.82
Administration	$5,000.00	$6,515.64	$5,000.00	$4,555.44	$5,000.00	$1,095.01
Evaluation, Measurement & Verification	$1,000.00	$188.74	$1,000.00	$601.29	$1,000.00	$2,024.62
Advertising & Promotion	$2,000.00	$2,462.30	$2,000.00	$2,002.76	$2,000.00	$113.83
Incentives	$12,000.00	$22,700.00	$12,000.00	$36,300.00	$12,000.00	$28,300.00
Other	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total Utility Costs	$30,000.00	$38,788.65	$30,000.00	$50,239.36	$30,000.00	$38,082.28
Total Participants	120	227	120	363	120	283
% of Spending by Customer Segments						
Residential	100%	100%	100%	100%	100%	100%
Commercial	0%	0%	0%	0%	0%	0%
Industrial	0%	0%	0%	0%	0%	0%
Farm	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%
Total % of Spending	100%	100%	100%	100%	100%	100%
Low-Income Participation*						
Participants % (% of Total Participants)	31%	31%	31%	31%	31%	31%
Budget % (% of Total Utility Costs)	31%	31%	31%	31%	31%	31%
Renter Participation*						
Participants % (% of Total Participants)	21%	21%	21%	21%	21%	21%
Budget % (% of Total Utility Costs)	21%	21%	21%	21%	21%	21%
Energy Savings						
Annual kWh Savings at Meter	84,000	164,268	84,000	262,420	84,000	204,444
Annual kWh Savings at Generator	90,948	177,856	90,948	284,127	90,948	221,356
Cost per Annual kWh Saved at Generator	$0.3299	$0.2181	$0.3299	$0.1768	$0.3299	$0.1720
Peak kW Savings at Meter	25.596	44.434	25.596	77.428	25.596	60.364
Peak kW Savings at Generator	27.713	48.109	27.713	83.833	27.713	65.357
Cost per Peak kW Saved at Generator	$1,082.51	$806.26	$1,082.51	$599.28	$1,082.51	$582.68
Utility Ratio	2.98	4.59	3.11	6.19	3.24	6.61
Utility NPV	$59,523	$139,291	$63,433	$260,656	$67,168	$213,525
Ratepayer Ratio	0.71	0.70	0.74	0.74	0.66	0.63
Ratepayer NPV	($36,972)	($75,101)	($32,031)	($110,519)	($50,754)	($146,858)
Participant Ratio	5.90	6.39	5.83	6.88	7.49	8.84
Participant NPV	$146,873	$305,630	$144,984	$533,259	$194,554	$554,671
Societal Ratio	3.47	4.21	3.58	5.04	3.68	5.25
Societal NPV	$118,678	$234,083	$123,738	$422,964	$128,621	$342,384

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	Energy Feedback					
Status:	Existing					
Year:	2017 Proposed	2017 Actual	2018 Proposed	2018 Actual	2019 Proposed	2019 Actual
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$265,100.00	$297,759.14	$265,100.00	$292,122.78	$265,100.00	$328,021.21
Administration	$7,000.00	$2,219.79	$7,000.00	$436.20	$7,000.00	$3,034.40
Evaluation, Measurement & Verification	$18,000.00	$1,972.29	$18,000.00	$4,000.96	$18,000.00	$4,037.20
Advertising & Promotion	$12,000.00	$2,483.18	$12,000.00	$2,243.99	$12,000.00	$43,532.45
Incentives	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Other	$0.00	$0.00	$0.00	$0.00	$0.00	$400.00
Total Utility Costs	$302,100.00	$304,434.40	$302,100.00	$298,803.93	$302,100.00	$379,025.26
Total Participants	30,500	29,715	30,500	31,186	30,500	34,438
% of Spending by Customer Segments						
Residential	100%	100%	100%	100%	100%	100%
Commercial	0%	0%	0%	0%	0%	0%
Industrial	0%	0%	0%	0%	0%	0%
Farm	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%
Total % of Spending	100%	100%	100%	100%	100%	100%
Low-Income Participation*						
Participants % (% of Total Participants)	31%	31%	31%	31%	31%	31%
Budget % (% of Total Utility Costs)	31%	31%	31%	31%	31%	31%
Renter Participation*						
Participants % (% of Total Participants)	21%	21%	21%	21%	21%	21%
Budget % (% of Total Utility Costs)	21%	21%	21%	21%	21%	21%
Energy Savings						
Annual kWh Savings at Meter	3,086,680	4,187,050	3,086,680	3,639,865	3,086,680	3,900,424
Annual kWh Savings at Generator	3,342,010	4,533,402	3,342,010	3,940,954	3,342,010	4,223,066
Cost per Annual kWh Saved at Generator	$0.0904	$0.0672	$0.0904	$0.0758	$0.0904	$0.0898
Peak kW Savings at Meter	2,949.633	3,895.683	2,781.633	3,573.805	2,781.633	3,862.525
Peak kW Savings at Generator	3,193.626	4,217.933	3,011.729	3,869.430	3,011.729	4,182.032
Cost per Peak kW Saved at Generator	$94.59	$72.18	$100.31	$77.22	$100.31	$90.63
Utility Ratio	2.19	2.84	2.26	2.82	2.47	2.61
Utility NPV	$360,208	$559,722	$379,157	$543,151	$444,523	$611,366
Ratepayer Ratio	0.52	0.53	0.56	0.55	0.60	0.56
Ratepayer NPV	($616,447)	($764,502)	($535,617)	($701,952)	($506,842)	($776,237)
Participant Ratio	inf.	inf.	inf.	inf.	inf.	inf.
Participant NPV	$1,021,777	$1,385,404	$957,036	$1,302,627	$995,318	$1,451,711
Societal Ratio	2.68	3.47	2.71	3.35	2.82	2.97
Societal NPV	$508,970	$751,177	$515,114	$703,474	$550,976	$745,884

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	Residential Heat Pumps					
Status:	Existing					
Year:	2017 Proposed	2017 Actual	2018 Proposed	2018 Actual	2019 Proposed	2019 Actual
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$82,000.00	$48,626.65	$82,000.00	$93,157.52	$82,000.00	$89,118.51
Administration	$20,000.00	$5,255.01	$20,000.00	$8,978.33	$20,000.00	$5,713.62
Evaluation, Measurement & Verification	$4,000.00	$312.22	$4,000.00	$969.15	$4,000.00	$1,211.66
Advertising & Promotion	$16,000.00	$7,050.71	$16,000.00	$48,086.19	$16,000.00	$25,072.56
Incentives	$153,000.00	$216,132.00	$153,000.00	$188,557.00	$153,000.00	$241,450.00
Other	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total Utility Costs	$275,000.00	$277,376.59	$275,000.00	$339,748.19	$275,000.00	$362,566.34
Total Participants	102	150	102	160	102	183
% of Spending by Customer Segments						
Residential	100%	100%	100%	100%	100%	100%
Commercial	0%	0%	0%	0%	0%	0%
Industrial	0%	0%	0%	0%	0%	0%
Farm	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%
Total % of Spending	100%	100%	100%	100%	100%	100%
Low-Income Participation*						
Participants % (% of Total Participants)	31%	31%	31%	31%	31%	31%
Budget % (% of Total Utility Costs)	31%	31%	31%	31%	31%	31%
Renter Participation*						
Participants % (% of Total Participants)	21%	21%	21%	21%	21%	21%
Budget % (% of Total Utility Costs)	21%	21%	21%	21%	21%	21%
Energy Savings						
Annual kWh Savings at Meter	1,523,167	2,227,982	1,742,076	1,776,615	1,742,076	2,270,682
Annual kWh Savings at Generator	1,649,163	2,412,280	1,886,180	1,923,576	1,886,180	2,458,512
Cost per Annual kWh Saved at Generator	$0.1668	$0.1150	$0.1458	$0.1766	$0.1458	$0.1475
Peak kW Savings at Meter	153.714	171.943	153.714	170.639	153.714	216.580
Peak kW Savings at Generator	166.429	186.166	166.429	184.754	166.429	234.495
Cost per Peak kW Saved at Generator	$1,652.35	$1,489.95	$1,652.35	$1,838.92	$1,652.35	$1,546.16
Utility Ratio	3.76	5.40	3.92	3.60	4.08	4.77
Utility NPV	$757,982	$1,220,748	$802,454	$882,310	$845,680	$1,366,640
Ratepayer Ratio	0.47	0.51	0.50	0.46	0.44	0.44
Ratepayer NPV	($1,159,234)	($1,431,390)	($1,094,499)	($1,413,727)	($1,454,427)	($2,215,389)
Participant Ratio	5.31	4.74	5.25	4.26	6.59	5.53
Participant NPV	$2,667,508	$3,360,582	$2,632,103	$2,821,508	$3,458,116	$4,835,123
Societal Ratio	2.61	2.68	2.69	2.05	2.76	2.43
Societal NPV	$1,194,615	$1,614,343	$1,250,058	$1,070,268	$1,305,600	$1,704,724

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	Home Insulation					
Status:	Existing					
Year:	2017 Proposed	2017 Actual	2018 Proposed	2018 Actual	2019 Proposed	2019 Actual
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$11,000.00	$4,126.29	$11,000.00	$1,911.41	$11,000.00	$822.66
Administration	$3,000.00	$4,639.91	$3,000.00	$4,516.09	$3,000.00	$2,228.68
Evaluation, Measurement & Verification	$1,500.00	$125.08	$1,500.00	$664.44	$1,500.00	$631.46
Advertising & Promotion	$10,000.00	$9,440.49	$10,000.00	$15,406.33	$10,000.00	$6,074.17
Incentives	$19,500.00	$6,684.71	$19,500.00	$6,539.20	$19,500.00	$10,942.24
Other	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total Utility Costs	$45,000.00	$25,016.48	$45,000.00	$29,037.47	$45,000.00	$20,699.21
Total Participants	40	20	40	19	40	32
% of Spending by Customer Segments						
Residential	100%	100%	100%	100%	100%	100%
Commercial	0%	0%	0%	0%	0%	0%
Industrial	0%	0%	0%	0%	0%	0%
Farm	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%
Total % of Spending	100%	100%	100%	100%	100%	100%
Low-Income Participation*						
Participants % (% of Total Participants)	31%	31%	31%	31%	31%	31%
Budget % (% of Total Utility Costs)	31%	31%	31%	31%	31%	31%
Renter Participation*						
Participants % (% of Total Participants)	21%	21%	21%	21%	21%	21%
Budget % (% of Total Utility Costs)	21%	21%	21%	21%	21%	21%
Energy Savings						
Annual kWh Savings at Meter	153,832	100,936	153,832	73,244	153,832	185,983
Annual kWh Savings at Generator	166,556	109,285	166,556	79,303	166,556	201,368
Cost per Annual kWh Saved at Generator	$0.2702	$0.2289	$0.2702	$0.3662	$0.2702	$0.1028
Peak kW Savings at Meter	8.140	3.193	8.140	1.983	8.140	5.239
Peak kW Savings at Generator	8.813	3.457	8.813	2.147	8.813	5.673
Cost per Peak kW Saved at Generator	$5,105.90	$7,237.25	$5,105.90	$13,525.10	$5,105.90	$3,648.88
Utility Ratio	1.94	2.33	2.02	1.49	2.09	5.52
Utility NPV	$42,132	$33,362	$45,731	$14,134	$49,258	$93,528
Ratepayer Ratio	0.39	0.37	0.41	0.33	0.36	0.33
Ratepayer NPV	($134,582)	($98,373)	($129,094)	($89,465)	($166,696)	($234,314)
Participant Ratio	4.29	5.82	4.24	4.74	5.45	9.39
Participant NPV	$246,437	$178,404	$242,978	$134,575	$333,756	$495,145
Societal Ratio	1.73	1.96	1.78	1.36	1.83	3.03
Societal NPV	$73,615	$53,028	$78,561	$20,999	$83,600	$139,525

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	Home Transformer					
Status:	Existing					
Year:	2017 Proposed	2017 Actual	2018 Proposed	2018 Actual	2019 Proposed	2019 Actual
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$64,200.00	$4,539.57	$64,200.00	$4,476.94	$64,200.00	$5,698.09
Administration	$5,000.00	$10,028.58	$5,000.00	$10,632.82	$5,000.00	$3,712.81
Evaluation, Measurement & Verification	$2,000.00	$127.30	$2,000.00	$235.87	$2,000.00	$581.80
Advertising & Promotion	$5,000.00	$2,427.21	$5,000.00	$1,756.66	$5,000.00	$956.42
Incentives	$10,800.00	$36,819.42	$10,800.00	$30,077.22	$10,800.00	$27,704.65
Other	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total Utility Costs	$87,000.00	$53,942.08	$87,000.00	$47,179.51	$87,000.00	$38,653.77
Total Participants	100	88	100	67	100	52
% of Spending by Customer Segments						
Residential	100%	100%	100%	100%	100%	100%
Commercial	0%	0%	0%	0%	0%	0%
Industrial	0%	0%	0%	0%	0%	0%
Farm	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%
Total % of Spending	100%	100%	100%	100%	100%	100%
Low-Income Participation*						
Participants % (% of Total Participants)	31%	31%	31%	31%	31%	31%
Budget % (% of Total Utility Costs)	31%	31%	31%	31%	31%	31%
Renter Participation*						
Participants % (% of Total Participants)	21%	21%	21%	21%	21%	21%
Budget % (% of Total Utility Costs)	21%	21%	21%	21%	21%	21%
Energy Savings						
Annual kWh Savings at Meter	502,405	409,502	502,405	315,839	502,405	257,766
Annual kWh Savings at Generator	543,964	443,376	543,964	341,965	543,964	279,089
Cost per Annual kWh Saved at Generator	$0.1599	$0.1217	$0.1599	$0.1380	$0.1599	$0.1385
Peak kW Savings at Meter	92.991	75.278	92.991	58.066	92.991	47.873
Peak kW Savings at Generator	100.683	81.505	100.683	62.869	100.683	51.833
Cost per Peak kW Saved at Generator	$864.10	$661.83	$864.10	$750.44	$864.10	$745.73
Utility Ratio	4.39	8.71	4.59	7.84	4.78	8.14
Utility NPV	$295,178	$415,626	$312,252	$322,895	$328,640	$275,917
Ratepayer Ratio	0.63	0.88	0.67	0.82	0.59	0.71
Ratepayer NPV	($223,210)	($64,783)	($200,721)	($79,847)	($293,301)	($127,478)
Participant Ratio	96.64	inf.	95.57	inf.	121.59	inf.
Participant NPV	$851,186	$734,814	$841,660	$615,448	$1,073,218	$672,213
Societal Ratio	8.27	13.49	8.52	12.10	8.76	44.04
Societal NPV	$618,357	$673,646	$639,541	$523,577	$660,045	$471,222

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	School Kits					
Status:	Existing					
Year:	2017 Proposed	2017 Actual	2018 Proposed	2018 Actual	2019 Proposed	2019 Actual
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$46,000.00	$22,843.78	$46,000.00	$23,753.94	$46,000.00	$23,385.50
Administration	$10,000.00	$11,157.34	$10,000.00	$12,465.37	$10,000.00	$4,532.93
Evaluation, Measurement & Verification	$2,000.00	$377.47	$2,000.00	$620.14	$2,000.00	$971.06
Advertising & Promotion	$4,000.00	$0.00	$4,000.00	$0.00	$4,000.00	$0.00
Incentives	$68,000.00	$70,911.23	$68,000.00	$70,770.44	$68,000.00	$69,784.91
Other	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total Utility Costs	$130,000.00	$105,289.82	$130,000.00	$107,609.89	$130,000.00	$98,674.40
Total Participants	1,000	1,511	1,000	1,508	1,000	1,487
% of Spending by Customer Segments						
Residential	100%	100%	100%	100%	100%	100%
Commercial	0%	0%	0%	0%	0%	0%
Industrial	0%	0%	0%	0%	0%	0%
Farm	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%
Total % of Spending	100%	100%	100%	100%	100%	100%
Low-Income Participation*						
Participants % (% of Total Participants)	31%	31%	31%	31%	31%	31%
Budget % (% of Total Utility Costs)	31%	31%	31%	31%	31%	31%
Renter Participation*						
Participants % (% of Total Participants)	21%	21%	21%	21%	21%	21%
Budget % (% of Total Utility Costs)	21%	21%	21%	21%	21%	21%
Energy Savings						
Annual kWh Savings at Meter	1,072,503	1,629,659	1,072,503	1,626,423	1,072,503	1,603,774
Annual kWh Savings at Generator	1,161,221	1,764,464	1,161,221	1,760,961	1,161,221	1,736,438
Cost per Annual kWh Saved at Generator	$0.1120	$0.0597	$0.1120	$0.0611	$0.1120	$0.0568
Peak kW Savings at Meter	89.186	134.388	89.186	134.122	89.186	132.254
Peak kW Savings at Generator	96.564	145.505	96.564	145.216	96.564	143.194
Cost per Peak kW Saved at Generator	$1,346.26	$723.62	$1,346.26	$741.03	$1,346.26	$689.10
Utility Ratio	3.40	15.70	3.58	15.68	3.75	17.17
Utility NPV	$311,705	$1,548,279	$334,765	$1,579,562	$356,982	$1,595,608
Ratepayer Ratio	0.47	1.13	0.50	1.07	0.47	0.97
Ratepayer NPV	($500,484)	$195,776	($469,744)	$114,874	($553,303)	($45,518)
Participant Ratio	inf.	inf.	inf.	inf.	inf.	inf.
Participant NPV	$1,197,583	$1,800,893	$1,186,210	$1,949,264	$1,360,360	$2,293,364
Societal Ratio	11.46	20.15	11.81	19.99	12.14	74.31
Societal NPV	$648,373	$2,016,343	$670,441	$2,043,552	$690,490	$2,117,873

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	Smart Thermostats					
Status:	New					
Year:	2017 Proposed	2017 Actual	2018 Proposed	2018 Actual	2019 Proposed	2019 Actual
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$10,000.00	$9,057.24	$10,000.00	$7,870.63	$10,000.00	$4,728.96
Administration	$13,000.00	$2,936.69	$13,000.00	$4,008.84	$13,000.00	$1,385.09
Evaluation, Measurement & Verification	$1,500.00	$125.70	$1,500.00	$579.55	$1,500.00	$966.29
Advertising & Promotion	$10,500.00	$9,772.64	$10,500.00	$8,837.93	$10,500.00	$76,862.57
Incentives	$15,000.00	$6,375.50	$15,000.00	$11,535.29	$15,000.00	$16,083.08
Other	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total Utility Costs	$50,000.00	$28,267.77	$50,000.00	$32,832.24	$50,000.00	$100,025.99
Total Participants	140	50	140	124	140	184
% of Spending by Customer Segments						
Residential	100%	100%	100%	100%	100%	100%
Commercial	0%	0%	0%	0%	0%	0%
Industrial	0%	0%	0%	0%	0%	0%
Farm	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%
Total % of Spending	100%	100%	100%	100%	100%	100%
Low-Income Participation*						
Participants % (% of Total Participants)	31%	31%	31%	31%	31%	31%
Budget % (% of Total Utility Costs)	31%	31%	31%	31%	31%	31%
Renter Participation*						
Participants % (% of Total Participants)	21%	21%	21%	21%	21%	21%
Budget % (% of Total Utility Costs)	21%	21%	21%	21%	21%	21%
Energy Savings						
Annual kWh Savings at Meter	290,060	131,876	290,060	204,407	290,060	256,036
Annual kWh Savings at Generator	314,054	142,785	314,054	221,315	314,054	277,215
Cost per Annual kWh Saved at Generator	$0.1592	$0.1980	$0.1592	$0.1484	$0.1592	$0.3608
Peak kW Savings at Meter	1.440	2.090	1.440	4.501	1.440	8.211
Peak kW Savings at Generator	1.559	2.263	1.559	4.873	1.559	8.890
Cost per Peak kW Saved at Generator	$32,069.44	$12,490.01	$32,069.44	$6,737.26	$32,069.44	$11,251.25
Utility Ratio	1.72	1.53	1.80	2.19	1.88	0.98
Utility NPV	$36,081	$14,856	$40,214	$39,016	$44,147	($1,995)
Ratepayer Ratio	0.31	1.53	0.33	0.32	0.32	0.27
Ratepayer NPV	($187,407)	$14,856	($181,144)	($149,250)	($202,924)	($266,463)
Participant Ratio	18.36	0.79	18.19	12.55	20.43	11.00
Participant NPV	$298,642	($1,735)	$295,625	$234,420	$334,255	$328,307
Societal Ratio	2.67	2.21	2.72	2.58	2.78	1.22
Societal NPV	$87,201	$36,230	$90,026	$65,588	$92,770	$25,496

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	Water Heater Store & Save					
Status:	Existing					
Year:	2017 Proposed	2017 Actual	2018 Proposed	2018 Actual	2019 Proposed	2019 Actual
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$10,000.00	$9,675.23	$10,000.00	$2,754.55	$10,000.00	$4,276.45
Administration	$5,000.00	$0.00	$5,000.00	$0.00	$5,000.00	$0.00
Evaluation, Measurement & Verification	$5,000.00	$191.02	$5,000.00	$0.00	$5,000.00	$66.52
Advertising & Promotion	$15,000.00	$13,401.00	$15,000.00	$16,353.26	$15,000.00	$13,638.30
Incentives	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Other	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total Utility Costs	$35,000.00	$23,267.25	$35,000.00	$19,107.81	$35,000.00	$17,981.27
Total Participants	16,165	16,056	16,165	16,002	16,165	16,074
% of Spending by Customer Segments						
Residential	94%	94%	94%	94%	94%	94%
Commercial	6%	6%	6%	6%	6%	6%
Industrial	0%	0%	0%	0%	0%	0%
Farm	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%
Total % of Spending	100%	100%	100%	100%	100%	100%
Low-Income Participation*						
Participants % (% of Total Participants)	31%	31%	31%	31%	31%	31%
Budget % (% of Total Utility Costs)	31%	31%	31%	31%	31%	31%
Renter Participation*						
Participants % (% of Total Participants)	21%	21%	21%	21%	21%	21%
Budget % (% of Total Utility Costs)	21%	21%	21%	21%	21%	21%
Energy Savings						
Annual kWh Savings at Meter	544,276	540,606	544,276	538,787	544,276	541,212
Annual kWh Savings at Generator	589,298	585,324	589,298	583,356	589,298	585,980
Cost per Annual kWh Saved at Generator	$0.0594	$0.0398	$0.0594	$0.0328	$0.0594	$0.0307
Peak kW Savings at Meter	8,211.820	10,918.080	8,211.820	10,881.360	8,211.820	10,930.320
Peak kW Savings at Generator	8,891.100	11,821.221	8,891.100	11,781.464	8,891.100	11,834.474
Cost per Peak kW Saved at Generator	$3.94	$1.97	$3.94	$1.62	$3.94	$1.52
Utility Ratio	27.50	54.75	26.22	63.33	27.88	71.82
Utility NPV	$927,499	$1,250,552	$882,849	$1,190,903	$940,776	$1,273,482
Ratepayer Ratio	10.76	15.87	10.34	15.02	10.73	15.72
Ratepayer NPV	$873,036	$1,193,560	$829,081	$1,129,468	$884,858	$1,209,302
Participant Ratio	inf.	inf.	inf.	inf.	inf.	inf.
Participant NPV	$56,980	$59,625	$56,252	$64,273	$58,502	$67,145
Societal Ratio	27.74	55.10	26.45	63.74	28.06	72.17
Societal NPV	$935,795	$1,258,792	$890,840	$1,198,814	$947,033	$1,279,703

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	Residential Advertising and Education					
Status:	Existing					
Year:	**2017 Proposed**	**2017 Actual**	**2018 Proposed**	**2018 Actual**	**2019 Proposed**	**2019 Actual**
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$160,000.00	$66,172.27	$160,000.00	$65,343.89	$160,000.00	$67,420.72
Administration	$6,000.00	$2,776.77	$6,000.00	$2,821.84	$6,000.00	$2,651.16
Evaluation, Measurement & Verification	$4,000.00	$0.00	$4,000.00	$33.28	$4,000.00	$57.84
Advertising & Promotion	$0.00	$120,369.12	$0.00	$83,600.41	$0.00	$164,395.08
Incentives	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Other	$5,000.00	$0.00	$5,000.00	$0.00	$5,000.00	$0.00
Total Utility Costs	$175,000.00	$189,318.16	$175,000.00	$151,799.42	$175,000.00	$234,524.80
Total Participants	10,000	18,629	10,000	14,591	10,000	22,351
% of Spending by Customer Segments						
Residential	100%	100%	100%	100%	100%	100%
Commercial	0%	0%	0%	0%	0%	0%
Industrial	0%	0%	0%	0%	0%	0%
Farm	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%
Total % of Spending	100%	100%	100%	100%	100%	100%
Low-Income Participation*						
Participants % (% of Total Participants)	31%	31%	31%	31%	31%	31%
Budget % (% of Total Utility Costs)	31%	31%	31%	31%	31%	31%
Renter Participation*						
Participants % (% of Total Participants)	21%	21%	21%	21%	21%	21%
Budget % (% of Total Utility Costs)	21%	21%	21%	21%	21%	21%
Energy Savings						
Annual kWh Savings at Meter	0	0	0	0	0	0
Annual kWh Savings at Generator	0	0	0	0	0	0
Cost per Annual kWh Saved at Generator	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000
Peak kW Savings at Meter	0.000	0.000	0.000	0.000	0.000	0.000
Peak kW Savings at Generator	0.000	0.000	0.000	0.000	0.000	0.000
Cost per Peak kW Saved at Generator	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Utility Ratio	0.00	0.00	0.00	0.00	0.00	0.00
Utility NPV	($175,000)	($189,318)	($175,000)	($151,799)	($175,000)	($234,525)
Ratepayer Ratio	0.00	0.00	0.00	0.00	0.00	0.00
Ratepayer NPV	($175,000)	($189,318)	($175,000)	($151,799)	($175,000)	($234,525)
Participant Ratio	inf.	inf.	inf.	inf.	inf.	inf.
Participant NPV	$0	$0	$0	$0	$0	$0
Societal Ratio	0.00	0.00	0.00	0.00	0.00	0.00
Societal NPV	($175,000)	($189,318)	($175,000)	($151,799)	($175,000)	($234,525)

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	Residential Implementation and Training					
Status:	Existing					
Year:	2017 Proposed	2017 Actual	2018 Proposed	2018 Actual	2019 Proposed	2019 Actual
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$37,600.00	$24,849.65	$37,600.00	$32,523.55	$37,600.00	$28,809.23
Administration	$1,200.00	$2,172.45	$1,200.00	$2,304.68	$1,200.00	$2,892.03
Evaluation, Measurement & Verification	$1,200.00	$2,045.99	$1,200.00	$8,739.70	$1,200.00	$3,213.18
Advertising & Promotion	$0.00	$623.98	$0.00	$1,102.80	$0.00	$564.45
Incentives	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Other	$0.00	$0.00	$0.00	$4,409.18	$0.00	$0.00
Total Utility Costs	$40,000.00	$29,692.08	$40,000.00	$49,079.92	$40,000.00	$35,478.89
Total Participants	175	36	175	38	175	3
% of Spending by Customer Segments						
Residential	100%	100%	100%	100%	100%	100%
Commercial	0%	0%	0%	0%	0%	0%
Industrial	0%	0%	0%	0%	0%	0%
Farm	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%
Total % of Spending	100%	100%	100%	100%	100%	100%
Low-Income Participation*						
Participants % (% of Total Participants)	31%	31%	31%	31%	31%	31%
Budget % (% of Total Utility Costs)	31%	31%	31%	31%	31%	31%
Renter Participation*						
Participants % (% of Total Participants)	21%	21%	21%	21%	21%	21%
Budget % (% of Total Utility Costs)	21%	21%	21%	21%	21%	21%
Energy Savings						
Annual kWh Savings at Meter	0	0	0	0	0	0
Annual kWh Savings at Generator	0	0	0	0	0	0
Cost per Annual kWh Saved at Generator	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000
Peak kW Savings at Meter	0.000	0.000	0.000	0.000	0.000	0.000
Peak kW Savings at Generator	0.000	0.000	0.000	0.000	0.000	0.000
Cost per Peak kW Saved at Generator	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Utility Ratio	0.00	0.00	0.00	0.00	0.00	0.00
Utility NPV	($40,000)	($29,692)	($40,000)	($49,080)	($40,000)	($35,479)
Ratepayer Ratio	0.00	0.00	0.00	0.00	0.00	0.00
Ratepayer NPV	($40,000)	($29,692)	($40,000)	($49,080)	($40,000)	($35,479)
Participant Ratio	inf.	inf.	inf.	inf.	inf.	inf.
Participant NPV	$0	$0	$0	$0	$0	$0
Societal Ratio	0.00	0.00	0.00	0.00	0.00	0.00
Societal NPV	($40,000)	($29,692)	($40,000)	($49,080)	($40,000)	($35,479)

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	Low-Income House Therapy					
Status:	Existing					
Year:	**2017 Proposed**	**2017 Actual**	**2018 Proposed**	**2018 Actual**	**2019 Proposed**	**2019 Actual**
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$0.00	$12,657.33	$0.00	$11,616.60	$0.00	$14,408.26
Administration	$16,510.00	$14,096.67	$16,510.00	$14,080.70	$16,510.00	$8,846.33
Evaluation, Measurement & Verification	$1,500.00	$377.45	$1,500.00	$1,151.13	$1,500.00	$1,924.08
Advertising & Promotion	$1,500.00	$1,709.45	$1,500.00	$359.00	$1,500.00	$4,258.74
Incentives	$130,490.00	$132,314.35	$130,490.00	$154,836.43	$130,490.00	$182,233.69
Other	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total Utility Costs	$150,000.00	$161,155.25	$150,000.00	$182,043.86	$150,000.00	$211,671.10
Total Participants	130	122	130	164	130	189
% of Spending by Customer Segments						
Residential	100%	100%	100%	100%	100%	100%
Commercial	0%	0%	0%	0%	0%	0%
Industrial	0%	0%	0%	0%	0%	0%
Farm	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%
Total % of Spending	100%	100%	100%	100%	100%	100%
Low-Income Participation*						
Participants % (% of Total Participants)	100%	100%	100%	100%	100%	31%
Budget % (% of Total Utility Costs)	100%	100%	100%	100%	100%	31%
Renter Participation*						
Participants % (% of Total Participants)	21%	9%	21%	43%	21%	21%
Budget % (% of Total Utility Costs)	21%	9%	21%	43%	21%	21%
Energy Savings						
Annual kWh Savings at Meter	214,005	237,243	214,005	284,564	214,005	281,131
Annual kWh Savings at Generator	231,707	256,868	231,707	308,103	231,707	304,386
Cost per Annual kWh Saved at Generator	$0.6474	$0.6274	$0.6474	$0.5909	$0.6474	$0.6954
Peak kW Savings at Meter	22.713	24.690	22.713	30.406	22.713	34.214
Peak kW Savings at Generator	24.591	26.732	24.591	32.921	24.591	37.044
Cost per Peak kW Saved at Generator	$6,099.72	$6,028.48	$6,099.72	$5,529.70	$6,099.72	$5,714.06
Utility Ratio	0.68	0.66	0.71	0.78	0.75	0.77
Utility NPV	($47,556)	($54,149)	($42,891)	($39,629)	($38,061)	($49,559)
Ratepayer Ratio	0.31	0.30	0.32	0.32	0.31	0.30
Ratepayer NPV	($230,022)	($245,346)	($223,441)	($302,580)	($247,869)	($375,577)
Participant Ratio	inf.	inf.	inf.	inf.	inf.	inf.
Participant NPV	$400,970	$391,408	$397,973	$512,367	$451,991	$641,165
Societal Ratio	8.89	5.70	9.14	7.93	9.40	8.29
Societal NPV	$153,889	$135,635	$158,784	$188,539	$163,816	$214,502

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	Adjustable Speed Drives					
Status:	Existing					
Year:	2017 Proposed	2017 Actual	2018 Proposed	2018 Actual	2019 Proposed	2019 Actual
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$45,000.00	$24,584.67	$45,200.00	$18,946.94	$45,200.00	$19,745.40
Administration	$7,500.00	$5,505.27	$7,500.00	$6,715.00	$7,500.00	$5,100.40
Evaluation, Measurement & Verification	$1,000.00	$719.68	$1,000.00	$1,055.84	$1,000.00	$1,903.14
Advertising & Promotion	$5,000.00	$3,358.67	$5,000.00	$2,489.99	$5,000.00	$3,755.59
Incentives	$319,000.00	$242,784.08	$329,800.00	$295,825.69	$329,800.00	$335,088.52
Other	$1,500.00	$0.00	$1,500.00	$0.00	$1,500.00	$0.00
Total Utility Costs	$379,000.00	$276,952.37	$390,000.00	$325,033.46	$390,000.00	$365,593.05
Total Participants	152	122	164	239	164	131
% of Spending by Customer Segments						
Residential	0%	0%	0%	0%	0%	0%
Commercial	30%	30%	30%	30%	30%	30%
Industrial	70%	70%	70%	70%	70%	70%
Farm	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%
Total % of Spending	100%	100%	100%	100%	100%	100%
Low-Income Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Renter Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Energy Savings						
Annual kWh Savings at Meter	5,168,603	4,325,213	5,168,603	4,316,602	5,168,603	4,629,664
Annual kWh Savings at Generator	5,596,149	4,682,993	5,596,149	4,673,670	5,596,149	5,012,629
Cost per Annual kWh Saved at Generator	$0.0677	$0.0591	$0.0697	$0.0695	$0.0697	$0.0729
Peak kW Savings at Meter	657.030	514.123	884.144	541.768	884.144	586.485
Peak kW Savings at Generator	711.380	556.652	957.280	586.583	957.280	634.998
Cost per Peak kW Saved at Generator	$532.77	$497.53	$407.40	$554.11	$407.40	$575.74
Utility Ratio	7.57	9.18	884.14	8.33	7.79	8.30
Utility NPV	$2,490,418	$2,264,862	$2,624,764	$2,381,257	$2,649,572	$2,669,049
Ratepayer Ratio	0.76	0.76	0.81	0.68	0.63	0.64
Ratepayer NPV	($886,886)	($814,695)	($717,691)	($1,280,747)	($1,785,460)	($1,684,231)
Participant Ratio	5.52	4.64	5.47	3.09	6.60	6.40
Participant NPV	$3,154,176	$2,718,068	$3,117,716	$2,791,834	$4,216,370	$4,125,929
Societal Ratio	6.53	5.29	6.73	3.17	5.96	6.02
Societal NPV	$4,195,390	$3,348,918	$4,343,069	$2,955,121	$4,033,640	$3,984,535

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	Commercial Air Conditioning Control					
Status:	Existing					
Year:	2017 Proposed	2017 Actual	2018 Proposed	2018 Actual	2019 Proposed	2019 Actual
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$14,350.00	$5,026.83	$14,435.00	$3,278.71	$14,520.00	$4,689.88
Administration	$9,650.00	$1,898.03	$10,565.00	$536.33	$11,480.00	$853.33
Evaluation, Measurement & Verification	$1,000.00	$188.74	$1,000.00	$470.68	$1,000.00	$363.79
Advertising & Promotion	$5,000.00	$844.50	$5,000.00	$1,582.89	$5,000.00	$1,767.23
Incentives	$0.00	$5,785.00	$0.00	$0.00	$0.00	$0.00
Other	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total Utility Costs	$30,000.00	$13,743.10	$31,000.00	$5,868.61	$32,000.00	$7,674.23
Total Participants	512	271	529	277	546	310
% of Spending by Customer Segments						
Residential	0%	0%	0%	0%	0%	0%
Commercial	100%	100%	100%	100%	100%	100%
Industrial	0%	0%	0%	0%	0%	0%
Farm	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%
Total % of Spending	100%	100%	100%	100%	100%	100%
Low-Income Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Renter Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Energy Savings						
Annual kWh Savings at Meter	53,069	26,586	53,069	27,235	54,775	30,032
Annual kWh Savings at Generator	57,459	28,785	57,459	29,487	59,306	32,516
Cost per Annual kWh Saved at Generator	$0.5221	$0.4774	$0.5395	$0.1990	$0.5396	$0.2360
Peak kW Savings at Meter	2,667.520	1,380.717	2,756.090	1,414.402	2,844.660	1,559.682
Peak kW Savings at Generator	2,888.177	1,494.930	2,984.073	1,531.401	3,079.970	1,688.698
Cost per Peak kW Saved at Generator	$10.39	$9.19	$10.39	$3.83	$10.39	$4.54
Utility Ratio	10.58	11.95	11.75	31.85	12.08	27.61
Utility NPV	$287,296	$150,490	$333,260	$181,067	$354,494	$204,234
Ratepayer Ratio	6.34	4.64	7.08	6.26	7.16	6.02
Ratepayer NPV	$267,231	$128,846	$312,794	$157,085	$332,524	$176,731
Participant Ratio	inf.	inf.	inf.	inf.	inf.	inf.
Participant NPV	$20,992	$28,430	$21,412	$25,090	$22,984	$28,774
Societal Ratio	10.60	20.69	11.78	31.92	12.10	27.66
Societal NPV	$288,079	$156,680	$334,039	$181,466	$355,123	$204,579

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	Commercial Design Assistance					
Status:	Discontinued					
Year:	**2017 Proposed**	**2017 Actual**	**2018 Proposed**	**2018 Actual**	**2019 Proposed**	**2019 Actual**
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$201,902.00	$72,759.85				
Administration	$7,500.00	$7,900.57				
Evaluation, Measurement & Verification	$500.00	$619.12				
Advertising & Promotion	$6,000.00	$1,653.74				
Incentives	$129,258.00	$96,940.00				
Other	$0.00	$0.00				
Total Utility Costs	$345,160.00	$179,873.28				
Total Participants	6	4				
% of Spending by Customer Segments						
Residential	0%	0%				0%
Commercial	100%	100%				0%
Industrial	0%	0%				0%
Farm	0%	0%				0%
Other	0%	0%				0%
Total % of Spending	100%	100%				0%
Low-Income Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Renter Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Energy Savings						
Annual kWh Savings at Meter	1,316,742	779,078				
Annual kWh Savings at Generator	1,425,663	843,523				
Cost per Annual kWh Saved at Generator	$0.2421	$0.2132				
Peak kW Savings at Meter	360.701	196.456				
Peak kW Savings at Generator	390.538	212.707				
Cost per Peak kW Saved at Generator	$883.81	$845.64				
Utility Ratio	3.84	4.31				
Utility NPV	$980,238	$596,169				
Ratepayer Ratio	0.78	0.84				
Ratepayer NPV	($372,689)	($150,118)				
Participant Ratio	0.53	1.72				
Participant NPV	($1,391,020)	$366,339				
Societal Ratio	0.79	2.27				
Societal NPV	($671,905)	$754,018				

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	Commercial Direct Install					
Status:	New					
Year:	2017 Proposed	2017 Actual	2018 Proposed	2018 Actual	2019 Proposed	2019 Actual
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$9,190.50	$16,784.14	$12,075.50	$19,091.78	$12,075.50	$16,458.99
Administration	$2,000.00	$5,098.71	$5,000.00	$4,252.65	$5,000.00	$4,362.20
Evaluation, Measurement & Verification	$1,500.00	$0.00	$1,500.00	$877.47	$1,500.00	$1,460.23
Advertising & Promotion	$0.00	$0.00	$0.00	$2,000.00	$0.00	$2,750.00
Incentives	$16,049.50	$9,393.60	$22,424.50	$23,093.81	$22,424.50	$36,655.81
Other	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total Utility Costs	$28,740.00	$31,276.45	$41,000.00	$49,315.71	$41,000.00	$61,687.23
Total Participants	110	76	154	237	154	107
% of Spending by Customer Segments						
Residential	0%	0%	0%	0%	0%	0%
Commercial	100%	100%	100%	100%	100%	100%
Industrial	0%	0%	0%	0%	0%	0%
Farm	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%
Total % of Spending	100%	100%	100%	100%	100%	100%
Low-Income Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Renter Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Energy Savings						
Annual kWh Savings at Meter	335,929	232,908	469,814	688,201	469,814	413,373
Annual kWh Savings at Generator	363,717	252,174	508,677	745,128	508,677	447,568
Cost per Annual kWh Saved at Generator	$0.0790	$0.1240	$0.0806	$0.0662	$0.0806	$0.1378
Peak kW Savings at Meter	70.579	28.301	98.757	86.791	98.757	49.583
Peak kW Savings at Generator	76.417	30.643	106.926	93.970	106.926	53.684
Cost per Peak kW Saved at Generator	$376.09	$1,020.69	$383.44	$524.80	$383.44	$1,149.08
Utility Ratio	2.06	1.63	2.16	3.13	2.27	1.58
Utility NPV	$30,538	$19,637	$47,501	$105,016	$52,122	$35,960
Ratepayer Ratio	0.50	0.46	0.50	0.52	0.50	0.44
Ratepayer NPV	($59,017)	($59,744)	($89,043)	($143,433)	($92,361)	($123,753)
Participant Ratio	inf.	10.42	inf.	10.80	inf.	8.93
Participant NPV	$109,742	$83,572	$165,277	$259,130	$173,583	$180,922
Societal Ratio	6.38	2.36	6.33	4.25	6.48	2.74
Societal NPV	$68,228	$41,972	$98,977	$162,777	$101,801	$83,458

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	Compressed Air Efficiency					
Status:	New					
Year:	2017 Proposed	2017 Actual	2018 Proposed	2018 Actual	2019 Proposed	2019 Actual
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$21,500.00	$14,446.98	$21,600.00	$6,880.75	$21,600.00	$8,179.62
Administration	$5,000.00	$3,616.81	$5,000.00	$2,592.27	$5,000.00	$1,881.76
Evaluation, Measurement & Verification	$1,500.00	$0.00	$1,500.00	$605.42	$1,500.00	$499.20
Advertising & Promotion	$5,000.00	$754.04	$5,000.00	$339.17	$5,000.00	$431.19
Incentives	$106,900.00	$42,750.00	$106,900.00	$18,000.00	$106,900.00	$48,300.00
Other	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total Utility Costs	$139,900.00	$61,567.83	$140,000.00	$28,417.61	$140,000.00	$59,291.77
Total Participants	23	10	23	3	23	12
% of Spending by Customer Segments						
Residential	0%	0%	0%	0%	0%	0%
Commercial	50%	50%	50%	50%	50%	50%
Industrial	50%	50%	50%	50%	50%	50%
Farm	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%
Total % of Spending	100%	100%	100%	100%	100%	100%
Low-Income Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Renter Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Energy Savings						
Annual kWh Savings at Meter	954,031	186,415	954,031	72,974	954,031	411,465
Annual kWh Savings at Generator	1,032,948	201,835	1,032,948	79,011	1,032,948	445,501
Cost per Annual kWh Saved at Generator	$0.1354	$0.3050	$0.1355	$0.3597	$0.1355	$0.1331
Peak kW Savings at Meter	145.079	35.742	145.079	14.032	145.079	78.875
Peak kW Savings at Generator	157.080	38.698	157.080	15.193	157.080	85.399
Cost per Peak kW Saved at Generator	$890.63	$1,590.97	$891.27	$1,870.41	$891.27	$694.29
Utility Ratio	3.10	2.16	3.26	1.94	3.43	4.64
Utility NPV	$293,378	$71,298	$317,064	$26,601	$339,527	$215,646
Ratepayer Ratio	0.72	0.66	0.71	0.62	0.68	0.70
Ratepayer NPV	($167,258)	($69,243)	($182,663)	($33,354)	($225,147)	($118,609)
Participant Ratio	3.63	1.74	3.88	1.26	4.30	2.47
Participant NPV	$426,518	$80,534	$467,414	$16,525	$535,361	$236,698
Societal Ratio	3.31	1.64	3.42	1.15	3.53	2.34
Societal NPV	$451,482	$82,201	$473,156	$11,491	$493,477	$230,379

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	Custom Efficiency Projects					
Status:	Existing					
Year:	2017 Proposed	2017 Actual	2018 Proposed	2018 Actual	2019 Proposed	2019 Actual
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$96,000.00	$98,994.82	$96,500.00	$72,559.35	$96,500.00	$81,874.54
Administration	$2,500.00	$3,428.77	$2,500.00	$5,537.01	$2,500.00	$10,091.80
Evaluation, Measurement & Verification	$12,000.00	$8,302.71	$12,000.00	$8,143.54	$12,000.00	$7,018.58
Advertising & Promotion	$6,000.00	$2,752.14	$6,000.00	$1,797.03	$6,000.00	$1,129.63
Incentives	$180,000.00	$150,646.00	$222,000.00	$274,436.00	$222,000.00	$345,143.00
Other	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total Utility Costs	$296,500.00	$264,124.44	$339,000.00	$362,472.93	$339,000.00	$445,257.55
Total Participants	30	44	37	81	37	41
% of Spending by Customer Segments						
Residential	0%	0%	0%	0%	0%	0%
Commercial	90%	90%	90%	90%	90%	90%
Industrial	10%	10%	10%	10%	10%	10%
Farm	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%
Total % of Spending	100%	100%	100%	100%	100%	100%
Low-Income Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Renter Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Energy Savings						
Annual kWh Savings at Meter	1,800,000	2,056,128	1,800,000	3,329,805	2,220,000	2,366,579
Annual kWh Savings at Generator	1,948,896	2,226,211	1,948,896	3,605,246	2,403,638	2,562,341
Cost per Annual kWh Saved at Generator	$0.1521	$0.1186	$0.1739	$0.1005	$0.1410	$0.1738
Peak kW Savings at Meter	274.962	1,205.957	339.119	717.881	339.119	955.268
Peak kW Savings at Generator	297.706	1,305.713	367.171	777.264	367.171	1,034.288
Cost per Peak kW Saved at Generator	$995.95	$202.28	$923.28	$466.34	$923.28	$430.50
Utility Ratio	5.58	6.56	6.27	7.70	6.51	6.99
Utility NPV	$1,358,707	$1,467,375	$1,787,549	$2,427,794	$1,869,027	$2,666,440
Ratepayer Ratio	1.01	0.83	0.99	1.07	0.85	1.24
Ratepayer NPV	$8,587	($346,603)	($17,041)	$173,045	($379,962)	$599,882
Participant Ratio	1.33	3.03	1.43	2.06	1.74	1.57
Participant NPV	$392,496	$1,374,050	$629,962	$1,373,857	$1,094,893	$955,770
Societal Ratio	2.20	3.34	2.31	3.27	2.37	2.77
Societal NPV	$1,582,378	$1,842,852	$2,084,247	$3,123,840	$2,187,652	$3,171,299

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	Commercial Heat Pump					
Status:	Existing					
Year:	2017 Proposed	2017 Actual	2018 Proposed	2018 Actual	2019 Proposed	2019 Actual
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$63,000.00	$95,308.23	$125,000.00	$71,614.84	$63,000.00	$83,761.66
Administration	$13,000.00	$10,299.82	$13,000.00	$6,902.09	$13,000.00	$5,370.17
Evaluation, Measurement & Verification	$4,000.00	$611.95	$4,000.00	$745.03	$4,000.00	$1,138.82
Advertising & Promotion	$11,000.00	$13,819.39	$11,000.00	$36,966.26	$11,000.00	$23,565.46
Incentives	$114,000.00	$494,300.00	$552,000.00	$785,005.00	$114,000.00	$371,775.00
Other	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total Utility Costs	$205,000.00	$614,339.39	$705,000.00	$901,233.22	$205,000.00	$485,611.12
Total Participants	84	294	157	123	84	172
% of Spending by Customer Segments						
Residential	0%	0%	0%	0%	0%	0%
Commercial	90%	90%	90%	90%	90%	90%
Industrial	10%	10%	10%	10%	10%	10%
Farm	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%
Total % of Spending	100%	100%	100%	100%	100%	100%
Low-Income Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Renter Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Energy Savings						
Annual kWh Savings at Meter	1,192,968	4,302,601	4,140,586	6,306,175	1,045,236	2,848,954
Annual kWh Savings at Generator	1,291,651	4,658,512	4,483,094	6,827,820	1,131,698	3,084,619
Cost per Annual kWh Saved at Generator	$0.1587	$0.1319	$0.1573	$0.1320	$0.1811	$0.1574
Peak kW Savings at Meter	133.157	462.259	571.034	704.336	133.116	339.398
Peak kW Savings at Generator	144.171	500.497	618.270	762.598	144.127	367.473
Cost per Peak kW Saved at Generator	$1,421.92	$1,227.46	$1,140.28	$1,181.79	$1,422.36	$1,321.49
Utility Ratio	4.10	4.55	5.61	5.75	3.96	4.97
Utility NPV	$635,397	$2,183,658	$3,249,267	$4,282,260	$606,653	$1,926,267
Ratepayer Ratio	0.69	0.66	0.81	0.78	0.60	0.67
Ratepayer NPV	($379,627)	($1,445,982)	($911,338)	($1,491,244)	($551,696)	($1,163,971)
Participant Ratio	2.56	1.58	2.35	3.78	2.89	1.62
Participant NPV	$717,218	$1,582,869	$2,818,225	$5,017,685	$867,165	$1,374,263
Societal Ratio	2.55	1.58	2.98	4.14	2.39	1.57
Societal NPV	$852,384	$1,643,593	$4,440,059	$6,042,293	$766,573	$1,331,438

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	Commercial and Industrial Focused Efficiency					
Status:	Existing					
Year:	**2017 Proposed**	**2017 Actual**	**2018 Proposed**	**2018 Actual**	**2019 Proposed**	**2019 Actual**
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$63,000.00	$48,135.31	$63,000.00	$90,362.31	$63,000.00	$74,636.34
Administration	$13,000.00	$10,868.35	$13,000.00	$16,749.63	$13,000.00	$7,820.93
Evaluation, Measurement & Verification	$2,000.00	$2,330.95	$2,000.00	$2,479.21	$2,000.00	$2,639.28
Advertising & Promotion	$2,000.00	$553.91	$2,000.00	$0.00	$2,000.00	$62.10
Incentives	$140,000.00	$148,988.70	$140,000.00	$234,610.43	$140,000.00	$460,742.33
Other	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total Utility Costs	$220,000.00	$210,877.22	$220,000.00	$344,201.58	$220,000.00	$545,900.98
Total Participants	1	2	1	4	1	3
% of Spending by Customer Segments						
Residential	0%	0%	0%	0%	0%	0%
Commercial	10%	10%	10%	10%	10%	10%
Industrial	90%	90%	90%	90%	90%	90%
Farm	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%
Total % of Spending	100%	100%	100%	100%	100%	100%
Low-Income Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Renter Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Energy Savings						
Annual kWh Savings at Meter	1,500,000	1,636,203	1,500,000	1,970,553	1,500,000	3,369,769
Annual kWh Savings at Generator	1,624,080	1,771,550	1,624,080	2,133,556	1,624,080	3,648,515
Cost per Annual kWh Saved at Generator	$0.1355	$0.1190	$0.1355	$0.1613	$0.1355	$0.1496
Peak kW Savings at Meter	363.250	271.702	355.604	277.215	355.604	546.560
Peak kW Savings at Generator	393.298	294.177	385.020	300.146	385.020	591.771
Cost per Peak kW Saved at Generator	$559.37	$716.84	$571.40	$1,146.78	$571.40	$922.49
Utility Ratio	4.63	4.08	4.62	4.84	4.85	2.10
Utility NPV	$797,953	$649,151	$797,011	$1,322,359	$846,847	$598,361
Ratepayer Ratio	0.86	0.80	0.88	0.76	0.83	0.54
Ratepayer NPV	($165,900)	($217,279)	($139,499)	($536,036)	($221,530)	($957,759)
Participant Ratio	2.70	2.91	2.63	3.75	2.96	0.49
Participant NPV	$723,382	$692,883	$694,777	$1,598,138	$832,737	($2,151,569)
Societal Ratio	2.98	2.84	3.09	2.85	3.19	0.41
Societal NPV	$1,000,401	$782,755	$1,055,128	$1,275,363	$1,106,621	($2,557,755)

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	Lighting					
Status:	Existing					
Year:	2017 Proposed	2017 Actual	2018 Proposed	2018 Actual	2019 Proposed	2019 Actual
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$262,961.00	$321,295.93	$294,534.00	$269,319.06	$294,346.00	$283,668.76
Administration	$8,000.00	$9,519.62	$8,000.00	$11,202.99	$8,000.00	$8,142.07
Evaluation, Measurement & Verification	$2,500.00	$1,442.85	$2,500.00	$869.88	$2,500.00	$7,267.88
Advertising & Promotion	$8,000.00	$5,100.65	$8,000.00	$3,514.30	$8,000.00	$4,223.60
Incentives	$669,139.00	$1,556,727.88	$1,756,966.00	$2,207,657.31	$773,154.00	$2,373,883.21
Other	$0.00	$0.00	$0.00	$54.95	$0.00	$2,621.52
Total Utility Costs	$950,600.00	$1,894,086.93	$2,070,000.00	$2,492,618.49	$1,086,000.00	$2,679,807.04
Total Participants	495	797	#REF!	1,214	560	1,215
% of Spending by Customer Segments						
Residential	0%	0%	0%	0%	0%	0%
Commercial	70%	70%	70%	70%	70%	70%
Industrial	30%	30%	30%	30%	30%	30%
Farm	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%
Total % of Spending	100%	100%	100%	100%	100%	100%
Low-Income Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Renter Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Energy Savings						
Annual kWh Savings at Meter	5,362,212	15,661,895	12,400,926	22,267,643	6,074,052	24,144,114
Annual kWh Savings at Generator	5,805,773	16,957,443	13,426,728	24,109,618	6,576,496	26,141,310
Cost per Annual kWh Saved at Generator	$0.1637	$0.1117	$0.1542	$0.1034	$0.1651	$0.1025
Peak kW Savings at Meter	1,381.733	2,424.100	3,206.074	3,251.429	1,566.583	3,558.808
Peak kW Savings at Generator	1,496.030	2,624.621	3,471.280	3,520.387	1,696.170	3,853.192
Cost per Peak kW Saved at Generator	$635.42	$721.66	$596.32	$708.05	$640.27	$695.48
Utility Ratio	3.12	4.92	4.01	5.61	3.46	6.00
Utility NPV	$2,011,672	$7,425,329	$6,231,037	$11,491,241	$2,671,836	$13,405,941
Ratepayer Ratio	0.69	0.71	0.73	0.69	0.63	0.63
Ratepayer NPV	($1,300,343)	($3,893,820)	($3,120,559)	($6,292,923)	($2,168,547)	($9,464,209)
Participant Ratio	1.40	2.54	1.44	2.45	1.71	3.09
Participant NPV	$1,190,427	$8,114,414	$3,520,106	$12,334,107	$2,415,222	$17,785,955
Societal Ratio	1.44	2.63	1.55	2.50	1.54	2.83
Societal NPV	$1,427,201	$9,162,181	$4,604,464	$13,181,900	$1,998,599	$16,123,423

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	Lighting New Construction					
Status:	Existing					
Year:	2017 Proposed	2017 Actual	2018 Proposed	2018 Actual	2019 Proposed	2019 Actual
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$22,693.00	$14,184.79	$22,957.00	$33,894.30	$22,957.00	$11,929.56
Administration	$3,000.00	$5,238.16	$3,000.00	$5,656.17	$3,000.00	$2,922.16
Evaluation, Measurement & Verification	$1,000.00	$407.31	$1,000.00	$1,329.29	$1,000.00	$1,695.43
Advertising & Promotion	$6,000.00	$2,550.73	$6,000.00	$1,600.95	$6,000.00	$1,754.19
Incentives	$133,307.00	$109,078.19	$178,043.00	$314,263.83	$178,043.00	$162,244.92
Other	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total Utility Costs	$166,000.00	$131,459.18	$211,000.00	$356,744.54	$211,000.00	$180,546.26
Total Participants	193	264	241	586	241	375
% of Spending by Customer Segments						
Residential	0%	0%	0%	0%	0%	0%
Commercial	70%	70%	70%	70%	70%	70%
Industrial	30%	30%	30%	30%	30%	30%
Farm	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%
Total % of Spending	100%	100%	100%	100%	100%	100%
Low-Income Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Renter Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Energy Savings						
Annual kWh Savings at Meter	3,368,297	2,746,622	3,368,297	6,254,598	3,368,297	3,293,244
Annual kWh Savings at Generator	3,646,922	2,973,822	3,646,922	6,771,977	3,646,922	3,565,661
Cost per Annual kWh Saved at Generator	$0.0455	$0.0442	$0.0579	$0.0527	$0.0579	$0.0506
Peak kW Savings at Meter	383.959	373.836	840.067	818.689	840.067	469.798
Peak kW Savings at Generator	415.720	404.760	909.558	886.411	909.558	508.660
Cost per Peak kW Saved at Generator	$399.31	$324.78	$231.98	$402.46	$231.98	$354.95
Utility Ratio	8.80	11.42	10.31	10.90	10.75	12.21
Utility NPV	$1,294,814	$1,369,285	$1,964,926	$3,532,700	$2,056,893	$2,024,584
Ratepayer Ratio	0.76	0.73	0.78	0.73	0.70	0.65
Ratepayer NPV	($472,653)	($559,283)	($600,880)	($1,470,627)	($978,448)	($1,176,133)
Participant Ratio	5.53	4.91	6.89	5.69	8.08	5.91
Participant NPV	$1,623,919	$1,693,497	$2,447,093	$4,574,381	$2,938,322	$2,916,711
Societal Ratio	6.44	5.24	7.69	6.09	7.91	5.64
Societal NPV	$2,126,706	$1,930,497	$2,999,839	$5,178,363	$3,099,133	$2,841,116

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	Midstream Commercial Kitchen Equipment					
Status:	Discontinued					
Year:	**2017 Proposed**	**2017 Actual**	**2018 Proposed**	**2018 Actual**	**2019 Proposed**	**2019 Actual**
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$51,000.00	$57,945.67		$6,700.34		
Administration	$5,000.00	$3,926.88		$275.59		
Evaluation, Measurement & Verification	$1,000.00	$63.64		$209.62		
Advertising & Promotion	$3,500.00	$0.00		$0.00		
Incentives	$27,700.00	$0.00		$0.00		
Other	$0.00	$0.00		$0.00		
Total Utility Costs	$88,200.00	$61,936.19		$7,185.55		
Total Participants	100	0		0		
% of Spending by Customer Segments						
Residential	0%	0%				
Commercial	100%	100%				
Industrial	0%	0%				
Farm	0%	0%				
Other	0%	0%				
Total % of Spending	100%	100%				
Low-Income Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Renter Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Energy Savings						
Annual kWh Savings at Meter	516,369	0				
Annual kWh Savings at Generator	559,083	0				
Cost per Annual kWh Saved at Generator	$0.1578	$0.0000				
Peak kW Savings at Meter	92.800	0.000				
Peak kW Savings at Generator	100.476	0.000				
Cost per Peak kW Saved at Generator	$877.82	$0.00				
Utility Ratio	3.66	0.00		0.00		
Utility NPV	$234,242	($61,936)		($7,186)		
Ratepayer Ratio	0.75	0.00		0.00		
Ratepayer NPV	($109,648)	($61,936)		($7,186)		
Participant Ratio	4.00	inf.		inf.		
Participant NPV	$290,678	$0		$0		
Societal Ratio	3.40	0.00		0.00		
Societal NPV	$377,955	($61,936)		($7,186)		

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	Motors					
Status:	Existing					
Year:	2017 Proposed	2017 Actual	2018 Proposed	2018 Actual	2019 Proposed	2019 Actual
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$28,175.00	$25,132.42	$28,080.00	$28,975.42	$28,080.00	$15,588.76
Administration	$5,000.00	$6,224.85	$5,000.00	$4,442.53	$5,000.00	$2,739.03
Evaluation, Measurement & Verification	$1,000.00	$635.91	$1,000.00	$649.63	$1,000.00	$1,730.71
Advertising & Promotion	$4,000.00	$2,686.38	$4,000.00	$3,232.62	$4,000.00	$2,697.82
Incentives	$94,825.00	$70,820.00	$98,920.00	$241,985.00	$98,920.00	$82,430.00
Other	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total Utility Costs	$133,000.00	$105,499.56	$137,000.00	$279,285.20	$137,000.00	$105,186.32
Total Participants	205	139	215	397	215	174
% of Spending by Customer Segments						
Residential	0%	0%	0%	0%	0%	0%
Commercial	30%	30%	30%	30%	30%	30%
Industrial	70%	70%	70%	70%	70%	70%
Farm	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%
Total % of Spending	100%	100%	100%	100%	100%	100%
Low-Income Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Renter Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Energy Savings						
Annual kWh Savings at Meter	707,468	378,669	707,468	1,217,693	707,468	668,070
Annual kWh Savings at Generator	765,990	409,993	765,990	1,318,420	765,990	723,332
Cost per Annual kWh Saved at Generator	$0.1736	$0.2573	$0.1789	$0.2118	$0.1789	$0.1454
Peak kW Savings at Meter	131.882	56.492	135.606	231.708	135.606	108.046
Peak kW Savings at Generator	142.791	61.165	146.823	250.875	146.823	116.984
Cost per Peak kW Saved at Generator	$931.43	$1,724.84	$933.09	$1,113.25	$933.09	$899.15
Utility Ratio	2.85	2.31	3.20	3.27	3.34	4.61
Utility NPV	$245,604	$137,778	$301,626	$634,137	$319,932	$379,298
Ratepayer Ratio	0.63	0.63	0.66	0.68	0.60	0.64
Ratepayer NPV	($222,794)	($144,722)	($227,795)	($423,715)	($306,399)	($274,532)
Participant Ratio	1.76	2.96	1.92	4.09	2.22	5.46
Participant NPV	$252,813	$242,486	$313,485	$1,019,261	$414,874	$626,185
Societal Ratio	1.77	2.47	1.86	3.90	1.91	4.63
Societal NPV	$285,259	$232,531	$323,602	$1,063,540	$343,317	$591,735

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	Recommissioning					
Status:	Existing					
Year:	2017 Proposed	2017 Actual	2018 Proposed	2018 Actual	2019 Proposed	2019 Actual
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$95,600.00	$65,899.26	$95,600.00	$68,261.15	$95,600.00	$73,796.75
Administration	$1,900.00	$7,875.39	$1,900.00	$6,100.82	$1,900.00	$5,043.46
Evaluation, Measurement & Verification	$500.00	$711.95	$500.00	$927.27	$500.00	$1,190.85
Advertising & Promotion	$3,000.00	$3,163.39	$3,000.00	$2,740.56	$3,000.00	$575.67
Incentives	$87,000.00	$81,362.00	$87,000.00	$157,647.00	$87,000.00	$40,250.00
Other	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total Utility Costs	$188,000.00	$159,011.99	$188,000.00	$235,676.80	$188,000.00	$120,856.73
Total Participants	4	5	4	9	4	3
% of Spending by Customer Segments						
Residential	0%	0%	0%	0%	0%	0%
Commercial	10%	10%	10%	10%	10%	10%
Industrial	90%	90%	90%	90%	90%	90%
Farm	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%
Total % of Spending	100%	100%	100%	100%	100%	100%
Low-Income Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Renter Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Energy Savings						
Annual kWh Savings at Meter	2,020,000	701,628	2,020,000	3,048,181	2,020,000	1,151,971
Annual kWh Savings at Generator	2,187,094	759,667	2,187,094	3,300,326	2,187,094	1,247,262
Cost per Annual kWh Saved at Generator	$0.0860	$0.2093	$0.0860	$0.0714	$0.0860	$0.0969
Peak kW Savings at Meter	0.000	3.813	0.000	408.634	0.000	100.000
Peak kW Savings at Generator	0.000	4.128	0.000	442.436	0.000	108.272
Cost per Peak kW Saved at Generator	$0.00	$38,516.52	$0.00	$532.68	$0.00	$1,116.23
Utility Ratio	2.42	0.91	2.66	4.48	2.81	3.03
Utility NPV	$267,533	($14,318)	$311,336	$819,085	$339,878	$245,308
Ratepayer Ratio	0.53	0.38	0.61	0.68	0.61	0.59
Ratepayer NPV	($408,953)	($238,161)	($313,268)	($493,966)	($334,967)	($252,334)
Participant Ratio	4.03	1.71	3.76	4.21	4.03	3.76
Participant NPV	$597,739	$130,540	$543,461	$1,167,786	$596,023	$411,580
Societal Ratio	2.36	0.85	2.41	3.26	2.46	2.16
Societal NPV	$403,972	($40,541)	$420,631	$998,448	$436,442	$265,649

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	Refrigeration					
Status:	Existing					
Year:	2017 Proposed	2017 Actual	2018 Proposed	2018 Actual	2019 Proposed	2019 Actual
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$34,860.00	$47,348.28	$34,775.00	$24,357.70	$34,775.00	$23,005.83
Administration	$4,000.00	$6,775.23	$4,000.00	$3,845.50	$4,000.00	$2,910.28
Evaluation, Measurement & Verification	$1,000.00	$252.38	$1,000.00	$468.14	$1,000.00	$1,300.50
Advertising & Promotion	$5,000.00	$2,887.27	$5,000.00	$2,858.22	$5,000.00	$1,430.62
Incentives	$85,225.00	$110,891.82	$85,225.00	$50,227.64	$85,225.00	$99,860.84
Other	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total Utility Costs	$130,085.00	$168,154.98	$130,000.00	$81,757.20	$130,000.00	$128,508.07
Total Participants	86	127	86	59	86	83
% of Spending by Customer Segments						
Residential	0%	0%	0%	0%	0%	0%
Commercial	90%	90%	90%	90%	90%	90%
Industrial	10%	10%	10%	10%	10%	10%
Farm	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%
Total % of Spending	100%	100%	100%	100%	100%	100%
Low-Income Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Renter Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Energy Savings						
Annual kWh Savings at Meter	1,155,485	1,255,933	1,155,485	569,379	1,155,485	863,923
Annual kWh Savings at Generator	1,251,067	1,359,824	1,251,067	616,478	1,251,067	935,387
Cost per Annual kWh Saved at Generator	$0.1040	$0.1237	$0.1039	$0.1326	$0.1039	$0.1374
Peak kW Savings at Meter	182.133	180.919	182.133	84.168	182.133	128.034
Peak kW Savings at Generator	197.199	195.885	197.199	91.130	197.199	138.625
Cost per Peak kW Saved at Generator	$659.66	$858.44	$659.23	$897.15	$659.23	$927.02
Utility Ratio	3.27	2.40	3.46	1.98	3.64	2.13
Utility NPV	$294,659	$235,090	$319,997	$79,950	$342,978	$144,688
Ratepayer Ratio	0.71	0.61	0.70	0.56	0.68	0.55
Ratepayer NPV	($175,274)	($259,541)	($189,972)	($126,881)	($224,451)	($219,060)
Participant Ratio	4.20	3.43	4.51	3.24	4.95	7.55
Participant NPV	$439,589	$452,221	$481,474	$187,265	$541,589	$427,271
Societal Ratio	3.40	2.52	3.52	2.06	3.63	4.62
Societal NPV	$437,693	$353,944	$459,474	$117,249	$479,120	$296,167

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	Roof Top Unit Efficiency (Pilot)					
Status:	Discontinued					
Year:	2017 Proposed	2017 Actual	2018 Proposed	2018 Actual	2019 Proposed	2019 Actual
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$26,325.00	$31,193.68		$9,439.65		
Administration	$2,000.00	$5,228.20		$891.87		
Evaluation, Measurement & Verification	$2,000.00	$0.00		$0.00		
Advertising & Promotion	$1,000.00	$0.00		$0.00		
Incentives	$20,560.00	$0.00		$0.00		
Other	$0.00	$0.00		$0.00		
Total Utility Costs	$51,885.00	$36,421.88		$10,331.52		
Total Participants	20	0		0		
% of Spending by Customer Segments						
Residential	0%	0%		0%		
Commercial	90%	90%		0%		
Industrial	10%	10%		0%		
Farm	0%	0%		0%		
Other	0%	0%		0%		
Total % of Spending	100%	100%		0%		
Low-Income Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Renter Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Energy Savings						
Annual kWh Savings at Meter	489,540	0		0		
Annual kWh Savings at Generator	530,035	0		0		
Cost per Annual kWh Saved at Generator	$0.0979	$0.0000		$0.0000		
Peak kW Savings at Meter	74.780	0.000		0.000		
Peak kW Savings at Generator	80.966	0.000		0.000		
Cost per Peak kW Saved at Generator	$640.82	$0.00		$0.00		
Utility Ratio	2.19	0.00		0.00		
Utility NPV	$61,942	($36,422)		($10,332)		
Ratepayer Ratio	0.52	0.00		0.00		
Ratepayer NPV	($105,110)	($36,422)		($10,332)		
Participant Ratio	0.90	inf.		inf.		
Participant NPV	($21,669)	$0		$0		
Societal Ratio	0.66	0.00		0.00		
Societal NPV	($84,164)	($36,422)		($10,332)		

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	Commercial Advertising and Education					
Status:	Existing					
Year:	**2017 Proposed**	**2017 Actual**	**2018 Proposed**	**2018 Actual**	**2019 Proposed**	**2019 Actual**
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$22,500.00	$23,219.71	$64,500.00	$75,400.95	$64,500.00	$57,111.62
Administration	$1,500.00	$779.56	$1,500.00	$2,009.10	$1,500.00	$1,096.98
Evaluation, Measurement & Verification	$500.00	$0.00	$500.00	$33.28	$500.00	$10.21
Advertising & Promotion	$500.00	$615.45	$500.00	$0.00	$500.00	$0.00
Incentives	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Other	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total Utility Costs	$25,000.00	$24,614.72	$67,000.00	$77,443.33	$67,000.00	$58,218.81
Total Participants	100	76	100	237	100	153
% of Spending by Customer Segments						
Residential	0%	0%	0%	0%	0%	0%
Commercial	100%	100%	100%	100%	100%	100%
Industrial	0%	0%	0%	0%	0%	0%
Farm	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%
Total % of Spending	100%	100%	100%	100%	100%	100%
Low-Income Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Renter Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Energy Savings						
Annual kWh Savings at Meter	0	0	0	0	0	0
Annual kWh Savings at Generator	0	0	0	0	0	0
Cost per Annual kWh Saved at Generator	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000
Peak kW Savings at Meter	0.000	0.000	0.000	0.000	0.000	0.000
Peak kW Savings at Generator	0.000	0.000	0.000	0.000	0.000	0.000
Cost per Peak kW Saved at Generator	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Utility Ratio	0.00	0.00	0.00	0.00	0.00	0.00
Utility NPV	($25,000)	($24,615)	($67,000)	($77,443)	($67,000)	($58,219)
Ratepayer Ratio	0.00	0.00	0.00	0.00	0.00	0.00
Ratepayer NPV	($25,000)	($24,615)	($67,000)	($77,443)	($67,000)	($58,219)
Participant Ratio	inf.	inf.	inf.	inf.	inf.	inf.
Participant NPV	$0	$0	$0	$0	$0	$0
Societal Ratio	0.00	0.00	0.00	0.00	0.00	0.00
Societal NPV	($25,000)	($24,615)	($67,000)	($77,443)	($67,000)	($58,219)

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	Commercial Compressed Air Audits					
Status:	Existing					
Year:	**2017 Proposed**	**2017 Actual**	**2018 Proposed**	**2018 Actual**	**2019 Proposed**	**2019 Actual**
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$3,000.00	$187.24	$3,000.00	$35.63	$3,000.00	$12.15
Administration	$500.00	$96.50	$500.00	$61.86	$500.00	$157.50
Evaluation, Measurement & Verification	$500.00	$61.44	$500.00	$172.54	$500.00	$66.52
Advertising & Promotion	$1,000.00	$553.91	$1,000.00	$0.00	$1,000.00	$0.00
Incentives	$0.00	$4,940.00	$0.00	$0.00	$0.00	$0.00
Other	$15,000.00	$0.00	$15,000.00	$0.00	$15,000.00	$0.00
Total Utility Costs	$20,000.00	$5,839.09	$20,000.00	$270.03	$20,000.00	$236.17
Total Participants	4	1	4	0	4	0
% of Spending by Customer Segments						
Residential	0%	0%	0%	0%	0%	0%
Commercial	10%	10%	10%	10%	10%	10%
Industrial	90%	90%	90%	90%	90%	90%
Farm	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%
Total % of Spending	100%	100%	100%	100%	100%	100%
Low-Income Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Renter Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Energy Savings						
Annual kWh Savings at Meter	0	0	0	0	0	0
Annual kWh Savings at Generator	0	0	0	0	0	0
Cost per Annual kWh Saved at Generator	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000
Peak kW Savings at Meter	0.000	0.000	0.000	0.000	0.000	0.000
Peak kW Savings at Generator	0.000	0.000	0.000	0.000	0.000	0.000
Cost per Peak kW Saved at Generator	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Utility Ratio	0.00	0.00	0.00	0.00	0.00	0.00
Utility NPV	($20,000)	($5,839)	($20,000)	($270)	($20,000)	($236)
Ratepayer Ratio	0.00	0.00	0.00	0.00	0.00	0.00
Ratepayer NPV	($20,000)	($5,839)	($20,000)	($270)	($20,000)	($236)
Participant Ratio	inf.	0.80	inf.	inf.	inf.	inf.
Participant NPV	$0	($1,235)	$0	$0	$0	$0
Societal Ratio	0.00	0.00	0.00	0.00	0.00	0.00
Societal NPV	($20,000)	($7,074)	($20,000)	($270)	($20,000)	($236)

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	Integrated Building Design Plus					
Status:	New					
Year:	2017 Proposed	2017 Actual	2018 Proposed	2018 Actual	2019 Proposed	2019 Actual
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery			$195,000.00	$107,022.71	$195,000.00	$132,250.97
Administration			$10,000.00	$9,267.93	$10,000.00	$6,002.63
Evaluation, Measurement & Verification			$1,000.00	$411.22	$1,000.00	$595.32
Advertising & Promotion			$6,000.00	$1,814.33	$6,000.00	$883.34
Incentives			$0.00	$0.00	$0.00	$0.00
Other			$22,000.00	$0.00	$22,000.00	$0.00
Total Utility Costs			$234,000.00	$118,516.19	$234,000.00	$139,732.26
Total Participants			6	6	6	4
% of Spending by Customer Segments						
Residential			0%	0%	0%	0%
Commercial			0%	0%	0%	0%
Industrial			0%	0%	0%	0%
Farm			0%	0%	0%	0%
Other			0%	0%	0%	0%
Total % of Spending			0%	0%	0%	0%
Low-Income Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Renter Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Energy Savings						
Annual kWh Savings at Meter			0	0	0	0
Annual kWh Savings at Generator			0	0	0	0
Cost per Annual kWh Saved at Generator			$0.0000	$0.0000	$0.0000	$0.0000
Peak kW Savings at Meter			0.000	0.000	0.000	0.000
Peak kW Savings at Generator			0.000	0.000	0.000	0.000
Cost per Peak kW Saved at Generator			$0.00	$0.00	$0.00	$0.00
Utility Ratio			0.00	0.00	0.00	0.00
Utility NPV			($234,000)	($118,516)	($234,000)	($139,732)
Ratepayer Ratio			0.00	0.00	0.00	0.00
Ratepayer NPV			($234,000)	($118,516)	($234,000)	($139,732)
Participant Ratio			0.00	inf.	0.00	inf.
Participant NPV			($234,000)	$0	($234,000)	$0
Societal Ratio			0.00	0.00	0.00	0.00
Societal NPV			($234,000)	($118,516)	($234,000)	($139,732)

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	Commercial Financing					
Status:	Existing					
Year:	2017 Proposed	2017 Actual	2018 Proposed	2018 Actual	2019 Proposed	2019 Actual
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$28,500.00	$1,497.06	$28,500.00	$1,581.88	$28,500.00	$2,655.20
Administration	$3,500.00	$6,222.76	$3,500.00	$2,847.81	$3,500.00	$244.33
Evaluation, Measurement & Verification	$1,000.00	$250.15	$1,000.00	$532.48	$1,000.00	$66.52
Advertising & Promotion	$8,000.00	$1,890.91	$8,000.00	$3,513.60	$8,000.00	$607.11
Incentives	$0.00	$5,475.43	$0.00	$7,936.54	$0.00	$5,436.40
Other	$9,000.00	$0.00	$9,000.00	$0.00	$9,000.00	$46.00
Total Utility Costs	$50,000.00	$15,336.31	$50,000.00	$16,412.31	$50,000.00	$9,055.56
Total Participants	5	0	5	0	5	0
% of Spending by Customer Segments						
Residential	0%	0%	0%	0%	0%	0%
Commercial	90%	90%	90%	90%	90%	90%
Industrial	10%	10%	10%	10%	10%	10%
Farm	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%
Total % of Spending	100%	100%	100%	100%	100%	100%
Low-Income Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Renter Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Energy Savings						
Annual kWh Savings at Meter	0	0	0	0	0	0
Annual kWh Savings at Generator	0	0	0	0	0	0
Cost per Annual kWh Saved at Generator	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000
Peak kW Savings at Meter	0.000	0.000	0.000	0.000	0.000	0.000
Peak kW Savings at Generator	0.000	0.000	0.000	0.000	0.000	0.000
Cost per Peak kW Saved at Generator	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Utility Ratio	0.00	0.00	0.00	0.00	0.00	0.00
Utility NPV	($50,000)	($15,336)	($50,000)	($16,412)	($50,000)	($9,056)
Ratepayer Ratio	0.00	0.00	0.00	0.00	0.00	0.00
Ratepayer NPV	($50,000)	($15,336)	($50,000)	($16,412)	($50,000)	($9,056)
Participant Ratio	inf.	inf.	inf.	inf.	inf.	inf.
Participant NPV	$0	$5,475	$0	$7,937	$0	$5,436
Societal Ratio	0.00	0.00	0.00	0.00	0.00	0.00
Societal NPV	($50,000)	($9,861)	($50,000)	($8,476)	($50,000)	($3,619)

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	Commercial Implementation and Training					
Status:	Existing					
Year:	**2017 Proposed**	**2017 Actual**	**2018 Proposed**	**2018 Actual**	**2019 Proposed**	**2019 Actual**
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$54,000.00	$31,077.83	$54,000.00	$41,456.94	$54,000.00	$32,984.84
Administration	$2,000.00	$2,716.95	$2,000.00	$2,937.72	$2,000.00	$3,311.20
Evaluation, Measurement & Verification	$2,000.00	$2,558.79	$2,000.00	$11,140.28	$2,000.00	$3,678.91
Advertising & Promotion	$2,000.00	$780.37	$2,000.00	$1,405.70	$2,000.00	$646.27
Incentives	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Other	$0.00	$0.00	$0.00	$5,620.28	$0.00	$0.00
Total Utility Costs	$60,000.00	$37,133.93	$60,000.00	$62,560.92	$60,000.00	$40,621.22
Total Participants	250	507	250	537	250	442
% of Spending by Customer Segments						
Residential	0%	0%	0%	0%	0%	0%
Commercial	90%	90%	90%	90%	90%	90%
Industrial	10%	10%	10%	10%	10%	10%
Farm	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%
Total % of Spending	100%	100%	100%	100%	100%	100%
Low-Income Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Renter Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Energy Savings						
Annual kWh Savings at Meter	0	0	0	0	0	0
Annual kWh Savings at Generator	0	0	0	0	0	0
Cost per Annual kWh Saved at Generator	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000
Peak kW Savings at Meter	0.000	0.000	0.000	0.000	0.000	0.000
Peak kW Savings at Generator	0.000	0.000	0.000	0.000	0.000	0.000
Cost per Peak kW Saved at Generator	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Utility Ratio	0.00	0.00	0.00	0.00	0.00	0.00
Utility NPV	($60,000)	($37,134)	($60,000)	($62,561)	($60,000)	($40,621)
Ratepayer Ratio	0.00	0.00	0.00	0.00	0.00	0.00
Ratepayer NPV	($60,000)	($37,134)	($60,000)	($62,561)	($60,000)	($40,621)
Participant Ratio	inf.	inf.	inf.	inf.	inf.	inf.
Participant NPV	$0	$0	$0	$0	$0	$0
Societal Ratio	0.00	0.00	0.00	0.00	0.00	0.00
Societal NPV	($60,000)	($37,134)	($60,000)	($62,561)	($60,000)	($40,621)

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	Company-Owned Street & Area Lighting					
Status:	New					
Year:	2017 Proposed	2017 Actual	2018 Proposed	2018 Actual	2019 Proposed	2019 Actual
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$0.00	$0.00	$432,803.00	$155,301.73	$432,803.00	$344,887.37
Administration	$0.00	$0.00	$125,000.00	$0.00	$125,000.00	$0.00
Evaluation, Measurement & Verification	$0.00	$0.00	$3,000.00	$2,940.93	$3,000.00	$2,977.51
Advertising & Promotion	$0.00	$0.00	$0.00	$5,532.39	$0.00	$5,525.51
Incentives	$0.00	$0.00	$178,572.00	$222,551.60	$178,572.00	$290,284.00
Other	$0.00	$0.00	$36,108.00	$0.00	$71,620.00	$0.00
Total Utility Costs	$0.00	$0.00	$775,483.00	$386,326.65	$810,995.00	$643,674.39
Total Participants	0	0	3,892	3,831	3,892	5,995
% of Spending by Customer Segments						
Residential	0%	0%	0%	0%	0%	0%
Commercial	0%	0%	0%	0%	0%	0%
Industrial	0%	0%	0%	0%	0%	0%
Farm	0%	0%	0%	0%	0%	0%
Other	100%	100%	100%	100%	100%	100%
Total % of Spending	100%	100%	100%	100%	100%	100%
Low-Income Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Renter Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Energy Savings						
Annual kWh Savings at Meter	0	0	2,188,655	2,727,926	2,213,413	3,558,156
Annual kWh Savings at Generator	0	0	2,369,700	2,953,580	2,396,506	3,852,486
Cost per Annual kWh Saved at Generator	$0.0000	$0.0000	$0.3272	$0.1308	$0.3384	$0.1671
Peak kW Savings at Meter	0.000	0.000	0.000	0.000	0.000	0.000
Peak kW Savings at Generator	0.000	0.000	0.000	0.000	0.000	0.000
Cost per Peak kW Saved at Generator	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Utility Ratio	inf.	inf.	1.17	2.88	1.16	2.34
Utility NPV	$0	$0	$133,431	$725,806	$132,028	$861,367
Ratepayer Ratio	inf.	inf.	0.31	1.91	0.27	1.56
Ratepayer NPV	$0	$0	($2,044,171)	$528,898	($2,581,832)	$541,282
Participant Ratio	inf.	inf.	inf.	inf.	inf.	inf.
Participant NPV	$0	$0	$2,456,763	$428,557	$3,017,796	$625,157
Societal Ratio	inf.	inf.	2.99	13.38	2.90	8.30
Societal NPV	$0	$0	$1,187,200	$2,027,671	$1,199,467	$2,581,247

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	Publicly-Owned Property Solar					
Status:	Existing					
Year:	2017 Proposed	2017 Actual	2018 Proposed	2018 Actual	2019 Proposed	2019 Actual
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$8,000.00	$4,186.29	$4,000.00	$5,989.99	$8,000.00	$7,343.06
Administration	$3,000.00	$5,528.64	$3,000.00	$3,003.68	$3,000.00	$2,220.87
Evaluation, Measurement & Verification	$2,000.00	$184.32	$2,000.00	$256.21	$2,000.00	$131.46
Advertising & Promotion	$1,000.00	$62.21	$1,000.00	$188.25	$1,000.00	$0.00
Incentives	$215,625.00	$0.00	$103,125.00	$220,247.18	$215,625.00	$172,912.50
Other	$95.00	$0.00	$1,735.00	$0.00	$95.00	$0.00
Total Utility Costs	$229,720.00	$9,961.46	$114,860.00	$229,685.31	$229,720.00	$182,607.89
Total Participants	16	0	16	2	16	2
% of Spending by Customer Segments						
Residential	0%	0%	0%	0%	0%	0%
Commercial	100%	100%	100%	100%	100%	100%
Industrial	0%	0%	0%	0%	0%	0%
Farm	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%
Total % of Spending	100%	100%	100%	100%	100%	100%
Low-Income Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Renter Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Energy Savings						
Annual kWh Savings at Meter	224,250	0	224,254	81,638	224,254	0
Annual kWh Savings at Generator	242,800	0	242,805	88,391	242,805	0
Cost per Annual kWh Saved at Generator	$0.9461	$0.0000	$0.4731	$2.5985	$0.9461	$0.0000
Peak kW Savings at Meter	86.432	0.000	86.432	35.797	86.432	0.000
Peak kW Savings at Generator	93.582	0.000	93.582	38.758	93.582	0.000
Cost per Peak kW Saved at Generator	$2,454.74	$0.00	$1,227.37	$5,926.17	$2,454.74	$0.00
Utility Ratio	1.01	0.00	1.06	0.44	1.12	0.00
Utility NPV	$1,169	($9,961)	$14,304	($128,399)	$26,878	($182,608)
Ratepayer Ratio	0.52	0.00	0.53	0.30	0.50	0.00
Ratepayer NPV	($212,293)	($9,961)	($217,034)	($232,183)	($261,429)	($182,608)
Participant Ratio	0.69	inf.	0.72	1.86	0.81	inf.
Participant NPV	($199,301)	$0	($180,600)	$152,491	($120,999)	$172,913
Societal Ratio	0.62	0.00	0.64	1.04	0.67	0.00
Societal NPV	($247,937)	($9,961)	($231,696)	$7,760	($216,104)	($9,695)

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	Planning - Regulatory Affairs					
Status:	Existing					
Year:	2017 Proposed	2017 Actual	2018 Proposed	2018 Actual	2019 Proposed	2019 Actual
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$0.00	$75,828.21	$0.00	$67,626.01	$0.00	$166,185.55
Administration	$0.00	$73,966.77	$0.00	$136,037.71	$0.00	$146,159.44
Evaluation, Measurement & Verification	$0.00	$32,174.54	$0.00	$17,873.87	$0.00	$22,740.12
Advertising & Promotion	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Incentives	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Other	$300,000.00	$250.00	$300,000.00	$0.00	$300,000.00	$0.00
Total Utility Costs	$300,000.00	$182,219.52	$300,000.00	$221,537.59	$300,000.00	$335,085.11
Total Participants	0	0	0	0	0	0
% of Spending by Customer Segments						
Residential	0%	0%	0%	0%	0%	0%
Commercial	0%	0%	0%	0%	0%	0%
Industrial	0%	0%	0%	0%	0%	0%
Farm	0%	0%	0%	0%	0%	0%
Other	100%	100%	100%	100%	100%	100%
Total % of Spending	100%	100%	100%	100%	100%	100%
Low-Income Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Renter Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Energy Savings						
Annual kWh Savings at Meter	0	0	0	0	0	0
Annual kWh Savings at Generator	0	0	0	0	0	0
Cost per Annual kWh Saved at Generator	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000
Peak kW Savings at Meter	0.000	0.000	0.000	0.000	0.000	0.000
Peak kW Savings at Generator	0.000	0.000	0.000	0.000	0.000	0.000
Cost per Peak kW Saved at Generator	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Utility Ratio	0.00	0.00	0.00	0.00	0.00	0.00
Utility NPV	($300,000)	($182,220)	($300,000)	($221,538)	($300,000)	($335,085)
Ratepayer Ratio	0.00	0.00	0.00	0.00	0.00	0.00
Ratepayer NPV	($300,000)	($182,220)	($300,000)	($221,538)	($300,000)	($335,085)
Participant Ratio	inf.	inf.	inf.	inf.	inf.	inf.
Participant NPV	$0	$0	$0	$0	$0	$0
Societal Ratio	0.00	0.00	0.00	0.00	0.00	0.00
Societal NPV	($300,000)	($182,220)	($300,000)	($221,538)	($300,000)	($335,085)

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	Research and Deveopment					
Status:	Existing					
Year:	2017 Proposed	2017 Actual	2018 Proposed	2018 Actual	2019 Proposed	2019 Actual
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$0.00	$80,753.69	$0.00	$155,175.59	$0.00	$123,720.93
Administration	$0.00	$40,091.73	$0.00	$14,390.55	$0.00	$5,342.88
Evaluation, Measurement & Verification	$0.00	$0.00	$0.00	$0.00	$0.00	$1,321.88
Advertising & Promotion	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Incentives	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Other	$180,000.00	$0.00	$180,000.00	$1,500.00	$180,000.00	$0.00
Total Utility Costs	$180,000.00	$120,845.42	$180,000.00	$171,066.14	$180,000.00	$130,385.69
Total Participants	0	0	0	0	0	0
% of Spending by Customer Segments						
Residential	0%	0%	0%	0%	0%	0%
Commercial	0%	0%	0%	0%	0%	0%
Industrial	0%	0%	0%	0%	0%	0%
Farm	0%	0%	0%	0%	0%	0%
Other	100%	100%	100%	100%	100%	100%
Total % of Spending	100%	100%	100%	100%	100%	100%
Low-Income Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Renter Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Energy Savings						
Annual kWh Savings at Meter	0	0	0	0	0	0
Annual kWh Savings at Generator	0	0	0	0	0	0
Cost per Annual kWh Saved at Generator	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000
Peak kW Savings at Meter	0.000	0.000	0.000	0.000	0.000	0.000
Peak kW Savings at Generator	0.000	0.000	0.000	0.000	0.000	0.000
Cost per Peak kW Saved at Generator	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Utility Ratio	0.00	0.00	0.00	0.00	0.00	0.00
Utility NPV	($180,000)	($120,845)	($180,000)	($171,066)	($180,000)	($130,386)
Ratepayer Ratio	0.00	0.00	0.00	0.00	0.00	0.00
Ratepayer NPV	($180,000)	($120,845)	($180,000)	($171,066)	($180,000)	($130,386)
Participant Ratio	inf.	inf.	inf.	inf.	inf.	inf.
Participant NPV	$0	$0	$0	$0	$0	$0
Societal Ratio	0.00	0.00	0.00	0.00	0.00	0.00
Societal NPV	($180,000)	($120,845)	($180,000)	($171,066)	($180,000)	($130,386)

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	NGEA - Regulatory Assessments					
Status:	Existing					
Year:	2017 Proposed	2017 Actual	2018 Proposed	2018 Actual	2019 Proposed	2019 Actual
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Administration	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Evaluation, Measurement & Verification	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Advertising & Promotion	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Incentives	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Other	$110,000.00	$108,515.95	$110,000.00	$101,236.91	$110,000.00	$98,307.02
Total Utility Costs	$110,000.00	$108,515.95	$110,000.00	$101,236.91	$110,000.00	$98,307.02
Total Participants	0	0	0	0	0	0
% of Spending by Customer Segments						
Residential	0%	0%	0%	0%	0%	0%
Commercial	0%	0%	0%	0%	0%	0%
Industrial	0%	0%	0%	0%	0%	0%
Farm	0%	0%	0%	0%	0%	0%
Other	100%	100%	100%	100%	100%	100%
Total % of Spending	100%	100%	100%	100%	100%	100%
Low-Income Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Renter Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Energy Savings						
Annual kWh Savings at Meter	0	0	0	0	0	0
Annual kWh Savings at Generator	0	0	0	0	0	0
Cost per Annual kWh Saved at Generator	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000
Peak kW Savings at Meter	0.000	0.000	0.000	0.000	0.000	0.000
Peak kW Savings at Generator	0.000	0.000	0.000	0.000	0.000	0.000
Cost per Peak kW Saved at Generator	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Utility Ratio	0.00	0.00	0.00	0.00	0.00	0.00
Utility NPV	($110,000)	($108,516)	($110,000)	($101,237)	($110,000)	($98,307)
Ratepayer Ratio	0.00	0.00	0.00	0.00	0.00	0.00
Ratepayer NPV	($110,000)	($108,516)	($110,000)	($101,237)	($110,000)	($98,307)
Participant Ratio	inf.	inf.	inf.	inf.	inf.	inf.
Participant NPV	$0	$0	$0	$0	$0	$0
Societal Ratio	0.00	0.00	0.00	0.00	0.00	0.00
Societal NPV	($110,000)	($108,516)	($110,000)	($101,237)	($110,000)	($98,307)

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	PUC Assessments					
Status:	Existing					
Year:	2017 Proposed	2017 Actual	2018 Proposed	2018 Actual	2019 Proposed	2019 Actual
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Administration	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Evaluation, Measurement & Verification	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Advertising & Promotion	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Incentives	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Other	$20,000.00	$5,618.09	$20,000.00	$22,070.97	$20,000.00	$29,139.83
Total Utility Costs	$20,000.00	$5,618.09	$20,000.00	$22,070.97	$20,000.00	$29,139.83
Total Participants	0	0	0	0	0	0
% of Spending by Customer Segments						
Residential	0%	0%	0%	0%	0%	0%
Commercial	0%	0%	0%	0%	0%	0%
Industrial	0%	0%	0%	0%	0%	0%
Farm	0%	0%	0%	0%	0%	0%
Other	100%	100%	100%	100%	100%	100%
Total % of Spending	100%	100%	100%	100%	100%	100%
Low-Income Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Renter Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Energy Savings						
Annual kWh Savings at Meter	0	0	0	0	0	0
Annual kWh Savings at Generator	0	0	0	0	0	0
Cost per Annual kWh Saved at Generator	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000
Peak kW Savings at Meter	0.000	0.000	0.000	0.000	0.000	0.000
Peak kW Savings at Generator	0.000	0.000	0.000	0.000	0.000	0.000
Cost per Peak kW Saved at Generator	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Utility Ratio	0.00	0.00	0.00	0.00	0.00	0.00
Utility NPV	($20,000)	($5,618)	($20,000)	($22,071)	($20,000)	($29,140)
Ratepayer Ratio	0.00	0.00	0.00	0.00	0.00	0.00
Ratepayer NPV	($20,000)	($5,618)	($20,000)	($22,071)	($20,000)	($29,140)
Participant Ratio	inf.	inf.	inf.	inf.	inf.	inf.
Participant NPV	$0	$0	$0	$0	$0	$0
Societal Ratio	0.00	0.00	0.00	0.00	0.00	0.00
Societal NPV	($20,000)	($5,618)	($20,000)	($22,071)	($20,000)	($29,140)

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	Transmission & Distribution Cost Study					
Status:						
Year:	**2017 Proposed**	**2017 Actual**	**2018 Proposed**	**2018 Actual**	**2019 Proposed**	**2019 Actual**
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery	$0.00	$13,373.86	$0.00	$0.00	$0.00	$0.00
Administration	$0.00	$7,366.51	$0.00	$1,304.14	$0.00	$139.02
Evaluation, Measurement & Verification	$0.00	$11,326.83	$0.00	$956.55	$0.00	$3,732.50
Advertising & Promotion	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Incentives	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Other	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total Utility Costs	$0.00	$32,067.20	$0.00	$2,260.69	$0.00	$3,871.52
Total Participants	0	0	0	0	0	0
% of Spending by Customer Segments						
Residential	0%	0%	0%	0%	0%	0%
Commercial	0%	0%	0%	0%	0%	0%
Industrial	0%	0%	0%	0%	0%	0%
Farm	0%	0%	0%	0%	0%	0%
Other	100%	100%	100%	100%	100%	100%
Total % of Spending	100%	100%	100%	100%	100%	100%
Low-Income Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Renter Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Energy Savings						
Annual kWh Savings at Meter	0	0	0	0	0	0
Annual kWh Savings at Generator	0	0	0	0	0	0
Cost per Annual kWh Saved at Generator	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000
Peak kW Savings at Meter	0.000	0.000	0.000	0.000	0.000	0.000
Peak kW Savings at Generator	0.000	0.000	0.000	0.000	0.000	0.000
Cost per Peak kW Saved at Generator	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Utility Ratio	inf.	0.00	inf.	0.00	inf.	0.00
Utility NPV	$0	($32,067)	$0	($2,261)	$0	($3,872)
Ratepayer Ratio	inf.	0.00	inf.	0.00	inf.	0.00
Ratepayer NPV	$0	($32,067)	$0	($2,261)	$0	($3,872)
Participant Ratio	inf.	inf.	inf.	inf.	inf.	inf.
Participant NPV	$0	$0	$0	$0	$0	$0
Societal Ratio	inf.	0.00	inf.	0.00	inf.	0.00
Societal NPV	$0	($32,067)	$0	($2,261)	$0	($3,872)

* Percentage derived from 2010 Census data.

Electric Conservation Project Information Sheet
Otter Tail Power Company

Category:	Town Energy Challenge & Accounting Adjustments					
Status:						
Year:	**2017 Proposed**	**2017 Actual**	**2018 Proposed**	**2018 Actual**	**2019 Proposed**	**2019 Actual**
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%	7.640%	7.640%
Utility Costs						
Delivery		$0.00		$0.00		$0.00
Administration		$0.00		$0.00		$0.00
Evaluation, Measurement & Verification		$0.00		$0.00		$0.00
Advertising & Promotion		$0.00		$0.00		$0.00
Incentives		$0.00		$0.00		$0.00
Other		$15,670.86		$11,156.22		$320.49
Total Utility Costs		$15,670.86		$11,156.22		$320.49
Total Participants						
% of Spending by Customer Segments						
Residential	0%	0%	0%	0%	0%	0%
Commercial	0%	0%	0%	0%	0%	0%
Industrial	0%	0%	0%	0%	0%	0%
Farm	0%	0%	0%	0%	0%	0%
Other	100%	100%	100%	100%	100%	100%
Total % of Spending	100%	100%	100%	100%	100%	100%
Low-Income Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Renter Participation*						
Participants % (% of Total Participants)						
Budget % (% of Total Utility Costs)						
Energy Savings						
Annual kWh Savings at Meter						
Annual kWh Savings at Generator						
Cost per Annual kWh Saved at Generator						
Peak kW Savings at Meter						
Peak kW Savings at Generator						
Cost per Peak kW Saved at Generator						
Utility Ratio		0.00		0.00		0.00
Utility NPV		($15,671)		($11,156)		($320)
Ratepayer Ratio		0.00		0.00		0.00
Ratepayer NPV		($15,671)		($11,156)		($320)
Participant Ratio		inf.		inf.		inf.
Participant NPV		$0		$0		$0
Societal Ratio		0.00		0.00		0.00
Societal NPV		($15,671)		($11,156)		($320)

* Percentage derived from 2010 Census data.

Otter Tail Power Company **Exhibit 1**

CIP TRACKER AND CALCULATION OF PROPOSED CCRA **Page 1 of 1**

-based on projected 2020 sales and 2019 financial incentive

		January 2020	February 2020	March* 2020	April 2020	May 2020	June 2020	July 2020	August 2020	September 2020	Total
1	Beginning of Period Balance	$3,955,955	$2,697,239	$1,637,138	$1,134,034	$821,714	$312,284	($462,726)	($1,357,835)	($1,926,145)	
2	Carrying Charge Rate	2.55%	2.55%	2.55%	2.55%	2.55%	2.55%	2.55%	2.55%	2.55%	
3	Monthly Carrying Charge	$8,423	$5,743	$3,486	$2,414	$1,750	$665	($985)	($2,891)	($4,101)	$14,503
4	CIP Program Charges	$273,484	$393,189	$861,809	$978,659	$613,881	$340,011	$301,009	$689,325	$729,979	$5,181,346
5	CIP Incentive	$0	$0	$0	$0	$0	$0	$0	$0	$2,718,378	$2,718,378
6	Less: CIP Recovery thru Base Rates	($399,690)	($349,328)	($327,098)	($309,139)	($268,905)	($266,664)	($285,653)	($299,901)	($286,373)	($2,792,751)
7	Less: Conservation Adjustment (CIP Revenue)	($1,140,932)	($1,109,705)	($1,041,302)	($984,254)	($856,155)	($849,021)	($909,479)	($954,843)	($911,769)	($8,757,461)
8	End of Period Balance	$2,697,239	$1,637,138	$1,134,034	$821,714	$312,284	($462,726)	($1,357,835)	($1,926,145)	$319,969	
9	**CCRA through September 2020**	**$0.00710**									
10	Projected sales (kWh)	179,233,085	156,649,139	146,680,673	138,627,300	120,585,271	119,580,440	128,095,635	134,484,913	128,418,224	
11	CCRC / kWh	$0.00223	$0.00223	$0.00223	$0.00223	$0.00223	$0.00223	$0.00223	$0.00223	$0.00223	

		October 2020	November 2020	December 2020	January 2021	February 2021	March 2021	April 2021	May 2021	June 2021	July 2021	August 2021	September 2021	Total
1	Beginning of Period Balance	$319,969	$169,996	($79,452)	$1,201,305	$217,114	($635,163)	($883,069)	($897,918)	($1,147,256)	($1,662,102)	($2,276,360)	($2,548,279)	($8,221,214)
2	Carrying Charge Rate	2.55%	2.55%	2.55%	2.55%	2.55%	2.55%	2.55%	2.55%	2.55%	2.55%	2.55%	2.55%	
3	Monthly Carrying Charge	$681	$362	($169)	$2,558	$462	($1,352)	($1,880)	($1,912)	($2,443)	($3,539)	($4,847)	($5,426)	($17,504)
4	CIP Program Charges	$709,311	$733,076	$2,376,268	$273,484	$393,189	$861,809	$978,659	$613,881	$340,011	$301,009	$689,325	$729,979	$9,000,000
5	CIP Incentive	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,700,000	$2,700,000
6	Less: CIP Recovery thru Base Rates	($270,865)	($309,581)	($345,002)	($396,937)	($392,433)	($349,103)	($312,335)	($271,287)	($268,487)	($287,168)	($301,239)	($287,520)	($3,791,956)
7	Less: Conservation Adjustment (CIP Revenue)	($589,101)	($673,304)	($750,340)	($863,295)	($853,497)	($759,260)	($679,293)	($590,020)	($583,928)	($624,559)	($655,160)	($625,324)	($8,247,080)
8	End of Period Balance	$169,996	($79,452)	$1,201,305	$217,114	($635,163)	($883,069)	($897,918)	($1,147,256)	($1,662,102)	($2,276,360)	($2,548,279)	($36,570)	
9	**CCRA PROPOSED ($ / kWh)**	**$0.00485**												
10	Projected sales (kWh)	121,464,059	138,825,548	154,709,369	177,998,873	175,978,700	156,548,358	140,060,464	121,653,509	120,397,540	128,775,035	135,084,542	128,932,783	1,700,428,780
11	CCRC / kWh	$0.00223	$0.00223	$0.00223	$0.00223	$0.00223	$0.00223	$0.00223	$0.00223	$0.00223	$0.00223	$0.00223	$0.00223	

*Actual data was used through March 2020, forecast used thereafter.

CERTIFICATE OF SERVICE

RE: In the Matter of Otter Tail Power Company's 2019 Demand Side Management Financial Incentive Project, Annual Filing to Update the Conservation Improvement Project Rider, and 2019 CIP Status Report
Docket Nos. E017/M-20-___, E017/CIP-16-116.03

I, Kim Ward, hereby certify that I have this day served a copy of the following, or a summary thereof, on Will Seuffert and Sharon Ferguson by e-filing, and to all other persons on the attached service list by electronic service or by First Class mail.

Otter Tail Power Company
Initial Filing

Dated this **1st** day of **May**, **2020**

/s/ KIM WARD
Kim Ward
Regulatory Filing Coordinator
Otter Tail Power Company
215 South Cascade Street
Fergus Falls MN 56537
(218) 739-8268

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Christopher	Anderson	canderson@allete.com	Minnesota Power	30 W Superior St Duluth, MN 558022191	Electronic Service	No	GEN_SL_Otter Tail Power Company_Otter Tail Power Company_2017-2019 CIP Triennial Plans Status Report
Ray	Choquette	rchoquette@agp.com	Ag Processing Inc.	12700 West Dodge Road PO Box 2047 Omaha, NE 68103-2047	Electronic Service	No	GEN_SL_Otter Tail Power Company_Otter Tail Power Company_2017-2019 CIP Triennial Plans Status Report
Generic Notice	Commerce Attorneys	commerce.attorneys@ag.state.mn.us	Office of the Attorney General-DOC	445 Minnesota Street Suite 1400 St. Paul, MN 55101	Electronic Service	No	GEN_SL_Otter Tail Power Company_Otter Tail Power Company_2017-2019 CIP Triennial Plans Status Report
James C.	Erickson	jericksonkbc@gmail.com	Kelly Bay Consulting	17 Quechee St Superior, WI 54880-4421	Electronic Service	No	GEN_SL_Otter Tail Power Company_Otter Tail Power Company_2017-2019 CIP Triennial Plans Status Report
Sharon	Ferguson	sharon.ferguson@state.mn.us	Department of Commerce	85 7th Place E Ste 280 Saint Paul, MN 551012198	Electronic Service	No	GEN_SL_Otter Tail Power Company_Otter Tail Power Company_2017-2019 CIP Triennial Plans Status Report
Shane	Henriksen	shane.henriksen@enbridge.com	Enbridge Energy Company, Inc.	1409 Hammond Ave FL 2 Superior, WI 54880	Electronic Service	No	GEN_SL_Otter Tail Power Company_Otter Tail Power Company_2017-2019 CIP Triennial Plans Status Report
Douglas	Larson	dlarson@dakotaelectric.com	Dakota Electric Association	4300 220th St W Farmington, MN 55024	Electronic Service	No	GEN_SL_Otter Tail Power Company_Otter Tail Power Company_2017-2019 CIP Triennial Plans Status Report
James D.	Larson	james.larson@avantenergy.com	Avant Energy Services	220 S 6th St Ste 1300 Minneapolis, MN 55402	Electronic Service	No	GEN_SL_Otter Tail Power Company_Otter Tail Power Company_2017-2019 CIP Triennial Plans Status Report
Kavita	Maini	kmaini@wi.rr.com	KM Energy Consulting, LLC	961 N Lost Woods Rd Oconomowoc, WI 53066	Electronic Service	No	GEN_SL_Otter Tail Power Company_Otter Tail Power Company_2017-2019 CIP Triennial Plans Status Report
Andrew	Moratzka	andrew.moratzka@stoel.com	Stoel Rives LLP	33 South Sixth St Ste 4200 Minneapolis, MN 55402	Electronic Service	No	GEN_SL_Otter Tail Power Company_Otter Tail Power Company_2017-2019 CIP Triennial Plans Status Report

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Generic Notice	Residential Utilities Division	residential.utilities@ag.state.mn.us	Office of the Attorney General-RUD	1400 BRM Tower 445 Minnesota St St. Paul, MN 551012131	Electronic Service	No	GEN_SL_Otter Tail Power Company_Otter Tail Power Company_2017-2019 CIP Triennial Plans Status Report
Larry L.	Schedin	Larry@LLSResources.com	LLS Resources, LLC	332 Minnesota St, Ste W1390 St. Paul, MN 55101	Electronic Service	No	GEN_SL_Otter Tail Power Company_Otter Tail Power Company_2017-2019 CIP Triennial Plans Status Report
Will	Seuffert	Will.Seuffert@state.mn.us	Public Utilities Commission	121 7th Pl E Ste 350 Saint Paul, MN 55101	Electronic Service	No	GEN_SL_Otter Tail Power Company_Otter Tail Power Company_2017-2019 CIP Triennial Plans Status Report
Cary	Stephenson	cStephenson@otpco.com	Otter Tail Power Company	215 South Cascade Street Fergus Falls, MN 56537	Electronic Service	No	GEN_SL_Otter Tail Power Company_Otter Tail Power Company_2017-2019 CIP Triennial Plans Status Report
Stuart	Tommerdahl	stommerdahl@otpco.com	Otter Tail Power Company	215 S Cascade St PO Box 496 Fergus Falls, MN 56537	Electronic Service	No	GEN_SL_Otter Tail Power Company_Otter Tail Power Company_2017-2019 CIP Triennial Plans Status Report

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Tom	Balster	tombalster@alliantenergy.com	Interstate Power & Light Company	PO Box 351 200 1st St SE Cedar Rapids, IA 524060351	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Lisa	Beckner	lbeckner@mnpower.com	Minnesota Power	30 W Superior St Duluth, MN 55802	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
William	Black	bblack@mmua.org	MMUA	Suite 400 3025 Harbor Lane North Plymouth, MN 554475142	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Christina	Brusven	cbrusven@fredlaw.com	Fredrikson Byron	200 S 6th St Ste 4000 Minneapolis, MN 554021425	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Charlie	Buck	charlie.buck@oracle.com	Oracle	760 Market St FL 4 San Francisco, CA 94102	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Ray	Choquette	rchoquette@agp.com	Ag Processing Inc.	12700 West Dodge Road PO Box 2047 Omaha, NE 68103-2047	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Generic Notice	Commerce Attorneys	commerce.attorneys@ag.state.mn.us	Office of the Attorney General-DOC	445 Minnesota Street Suite 1400 St. Paul, MN 55101	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
George	Crocker	gwillc@nawo.org	North American Water Office	PO Box 174 Lake Elmo, MN 55042	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Steve	Downer	sdowner@mmua.org	MMUA	3025 Harbor Ln N Ste 400 Plymouth, MN 554475142	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Charles	Drayton	charles.drayton@enbridge.com	Enbridge Energy Company, Inc.	7701 France Ave S Ste 600 Edina, MN 55435	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Jim	Erchul	jerchul@dbnhs.org	Daytons Bluff Neighborhood Housing Sv.	823 E 7th St St. Paul, MN 55106	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Greg	Ernst	gaernst@q.com	G. A. Ernst & Associates, Inc.	2377 Union Lake Trl Northfield, MN 55057	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Melissa S	Feine	melissa.feine@semcac.org	SEMCAC	PO Box 549 204 S Elm St Rushford, MN 55971	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Sharon	Ferguson	sharon.ferguson@state.mn.us	Department of Commerce	85 7th Place E Ste 280 Saint Paul, MN 551012198	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Karolanne	Foley	Karolanne.foley@dairylandpower.com	Dairyland Power Cooperative	PO Box 817 La Crosse, WI 54602-0817	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Rob	Friend	rfriend@mnchamber.com	Minnesota Chamber of Commerce - MN Waste Wise Foundation	400 Robert St N Ste 1500 Saint Paul, MN 55101	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Angela E.	Gordon	agordon@trccompanies.com	Lockheed Martin	1000 Clark Ave. St. Louis, MO 63102	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Pat	Green	N/A	N Energy Dev	City Hall 401 E 21st St Hibbing, MN 55746	Paper Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Jason	Grenier	jgrenier@otpco.com	Otter Tail Power Company	215 South Cascade Street Fergus Falls, MN 56537	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Jeffrey	Haase	jhaase@grenergy.com	Great River Energy	12300 Elm Creek Blvd Maple Grove, MN 55369	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Tony	Hainault	anthony.hainault@co.hennepin.mn.us	Hennepin County DES	701 4th Ave S Ste 700 Minneapolis, MN 55415-1842	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Tyler	Hamman	tylerh@bepc.com	Basin Electric Power Cooperative	1717 E Interstate Ave Bismarck, ND 58501	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Patty	Hanson	phanson@rpu.org	Rochester Public Utilities	4000 E River Rd NE Rochester, MN 55906	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Norm	Harold	N/A	NKS Consulting	5591 E 180th St Prior Lake, MN 55372	Paper Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Jared	Hendricks	jared.hendricks@owatonnautilities.com	Owatonna Public Utilities	PO Box 800 208 S Walnut Ave Owatonna, MN 55060-2940	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Dave	Johnson	dave.johnson@aeoa.org	Arrowhead Economic Opportunity Agency	702 3rd Ave S Virginia, MN 55792	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Deborah	Knoll	dknoll@mnpower.com	Minnesota Power	30 W Superior St Duluth, MN 55802	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Tina	Koecher	tkoecher@mnpower.com	Minnesota Power	30 W Superior St Duluth, MN 558022093	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Kelly	Lady	kellyl@austinutilities.com	Austin Utilities	400 4th St NE Austin, MN 55912	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Erica	Larson	erica.larson@centerpointenergy.com	CenterPoint Energy	505 Nicollet Avenue P.O. Box 59038 Minneapolis, Minnesota 55459-0038	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Martin	Lepak	Martin.Lepak@aeoa.org	Arrowhead Economic Opportunity	702 S 3rd Ave Virginia, MN 55792	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Corey	Lubovich	coreyl@hpuc.com	Hibbing Public Utilities Commission	1902 6th Ave E Hibbing, MN 55746	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Nick	Mark	nick.mark@centerpointenergy.com	CenterPoint Energy	505 Nicollet Mall Minneapolis, MN 55402	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Pam	Marshall	pam@energycents.org	Energy CENTS Coalition	823 7th St E St. Paul, MN 55106	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Scot	McClure	scotmcclure@alliantenergy.com	Interstate Power And Light Company	4902 N Biltmore Ln PO Box 77007 Madison, WI 537071007	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
John	McWilliams	John.McWilliams@DairylandPower.com	Dairyland Power Cooperative	3200 East Ave SPO Box 817 La Crosse, WI 54601-7227	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Brian	Meloy	brian.meloy@stinson.com	STINSON LLP	50 S 6th St Ste 2600 Minneapolis, MN 55402	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
David	Moeller	dmoeller@allete.com	Minnesota Power	30 W Superior St Duluth, MN 558022093	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Andrew	Moratzka	andrew.moratzka@stoel.com	Stoel Rives LLP	33 South Sixth St Ste 4200 Minneapolis, MN 55402	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Carl	Nelson	cnelson@mncee.org	Center for Energy and Environment	212 3rd Ave N Ste 560 Minneapolis, MN 55401	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Samantha	Norris	samanthanorris@alliantenergy.com	Interstate Power and Light Company	200 1st Street SE PO Box 351 Cedar Rapids, IA 524060351	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Audrey	Partridge	apartridge@mncee.org	Center for Energy and Environment	212 3rd Ave. N. Suite 560 Minneapolis, Minnesota 55401	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Joyce	Peppin	joyce@mrea.org	Minnesota Rural Electric Association	11640 73rd Ave N Maple Grove, MN 55369	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Lisa	Pickard	lseverson@minnkota.com	Minnkota Power Cooperative	5301 32nd Ave S Grand Forks, ND 58201	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Bill	Poppert	info@technologycos.com	Technology North	2433 Highwood Ave St. Paul, MN 55119	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Kathleen A	Prestidge	Kathy.Prestidge@stoel.com	Stoel Rives LLP	33 S 6th St Ste 4200 Minneapolis, MN 55402	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Dave	Reinke	dreinke@dakotaelectric.com	Dakota Electric Association	4300 220th St W Farmington, MN 55024-9583	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Generic Notice	Residential Utilities Division	residential.utilities@ag.state.mn.us	Office of the Attorney General-RUD	1400 BRM Tower 445 Minnesota St St. Paul, MN 551012131	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Chris	Rustad	crustad@mnchamber.com	Minnesota Chamber of Commerce	400 Robert St N Ste 1500 Saint Paul, MN 55101	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Christopher	Schoenherr	cp.schoenherr@smmpa.org	SMMPA	500 First Ave SW Rochester, MN 55902-3303	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Lauryn	Schothorst	lschothorst@mnchamber.com		400 Robert St N Ste 1500 Saint Paul, MN 55101	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Will	Seuffert	Will.Seuffert@state.mn.us	Public Utilities Commission	121 7th Pl E Ste 350 Saint Paul, MN 55101	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Ken	Smith	ken.smith@districtenergy.com	District Energy St. Paul Inc.	76 W Kellogg Blvd St. Paul, MN 55102	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Anna	Sommer	ASommer@energyfuturesgroup.com	Energy Futures Group	PO Box 692 Canton, NY 13617	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Russ	Stark	Russ.Stark@ci.stpaul.mn.us	City of St. Paul	390 City Hall 15 West Kellogg Boulevard Saint Paul, MN 55102	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Lynnette	Sweet	Regulatory.records@xcelenergy.com	Xcel Energy	414 Nicollet Mall FL 7 Minneapolis, MN 554011993	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Kodi	Verhalen	kverhalen@taftlaw.com	Taft Stettinius & Hollister LLP	80 S 8th St Ste 2200 Minneapolis, MN 55402	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Michael	Volker	mvolker@eastriver.coop	East River Electric Power Coop	211 S. Harth Ave Madison, SD 57042	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Sharon N.	Walsh	swalsh@shakopeeutilities.com	Shakopee Public Utilties	255 Sarazin St Shakopee, MN 55379	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST
Ethan	Warner	ethan.warner@centerpointenergy.com	CenterPoint Energy	505 Nicollet Mall Minneapolis, Minnesota 55402	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Robyn	Woeste	robynwoeste@alliantenergy.com	Interstate Power and Light Company	200 First St SE Cedar Rapids, IA 52401	Electronic Service	No	SPL_SL__CIP SPECIAL SERVICE LIST

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Christopher	Anderson	canderson@allete.com	Minnesota Power	30 W Superior St Duluth, MN 558022191	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Tom	Balster	tombalster@alliantenergy.com	Interstate Power & Light Company	PO Box 351 200 1st St SE Cedar Rapids, IA 524060351	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Lisa	Beckner	lbeckner@mnpower.com	Minnesota Power	30 W Superior St Duluth, MN 55802	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
William	Black	bblack@mmua.org	MMUA	Suite 400 3025 Harbor Lane North Plymouth, MN 554475142	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Christina	Brusven	cbrusven@fredlaw.com	Fredrikson Byron	200 S 6th St Ste 4000 Minneapolis, MN 554021425	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Charlie	Buck	charlie.buck@oracle.com	Oracle	760 Market St FL 4 San Francisco, CA 94102	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Ray	Choquette	rchoquette@agp.com	Ag Processing Inc.	12700 West Dodge Road PO Box 2047 Omaha, NE 68103-2047	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Generic Notice	Commerce Attorneys	commerce.attorneys@ag.state.mn.us	Office of the Attorney General-DOC	445 Minnesota Street Suite 1400 St. Paul, MN 55101	Electronic Service	Yes	OFF_SL_16-116_E017.CIP-16-116
George	Crocker	gwillc@nawo.org	North American Water Office	PO Box 174 Lake Elmo, MN 55042	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Steve	Downer	sdowner@mmua.org	MMUA	3025 Harbor Ln N Ste 400 Plymouth, MN 554475142	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Charles	Drayton	charles.drayton@enbridge.com	Enbridge Energy Company, Inc.	7701 France Ave S Ste 600 Edina, MN 55435	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Jim	Erchul	jerchul@dbnhs.org	Daytons Bluff Neighborhood Housing Sv.	823 E 7th St St. Paul, MN 55106	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
James C.	Erickson	jericksonkbc@gmail.com	Kelly Bay Consulting	17 Quechee St Superior, WI 54880-4421	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Greg	Ernst	gaernst@q.com	G. A. Ernst & Associates, Inc.	2377 Union Lake Trl Northfield, MN 55057	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Melissa S	Feine	melissa.feine@semcac.org	SEMCAC	PO Box 549 204 S Elm St Rushford, MN 55971	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Sharon	Ferguson	sharon.ferguson@state.mn.us	Department of Commerce	85 7th Place E Ste 280 Saint Paul, MN 551012198	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Karolanne	Foley	Karolanne.foley@dairylandpower.com	Dairyland Power Cooperative	PO Box 817 La Crosse, WI 54602-0817	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Bruce	Gerhardson	bgerhardson@otpco.com	Otter Tail Power Company	PO Box 496 215 S Cascade St Fergus Falls, MN 565380496	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Angela E.	Gordon	agordon@trccompanies.com	Lockheed Martin	1000 Clark Ave. St. Louis, MO 63102	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Pat	Green	N/A	N Energy Dev	City Hall 401 E 21st St Hibbing, MN 55746	Paper Service	No	OFF_SL_16-116_E017.CIP-16-116

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Jason	Grenier	jgrenier@otpco.com	Otter Tail Power Company	215 South Cascade Street Fergus Falls, MN 56537	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Tony	Hainault	anthony.hainault@co.hennepin.mn.us	Hennepin County DES	701 4th Ave S Ste 700 Minneapolis, MN 55415-1842	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Tyler	Hamman	tylerh@bepc.com	Basin Electric Power Cooperative	1717 E Interstate Ave Bismarck, ND 58501	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Patty	Hanson	phanson@rpu.org	Rochester Public Utilities	4000 E River Rd NE Rochester, MN 55906	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Norm	Harold	N/A	NKS Consulting	5591 E 180th St Prior Lake, MN 55372	Paper Service	No	OFF_SL_16-116_E017.CIP-16-116
Scott	Hautala	scotth@hpuc.com	Hibbing Public Utilities	1902 E 6th Ave Hibbing, MN 55746	Paper Service	No	OFF_SL_16-116_E017.CIP-16-116
Jared	Hendricks	jared.hendricks@owatonnautilities.com	Owatonna Public Utilities	PO Box 800 208 S Walnut Ave Owatonna, MN 55060-2940	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Shane	Henriksen	shane.henriksen@enbridge.com	Enbridge Energy Company, Inc.	1409 Hammond Ave FL 2 Superior, WI 54880	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Holly	Hinman	holly.r.hinman@xcelenergy.com	Xcel Energy	414 Nicollet Mall, 7th Floor Minneapolis, MN 55401	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Dave	Johnson	dave.johnson@aeoa.org	Arrowhead Economic Opportunity Agency	702 3rd Ave S Virginia, MN 55792	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Deborah	Knoll	dknoll@mnpower.com	Minnesota Power	30 W Superior St Duluth, MN 55802	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Tina	Koecher	tkoecher@mnpower.com	Minnesota Power	30 W Superior St Duluth, MN 558022093	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Kelly	Lady	kellyl@austinutilities.com	Austin Utilities	400 4th St NE Austin, MN 55912	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
James D.	Larson	james.larson@avantenergy.com	Avant Energy Services	220 S 6th St Ste 1300 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Douglas	Larson	dlarson@dakotaelectric.com	Dakota Electric Association	4300 220th St W Farmington, MN 55024	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Erica	Larson	erica.larson@centerpointenergy.com	CenterPoint Energy	505 Nicollet Avenue P.O. Box 59038 Minneapolis, Minnesota 55459-0038	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Martin	Lepak	Martin.Lepak@aeoa.org	Arrowhead Economic Opportunity	702 S 3rd Ave Virginia, MN 55792	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Kavita	Maini	kmaini@wi.rr.com	KM Energy Consulting, LLC	961 N Lost Woods Rd Oconomowoc, WI 53066	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Nick	Mark	nick.mark@centerpointenergy.com	CenterPoint Energy	505 Nicollet Mall Minneapolis, MN 55402	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Pam	Marshall	pam@energycents.org	Energy CENTS Coalition	823 7th St E St. Paul, MN 55106	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Scot	McClure	scotmcclure@alliantenergy.com	Interstate Power And Light Company	4902 N Biltmore Ln PO Box 77007 Madison, WI 537071007	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
John	McWilliams	John.McWilliams@DairylandPower.com	Dairyland Power Cooperative	3200 East Ave SPO Box 817 La Crosse, WI 54601-7227	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Brian	Meloy	brian.meloy@stinson.com	STINSON LLP	50 S 6th St Ste 2600 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
David	Moeller	dmoeller@allete.com	Minnesota Power	30 W Superior St Duluth, MN 558022093	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Andrew	Moratzka	andrew.moratzka@stoel.com	Stoel Rives LLP	33 South Sixth St Ste 4200 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Carl	Nelson	cnelson@mncee.org	Center for Energy and Environment	212 3rd Ave N Ste 560 Minneapolis, MN 55401	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Samantha	Norris	samanthanorris@alliantenergy.com	Interstate Power and Light Company	200 1st Street SE PO Box 351 Cedar Rapids, IA 524060351	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Audrey	Partridge	apartridge@mncee.org	Center for Energy and Environment	212 3rd Ave. N. Suite 560 Minneapolis, Minnesota 55401	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Joyce	Peppin	joyce@mrea.org	Minnesota Rural Electric Association	11640 73rd Ave N Maple Grove, MN 55369	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Lisa	Pickard	lseverson@minnkota.com	Minnkota Power Cooperative	5301 32nd Ave S Grand Forks, ND 58201	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Bill	Poppert	info@technologycos.com	Technology North	2433 Highwood Ave St. Paul, MN 55119	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Kathleen A	Prestidge	Kathy.Prestidge@stoel.com	Stoel Rives LLP	33 S 6th St Ste 4200 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Dave	Reinke	dreinke@dakotaelectric.com	Dakota Electric Association	4300 220th St W Farmington, MN 55024-9583	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Generic Notice	Residential Utilities Division	residential.utilities@ag.state.mn.us	Office of the Attorney General-RUD	1400 BRM Tower 445 Minnesota St St. Paul, MN 551012131	Electronic Service	Yes	OFF_SL_16-116_E017.CIP-16-116
Larry L.	Schedin	Larry@LLSResources.com	LLS Resources, LLC	332 Minnesota St, Ste W1390 St. Paul, MN 55101	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Christopher	Schoenherr	cp.schoenherr@smmpa.org	SMMPA	500 First Ave SW Rochester, MN 55902-3303	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Will	Seuffert	Will.Seuffert@state.mn.us	Public Utilities Commission	121 7th Pl E Ste 350 Saint Paul, MN 55101	Electronic Service	Yes	OFF_SL_16-116_E017.CIP-16-116
Ken	Smith	ken.smith@districtenergy.com	District Energy St. Paul Inc.	76 W Kellogg Blvd St. Paul, MN 55102	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Anna	Sommer	ASommer@energyfuturesgroup.com	Energy Futures Group	PO Box 692 Canton, NY 13617	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Russ	Stark	Russ.Stark@ci.stpaul.mn.us	City of St. Paul	390 City Hall 15 West Kellogg Boulevard Saint Paul, MN 55102	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Cary	Stephenson	cStephenson@otpco.com	Otter Tail Power Company	215 South Cascade Street Fergus Falls, MN 56537	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Lynnette	Sweet	Regulatory.records@xcelenergy.com	Xcel Energy	414 Nicollet Mall FL 7 Minneapolis, MN 554011993	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Stuart	Tommerdahl	stommerdahl@otpco.com	Otter Tail Power Company	215 S Cascade St PO Box 496 Fergus Falls, MN 56537	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Kodi	Verhalen	kverhalen@taftlaw.com	Taft Stettinius & Hollister LLP	80 S 8th St Ste 2200 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Michael	Volker	mvolker@eastriver.coop	East River Electric Power Coop	211 S. Harth Ave Madison, SD 57042	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Sharon N.	Walsh	swalsh@shakopeeutilities.com	Shakopee Public Utilties	255 Sarazin St Shakopee, MN 55379	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Ethan	Warner	ethan.warner@centerpointenergy.com	CenterPoint Energy	505 Nicollet Mall Minneapolis, Minnesota 55402	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116
Robyn	Woeste	robynwoeste@alliantenergy.com	Interstate Power and Light Company	200 First St SE Cedar Rapids, IA 52401	Electronic Service	No	OFF_SL_16-116_E017.CIP-16-116