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March 31, 2017

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

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

RE: 2016 Demand Side Management Financial Incentive Project
Docket No. E017/M-17-

Annual Filing to Update the Conservation Improvement Project Rider
Docket No. E017/M-17-

2016 Conservation Improvement Project Status Report
Docket No. E017/CIP-13-277.03

Dear Mr. Wolf and Deputy Commissioner Grant:

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

2016 DSM INCENTIVE, FILING TO UPDATE THE RIDER, AND STATUS REPORT
EXECUTIVE SUMMARY

On March 31, 2017, 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 filing of the Demand Side Management (DSM) Financial Mechanism. The Company is requesting Commission approval of its shared savings incentive of $5,031,678 for 2016.

On March 31, 2017, Otter Tail Power Company files its 2016 Status Report.

On March 31, 2017, Otter Tail also files its annual filing to update the Conservation Improvement Project (CIP) Rider.

Otter Tail would like to emphasize the following points concerning the 2016 Conservation Improvement Program:

- The Company achieved 2.75[1] percent energy savings as a percent of retail energy sales, above our approved goal of 1.54 percent.
- The Company achieved energy savings of 57,586,050 kWh, exceeding goal by 178 percent. Demand savings were 210 percent of goal.
- The cost per kWh for *first year* savings is $0.13 (13 cents) compared to a budgeted cost of $0.22 (22 cents). Costs are in line with historical averages of $0.15 (15 cents).
- Expenditures were over budget (111%) at $7,770,781 based on an approved budget of $7,010,409.
- Net benefits of $49,929,309 were achieved excluding the negative net benefits from assessments.

Requests for Approval

- The Company is requesting approval for $5,031,678 in performance incentives for 2016 CIP activities, a small share of the total net benefits from investments in CIP.
- The Company is requesting the Conservation Cost Recovery Adjustment (CCRA) factor of $0.00754 per kWh be reflected on customers' bills through the Resource Adjustment starting with

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

bills rendered (dated) on and after October 1, 2017.

- 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 2016 CIP Tracker, resulting in a year-end balance of $4,835,852.

The financial incentive mechanism in Minnesota has been effective at motivating the utility to achieve energy savings and to do so at a low cost. 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 coupled with fair incentives that keep energy efficiency on par with supply side investments 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: 13-277.03.

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-17-
In the Matter of Otter Tail Power Company's Annual Filing to Update the Conservation Improvement Project Rider	Docket No. E017/M-17-
Status Report – 2016 CIP Activities	Docket No. E017/CIP-13-277.03

SUMMARY OF FILING

Otter Tail Power Company (Otter Tail or the Company) is pleased to report its 2016 DSM achievements. CIP program results for 2016 proved to be a record setting year for Otter Tail and our customers blowing by the approved 1.54 percent energy savings goal and achieving 2.75 percent energy savings. The 2016 level of achievement eclipsed any previous year energy savings by nearly a half a percent of Otter Tail's Minnesota energy sales. In addition to record energy savings, 2016 delivered nearly $49 million in customer net benefits, an increase of about $10 million when compared to 2015 which was the previous record year. Otter Tail not only delivered record energy savings and net benefits, but it also developed and filed its 2017-19 CIP triennial plan in 2016. Otter Tail believes all these accomplishments are important to recognize.

Otter Tail is requesting approval of a financial incentive of $5,031,678 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 $0.00754 per kWh be reflected on customers' bills through the Resource Adjustment starting with bills rendered (dated) on and after October 1, 2017.

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 2016 CIP Tracker, resulting in a year-end 2016 balance of $4,835,852.

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-17-
In the Matter of Otter Tail Power Company's Annual Filing to Update the Conservation Improvement Project Rider	Docket No. E017/M-17-
Status Report – 2016 CIP Activities	Docket No. E017/CIP-13-277.03

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 $5,031,678 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 $0.00754 per kWh be reflected on customers' bills through the Resource Adjustment starting with bills rendered (dated) on and after October 1, 2017.

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 2016 CIP Tracker, resulting in a year-end 2016 balance of $4,835,852.

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 March 30, 2012, the MPUC approved the removal of the non-linear adjustment from the shared savings DSM financial incentive effective with energy savings achievements in 2012 for all natural gas and electric utilities

On April 26, 2012, the MPUC approved application of the Average Savings Method (ASM) be applied for counting behavioral project savings with a three-year minimum lifetime, effective with the 2013 program year.

On December 20, 2012, the MPUC issued an order adopting additional modifications to the Shared Savings Model recommended by the Division of Energy Resources (DER). The MPUC's order incorporated the modifications set forth below. Included are the modifications that are specific to Otter Tail:

- For utilities with triennial Conservation Improvement Programs beginning in 2014, the threshold shall be set at half of the utility's average achievements from 2008 to 2012, removing both the maximum and minimum achievements, or at 0.4 percent of retail sales, whichever is lowest. The calibration at 1.5 percent of retail sales for each utility set at $0.07 per kWh for electric utilities.
- The incentive shall be capped at 20 percent of net benefits for all utilities except for Minnesota Power.
- The existing cap of 125 percent of a utility's 1.5 percent calibration level for the electric utilities ($0.0875 per kWh).
- The costs of any mandated, non-third-party projects (e.g., Next Generation Energy Act assessment, University of Minnesota Institute for Renewable Energy, and the Environment costs) shall be excluded from the calculation of net benefits awarded at specific energy savings

[2] Docket No. E017/M-94-539
[3] Docket No. E,G999/CIP-08-133

levels (calculated before the CIP year begins) and in the post-CIP year calculations of net benefits and energy savings achieved and incentive awarded.

On February 1, 2016, Otter Tail filed its Financial Incentive Proposal Compliance Filing which included 2016 approved budgets, goals, net benefits, and resulting incentive levels with the MPUC and the DER. The filing establishes the 2016 incentive at approved goal. On March 28, 2016, the DER issued a Decision approving the 2016 Compliance Filing.

II. REQUEST FOR APPROVAL

Financial Incentive Filing

Otter Tail respectfully requests that a financial incentive of $5,031,678 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 $0.00754 be reflected on customers' bills through the Resource Adjustment starting with bills rendered (dated) on and after October 1, 2017.

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, 2017. In general, the notification will state "Beginning October 1, the Resource Adjustment includes a CCRA factor of $0.00750/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, 2017. 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

2016 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	$ 2,334,820
Approved Budget	$ 7,010,409
2016 Actual Spending	$ 7,770,781

2016 Minimum Energy Savings Goal

The Company has complied with Minn. Stat. § 216B.241 which sets the minimum energy savings goal of one percent of MWh sales, determined as a percent of 2010-2012 weather normalized sales.

Energy savings goal @ 1%	20,914,413 kWh
Approved Energy Savings Goal	32,309,402 kWh
2016 Actual Energy Savings	57,586,050 kWh

2016 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%	$ 98,776
Low-income approved budget	$ 150,000
Low-income actual spend	$ 153,005

2016 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	$ 2,334,820
10 percent R&D Spending Cap	$ 233,482
2016 Actual R&D Spending	$ 175,625

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 Commercial Design Assistance 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 Commercial Design Assistance project supports the SB 2030 standards.

Triennial Decision Requirements

The Company has complied with the following additional requirements established in the DER Deputy Commissioner's Decision on October 10, 2013:

- The Company is required to submit a Compliance Filing within 45 days of the adoption of new state energy codes analyzing the impact of the new codes on the Company's approved energy savings methodologies. The Company continues to monitor the development and implementation of new energy codes.

- Inclusion of any formal or informal modifications to its CIP in the Status Report
- Inclusion of programs that facilitate Energy Star labeling, LEED certification, or Green Globes certification of commercial buildings; and
- Offer Sustainable Buildings 2030-specific services through its existing programs.

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. On October 31, 2016, Otter Tail filed a request to exceed the 25 percent budget flexibility in its 2016 Commercial and Industrial Sector. On February 8, 2017, the Deputy Commissioner approved Otter Tail's budget modification request, increasing the overall sector budget to $4,451,900.

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 2016, Otter Tail had one Custom Grant application estimated to save greater than one GWH. M&V of the project occurred in the early months of 2017. Otter Tail provided a full report of the project to the DER for review. The DER approved the Post-M&V Plan for the project on March 2, 2016. Otter Tail submitted its Post-M&V Plan to the DER for the review on March 27, 2017.

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 2016 employee expenses as follows:

Section	Amount	Description
Travel Expense	$34,059	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	$9,687	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	$5,893	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.
Employee Awards	$133	Recognition of two employees for exceptional performance in working with customers and helping the Company achieve a record year in energy savings.
TOTAL	$54,465	

Total 2016 employee expenses that were included in Otter Tail's CIP Tracker were $54,465. The total employee expense is 0.74 percent of the total 2016 CIP Tracker expenses of $7,770,781.

Otter Tail's total employee expense exceeds the DER recommended employee expense of 0.5 percent of total CIP expenses by $15,611. Otter Tail believes the recommended cap of 0.5 percent of CIP expenses is not reasonable when considering the 153 communities spread across 25,700 square miles of Minnesota service territory. Customers are not clustered in metro areas. In addition, stakeholder meetings, Commission hearings, and regulatory consultation all typically occur in the Minneapolis/St. Paul area. Otter Tail employees frequently travel hundreds of miles a day meeting with customers for the development and promotion of CIP. Otter Tail respectfully asks the DER to consider these circumstances when reviewing Otter Tail's employee 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 the following points that pertain to Otter Tail:

- The Average Savings Method (ASM) proposed by Staff is approved with a three-year minimum lifetime, effective with the 2014 program year. The specific timing that utilities must apply the ASM is shown below.

Utility Group	Status Reports	Plans
MP and Otter Tail	Apply ASM beginning with 2013 status reports.	Apply ASM to 2014-2016 triennial plans.

- This Decision is effective through December 31, 2015, for all utilities except MP and OTP unless modified by the Deputy Commissioner. For MP and Otter Tail, this order is effective through December 31, 2016, unless modified by the Deputy Commissioner.

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

VI. CONCLUSION

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

From the MPUC:

1. Approval of the 2016 DSM Financial Incentive, totaling $5,031,678.
2. Approval of the 2016 CIP Tracker, resulting in a year-end balance of $4,835,852.
3. Approval to implement the CCRA factor of $0.00754/kWh reflected on customers' bills through the Resource Adjustment starting with bills rendered on and after October 1, 2017.
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 2016 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: March 31, 2017

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
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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 PUC) January 27, 2010 Order Approving Demand Side Management (DSM) Financial Incentive Plans.[1]

The filing consists of the following items.

I. Discussion of 2016 Financial Incentive
II. Financial Incentive - Statutory Criteria
III. Cost Comparisons / Net Benefits
IV. 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 – 2016 CIP Tracker
Table 2A	2016 Incentive Mechanism – Pre-Year Inputs
Table 2B	2016 Incentive Mechanism – Post-Year Results
Table 3	2016 Project Costs, Savings, and Benefits
Table 4	2016 Benefit Cost Ratios
Table 5	2016 CIP Program Status Report
Table 6	2016 CIP Program Status Report – Costs per kW & per kWh

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

I. DISCUSSION OF 2016 FINANCIAL INCENTIVE

The current shared-savings financial incentive plan awards Otter Tail Power Company a small 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 Minnesota PUC 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 2014-2016.

On March 30, 2012, the PUC approved the removal of the non-linear adjustment from the shared savings DSM financial incentive effective with energy savings achievements in 2012 for all natural gas and electric utilities.

On April 26, 2012, the PUC approved application of the Average Savings Method (ASM) to be applied for counting behavioral project savings with a three-year minimum lifetime, effective with the 2013 program year. Otter Tail has adopted the ASM for calculating energy savings applied to the incentive calculation.

On December 20, 2012, the PUC issued an order adopting additional modifications to the Shared Savings Model recommended by the DER. The PUC's order incorporated the modifications set forth below. Included are the modifications that are specific to Otter Tail:

- For utilities with triennial Conservation Improvement Programs beginning in 2014, the threshold shall be set at half of the utility's average achievements from 2008 to 2012, removing both the maximum and minimum achievements, or at 0.4 percent of retail sales, whichever is lowest. The calibration at 1.5 percent of retail sales for each utility set at $0.07 per kWh for electric utilities.

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

- The incentive shall be capped at 20 percent of net benefits for all utilities except for Minnesota Power.
- The existing cap of 125 percent of a utility's 1.5 percent calibration level for the electric utilities ($0.0875 per kWh).
- The costs of any mandated, non-third-party projects (e.g., Next Generation Energy Act assessment, University of Minnesota Institute for Renewable Energy, and the Environment costs) shall be excluded from the calculation of net benefits awarded at specific energy savings levels (calculated before the CIP year begins) and in the post-CIP year calculations of net benefits and energy savings achieved and incentive awarded.

On February 1, 2016, Otter Tail filed its Financial Incentive Proposal Compliance Filing which included 2016 approved budgets, goals, net benefits, and resulting incentive levels with the Minnesota PUC and the Department of Commerce (Department). The filing establishes the 2016 incentive at approved goal. On March 28, 2016, the Department issued a Decision approving the 2015 Compliance Filing.

As part of this March 31, 2017, filing under section II, the Company is providing the 2016 proposed incentive. The following steps are used in the incentive calculation:

1. The 2016 incentive is calculated using the model provided by the Department and detailed in Appendix A, Tables 2A and 2B. The kWh earnings threshold is set at 50 percent of the utility's average energy savings over the years 2008-2012, removing both the maximum and minimum achievements, or at energy savings equal to 0.4 percent of retail sales, whichever is lower.
2. The resulting 2016 energy saving model is calibrated at 20,914,413 kWh, which is one percent of the Company's average three-year, weather normalized retail sales. This goal is used in the calculation of the incentive only. Otter Tail's 2016 CIP approved energy goal is 32,197,403 kWh as shown in Appendix A, Table 2A, based on the DER's March 28, 2016 approval of Otter Tail's 2016 Financial Incentive compliance filing.

3. As outlined in Appendix A, Table 2A, the incentive calibration establishes that the Company will receive a linear multiplier of 0.00603 for every 0.1 percent of sales saved above the zero point. Appendix A, Table 2B provides the results of the financial incentive calculation, showing the Company achieved roughly 24.50 steps of "0.1 percent of sales saved" above the zero point. (24.50 x .00603 multiplier = 14.77 percent multiplier of 2016 net benefits.)
4. 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.
5. Appendix A, Table 3 lists the 2016 CIP Programs, each as proposed and approved by the Department, and each with actual 2016 results. Also listed are total program costs, resulting benefits, and net benefits for each program and as a total CIP Program.
6. **Actual energy savings was 57,504,891 kWh, excluding Made in Minnesota and the Company's Publicly-Owned Property (POP) Solar program's allocated savings, or 2.75 percent of historic average retail sales, and total net benefits are calculated to be $49,918,210, excluding assessments and POP Solar.** The 2016 results for energy savings, costs, and net benefits are entered in the post-year financial incentive tool as shown in Appendix A, Table 2B.
7. Appendix A, Table 4 outlines the benefit/cost ratios for each 2016 program. Figures are listed for each project "as filed" as part of the 2014-2016 CIP Triennial Filing and "as actual" reflecting 2016 actual participation, savings, and costs.
8. As detailed in Appendix A, Table 2B and based on the corresponding percentage of net benefits (14.77%), the total incentive amount requested is **$5,031,678.**

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.

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 2015 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 energy savings. The increasing increments of the incentive motivate utilities to exceed savings achievable at statutory spending levels. The current incentive focuses on energy savings goals, rather than spending.
2. Interest of ratepayers and others: The current mechanism is in the interest of ratepayers because it awards utilities a small 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 total utility 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. Therefore, the mechanism is directly linked to cost-effective performance.

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 2016, Otter Tail's average first year cost per kWh saved was 14 cents, which is equivalent to the five-year average of 14 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 (2012-2016)

	2012	2013	2014	2015	2016
DSM Financial Incentive	$2,681,575	$4,026,600	$2,957,972	$4,257,105	$5,031,678
CIP Expenditures	$4,816,994	$5,259,625	$5,188,931	$6,105,445	$7,770,781
Achieved Energy Savings (kWh)	30,793,654	35,792,002	33,805,392	48,652,628	57,504,891
Average Cost per kWh Saved	$0.16	$0.15	$0.15	$0.13	$0.14

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 (2016) benefit/cost analysis using DSMore™ software. The utility benefits are aggregated for the lifetime of all CIP energy efficiency measures, discounted back to 2016 dollars using the utility discount rate of 8.61 percent for the utility test and 2.68 percent for the societal test, these rates were approved in the 2014-2016 CIP filing.

As shown in Table 3 of Appendix A, the estimated net benefits for the 2016 Proposed CIP are $25,136,548. Additional details of the total costs and the total benefits from

benefit/cost analysis of the 2016 Proposed CIP portfolio include:

Program Costs - Proposed 2016**	
Delivery/Implementation/Administration Costs	$3,160,581
Incentives	$2,849,827
Total Costs	$6,010,408
Program Benefits - Proposed 2016*	
Avoided T&D Electric	$7,684,981
Cost-Based Avoided Electric Production	$15,735,771
Cost-Based Avoided Electric Capacity	$7,673,442
Cost-Based Avoided Ancillary	$52,762
Total Benefits	$31,146,956
Net Benefits - Proposed 2016	$25,136,548
Benefit/Cost Results - Proposed 2016	5.18

* Benefits are based on lifetime benefits, discounted back to 2016 dollars using 8.61 percent utility discount rate.
** Costs include assessements.

As shown in Table 3 of Appendix A, the actual net benefits of $49,691,112 for 2016 CIP are higher than the proposed net benefits. Additional details of the total costs and the total benefits from the DSMore analysis of the 2016 Actual CIP portfolio include:

Program Costs - Actual 2016**	
Delivery/Implementation/Administration Costs	$2,741,134
Incentives	$5,029,647
Total Costs	$7,770,781
Program Benefits - Actual 2016*	
Avoided T&D Electric	$14,410,959
Cost-Based Avoided Electric Production	$29,549,804
Cost-Based Avoided Electric Capacity	$13,403,308
Cost-Based Avoided Ancillary	$97,822
Total Benefits	$57,461,892
Net Benefits - Actual 2016	$49,691,112
Benefit/Cost Results - Actual 2016	7.39

* Benefits are based on lifetime benefits, discounted back to 2016 dollars using 8.61 percent utility discount rate.
** Costs include assessements.

CIP Cost Breakdown - 2016				
	Proposed Costs		**Actual Costs**	
Delivery	$3,160,581	45%	$2,741,134	35%
Incentives	$2,849,827	41%	$5,029,647	65%
Budget Modification	$1,000,000	14%	$0	0%
Total CIP Costs	$7,010,408	100%	$7,770,781	100%

IV. REQUEST FOR APPROVAL

Financial Incentive Filing

Otter Tail respectfully requests that an incentive of $5,031,678 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: March 31, 2017

Respectfully submitted,

OTTER TAIL POWER COMPANY

By: */s/ JASON GRENIER*

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Status Report

Status Report

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STATUS REPORT - 2016 CIP PROGRAMS

The 2016 Conservation Improvement Program (CIP) Status Report has been combined with the 2016 Financial Incentive Filing, produced annually on April 1. The Status Report covers all 2016 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.

Direct Impact Projects

Residential

- Air Conditioning Control
- Air Source Heat Pumps
- Appliance Recycling
- Be Bright
- Electronically Commutated Motors
- Energy Feedback
- Geothermal Heat Pumps
- Home Insulation
- Home Transformer
- School Kits
- Water Heater Store & Save

Commercial

- Adjustable Speed Drives
- Air Conditioning Control
- Air Source Heat Pumps
- Commercial Design Assistance
- Geothermal Heat Pumps
- Grants
- Industrial Focused Efficiency
- Lighting – Retrofits
- Lighting – New Construction
- Motors
- PC Power Supply
- Recommissioning
- Refrigeration

Low-Income

- House Therapy

Other

- Publicly Owned Property Solar

Indirect Impact Programs / Regulatory Requirements

- Advertising & Education
- Compressed Air Audits
- Financing
- Implementation & Training
- Program Development
- PUC Assessments / Regulatory (NGEA) Assessments
- Made in Minnesota Solar Assessment
- Transmission & Distribution Cost Study

Miscellaneous / Inactive Program Costs

- Accounting Adjustments
- Town Energy Challenge Pilot
- Otter Tail Power Company CIP Projects
- 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 $7/month credit 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 March, June, and December 2016.
- Television and radio campaign conducted in conjunction with the Advertising and Education program.
- Customer care booklet sent to all new customers.
- Hero-spots on the Company website during April and May.
- *Programs and services guide* provided to contractors and employees.
- Print advertisement to regional home magazine.
- Presentations and literature distribution at workshops.
- Billboard spots in March and April.
- Annual and monthly service rep training.
- Agency training for House Therapy contractors.
- Brochures available upon request.
- Program, rate, and rebate page described within the Company's web site.

In 2016, Otter Tail controlled air conditioning 25 days totaling 46 hours and 52 minutes. This control time is within the 300-hour control limit in the air conditioning rider.

This program has been approved for continuation in the 2017 CIP.

Participation & Budget

PARTICIPATION AND BUDGET – 2016			
Air Conditioning Control (R)	**Actual**	**Proposed**	**% of Goal**
Participation	221*	150	147%
Budget $	$65,455	$82,000	80%

*On January 13, 2016, Otter Tail received approval from the Minnesota Department of Commerce - Division of Energy Resources to include customers on its off-peak cycling rates as part of this program. Customers on an off-peak cycling service have the same technology, are controlled in the same manner, and contribute to the same kWh savings as those enrolled in Air Conditioning Control. These customers receive a lower energy rate in lieu of the $7 monthly credit.

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 – 2016	
Air Conditioning Control (R)	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	10,761
Demand Savings – kW	157.00

AIR SOURCE HEAT PUMPS
(Residential)

The Air Source Heat Pump (ASHP) 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. This program continues in the 2017 CIP, and Otter Tail will again rely on Energy Star qualifications as the minimum equipment efficiency requirement for this program.

Energy Star – ASHP	HSPF	SEER	EER
Split System	> or = 8.5	> or = 15.0	12.5
Package Terminal			> or = 12.0

Otter Tail promotes energy efficient heat pumps using various resources listed below:

- *Taking care of business* commercial CIP brochure.
- *Programs and services guide* provided to contractors and employees.
- Brochures available upon request.
- Presentations and literature distribution at Builder and Electrical Contractor workshops.
- Bill messages included on all customer statements.
- Bill inserts about heat pump efficiency, financing, and rebates.
- Training material covered with service representatives in annual and monthly training.
- Program, rate, and rebate pages described within the Company's web site.

In compliance with the November 5, 2010 Final Decision in the 2011-2013 Triennial filing[1], customers may not have natural gas as their primary heat source to qualify for an air source heat pump CIP rebate. Energy savings and rebates from these projects were not included in the 2016 CIP.

[1] Otter Tail Power Company's 2011-13 Triennial CIP Filing, Docket No. E017/CIP-10-356

Participation & Budget

PARTICIPATION AND BUDGET – 2016			
Air Source Heat Pumps (R)	**Actual**	**Proposed**	**% of Goal**
Participation	121	137	88%
Budget $	$183,038	$123,000	149%

Evaluation Methodology

An engineering analysis was used to determine energy savings for each air source heat pump system installed. The engineering analysis is consistent with Attachment B: Electric Product Assumptions, approved in the Company's triennial plan.

Energy Savings & Adjustments

ENERGY AND DEMAND RESULTS – 2016	
Air Source Heat Pumps (R)	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	1,094,724
Demand Savings – kW	9.64

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

Otter Tail promotes appliance recycling using various resources:

- Bill inserts targeted at residential customers in March, May and July.
- Radio campaign on local stations in June and September.
- Program information, instructions about how to schedule appliance pickup, hero ads placed on the Company's web page.
- Billboard spots in July and August.
- Print ad in June.
- Inclusion as appropriate on Home Energy Reports mailed to customers through the Energy Feedback program.
- Inserts available upon request.

This program has been approved for continuation in the 2017 CIP.

Participation & Budget

PARTICIPATION AND BUDGET – 2016			
Appliance Recycling	**Actual**	**Proposed**	**% of Goal**
Participation	463	545	85%
Budget $	$102,070	$119,000	86%

Evaluation Methodology

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

Energy Savings & Adjustments

ENERGY AND DEMAND RESULTS – 2016	
Appliance Recycling	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	483,592
Demand Savings – kW	68.78

BE BRIGHT

The Be Bright program aimed to increase the market share for ENERGY STAR qualified compact fluorescent lamps (CFLs) and LEDs, while educating both consumers and retailers about the benefits of energy efficient lighting. Promotion of LEDs was successfully expanded and will continue in 2017. As customer demand shifted to LEDs, less promotion and limited rebates were offered for CFLs.

Through the services of Wisconsin Energy Conservation Corporation (WECC), Otter Tail offers the Be Bright campaign with the following objectives:

- Leverage manufacturer dollars for instant consumer rebate incentives of up to $1.10 per CFL and up to $5 per LED.
- Leverage advertising dollars for retailer.
- Highlight Otter Tail's sponsorship of the promotions through press releases, in store displays, and special public relations events and CFL/LED bulb sales, and;
- Implement the program with seamless coordination with other Be Bright promotions throughout Minnesota and the Midwest.

There were approximately 11 retailers in our service territory who participated in the 2016 campaign, contributing to sales of approximately 157,252 bulbs. This is a substantial increase in bulb sales when compared to 2015.

Otter Tail promotes the Be Bright program using various resources listed below:

- Bill inserts.

- Radio spots.
- The Company's web site.
- On-site promotion at the location of a participating retailer.
- Included information on energy efficient lighting on Home Energy Reports mailed to customers through the Energy Feedback program.
- Brochures available upon request.

In 2016, the Company worked with ten non-profit organizations to distribute CFLs and LEDs to our customers as a fundraising or promotional program. Otter Tail may continue the non-profit fundraiser or promotion in 2017 with LEDs in our service area.

The Be Bright program has been approved for continuation in the 2017 CIP.

Participation & Budget

PARTICIPATION AND BUDGET – 2016			
Be Bright	**Actual**	**Proposed**	**% of Goal**
Participation	163,823	99,000	165%
Budget $	$427,217	$358,000	119%

Evaluation Methodology

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

On November 17, 2016, Otter Tail requested to update the baseline used to calculate the energy savings achieved by installing a LED bulb. In its 2014-2016 CIP Triennial filing on June 1, 2013, the Company used the same baseline for LEDs as for CFLs: the LED Lamps and Fixtures measure was not added to the TRM until January 17, 2014. In its request, Otter Tail proposed to use TRM 1.3 for calculating LED energy savings. On February 17, 2017, the Deputy Commissioner approved Otter Tail's request.

Energy Savings & Adjustments

ENERGY AND DEMAND RESULTS – 2016	
Be Bright	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	5,868,394
Demand Savings – kW	685.64

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 air conditioner throughout a home. They can result in up to 75 percent less energy used than standard fan motors.

ECM efficiency was marketed to customers and contractors through:

- Bill inserts targeted at residential customers.
- *Programs and services guide* provided to contractors and employees.
- Program information on the home page at www.otpco.com.
- Training material covered with service representatives in annual and monthly training.

Otter Tail provides customers a $100/unit rebate when contractor installed.

The ECM program has been approved for continuation in the 2017 CIP.

Participation & Budget

PARTICIPATION AND BUDGET – 2016			
Electronically Commutated Motors	**Actual**	**Proposed**	**% of Goal**
Participation	150	120	125%
Budget $	$25,382	$37,000	69%

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 – 2016	
Electronically Commutated Motors	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	117,216
Demand Savings – kW	10.61

ENERGY FEEDBACK

The Energy Feedback program consists of two program components: Aclara Technologies Energy Prism Home Energy Analyzer (HEA) and an Opower Home Energy Report (HER) project. 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 6 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 25 months of billing history, analytic tools, and calculators. 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 energy profile are presented with performance benchmarks, comparing their energy use to similar homes. Customers can set their money savings goal and select an energy savings theme that reflects their approach to energy savings and are presented options that will help them achieve their desired energy savings goal.

Because it is an opt-in tool total user participation in HEA is lower than HER but consists of a more highly motivated group of customers who have chosen to use the tool.

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

- Company website including hero-spot ads presented on the home page for three months, a program page, and a demo tool within the website.
- Messaging presented on service statements during one billing period.
- Bill inserts sent twice to all residential customers.
- Customer service guide sent to all new customers.
- Online services brochure sent to all new customers.
- *Programs and services guide* sent to contractors and employees.
- A billboard display.
- A web campaign through online media outlets.

Opower Home Energy Reports – The HER program delivers comparative energy usage information to selected Minnesota residential customers. Program participants received up to six home energy reports during 2016.

Each Home Energy Report 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 Home Energy Report during 2016 or who received reports in a previous year, has an active electric service account, and has not opted out of the program.

Participation & Budget

There were 1,333 participants in the Aclara HEA program in 2016. This number is down from previous years. This is attributable to an increase in mobile devices being used for website visits (reaching nearly sixty percent). The present HEA platform in use is not user friendly on mobile devices with small screens. The company will upgrade to a new platform in the future that will offer responsive design and improved mobile accessibility.

There were 35,800 participants in the Opower HER program during 2016. The design of the report was slightly modified during 2016 to call out the information contained within it more effectively. This program was approved for continuation and will be modified with an aim to make it more cost effective. Approximately 28,000 customers will receive up to four reports per year.

PARTICIPATION AND BUDGET – 2016			
Energy Feedback	**Actual**	**Proposed**	**% of Goal**
Aclara HEA Participation	1,333	1,500	89%
Opower HER Participation	35,800	31,000	115%
Budget $	$340,546	$370,600	92%

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. In addition to calculating the savings by component or level, Integral Analytics again calculated an average overall savings calculation.

In 2016, the evaluation demonstrated an average 627 kWh per year as measured at the meter, based on 1,333participants.

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 2016 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 Home Energy Reports 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.

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. Opower began reporting all savings for the program under the Modeled Savings Protocol. This method was approved by the DER in October 2010.

In 2016, updates were made to the Modeled Savings Methodology in order 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.

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

Overall adjusted energy savings associated with the HER program in 2016 totaled 10,822 MWh, equal to an average 302 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 2016, the energy savings associated with behavioral change has been reduced by two-thirds in the financial incentive calculation, based on the Decision[2] by the Deputy Commissioner of the DER.

ENERGY AND DEMAND RESULTS – 2016	
Aclara Home Energy Analyzer	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	299,882
Demand Savings – kW	168.14

ENERGY AND DEMAND RESULTS – 2016	
Opower Home Energy Reports	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	3,882,934
Demand Savings – kW	4,403.40

ENERGY AND DEMAND RESULTS – 2016	
Energy Feedback Combined Results	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	4,182,815
Demand Savings – kW	4,571.54

GEOTHERMAL HEAT PUMPS
(Residential)

The Geothermal Heat Pump program capitalizes on a renewable technology and targets residential 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. During 2016, units were required to meet an Energy Star qualification.

	COP	
Type	Open	Closed
Water to air	4.1	3.6
Water to water	3.5	3.1
Direct exchange	3.6	

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

- *Taking care of business* commercial CIP brochure.

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

- *Programs and services guide* provided to contractors and employees.
- Brochures available upon request.
- Print advertisement to regional home magazine.
- Presentations and literature distribution at Builder and Electrical Workshops.
- Bill messages included on customer statements.
- Bill inserts about heat pump efficiency, financing, and rebates.
- Training material covered with service representatives in annual and monthly training.
- Program, rate, and rebate pages described within the Company's web site.

The emphasis on energy efficiency coupled with federal incentives has helped drive participation in geothermal heat pump installations.

In compliance with the November 5, 2010 Final Decision in the 2011-2013 Triennial filing[3], customers may not have natural gas as their primary heat source to qualify for a geothermal heat pump CIP rebate. Energy savings and rebates from these projects were not included in the 2016 CIP.

This program is included for continuation in the 2017 CIP.

Participation & Budget

PARTICIPATION AND BUDGET – 2016			
Geothermal Heat Pumps (R)	**Actual**	**Proposed**	**% of Goal**
Participation	36	43	84%
Budget $	$169,102	$145,000	117%

Evaluation Methodology

An engineering analysis was used to determine energy savings for each geothermal heat pump system installed. The engineering analysis is consistent with Attachment B: Electric Product Assumptions, approved in the Company's triennial plan.

Energy Savings & Adjustments

ENERGY AND DEMAND RESULTS – 2016	
Geothermal Heat Pumps (R)	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	880,937
Demand Savings – kW	18.60

[3] Otter Tail Power Company's 2011-13 Triennial CIP Filing, Docket No. E017/CIP-10-356

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 March and August.
- A web and radio campaign during September.
- Program information included as a home page hero spot and elsewhere on the Company's web site.
- Rebate materials and program information was shared in addition to literature distribution at the Builder and Electrical workshops.
- Training material presented to service representatives and Idea Center personnel.
- Brochures available upon request.
- Inclusion as appropriate on Home Energy Reports mailed to customers through the Energy Feedback program.

This program is included for continuation in the 2017 CIP. We will continue to offer incentives and seek additional marketing channels to drive increased participation in 2017.

Participation & Budget

PARTICIPATION AND BUDGET – 2016			
Home Insulation	**Actual**	**Proposed**	**% of Goal**
Participation	28	55	51%
Budget $	$37,960	$58,000	65%

Evaluation Methodology

Otter Tail collected information on the measures completed by the customers, including weatherization, attic and sealing 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 – 2016	
Home Insulation	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	215,070
Demand Savings – kW	0.00

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, selected high use and/or electric heating customers were offered an energy audit and installations of select energy-efficiency products. To gage customer commitment to follow through on audit recommendations, they were charged a nominal fee of $89 for a bundle of products and services that included:

- An energy audit, a blower door test, and thermal imaging analysis.
- A detailed report on audit findings, including recommendations for energy saving measures (recommendations included estimated costs, annual savings, and simple payback).
- Efficiency products, installation demonstration, and education.
    - Electric measures – CFLs of various wattages, LED bulb, and engine block heater timer.
    - Heating and cooling measures – exterior door sweep, outlet gaskets, caulking, weather-stripping for windows.
    - Hot water measures – pipe insulation, low-flow showerheads and faucet aerators, temperature assessment and setback of water heater.

A community action agency was hired to deliver the home energy audits and complete the direct installs. Customers were targeted thru bill inserts, covering one customer service territory at a time. Covering the entire service territory by year end.

Promotion materials were revised in an effort to attract customers to participate. It has remained difficult to capture customer interest in this program. In 2017, we have changed the program to be a free service for all qualifying customers.

The program ended the year with just 16 participants completing 239 measures.

Participation & Budget

PARTICIPATION AND BUDGET – 2016			
Home Transformer	**Actual**	**Proposed**	**% of Goal**
Participation	239	1,575	15%
Budget $	$14,363	$62,000	23%

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 – 2016	
Home Transformer	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	40,303
Demand Savings – kW	2.15

SCHOOL KITS

The School Kit program offered energy efficient items and educational materials to fifth through eighth grade students in one school district in our service area. Students took home the kit to share with their parents. The families were asked to install the items contained in the kit. Otter Tail implemented the program on its own this year as working with other utilities became administratively costly. All students in fifth through eighth grade were included in the program by receiving an energy savings kit.

The Company purchased the kits through competitive bids. The kits included: a car timer and eight 9-Watt LED Energy Star bulbs along with information regarding the products and installation instructions. The kits were delivered to all students in twenty classrooms with a short Company presentation on the products and why conservation is important.

No promotion outside of the school was done for this program. This program has been approved for 2017 but will be turn-key. Materials and kits will be sent directly to the schools as well as materials for teachers to use in the class room.

Participation & Budget

PARTICIPATION AND BUDGET – 2016			
School Kits	**Actual**	**Proposed**	**% of Goal**
Participation	431	300	144%
Budget $	$32,619	$26,000	125%

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 – 2016	
School Kits	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	240,310
Demand Savings – kW	14.46

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 reduce 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 69.25 hours in 2016 over approximately 46 different events.

Otter Tail promotes controlled service water heating using the following resources:

- *Taking care of business* commercial CIP brochure.
- *Programs and services guide* provided to contractors and employees.
- Brochures available upon request.
- Print advertisement in a regional home magazine.
- Bill messages included on customer statements.
- Bill inserts.
- Training material covered with service representatives in annual and monthly training.
- Program, rate, and rebate pages described 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. In 2016, 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 – 2016			
Water Heating Control	**Actual**	**Proposed**	**% of Goal**
Participation	16,132	8,622	187%
Budget $	$37,950	$40,000	95%

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 – 2016	
Water Heating Control (R&C)	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	400,467
Demand Savings – kW	3,698.64

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 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.
- Promotions and technical discussions at Builder and Electrical workshops for contractors.
- Directly to potential program participants in the educational sector at the annual Minnesota School Board Association conference.
- Bill inserts promoting drive power system efficiency to commercial and industrial customers.
- Program, technology, and rebate information available on the Company's web site.
- Through Otter Tail's Commercial Advertising and Education program targeting agricultural producers and processors.

Participation & Budget

PARTICIPATION AND BUDGET – 2016			
Adjustable Speed Drives	**Actual**	**Proposed**	**% of Goal**
Participation	290	135	215%
Budget $	$456,547	$340,400	134%

Otter Tail is pleased with 2016 participation exceeding goal. The Company attributes program participation to customers in the industrial sector developing a better understanding of the energy efficiency benefits of adjustable speed drives in industrial motor systems. The Adjustable Speed Drives program has created expectations of simple and effective prescriptive rebate incentives for customers incorporating adjustable speed drive technology into new equipment specifications and plant expansions.

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 – 2016	
Adjustable Speed Drives	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	6,621,857
Demand Savings – kW	1,043.19

Numerous adjustable speed drive projects completed by customers in the industrial sector contributed to the program exceeding energy and demand savings goals.

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 $5 per ton of connected load for each summer month (June-September).

Otter Tail promotes the program through the following resources:

- Personal business contacts.
- *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.

In 2016, Otter Tail controlled air conditioning 25 days, totaling 46 hours and 52 minutes. This control time is within the 300-hour control limit in the air conditioning rider.

PARTICIPATION AND BUDGET – 2016			
Air Conditioning Control (C)	**Actual**	**Proposed**	**% of Goal**
Participation	9	90	10%
Budget $	$13,176	$38,000	35%

Evaluation Methodology

Load data recorders are being installed at each of the locations enrolled. Otter Tail is collecting the data from these recorders for EM&V purposes. 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 – 2016	
Air Conditioning Control (C)	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	615
Demand Savings – kW	19.71

AIR SOURCE 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. The program is included in the 2017 CIP and will use the Energy Star qualifications as the minimum equipment efficiency requirement.

Energy Star – ASHP	HSPF	SEER	EER
Split System	> or = 8.5	> or = 15.0	12.5
Package Terminal			> or = 12.0

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.
- Brochures available upon request.
- Presentations and literature distribution at the Builder and Electrical workshops for contractors.
- Directly to potential program participants at the annual Minnesota School Board Association conference.
- Bill messages included on all customer statements.
- Bill inserts about heat pump efficiency, financing, and rebates.
- Training material covered with service representatives in annual and monthly training.
- Program, rate, and rebates described within the Company's web site.

To increase participation, the Company offered rebates and financing at 1.9 percent in 2016 for commercial customers.

In compliance with the November 5, 2010 Final Decision in the 2011-2013 Triennial filing[4], customers may not have natural gas as their primary heat source to qualify for an air source heat pump CIP rebate. Energy savings and rebates from these projects were not included in the 2016 CIP.

[4] Otter Tail Power Company's 2011-13 Triennial CIP Filing, Docket No. E017/CIP-10-356

Participation & Budget

PARTICIPATION AND BUDGET – 2016			
Air Source Heat Pumps (C)	**Actual**	**Proposed**	**% of Goal**
Participation	63	131	48%
Budget $	$91,529	$70,000	130%

Evaluation Methodology

An engineering analysis was used to determine energy savings for each air source heat pump system installed. The engineering analysis is consistent with Attachment B: Electric Product Assumptions, approved in the Company's triennial plan.

Energy Savings & Adjustments

ENERGY AND DEMAND RESULTS – 2016	
Air Source Heat Pumps (C)	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	496,206
Demand Savings – kW	5.02

COMMERCIAL DESIGN ASSISTANCE

The Commercial Design Assistance program offers building owners, architects, engineering firms, and developers the opportunity to participate in an integrated design process and identify and implement cost effective, energy-efficient design strategies in commercial new construction and major renovation projects.

The Commercial Design Assistance program is implemented with the assistance of a consultant in the architectural industry that specializes in early design review, energy efficient building simulation, LEED certification, evaluation of Sustainable Buildings 2030 (SB2030) energy goals, and facilitation of interactive meetings to select energy efficient design strategies. Tools available through the State of Minnesota are used to develop SB2030 performance standards for all applicable projects.

Otter Tail promotes Commercial Design Assistance using various resources:

- *Taking Care of Business* commercial CIP brochure.
- *Programs and services guide* provided to contractors and employees.
- The *Make It Electric* newsletter targeting commercial and industrial customers (when feasible).
- Brochures available upon request.
- Presentations and literature distribution at the Builder and Electrical workshops for contractors.
- Directly with potential program participants in the educational sector at the annual

Minnesota School Board Association conference.

- Program, technology, and rebate information available on the Company's web site.
- Through the program consultant's network, membership, and participation as professionals in architectural and engineering organizations, including ASHRAE, AIA, and IES.

Participation & Budget

The Commercial Design Assistance program was new to Otter Tail's CIP with the Company's 2011-2013 CIP triennial filing. In the original filing of the Commercial Design Assistance program, Otter Tail proposed initiating six projects in 2011, six projects in 2012, and six in 2013. Due to the length of the project lifecycle, Otter Tail further proposed completion of two projects starting in 2012 and eventually reached the measurement and verification stage of six projects in 2013. The project lifecycle has continued to evolve close to Otter Tail's original projections and surpassed expectations with twelve projects completed in 2016.

PARTICIPATION AND BUDGET – 2016			
Commercial Design Assistance	**Actual**	**Proposed**	**% of Goal**
Participation	12	6	200%
Budget $	$534,730	$490,500	109%

Evaluation Methodology

Otter Tail's program implementation consultant has taken all necessary steps to assure that baseline energy efficiency levels moving forward reflect 2015 energy code modifications. The Commercial Design Assistance program is included in the Company's 2017 CIP.

Energy Savings & Adjustments

ENERGY AND DEMAND RESULTS – 2016	
Commercial Design Assistance	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	2,407,950
Demand Savings – kW	556.40

GEOTHERMAL HEAT PUMPS
(Commercial)

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.

Type	COP	
	Open	Closed
Water to air	4.1	3.6
Water to water	3.5	3.1
Direct exchange	3.6	

Otter Tail promotes energy efficient heat pumps using various promotional resources:

- *Taking Care of Business* commercial CIP brochure.
- *Programs and services guide* provided to contractors and employees.
- Brochures available upon request.
- Presentations and literature distribution at Builder and Electrical Workshops for contractors.
- Directly with potential program participants in the educational sector at the annual Minnesota School Board Association conference.
- Bill messages included on all customer statements.
- Bill inserts about heat pump efficiency, financing, and rebates.
- Training material covered with service representatives in annual and monthly training.
- Program, rate, and rebates described within the Company's web site at www.otpco.com.

To increase participation, Otter Tail offered 1.9 percent financing as well as rebates for commercial customers. This program is included in the 2017 CIP.

In compliance with the November 5, 2010 Final Decision in the 2011-2013 Triennial filing[5], customers may not have natural gas as their primary heat source to qualify for a geothermal heat pump CIP rebate. Energy savings and rebates from these projects were not included in the 2016 CIP.

Participation & Budget

PARTICIPATION AND BUDGET – 2016			
Geothermal Heat Pumps (C)	**Actual**	**Proposed**	**% of Goal**
Participation	102	35	291%
Budget $	$440,123	$124,000	355%

Evaluation Methodology

An engineering analysis was used to determine energy savings for each geothermal heat pump system installed. The engineering analysis is consistent with Attachment B: Electric Product Assumptions, approved in the Company's triennial plan.

[5] Otter Tail Power Company's 2011-13 Triennial CIP Filing, Docket No. E017/CIP-10-356

Energy Savings & Adjustments

ENERGY AND DEMAND RESULTS – 2016	
Geothermal Heat Pumps (C)	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	2,146,064
Demand Savings – kW	52.70

GRANTS (CUSTOM PROJECTS)
The Grants program offers customized incentives to commercial and industrial customers for conservation and efficiency improvements.

In 2016, Otter Tail analyzed a variety of customer-submitted grant projects with 61 of these projects approved for incentives.

Custom Projects	Quantity
Automation	4
Building Envelope	6
Chiller System	5
Compressed Air System	6
Cooling System	5
Heat Recovery System	2
Heating System	1
Heating System – Air Source Heat Pump	1
Lighting	1
Motors	1
Process Improvements	1
Production Equipment	11
Pump	1
Refrigeration System	9
Vacuum Pump	1
Variable Speed Drive	2
Ventilation System	3
Welding	1
Total	**61**

The Company believes its Advertising and Education strategy and development of sector-specific programs such as Recommissioning/Retrocommissioning (RCx) and Industrial Focused Efficiency lead to increased participation in the Grants program.

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.
- Presentations and literature distribution at the Company's annual Builder and Electrical

workshops for contractors.

- Directly with potential program participants in the educational sector at the annual Minnesota School Board Association conference.
- Through Otter Tail's Advertising and Education campaign targeting agricultural processors, producers, and customers with intense commercial refrigeration loads.
- Program, technology, and rebate information available on the Company's web site at www.otpco.com.
- *Make It Electric* newsletter for commercial and industrial customers.

The Grant program is included in Otter Tail's 2017 CIP.

Participation & Budget

PARTICIPATION AND BUDGET – 2016			
Custom Efficiency Grants	**Actual**	**Proposed**	**% of Goal**
Participation	61	38	161%
Budget $	$533,619	$721,000	74%

Evaluation Methodology

Estimated savings from custom grant measures initially come directly from customers submitting detailed information documenting demand and energy savings for each proposed measure. The Company verifies the feasibility of the proposed savings, and if necessary, makes modifications to the customer's submitted figures. Otter Tail offers assistance as needed for our commercial and industrial customers to help determine the energy and demand savings needed to develop a grant proposal.

End-use metering is also an option for verifying impact savings. In addition, the customer 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 2016 project that qualified for formal M&V and has included its energy savings in this filing. Otter Tail is working with the Department, in parallel to this filing, through review of the Post M&V for this large project.

Energy Savings & Adjustments

ENERGY AND DEMAND RESULTS – 2016	
Grants	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	7,368,498
Demand Savings – kW	1,298.09

INDUSTRIAL FOCUSED EFFICIENCY

The Industrial Focused Efficiency program targets large industrial 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 industrial facilities. Otter Tail's largest industrial customers collectively account for 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.

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

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

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 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 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 – 2016			
Industrial Focused Efficiency	**Actual**	**Proposed**	**% of Goal**
Participation	2	4	50%
Budget $	$281,502	$235,000	120%

Four industrial customers – all operating in the manufacturing sector – participated in the Industrial Focused Efficiency program in 2016, with participants completing a combination of required actions:

1. Formation of a facility energy management team with representation from Otter Tail and leadership from an independent, third party energy management consultant.
2. Completed Envinta One2Five energy management benchmark with participation from customer's executive management group and energy management team.
3. Completed an onsite engineering study identifying end-use energy efficiency opportunities.
4. Analyzed and evaluated cost effectiveness and any possible production impacts of energy efficiency measures identified in the engineering study.
5. Together with Otter Tail, identified bonus incentive levels needed to prioritize capital-intensive energy efficiency projects for completion in 2016.

The participating customers concluded 2016 activities by implementing end-use efficiency measures for motors and drives, refrigeration, lighting, compressed air, and custom efficiency improvements.

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 – 2016	
Industrial Focused Efficiency	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	2,351,523
Demand Savings – kW	292.46

LIGHTING RETROFIT

The Lighting Retrofit program provides cash incentives to commercial and industrial customers for purchasing and installing energy-efficient lighting technologies including high efficiency fluorescent fixtures and lamps, compact fluorescent fixtures and lamps, efficient high-intensity discharge (HID) fixtures and lamps, LED systems, induction lighting systems, electronic ballasts, 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.
- Presentations and literature distribution at Builder and Electrical workshops for contractors.
- Personal interactions between customers and Company program implementation staff.
- Directly with customers in the educational sector at the annual Minnesota School Board Association conference.
- Through Otter Tail's commercial Advertising and Education campaign targeting agricultural producers and processors and customers with intense commercial refrigeration loads.
- *Programs and services guide* provided to contractors and employees.
- Program, technology, and rebate information available on the Company's web site.
- *Make It Electric* newsletter for commercial and industrial customers.

Otter Tail has accounted for and included lamp disposal and recycling costs for all energy efficiency measures evaluated in the Lighting Retrofit program.

The Lighting Retrofit program will continue in Otter Tail's 2017 CIP.

Participation & Budget

PARTICIPATION AND BUDGET – 2016			
Lighting Retrofit	**Actual**	**Proposed**	**% of Goal**
Participation	1,252	346	362%
Budget $	$2,261,252	$563,000	402%

Otter Tail is optimistic about significant market penetration of LED lighting systems. Retrofits to

LED lighting systems accounted for a significant percentage of participation and energy savings in the Company's 2016 Lighting Retrofit program results.

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 – 2016	
Lighting Retrofit	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	17,508,437
Demand Savings – kW	3,781.17

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
- High efficiency ceramic metal halide
- LED fixtures and lamps

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

- *Taking Care of Business* commercial CIP brochure.
- Bill inserts targeting commercial and industrial customers.
- *Programs and services guide* provided to contractors and employees.
- Promotions and technical discussions at Builder and Electrical workshops for contractors.
- Directly with customers in the educational sector at the annual Minnesota School Board Association conference.
- Through Otter Tail's commercial Advertising and Education program targeting agricultural producers and processors and customers with intense commercial refrigeration loads.
- Program, technology, rebate information available on the Company's web site at www.otpco.com.
- Personal consultations between program implementation staff and customers.

This program will continue in the 2017 CIP.

Participation & Budget

PARTICIPATION AND BUDGET – 2016			
Lighting – New Construction	**Actual**	**Proposed**	**% of Goal**
Participation	365	202	181%
Budget $	$177,320	$143,000	124%

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 – 2016	
Lighting – New Construction	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	2,930,603
Demand Savings – kW	694.11

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.

The Motors program 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.
- Presentations and literature distribution at the Company's annual Builder and Electrical workshops for contractors.
- Directly to customers in the educational sector at the annual Minnesota School Board

Association conference.

- Through the commercial Advertising and Education campaign targeting agricultural producers and processers and customers with intense commercial refrigeration loads.
- In the *Make It Electric* newsletter for commercial and industrial customers.
- Personal consultations between program implementation staff and customers.
- Program, technology, and rebate information available on the Company's web site.

This program will continue in the 2017 CIP.

Participation & Budget

PARTICIPATION AND BUDGET – 2016			
Motors	**Actual**	**Proposed**	**% of Goal**
Participation	261	71	368%
Budget $	$176,207	$81,000	218%

Motor Types Rebated	
New / replace non-operating	60
Replace operating	201
Total Motors Rebated	261

Participation in the 2016 Motors program exceeded goals. Otter Tail attributes 2016 participation to increasing availability of motors in the market which meet Otter Tail's efficiency requirements.

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 – 2016	
Motors	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	836,081
Demand Savings – kW	143.37

PC POWER SUPPLY

The PC Power Supply program unites electric utilities, the computer industry, and consumers in an effort to bring more efficient computer power supply technology to the marketplace. The program provides manufacturer incentives for certain qualifying energy efficient computer and server product categories and is intended to accelerate market adoption for products within each of these categories that meet ENERGY STAR and 80 Plus product efficiency specifications.

A third party program management and implementation specialist works directly with PC manufacturers with program outreach efforts and incentives for integrating qualifying power supplies into various manufacturers' computer products. The third party provides Otter Tail with a monthly report detailing the quantity and measure type of each PC power supply as featured in Otter Tail's approved 2014-2016 triennial CIP filing.

The PC Power Supply program is not included in Otter Tail's 2017 CIP.

Participation & Budget

PARTICIPATION AND BUDGET – 2016			
PC Power Supply	**Actual**	**Proposed**	**% of Goal**
Participation	428	3,562	12%
Budget $	$7,587	$67,000	11%

Participation in the PC Power Supply program was less than the projected goal. When developing original participation forecasts, Otter Tail's program implementation consultant attempted to account for expected unit deliveries based on the population proportion of business accounts to residential accounts similar to other regions supporting the PC Power Supply program. Typically, program participation will be higher in territories with more commercial accounts. It is very likely that there is a lower concentration of business accounts in Otter Tail's service territory than in the average territory of utilities supporting the PC Power Supply program. This trend would explain the 2016 results of lower participation in the program than expected.

Evaluation Methodology

Reported energy and demand savings are based on actual measure quantities and types as reported by Otter Tail's third party program specialist. Energy and demand savings for this program are based on Attachment B: Electric Product Assumptions, approved in the Company's triennial plan.

Energy Savings & Adjustments

ENERGY AND DEMAND RESULTS – 2016	
PC Power Supply	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	92,218
Demand Savings – kW	21.50

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 1 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.
- Through bill inserts targeting commercial and industrial customers.
- Presentations and literature distribution at the Company's annual Builder and Electrical

workshops for contractors.
- Through 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 at www.otpco.com.

Participation & Budget

PARTICIPATION AND BUDGET – 2016			
RCx	**Actual**	**Proposed**	**% of Goal**
Participation	1	10	10%
Budget $	$75,638	$272,000	28%

Otter Tail's traditional RCx program model relies on industry engineering firms to provide RCx services to potential participants in the program.

In 2015, Otter Tail offered an additional new program concept with a turn-key service provider through three separate RCx projects. Otter Tail notified DER staff of this informal modification to the RCx program concept in April 2014. In 2016, one customer completed the required energy efficiency measures identified in the customer's final report to receive the entire RCx study incentive from Otter Tail. Those savings are reflected in this 2016 Status Report. In addition to the single project completed in 2016, Otter Tail is encouraged by the energy efficiency opportunities identified, some of which are under implementation, at four additional customer facilities. Energy savings from these ongoing projects will likely be included in future annual Status Report updates.

Evaluation Methodology

Traditional RCx

The RCx program process includes the following steps. The Study Review (Step 3) specifically discusses evaluation activities taking place in the RCx process.

1. Study pre-approval.
   Otter Tail requires all potential RCx program participants complete a study pre-approval application form. Otter Tail reviews the application along with the applicant's most recent 24 months of energy use to determine if the proposed RCx project is likely to return adequate energy savings. The pre-approval form also provides the potential participant's engineering firm with the study requirements needed for the participant to receive Otter Tail's approval and future study incentives funding.

2. Study completion.

Once Otter Tail notifies the customer of the study pre-approval, the customer's engineering firm completes the draft RCx study.

3. Study review.
   Otter Tail, together with a third party engineering consulting firm, reviews the study for accuracy of calculations, assumptions, and inclusion 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.

4. Implementation.
   The customer submits a final RCx study rebate application, along with documentation of completing all measures with a payback of two years or less and a capital cost of $5,000 or less to receive RCx study rebate funding per program guidelines.

Turn-key RCx

The Turn-key RCx process closely resembles that of traditional RCx process. However, the Turn-key RCx process relies on functional performance testing and customer bill analysis for a period of three to six months upon completion of all required RCx measures as a strategy for verification and evaluation of RCx measures.

Energy Savings

ENERGY AND DEMAND RESULTS – 2016	
RCx	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	199,173
Demand Savings – kW	0.00

REFRIGERATION

The Refrigeration program is designed to promote high-efficiency refrigeration technologies, including measures to upgrade compressor, condenser, and display case efficiency. The U.S. Energy Information Administration Commercial Buildings Energy Consumption Survey (CBECS) released in May 2016 confirms the energy intensive application of measures targeted through Otter Tail's Refrigeration program in the education, food sales, food service, and health care sectors:

Sector	All buildings reported (U.S.)	Buildings with any refrigeration equipment	Walk-in units
Education	389,000	277,000	80,000
Food sales	177,000	175,000	145,000
Food service	380,000	380,000	293,000
Health care	157,000	142,000	9,000

Otter Tail's Refrigeration 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 is currently working jointly with Center for Energy and the Environment, independent refrigeration contractors, and specialized refrigeration consultants to reach the commercial market for refrigeration efficiency upgrades and the installation of high efficiency refrigeration systems in new construction applications.

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.
- Specialized contractor information kits provided for refrigeration contractors.
- Follow-up with personal contractor contacts.
- Personal contacts targeting grocery and convenience stores and other facilities with energy-intensive refrigeration loads.

This program is included for continuation in Otter Tail's 2017 CIP.

Participation & Budget

PARTICIPATION AND BUDGET – 2016			
Refrigeration	**Actual**	**Proposed**	**% of Goal**
Participation	94	119	79%
Budget $	$156,254	$170,000	92%

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 – 2016	
Refrigeration	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	768,039
Demand Savings – kW	117.75

DIRECT IMPACT – LOW INCOME

HOUSE THERAPY

The House Therapy program's primary focus is audit and weatherization services for low-income residential customers. The following table provides details on measures installed and whether the participants were owners or renters.

House Therapy -- Owner / Renter Detail 2015			
Installed measures	**Owners**	**Renters**	**Total**
Audit	104	23	127
Attic Insulation Materials	7	23	30
Compact Fluorescent Lamp	893	0	893
Engine Heater Timer	87	0	87
Faucet Aerator	165	42	207
Foundation Insulation Materials	3	0	3
Freezer	11	0	11
LED	120	0	120
Low-flow Showerhead	75	16	91
Pipe Insulation	40	0	40
Refrigeration	60	20	80
Water Heater	22	0	22
Water Heater - Reduce Temperature	52	0	52
Water Heater--Controlled Ser. Rate	13	0	13
Weatherization	6	0	6

House Therapy -- Owner / Renter Detail - 2016				
	CAP Spending	**Percent**	**Participation**	**Percent**
Owners	$107,282	85%	104	82%
Renters	$19,259	15%	23	18%
Total	$126,538	100%	127	100%

The Company meets yearly with the local Community Action Program (CAP) Agencies to implement House Therapy as cost-effectively as possible and commends the agencies that are committed to the program.

Otter Tail promotes House Therapy using various resources:

- Residential bill insert.
- Part of the environment disclosure insert posted on our website annually.
- Part of the Company's website listing the program and each of the agencies that implement the program.

This program has been approved for continuation in the 2017 CIP.

Participation & Budget

PARTICIPATION AND BUDGET – 2016			
House Therapy	**Actual**	**Proposed**	**% of Goal**
Participation	127	160	79%
Budget $	$153,005	$150,000	102%

Evaluation Methodology

In 2016, 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 – 2016	
House Therapy	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	243,039
Demand Savings – kW	24.87

DIRECT IMPACT – OTHER

PUBLICLY OWNED PROPERTY (POP) SOLAR

On August 8, 2016, the Deputy Commissioner approved Otter Tail's request to add POP Solar to its portfolio of program offerings. 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.

Otter Tail's strategy in delivering the POP Solar program initially focused on customers Otter Tail has worked closely with in implementing the Campus and Town Energy Challenge program in the Company's 2009-2010 CIP biennial plan. These segments provided leadership in our small communities and served as excellent candidates for demonstration projects where high visibility and influence were essential. In 2016, Otter Tail followed through with this participation strategy by awarding incentives from the POP Solar program to University of MN Crookston for installation of a rooftop solar PV system on the new Crookston Campus Wellness Center, along with a smaller, ground-mount solar PV installation outside the new Wellness Center.

Participation & Budget

PARTICIPATION AND BUDGET – 2016			
Publicly Owned Property Solar	**Actual**	**Proposed**	**% of Goal**
Participation	1	7	14%
Budget $	$35,405	$116,000	31%

Evaluation Methodology

Otter Tail currently 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 will use this production data to accumulate solar renewable energy credits to comply with Minnesota's Solar Energy Standard.

Energy Savings & Adjustments

ENERGY AND DEMAND RESULTS – 2016	
Publicly Owned Property Solar	**At the Generator (DSMore Summer Coincident Peak kW)**
Energy Savings – kWh	26,606
Demand Savings – kW	10.76

Installation of the University of Minnesota Crookston's solar PV system took place in August 2016, resulting in less than six months of operation. To calculate an annual production number for the system, Otter Tail used production data from a similarly sized system in its Minnesota service territory. Next year, Otter Tail will provide the actual annual production from University of Minnesota Crookston's solar PV system.

INDIRECT IMPACT PROGRAMS / REGULATORY REQUIREMENTS

ADVERTISING & EDUCATION – Residential & Commercial

Advertising & Education – Residential

The Advertising & Education program for 2016 targeted Minnesota residential customers and students with reinforcing messages to make conserving energy a lifestyle. Three approaches

were used:

- *Advertising* that increases awareness, educates about technologies and personal energy usage, and motivates individuals to take action to conserve energy.
- *Internet-based resources* including YouTube.com videos, web advertisements, and web-based content on company websites.
- *Classroom based presentations* targeting fourth through sixth graders with educational messages about energy production, energy use, and conservation education across all economic groups.

Advertising

Two campaigns that included runs on television, radio, and streaming media channels ran with energy efficiency messages that focused on reaching residential customers during 2016. These included:

- *Be the Lead:* A media campaign that included television, radio, streaming media, a web landing page was completed to educate customers about promoting energy conservation to the next generation by being a role model.
- *A little reward:* A rerun of a previously created media campaign that included television, radio, streaming media, and a web landing page promoted the energy conservation and peak demand management benefits of cycling central air-conditioning systems. The ad was also used to raise awareness and drive participation in the CoolSavings program.

Additional advertising support included a radio campaign for the appliance recycling program and preparation of materials for the home insulation program.

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 that are located in Minnesota.

Home page hero ads placed on www.otpco.com promoted CIP programs including Home Energy Analyzer, heat pump rebates, commercial program rebates, air-conditioning cycling program, appliance recycling program, Be Bright, and home insulation programs. Traffic generated as a click-through to the program details was 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
- 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, November, and December 2016. In small community schools, students 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 other year. The southern service territory was targeted in 2016. Participation is dependent on school administrators requesting the program. During the 2016 tour, 29 schools were visited and 1,919 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.

This program has been approved for continuation in the 2017 CIP.

2016 A&E Residential Detailed Participation	
Science Museum School Tour	1,919
Web visits tied to advertising spots	9,279
YouTube videos	5,238
Total	16,436

PARTICIPATION AND BUDGET – 2016			
Advertising & Education	**Actual**	**Proposed**	**% of Goal**
Residential Participation	16,436*	10,000	164%
Budget $	$128,063	$150,000	85%

*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

Agricultural Process Efficiency and Commercial Refrigeration
Achieving energy efficiency goals from the Next Generation Energy Act requires a more intensive market segmentation strategy. Past market segmentation efforts have included:

- Focus on savings opportunities in the government and healthcare sectors.
- Educational campaigns on green buildings strategies, including Energy Star, Green Globes, and LEED.
- Campaigns to educate customers with large commercial refrigeration loads on efficiency and energy savings opportunities.

For 2016, Otter Tail's segmentation strategy included a focus on customers in the agricultural

production and processing sectors and facilities with intense commercial refrigeration loads (convenience stores; retail grocery, liquor, and meats; and refrigerated storage facilities). Otter Tail's strategy provided opportunities for both agricultural processors and producers to make significant investments in all aspects of their business operations, including energy efficiency upgrades. In other market sectors, refrigeration loads greatly add to business' energy intensity values, making businesses operating with significant refrigeration loads excellent targets for investments in technologies to reduce energy consumption.

Otter Tail reached out to the agricultural sector through free on-site energy efficiency assessments for interested agricultural producers and processors. The Company relied on personal contacts from energy management representatives with dairy, poultry, swine, and crop producers as well as agricultural processors in crop storage and fertilizer production. Interested customers received a free on-site assessment from a third party engineering firm along with a follow-up report with details on energy savings opportunities and available incentives from Otter Tail for potential efficiency measures.

In the commercial refrigeration sector, Otter Tail provided refresher training in 2014 for internal program implementation staff on commercial refrigeration fundamentals and energy efficiency opportunities to prepare field staff for implementing the 2014-2016 CIP Advertising and Education campaign. After the training session, Otter Tail staff consulted a list of potential refrigeration segment participants generated from Otter Tail's customer information systems and scheduled on-site, personal assessments with interested customers.

2016 A&E Commercial Detailed Participation	
Ag Sector	11
Commercial Refrigeration	22
Total	33

Assessments completed for customers in the agricultural sector identified 579,469 kWh of energy savings potential. Commercial refrigeration assessments identified 1,482,814 kWh of energy savings potential. Otter Tail was satisfied overall with 2016 program participation and results and will continue to reach out to customers in 2017 with energy savings potential identified in 2016 assessments.

ACTUAL / BUDGET – 2016			
Advertising & Education	**Actual**	**Proposed**	**% of Goal**
Participation	33	10	330%
Commercial Budget $	$18,804	$25,000	75%

COMPRESSED AIR AUDITS - Commercial

The Compressed Air Audit program pays up to 80 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. This program has been approved for continuation in the 2017 CIP.

PARTICIPATION AND BUDGET – 2016			
Compressed Air Audits	**Actual**	**Proposed**	**% of Goal**
Participation	3	4	75%
Budget $	$17,550	$20,000	88%

FINANCING – Residential & 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 2016. Customers are given a choice between rebates and financing except for heat pumps where both were offered.

In October 2016, Otter Tail requested to terminate the Financing program for the residential sector due to low participation and the additional items and processes needed to comply with consumer financing laws. The DER approved the request on January 13, 2017.

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.
- Program brochures included with materials requests to customers.
- Part of the Company's web site.

The commercial financing program has been approved for continuation in the 2017 CIP.

2016 Financing Details by Customer Class			
	Residential	**Commercial**	**Total**
Participation Goal	7	5	12
Participation Actual	1	1	2
% of Goal	14%	20%	17%
Budget Goal	$13,000	$32,000	$45,000
Budget Actual	$13,281	$9,991	$23,272
% of Goal	102%	31%	52%

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. This program has been approved for continuation in the 2017 CIP.

2016 Implementation & Training Details by Customer Class			
	Residential	**Commercial**	**Total**
Participation Goal	175	250	425
Participation Actual	67	464	530
% of Goal	38%	186%	125%
Budget Goal	$40,000	$60,000	$100,000
Budget Actual	$42,454	$52,328	$94,783
% of Goal	106%	87%	95%

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 2015, Otter Tail hired Navigant Consulting Inc., a global consultant specialized in providing technical expertise to clients in the energy industry, to perform a DSM Potential Study. Initial costs of the study started in 2015 with completion of costs and delivery of the final study document in early 2016. Otter Tail included the final DSM Potential Study document in its 2015 CIP Status Report filing and its 2017-2019 CIP triennial plan.

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

Otter Tail's 2011-2013 CIP plan included researching and developing a system capable of providing the data necessary for reporting, forecasting, tracking, and processing CIP rebates. The 2014-2016 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.

Program Development activities have been approved for continuation in the 2017 CIP.

BUDGET – 2016			
Program Development	**Actual**	**Proposed**	**% of Goal**
Planning – Regulatory Affairs	$248,118	$300,000	83%
Research & Development	$175,625	$150,000	117%

REGULATORY REQUIREMENTS

PUC ASSESSMENTS / REGULATORY (NGEA) ASSESSMENTS

PUC ASSESSMENTS / REGULATORY (NGEA) ASSESSMENTS			
	Actual	**Proposed**	**% of Goal**
PUC Assessments	$7,143	$20,000	36%
Regulatory Assessments (NGEA)	$112,059	$95,000	118%
Made in Minnesota Solar Energy Assessment	$116,741	$103,909	112%

ASSESSMENTS	
NGEA Assessment – Technical Assistance	$ 18,520
NGEA Assessment – R&D Grant	$ 82,132
NGEA Assessment – Facilities Efficiency	$ 11,407
NGEA Assessment – Made in Minnesota Solar	$ 116,741
Total NGEA Assessments	**$ 228,800**
Direct PUC Assessments	$ 7,143
Total	**$ 235,943**

The Made in Minnesota (MiM) Solar Energy Assessment is the only assessment associated with energy savings. Five Otter Tail customers received MiM funding in 2016. Otter Tail was allocated 54,553 kWh based on its percentage contribution to the total annual CIP contribution to MiM.

MISCELLANEOUS / INACTIVE PROGRAM COSTS

These are inactive and miscellaneous programs. The associated costs, including closing costs for these programs, were charged to the 2016 CIP tracker account. Each is detailed separately below.

ACCOUNTING ADJUSTMENTS

Four accounting adjustments were required in 2016 totaling ($5,238).

Four of the adjustments occurred in the Be Bright program: (1) to record the 2016 sale of CFLs given to non-profit organizations for fundraising events in 2015 but not sold in 2015 reflecting a decrease in costs of $11,976; (2) to record a true up to the 2015 year-end estimated billing from Wisconsin Energy Corporation for the Be Bright program reflecting an increase in costs of

$3,474; (3) to record a decrease of $96 due to the difference between the estimated and actual cost per bulb for the 2015 fundraising event; and (4) to record the LEDs given to non-profit organizations for fundraising events in 2016 but not sold in 2016 reflecting an increase in costs of $3,796.

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.

OTTER TAIL POWER COMPANY CIP PROJECTS

Total spending in 2016 on Otter Tail projects was minimal at $1,310. Expenses included costs associated with air-conditioning control of Otter Tail facilities and the rebate for the installation of an air source heat pump at the Company's Fergus Falls campus. These expenses are consistent with previous years.

No energy savings were claimed in 2016 for the program.

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 college scholarships based on the number of years of service to be collected their first year of college. The scholarships will continue through 2017.

CARRYING COSTS

Charges totaled $26,368 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-10-239.

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 23rd 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 history of the CCRA charge.

Table 1

Year (July 1 - June 30)	CIP Surcharge / CCRA Factor	Previous Year Ending Tracker Balance
1995 / 1996	0.503%	$2,503,100
1996 / 1997	1.25%	$582,920
1997 / 1998	1.75%	$805,804
1998 / 1999	2.75%	$925,213
1999 / 2000	1.50%	$903,925
2000 / 2001	0.75%	$1,117,853
2001 / 2002	0.65%	$739,796
2002 / 2003	0.65%	$1,059,412
2003 / 2004	0.50%	$843,909
2004 / 2005	0.50%	$881,730
2005 / 2006	0.75%	$1,203,180
2006 / 2007	0.75%	$1,063,660
2007 / 2008	0.75%	$1,035,608
2008 / 2009	0.50%	$490,714
2009 / 2010	1.75%	$265,057
2010 / 2011	3.00%	$1,927,314
2011 / 2012	3.00% / 3.80%	$3,721,665
2012 / 2013	3.80% / $0.00142/kWh	$5,188,129
2013 / 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	$0.00754	$4,835,852

Otter Tail has included the CIP tracker, Exhibit 1, which uses the Commission approved per-kWh method from October 2017 through September 2018. For October 2017 through September 2018, Otter Tail is proposing to change the surcharge to $0.00754/kWh. Exhibit 2 illustrates the monthly impacts for each of the Company's ten rate classes. The large increase in the surcharge is largely due to Enbridge Energy, LP and Denco II, LLC receiving exemption from CIP investment and expenditure requirements under Minn. Stat. §216B.241 with respect to retail revenues attributable to their facilities effective January 1, 2017.

Calculation of CCRA and Conservation Cost Recovery Charge (CCRC)

During the 21-month period from end of year 2016 through the end of September 2018, Otter Tail plans to reduce the CIP Tracker balance of $4,835,852 to an estimated ($4,845), as illustrated in Table 2 below.

Table 2

	Jan 2017 - Sep 2017	Oct 2017 - 2018
Beginning Balance	**$4,835,852**	**$7,932,748**
Carrying Charges	$21,679	$29,446
CIP Program Expenses	$4,311,716	$7,537,653
CIP Incentive Proposed	$5,031,678	$1,955,200
CCRC through Base Rates	($2,395,652)	($3,985,216)
CCRA - CIP Rider	($3,872,525)	($13,474,676)
Ending Balance	**$7,932,748**	**($4,845)**
CCRA Method	**$0.00275/ kWh**	**$0.00754/ kWh**

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

- $18,887,372 of additional expenses from carrying charges, CIP incentive, and CIP program expenses.
- $6,380,868 collected from the CCRC.
- $17,347,201 collected from the CCRA, of which $13,474,676 will be collected during the 12 months from October 2017-September 2018.

As illustrated in Exhibit 1, the proposed change in the surcharge will increase the CCRA by approximately 174 percent. By October 1, 2018, the CIP tracker balance is projected to decrease to an estimated ($4,845). Otter Tail understands, and is very sensitive to, the significant impact the proposed CCRA increase will have on customers' bills. Otter Tail currently receives a carrying charge on the outstanding CIP tracker account balance based on its short-term cost of debt rate of 0.79 percent. The proposed CCRA will recover this debt over one year, which is fairly consistent with the period for short-term debt. Otter Tail considers recovery of any remaining CIP tracker account balance exceeding one-year recovery as long-term debt and

would request a weighted cost of capital percent rate to be associated with it. Otter Tail has had discussions with Department Staff and is open to discussing alternative cost recovery proposals to minimize customer and Company impacts in the short-term and long-term. Otter Tail looks forward to working with all stakeholders on an equitable solution to minimize impacts to all vested parties.

The amounts on lines 4 and 5 of Exhibit 1 reflect the projected expenditures and financial incentive for 2017 and 2018 through September 2018. Line 6 removes from the CIP tracker the portion of CIP costs that are included in base rates. The base rate amount from January 2017 through September 2017 is calculated each month as forecasted retail sales multiplied by the approved CCRC in base rates of $0.00172 per kWh. This rate was approved in Otter Tail's 2010 general rate case (Docket No. E017/GR-10-239). The base rate amount is projected to increase to $0.00223 per kWh October 2017 based on the decision in Otter Tail's latest general rate case (Docket No. E017/GR-15-1033).

The proposed 2016 CCRA is calculated assuming the rate is approved and is effective October 1, 2017. If implementation of the 2017 CCRA occurs after October 1, 2017, the CCRA may need to be adjusted to recover the approved revenue requirements over the remaining months of the period, through September 2018. 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 2017 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 $0.00754 per-kWh method of recovery. Once the 2017/2018 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 2016 CIP Tracker, resulting in a year-end balance of $4,835,852.
2. Approval to implement the CCRA factor of $0.00754/kWh reflected on customers' bills through the Resource Adjustment starting with bills rendered on and after October 1, 2017.
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 1**

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

-based on projected 2017 sales and 2016 financial incentive

		January 2017	February* 2017	March 2017	April 2017	May 2017	June 2017	July 2017	August 2017	September 2017	Total
1	Beginning of Period Balance	$4,835,852	$4,090,275	$3,811,056	$3,904,853	$3,592,372	$3,490,192	$3,362,388	$3,085,098	$2,757,858	
2	Carrying Charge Rate	0.79%	0.79%	0.79%	0.79%	0.79%	0.79%	0.79%	0.79%	0.79%	
3	Monthly Carrying Charge	$3,184	$2,693	$2,509	$2,571	$2,365	$2,298	$2,214	$2,031	$1,816	$21,679
4	CIP Program Charges	$396,106	$463,122	$817,288	$351,074	$457,248	$434,715	$333,112	$305,961	$753,090	$4,311,716
5	CIP Incentive	$0	$0	$0	$0	$0	$0	$0	$0	$5,031,678	$5,031,678
6	Less: CIP Recovery thru Base Rates	($422,574)	($288,372)	($279,355)	($256,317)	($216,171)	($217,334)	($235,727)	($244,429)	($235,372)	($2,395,652)
7	Less: Conservation Adjustment (CIP Revenue)	($722,292)	($456,662)	($446,644)	($409,809)	($345,622)	($347,482)	($376,889)	($390,803)	($376,322)	($3,872,525)
8	End of Period Balance	$4,090,275	$3,811,056	$3,904,853	$3,592,372	$3,490,192	$3,362,388	$3,085,098	$2,757,858	$7,932,748	
9	**CCRA through September 2017**	**$0.00275**									
10	Projected sales (kWh)	183,421,379	180,182,273	162,415,946	149,021,594	125,680,668	126,357,157	137,050,483	142,110,160	136,844,273	
11	CCRC / kWh	$0.00172	$0.00172	$0.00172	$0.00172	$0.00172	$0.00172	$0.00172	$0.00172	$0.00172	

		October 2017	November 2017	December 2017	January 2018	February 2018	March 2018	April 2018	May 2018	June 2018	July 2018	August 2018	September 2018	Total
1	Beginning of Period Balance	$7,932,748	$7,283,798	$6,423,809	$6,941,254	$5,416,308	$4,234,988	$3,459,095	$2,345,694	$1,565,135	$753,632	($265,454)	($1,362,937)	$44,728,069
2	Carrying Charge Rate	0.79%	0.79%	0.79%	0.79%	0.79%	0.79%	0.79%	0.79%	0.79%	0.79%	0.79%	0.79%	
3	Monthly Carrying Charge	$5,222	$4,795	$4,229	$4,570	$3,566	$2,788	$2,277	$1,544	$1,030	$496	($175)	($897)	$29,446
4	CIP Program Charges	$579,341	$534,548	$2,093,745	$275,452	$588,772	$820,438	$352,427	$459,010	$436,390	$334,396	$307,141	$755,993	$7,537,653
5	CIP Incentive	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,955,200	$1,955,200
6	Less: CIP Recovery thru Base Rates	($281,549)	($319,397)	($360,755)	($411,984)	($404,837)	($364,998)	($335,095)	($283,284)	($285,067)	($309,045)	($320,565)	($308,640)	($3,985,216)
7	Less: Conservation Adjustment (CIP Revenue)	($951,964)	($1,079,935)	($1,219,774)	($1,392,985)	($1,368,821)	($1,234,120)	($1,133,011)	($957,829)	($963,857)	($1,044,933)	($1,083,883)	($1,043,563)	($13,474,676)
8	End of Period Balance	$7,283,798	$6,423,809	$6,941,254	$5,416,308	$4,234,988	$3,459,095	$2,345,694	$1,565,135	$753,632	($265,454)	($1,362,937)	($4,845)	$36,790,477
9	**CCRA PROPOSED ($ / kWh)**	**$0.00754**												
10	Projected sales (kWh)	126,255,187	143,227,435	161,773,730	184,746,001	181,541,220	163,676,452	150,266,711	127,033,021	127,832,533	138,585,275	143,751,087	138,403,643	1,787,092,296
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 February 2017, forecast used thereafter.

Otter Tail Power Company **Exhibit 2**

Comparison of Monthly Bill Impacts

CIP Surcharge (CCRA) is based on $0.00754 / 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	$2.21	$6.05	$3.85	4.69%
Farm	2,139	$203.53	$5.88	$16.12	$10.24	5.03%
General Service	2,661	$249.14	$7.32	$20.06	$12.75	5.12%
Large General Service	105,065	$8,089.67	$288.93	$792.19	$503.26	6.22%
Irrigation	1,617	$138.76	$4.45	$12.19	$7.74	5.58%
Outdoor Lighting	80	$12.32	$0.22	$0.61	$0.38	3.12%
Municipal Pumping	3,119	$240.38	$8.58	$23.52	$14.94	6.21%
Water Heating Control	219	$17.05	$0.60	$1.65	$1.05	6.15%
Interruptible Load	1,838	$99.14	$5.05	$13.86	$8.80	8.88%
Deferred Load	1,423	$79.20	$3.91	$10.73	$6.82	8.61%

*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	31-530
CIP Exempt Adjustment Credit	31-532

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.~~00275~~ 00754 per kWh. ~~C~~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;

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The Conservation Surcharge Factor is $0.00754 per kWh. **R**

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Appendix A- Tables

Table 1
2016 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 0.79%* (D)	Balance Account 1860.3000 + 1860.3100 (E)
Balance Dec. 31, 2015	0.00	84,797,847.91	(81,812,805.19)	933,111.30	4,333,060.95
January:					
Carrying Charge	--	--	--	2,852.60	2,852.60
Trf Carrying Charge Bal					0.00
Labor Accrual Adj					0.00
Activity	0.00	283,506.76	(1,112,875.42)	--	(829,368.66)
Deferred Taxes	--	--	--	--	--
Balance January 31, 2016	0.00	85,081,354.67	(82,925,680.61)	935,963.90	3,506,544.89
February:					
Carrying Charge	--	--	--	2,308.48	2,308.48
Labor Accrual Adj					0.00
Activity	0.00	605,988.32	(1,136,750.00)	--	(530,761.68)
Deferred Taxes	--	--	--	--	--
Balance February 28, 2016	0.00	85,687,342.99	(84,062,430.61)	938,272.38	2,978,091.69
March:					
Carrying Charge	--	--	--	1,960.58	1,960.58
Labor Accrual Adj					
Activity	0.00	844,427.44	(1,059,671.52)	--	(215,244.08)
Deferred Taxes	--	--	--	--	--
Balance March 31, 2016	0.00	86,531,770.43	(85,122,102.13)	940,232.96	2,764,808.19
April:					
Carrying Charge	--	--	--	1,820.17	1,820.17
Labor Accrual Adj					
Activity	0.00	362,732.41	(978,867.32)	--	(616,134.91)
Deferred Taxes	--			--	--
Balance April 30, 2016	0.00	86,894,502.84	(86,100,969.45)	942,053.13	2,150,493.45
May:					
Carrying Charge	--	--	--	1,415.74	1,415.74
Bonus/Incentive					0.00
Labor Accrual Adj					
Activity	0.00	472,431.49	(897,753.34)	--	(425,321.85)
Deferred Taxes	--	--	--	--	--
Balance May 31, 2016	0.00	87,366,934.33	(86,998,722.79)	943,468.87	1,726,587.34
June:					
Carrying Charge	--	--	--	1,136.67	1,136.67
Bonus/Incentive					0.00
Labor Accrual Adj					
Activity	0.00	449,150.66	(864,201.53)	--	(415,050.87)
Deferred Taxes	--	--	--	--	--
Balance June 30, 2016	0.00	87,816,084.99	(87,862,924.32)	944,605.54	1,312,673.14
July:					
Carrying Charge	--	--	--	864.18	864.18
Bonus/Incentive		4,257,105.00			4,257,105.00
Labor Accrual Adj					
Activity	0.00	344,173.40	(879,950.41)	--	(535,777.01)
Deferred Taxes	--	--	--	--	--
Balance July 31, 2016	0.00	92,417,363.39	(88,742,874.73)	945,469.72	5,034,865.31

Table 1
2016 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 0.79%* (D)	Balance Account 1860.3000 + 1860.3100 (E)	
August:						
Carrying Charge	--	--		3,314.62	3,314.62	
Bonus/Incentive					0.00	
Labor Accrual Adj						
Activity	0.00	316,121.57	(973,784.45)	--	(657,662.88)	
Deferred Taxes	--	--	--	--	--	
Balance August 31, 2016	0.00	92,733,484.96	(89,716,659.18)	948,784.34	4,380,517.05	
September:						
Carrying Charge	--	--	--	2,883.84	2,883.84	
Lost Margin & Bonus/Incentive					0.00	0
Labor Accrual Adj					0.00	
Activity	0.00	778,098.13	(951,083.15)	--	(172,985.02)	
Deferred Taxes	--	--	--	--	--	
Balance Sept. 30, 2016	0.00	93,511,583.09	(90,667,742.33)	951,668.18	4,210,415.87	
October:						
Carrying Charge	--	--	--	2,771.86	2,771.86	
Lost Margin & Bonus/Incentive					0.00	
Labor Accrual Adj						
Activity	0.00	598,579.32	(825,389.46)	--	(226,810.14)	
Deferred Taxes	--	--	--	--	--	
Balance Oct. 31, 2016	0.00	94,110,162.41	(91,493,131.79)	954,440.04	3,986,377.59	
November:						
Carrying Charge	--		--	2,624.37	2,624.37	
Labor Accrual Adj						
Activity	0.00	552,298.85	(872,974.64)	--	(320,675.79)	
Deferred Taxes	--	--	--	--	--	
Balance Nov. 30, 2016	0.00	94,662,461.26	(92,366,106.43)	957,064.41	3,668,326.17	
December:						
Carrying Charge	--	--	--	2,414.98	2,414.98	
Lost Margin & Bonus/Incentive					0.00	
Labor Accrual Adj						
Activity	0.00	2,163,272.63	(998,162.12)	--	1,165,110.51	
Deferred Taxes	--	--	--	--	--	
Balance Dec. 31, 2016	0.00	96,825,733.89	(93,364,268.55)	959,479.39	4,835,851.66	

Table 2A
2016 INCENTIVE MECHANISM - PRE-YEAR INCENTIVE CALCULATION FIGURES
Financial Incentive Project
Otter Tail Power Company

3-year Weather-Normalized Sales Average:	2,091,441,263	
1.0% of Sales:	20,914,413	From Utility's Tri/Biennial filing

For CIP Budget, Energy Goal, and Estimated Benefits, include only those modifications that were required by the Commissioner's Order or which the utility notified the OES that it planned to include in the incentive calculation upon approval. Include a summary of the modifications below.

Approved CIP Budget:	$6,791,500	From 2016 POP Solar Modification Filing from July 8, 2016, assessments removed
Approved CIP Energy Goal:	32,197,403	From 2016 POP Solar Modification Filing from July 8, 2016,
Estimated Net Benefits at Approved Goal:	$31,135,857	From 2016 POP Solar Modification Filing from July 8, 2016, assessments & POP Solar removed

Modifications:

Budget	$1,000,000	DER approved on February 8, 2017
Energy	None	
Net Benefits	None	

Include the budget and energy goal changes for each modification included.
A single entry for net benefits reflecting the combined impact of all included modifications is sufficient.

OTP INPUTS INDICATED IN YELLOW

OTTER TAIL POWER COMPANY
for 2015

Inputs:

Average Sales:	2,091,441,263	
1.0% Energy Savings:	20,914,413	
Historic Average Savings:	1.44%	2008-2012, high and low removed
Earning Threshold:	**0.40%**	plus one unit of energy
Earning Threshold in Energy Savings:	8,365,766	
Award zero point:	0.30%	
Award zero point in Energy Savings:	6,274,324	
Steps from zero point to 1.5%	12	
Size of steps in Energy Savings:	2,091,441	

Incentive Calibration:

Average Incentive per unit at 1.5%:	$0.0700	Set by Commission in approval of incentive mechanism & calibration
Incentive Cap:	**$0.0875**	125% of incentive per kwh
Energy savings at 1.5%:	31,371,619	
Targeted incentive at 1.5%:	$2,196,013	
Multiplier:	**0.00603**	**Percent of Net Benefits received for every 0.1% of sales saved**

Estimated Incentive Levels:

Estimated Incentive Levels:

			NET BENEFITS	INCENTIVE WITH CAP	
Achievement Level (% of sales)	**Energy Saved**	**Percent of Benefits Awarded - Linear**	**Net Benefits - Linear**	**Incentive Award-Linear Proposal, $0.0875/kWh Cap**	**Average Incentive per unit Saved**
0.00%	**0**	0.000%	$0	**$0**	$0.0000
0.10%	**2,091,441**	0.000%	$2,022,487	**$0**	$0.0000
0.20%	**4,182,883**	0.000%	$4,044,973	**$0**	$0.0000
0.30%	**6,274,324**	0.000%	$6,067,460	**$0**	$0.0000
0.40%	**8,365,765**	0.000%	$8,089,946	**$0**	$0.0000
0.50%	**10,457,206**	1.206%	$10,112,433	**$122,001**	$0.0117
0.60%	**12,548,648**	1.810%	$12,134,920	**$219,601**	$0.0175
0.70%	**14,640,089**	2.413%	$14,157,406	**$341,602**	$0.0233
0.80%	**16,731,530**	3.016%	$16,179,893	**$488,003**	$0.0292
0.90%	**18,822,971**	3.619%	$18,202,379	**$658,804**	$0.0350
1.00%	**20,914,413**	4.223%	$20,224,866	**$854,005**	$0.0408
1.10%	**23,005,854**	4.826%	$22,247,353	**$1,073,607**	$0.0467
1.20%	**25,097,295**	5.429%	$24,269,839	**$1,317,608**	$0.0525
1.30%	**27,188,736**	6.032%	$26,292,326	**$1,586,010**	$0.0583
1.40%	**29,280,178**	6.635%	$28,314,812	**$1,878,811**	$0.0642
1.50%	**31,371,619**	7.239%	$30,337,299	**$2,196,013**	$0.0700
1.60%	**33,463,060**	7.842%	$32,359,785	**$2,537,615**	$0.0758
1.70%	**35,554,501**	8.445%	$34,382,272	**$2,903,618**	$0.0817
1.80%	**37,645,943**	9.048%	$36,404,759	**$3,294,020**	$0.3033
1.90%	**39,737,384**	9.652%	$38,427,245	**$3,477,021**	$0.0875
2.00%	**41,828,825**	10.255%	$40,449,732	**$3,660,022**	$0.0875
2.10%	**43,920,267**	10.858%	$42,472,218	**$3,843,023**	$0.0875
2.20%	**46,011,708**	11.461%	$44,494,705	**$4,026,024**	$0.0875
2.30%	**48,103,149**	12.064%	$46,517,192	**$4,209,026**	$0.0875
2.40%	**50,194,590**	12.668%	$48,539,678	**$4,392,027**	$0.0875
2.50%	**52,286,032**	13.271%	$50,562,165	**$4,575,028**	$0.0875
2.60%	**54,377,473**	13.874%	$52,584,651	**$4,758,029**	$0.0875
2.70%	**56,468,914**	14.477%	$54,607,138	**$4,941,030**	$0.0875
2.75%	**57,504,891**	14.776%	$49,929,309	**$5,031,678**	$0.0875
2.80%	**58,560,355**	15.081%	$56,629,625	**$5,124,031**	$0.0875
2.90%	**60,651,797**	15.684%	$58,652,111	**$5,307,032**	$0.0875
3.00%	**62,743,238**	16.287%	$60,674,598	**$5,490,033**	$0.0875

Table 2B
2016 INCENTIVE MECHANISM - POST-YEAR INCENTIVE CALCULATION FIGURES
Financial Incentive Project
Otter Tail Power Company

Actual CIP Results for 2016		
Spending:	$7,770,781	From Utility Status Report
Energy Saved:	57,504,891	From Utility Status Report, excluding MiM and POP Solar kWh
Total Net Benefits Achieved:	$49,691,112	From Utility Status Report
	$0	Exclude negative net benefits in low-income program
	$227,098	Exclude net benefits from Assessments and POP Solar
Net Benefits Achieved for Incentive Calculation:	$49,918,210	
	275%	percent of the 1% goal achieved
Resulting Incentive:		
Steps above Zero Point:	24.49534	
Percent of Net Benefits Awarded:	14.776%	Linear
Financial Incentive Award:	$5,031,678	Capped Incentive @ 8.75 cents/kWh
OTP INPUTS INDICATED IN YELLOW		
CALCULATED FINANCIAL INCENTIVE AWARD IN GREEN		

Table 3
2016 PROJECT COSTS, SAVINGS, AND BENEFITS
Financial Incentive Project
Otter Tail Power Company

	2016 Proposed Savings, Costs, and Benefits				2016 Actual Savings, Costs, and Benefits			
	kWh Savings	Expenditures	Total Benefits	Net Benefits	kWh Savings	Expenditures	Total Benefits	Net Benefits
Residential								
Air Conditioning Control	7,233	$82,000	$312,959	$230,959	10,761	$65,455	$461,159	$395,704
Air Source Heat Pumps	1,301,886	$123,000	$1,212,279	$1,089,279	1,094,724	$183,038	$960,544	$777,506
Appliance Recycling	574,491	$119,000	$356,809	$237,809	483,592	$102,070	$301,494	$199,424
Be Bright	4,033,665	$358,000	$2,601,438	$2,243,438	5,868,394	$427,217	$3,797,144	$3,369,928
Electronically Commutated Motors	93,001	$37,000	$98,751	$61,751	117,216	$25,382	$124,165	$98,784
Energy Feedback Program	2,085,661	$370,600	$455,209	$84,609	4,182,815	$340,546	$1,323,711	$983,165
Geothermal Heat Pumps	921,413	$145,000	$1,202,528	$1,057,528	880,937	$169,102	$895,912	$726,810
Home Insulation	184,998	$58,000	$114,862	$56,862	215,070	$37,960	$133,533	$95,573
Home Transformer	203,386	$62,000	$126,780	$64,780	40,303	$14,363	$25,543	$11,179
School Kits	121,629	$26,000	$63,872	$37,872	240,310	$32,619	$114,349	$81,730
Water Heating Control	214,036	$40,000	$373,574	$333,574	400,467	$37,950	$697,792	$659,842
Advertising & Education	0	$150,000	$0	($150,000)	0	$128,063	$0	($128,063)
Financing	0	$13,000	$0	($13,000)	0	$13,281	$0	($13,281)
Implementation & Training	0	$40,000	$0	($40,000)	0	$42,454	$0	($42,454)
Total - Residential	9,741,399	$1,623,600	$6,919,059	$5,295,459	13,534,589	$1,619,499	$8,835,345	$7,215,846
Commercial								
Adjustable Speed Drives	3,810,456	$340,400	$3,810,213	$3,469,813	6,621,857	$456,547	$7,104,553	$6,648,006
Air Conditioning Control - Commercial	1,222	$38,000	$159,246	$121,246	615	$13,176	$57,430	$44,253
Air Source Heat Pumps	696,459	$70,000	$803,816	$733,816	496,206	$90,929	$473,733	$382,804
Commercial Design Assistance	2,419,175	$490,500	$3,531,195	$3,040,695	2,407,950	$534,730	$3,682,031	$3,147,301
Geothermal Heat Pumps	704,911	$124,000	$971,276	$847,276	2,146,064	$440,123	$2,508,985	$2,068,862
Custom Efficiency Grants	3,476,772	$721,000	$5,104,084	$4,383,084	7,368,498	$533,619	$9,267,448	$8,733,830
Industrial Focused Efficiency	1,428,172	$235,000	$1,509,536	$1,274,536	2,351,523	$281,502	$1,414,048	$1,132,546
Lighting Retrofit	3,400,273	$563,000	$4,136,609	$3,573,609	17,508,437	$2,261,252	$18,761,001	$16,499,749
Lighting - New Construction	2,164,338	$143,000	$2,000,088	$1,857,088	2,930,603	$177,320	$3,742,883	$3,565,563
Motors	140,895	$81,000	$152,468	$71,468	836,081	$176,207	$930,740	$754,533
PC Power Supply	793,399	$67,000	$314,505	$247,505	92,218	$7,587	$36,735	$29,148
Recommissioning/Retrocommissioning	1,937,520	$272,000	$585,531	$313,531	199,173	$75,638	$7,575	($68,063)
Refrigeration	1,238,014	$170,000	$786,802	$616,802	768,039	$156,254	$422,607	$266,354
Advertising & Education	0	$25,000	$0	($25,000)	0	$18,804	$0	($18,804)
Compressed Air Audits	0	$20,000	$0	($20,000)	0	$17,550	$0	($17,550)
Financing	0	$32,000	$0	($32,000)	0	$9,991	$0	($9,991)
Implementation & Training	0	$60,000	$0	($60,000)	0	$52,328	$0	($52,328)
Granted Budget Increase	0	$1,000,000	$0	($1,000,000)	0	$0	$0	$0
Total - Commercial	22,211,605	$4,451,900	$23,865,370	$19,413,470	43,727,263	$5,303,558	$48,409,770	$43,106,212

Table 3
2016 PROJECT COSTS, SAVINGS, AND BENEFITS
Financial Incentive Project
Otter Tail Power Company

	2016 Proposed Savings, Costs, and Benefits				2016 Actual Savings, Costs, and Benefits			
	kWh Savings	**Expenditures**	**Total Benefits**	**Net Benefits**	**kWh Savings**	**Expenditures**	**Total Benefits**	**Net Benefits**
Low-Income								
House Therapy	244,399	$150,000	$175,679	$25,679	243,039	$153,005	$170,273	$17,268
Total - Low-Income	244,399	$150,000	$175,679	$25,679	243,039	$153,005	$170,273	$17,268
Other Projects								
Publicly-Owned Property Solar	111,999	$116,000	$186,848	$70,848	26,606	$35,405	$46,504	$11,099
Total - Other	111,999	$116,000	$186,848	$70,848	26,606	$35,405	$46,504	$11,099
Program Development And Regulatory Requirements								
Planning - Regulatory Affairs	0	$300,000	$0	($300,000)	0	$248,118	$0	($248,118)
Research & Development	0	$150,000	$0	($150,000)	0	$175,625	$0	($175,625)
NGEA - Regulatory Assessments	0	$95,000	$0	($95,000)	0	$112,059	$0	($112,059)
PUC Assessments	0	$20,000	$0	($20,000)	0	$7,143	$0	($7,143)
Made in Minnesota Solar Energy Assesment	0	$103,909	$0	($103,909)	54,553	$116,741	$0	($116,741)
Transmission & Distribution Cost Study	0	$0	$0	$0	0	$2,254	$0	($2,254)
Total - Development & Regulatory Requirements	0	$668,909	$0	($668,909)	54,553	$661,941	$0	($661,941)
Miscellaneous								
Town Energy Challenge - Inactive	0	$0	$0	$0	0	$1,300	$0	($1,300)
Company CIP Projects	0	$0	$0	$0	0	$1,310	$0	($1,310)
Accounting Adjustments	0	$0	$0	$0	0	($5,238)	$0	$5,238
Total - Miscellaneous	0	$0	$0	$0	0	($2,628)	$0	$2,628
Total - All CIP	32,309,402	$7,010,409	$31,146,956	$24,136,547	57,586,050	$7,770,781	$57,461,892	$49,691,112

All numbers are for a single year - 2016. DSMORE software was used for the analysis, with figures discounted to 2016.

Table 4
2016 CIP Program Status Report / CIP Tracker Recap
Financial Incentive Project -- 2016 Conservation Improvement Programs
Otter Tail Power Company

	As Filed - 2016 Proposed Benefit/Cost Ratios					Actual - 2016 Benefit/Cost Ratios				
	Utility Test	**TRC Test**	**RIM Test**	**Societal Test**	**Participant Test**	**Utility Test**	**TRC Test**	**RIM Test**	**Societal Test**	**Participant Test**
Residential										
Air Conditioning Control	3.82	5.56	3.53	5.56	inf.	7.05	10.26	6.11	10.26	inf.
Air Source Heat Pumps	9.86	6.69	1.06	6.69	7.35	5.25	4.05	0.90	4.05	5.31
Appliance Recycling	3.00	4.78	0.78	4.78	inf.	2.95	4.69	0.76	4.69	inf.
Be Bright	7.27	10.12	0.88	10.12	23.84	8.89	8.59	0.88	8.59	11.71
Electronically Commutated Motors	2.67	2.98	0.74	2.98	5.79	4.89	4.30	0.82	4.30	5.99
Energy Feedback Program	1.23	1.23	0.51	1.23	inf.	3.89	3.89	0.92	3.89	inf.
Geothermal Heat Pumps	8.29	1.96	1.23	1.96	1.56	5.30	1.76	0.91	1.76	1.88
Home Insulation	1.98	1.29	0.51	1.29	2.76	3.52	2.45	0.56	2.45	5.82
Home Transformer	2.04	4.12	0.61	4.12	18.98	1.78	3.19	0.55	3.19	31.26
School Kits	2.46	4.66	0.66	4.66	inf.	3.51	11.81	0.68	11.81	inf.
Water Heating Control	9.34	9.34	6.43	9.34	inf.	18.39	18.39	9.59	18.39	inf.
Advertising & Education	inf.	inf.	inf.	inf.	inf.	0.00	0.00	0.00	0.00	inf.
Financing	inf.	inf.	inf.	inf.	inf.	0.00	0.00	0.00	0.00	inf.
Implementation & Training	inf.	inf.	inf.	inf.	inf.	0.00	0.00	0.00	0.00	inf.
Total - Residential	4.26	3.60	0.93	3.60	6.03	5.46	4.45	0.97	4.45	6.83
Commercial										
Adjustable Speed Drives	11.19	6.76	1.41	6.76	3.62	15.56	5.79	1.53	5.79	3.79
Air Conditioning Control - Commercial	4.19	7.23	4.09	7.23	inf.	4.36	10.27	3.60	10.27	inf.
Air Source Heat Pumps	11.48	3.66	1.27	3.66	2.31	5.21	3.84	0.99	3.84	4.53
Commercial Design Assistance	7.20	5.08	1.55	5.08	2.25	6.89	2.94	1.52	2.94	1.86
Geothermal Heat Pumps	7.83	1.93	1.25	1.93	1.10	5.70	1.73	1.06	1.73	1.58
Custom Efficiency Grants	7.08	3.17	2.03	3.17	1.11	17.37	3.26	1.70	3.26	1.34
Industrial Focused Efficiency	6.42	1.17	1.38	1.17	0.57	5.02	2.84	1.10	2.84	2.02
Lighting Retrofit	7.35	3.95	1.66	3.95	1.87	8.30	12.40	1.50	12.40	9.31
Lighting - New Construction	13.99	4.00	1.55	4.00	2.04	21.11	2.91	1.73	2.91	1.67
Motors	1.88	1.93	0.91	1.93	1.81	5.28	5.14	1.31	5.14	4.13
PC Power Supply	4.69	4.77	1.25	4.77	5.81	4.84	4.88	1.23	4.88	6.24
Recommissioning/Retrocommissioning	2.15	1.45	0.73	1.45	1.99	0.10	0.05	0.09	0.05	0.36
Refrigeration	4.63	4.59	1.27	4.59	4.17	2.70	3.32	0.97	3.32	4.24
Advertising & Education	inf.	inf.	inf.	inf.	inf.	0.00	0.00	0.00	0.00	inf.
Compressed Air Audits	inf.	inf.	inf.	inf.	inf.	0.00	0.00	0.00	0.00	0.80
Financing	inf.	inf.	inf.	inf.	inf.	0.00	0.00	0.00	0.00	inf.
Implementation & Training	inf.	inf.	inf.	inf.	inf.	0.00	0.00	0.00	0.00	inf.
Total - Commercial	6.91	3.31	1.51	3.31	1.65	9.13	4.42	1.48	4.42	2.83
Low-Income										
House Therapy	1.17	10.20	0.56	10.20	inf.	1.11	10.63	0.50	10.63	inf.
Total - Low-Income	1.17	10.20	0.56	10.20	inf.	1.11	10.63	0.50	10.63	inf.
Other Projects										
Publicly-Owned Property Solar	1.61	1.10	0.72	1.10	0.87	1.31	0.78	0.71	0.78	0.82
Total - Other	1.61	1.10	0.72	1.10	0.87	1.31	0.78	0.71	0.78	0.82

Table 4
2016 CIP Program Status Report / CIP Tracker Recap
Financial Incentive Project -- 2016 Conservation Improvement Programs
Otter Tail Power Company

	As Filed - 2016 Proposed Benefit/Cost Ratios					Actual - 2016 Benefit/Cost Ratios				
	Utility Test	**TRC Test**	**RIM Test**	**Societal Test**	**Participant Test**	**Utility Test**	**TRC Test**	**RIM Test**	**Societal Test**	**Participant Test**
Program Development And Regulatory Requirements										
Planning - Regulatory Affairs	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Research & Development	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NGEA - Regulatory Assessments	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PUC Assessments	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Made in Minnesota Solar Energy Assesment	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Transmission & Distribution Cost Study	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total - Development & Regulatory Requirements	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Miscellaneous										
Town Energy Challenge - Inactive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Company CIP Projects	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Accounting Adjustments	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total - Miscellaneous	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total - All CIP	5.18	3.16	1.29	3.16	2.22	7.39	4.26	1.34	4.26	3.21

Table 5
2016 CIP Program Status Report / CIP Tracker Recap
Financial Incentive Project -- 2016 Conservation Improvement Programs
Otter Tail Power Company

	2016 Expenditures			2016 Participation			2016 Energy Savings - kWh			2016 Coincident Demand Savings - kW		
	Actual	Budget	% of Goal	Actual	Budget	% of Goal	Actual	Budget	% of Goal	Actual	Budget	% of Goal
Residential												
Air Conditioning Control	$65,455	$82,000	80%	221	150	147%	10,761	7,233	149%	157.00	106.56	147%
Air Source Heat Pumps	$183,038	$123,000	149%	121	137	88%	1,094,724	1,301,886	84%	9.64	18.23	53%
Appliance Recycling	$102,070	$119,000	86%	463	545	85%	483,592	574,491	84%	68.78	80.96	85%
Be Bright	$427,217	$358,000	119%	163,823	99,000	165%	5,868,394	4,033,665	145%	685.64	478.22	143%
Electronically Commutated Motors	$25,382	$37,000	69%	150	120	125%	117,216	93,001	126%	10.61	8.49	125%
Energy Feedback Program	$340,546	$370,600	92%	37,133	32,810	113%	4,182,815	2,085,661	201%	4,571.54	1,169.43	391%
Geothermal Heat Pumps	$169,102	$145,000	117%	36	43	84%	880,937	921,413	96%	18.60	22.22	84%
Home Insulation	$37,960	$58,000	65%	28	55	51%	215,070	184,998	116%	0.00	0.00	0%
Home Transformer	$14,363	$62,000	23%	239	1,575	15%	40,303	203,386	20%	2.15	14.29	15%
School Kits	$32,619	$26,000	125%	431	300	144%	240,310	121,629	198%	14.46	9.60	151%
Water Heating Control	$37,950	$40,000	95%	16,132	8,622	187%	400,467	214,036	187%	3,698.64	1,980.20	187%
Advertising & Education	$128,063	$150,000	85%	16,436	10,000	164%	0	0	0%	0.00	0.00	0%
Financing	$13,281	$13,000	102%	1	7	14%	0	0	0%	0.00	0.00	0%
Implementation & Training	$42,454	$40,000	106%	67	175	38%	0	0	0%	0.00	0.00	0%
Total - Residential	$1,619,499	$1,623,600	100%	235,281	153,539	153%	13,534,589	9,741,399	139%	9,237.05	3,888.20	238%
Commercial												
Adjustable Speed Drives	$456,547	$340,400	134%	290	135	215%	6,621,857	3,810,456	174%	1,043.19	504.20	207%
Air Conditioning Control - Commercial	$13,176	$38,000	35%	9	90	10%	615	1,222	50%	19.71	54.76	36%
Air Source Heat Pumps	$90,929	$70,000	130%	63	131	48%	496,206	696,459	71%	5.02	10.46	48%
Commercial Design Assistance	$534,730	$490,500	109%	12	6	200%	2,407,950	2,419,175	100%	556.40	509.21	109%
Geothermal Heat Pumps	$440,123	$124,000	355%	102	35	291%	2,146,064	704,911	304%	52.70	18.08	291%
Custom Efficiency Grants	$533,619	$721,000	74%	61	38	161%	7,368,498	3,476,772	212%	1,298.09	1,022.58	127%
Industrial Focused Efficiency	$281,502	$235,000	120%	2	4	50%	2,351,523	1,428,172	165%	292.46	217.13	135%
Lighting Retrofit	$2,261,252	$563,000	402%	1,086	346	314%	17,508,437	3,400,273	515%	3,781.17	1,091.24	347%
Lighting - New Construction	$177,320	$143,000	124%	365	202	181%	2,930,603	2,164,338	135%	694.11	369.52	188%
Motors	$176,207	$81,000	218%	261	71	368%	836,081	140,895	593%	143.37	22.65	633%
PC Power Supply	$7,587	$67,000	11%	428	3,562	12%	92,218	793,399	12%	21.50	184.96	12%
Recommissioning/Retrocommissioning	$75,638	$272,000	28%	1	10	10%	199,173	1,937,520	10%	0.00	36.54	0%
Refrigeration	$156,254	$170,000	92%	94	119	79%	768,039	1,238,014	62%	117.75	241.85	49%
Advertising & Education	$18,804	$25,000	75%	33	10	330%	0	0	0%	0.00	0.00	0%
Compressed Air Audits	$17,550	$20,000	88%	3	4	75%	0	0	0%	0.00	0.00	0%
Financing	$9,991	$32,000	31%	1	5	20%	0	0	0%	0.00	0.00	0%
Implementation & Training	$52,328	$60,000	87%	464	250	186%	0	0	0%	0.00	0.00	0%
Granted Budget Increase		$1,000,000	0%									
Total - Commercial	$5,303,558	$4,451,900	119%	3,275	5,018	65%	43,727,263	22,211,605	197%	8,025.47	4,283.18	187%
Low-Income												
House Therapy	$153,005	$150,000	102%	127	160	79%	243,039	244,399	99%	24.87	30.49	82%
Total - Low-Income	$153,005	$150,000	102%	127	160	79%	243,039	244,399	99%	24.87	30.49	82%
Other Projects												
Publicly-Owned Property Solar	$35,405	$116,000	31%	1	7	14%	26,606	111,999	24%	10.76	41.10	26%
Total - Other	$35,405	$116,000	31%	1	7	14%	26,606	111,999	24%	10.76	41.10	26%

Table 5
2016 CIP Program Status Report / CIP Tracker Recap
Financial Incentive Project -- 2016 Conservation Improvement Programs
Otter Tail Power Company

	2016 Expenditures			2016 Participation			2016 Energy Savings - kWh			2016 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	$248,118	$300,000	83%									
Research & Development	$175,625	$150,000	117%									
NGEA - Regulatory Assessments	$112,059	$95,000	118%									
PUC Assessments	$7,143	$20,000	36%									
Made in Minnesota Solar Energy Assesment	$116,741	$103,909	112%				54,553					
Transmission & Distribution Cost Study	$2,254	$0	0%									
Total - Development & Regulatory Requirements	$661,941	$668,909	99%				54,553	0	0%			
Miscellaneous Projects												
Town Energy Challenge - Inactive	$1,300	$0	0%									
Company CIP Projects	$1,310	$0	0%									
Accounting Adjustments	($5,238)	$0	0%									
Total - Miscellaneous	($2,628)	$0	0%									
Total - 2016 CIP Project Costs	$7,770,781	$7,010,409	111%	238,683	158,724	150%	57,586,050	32,309,402	178%	17,298.16	8,242.97	210%
CIP Tracker Carrying Costs	$26,368				238,011							
Total - 2016 CIP with Carrying Costs	$7,797,149	$7,010,409	111%	238,683	158,724	150%	57,586,050	32,309,402	178%	17,298.16	8,242.97	210%
Incentives - 2015 [Bonus]	$4,257,105											
CIP Recovery Mechanism	($7,224,020)											
Recovered Through Rates	($4,327,443)											
Prior Year Carry Forward Balance	$4,333,061											
Tracker Balance - Year End 2016	$4,835,852											

Table 6
2016 CIP PROGRAM STATUS REPORT / CIP TRACKER RECAP - COST PER KW / KWH
Financial Incentive Project -- 2016 Conservation Improvement Programs
Otter Tail Power Company

	2016 Expenditures		2016 Energy Savings - kWh		Cost per kWh		2016 Coincident Demand Savings - kW		Cost per kW	
	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget
Residential										
Air Conditioning Control	$65,455	$82,000	10,761	7,233	$6.08	$11.34	157.00	106.56	$417	$770
Air Source Heat Pumps	$183,038	$123,000	1,094,724	1,301,886	$0.17	$0.09	9.64	18.23	$18,991	$6,747
Appliance Recycling	$102,070	$119,000	483,592	574,491	$0.21	$0.21	68.78	80.96	$1,484	$1,470
Be Bright	$427,217	$358,000	5,868,394	4,033,665	$0.07	$0.09	685.64	478.22	$623	$749
Electronically Commutated Motors	$25,382	$37,000	117,216	93,001	$0.22	$0.40	10.61	8.49	$2,393	$4,358
Energy Feedback Program	$340,546	$370,600	4,182,815	2,085,661	$0.08	$0.18	4,571.54	1,169.43	$74	$317
Geothermal Heat Pumps	$169,102	$145,000	880,937	921,413	$0.19	$0.16	18.60	22.22	$9,091	$6,526
Home Insulation	$37,960	$58,000	215,070	184,998	$0.18	$0.31	0.00	0.00	$0	$0
Home Transformer	$14,363	$62,000	40,303	203,386	$0.36	$0.30	2.15	14.29	$6,685	$4,339
School Kits	$32,619	$26,000	240,310	121,629	$0.14	$0.21	14.46	9.60	$2,256	$2,708
Water Heating Control	$37,950	$40,000	400,467	214,036	$0.09	$0.19	3,698.64	1,980.20	$10	$20
Total - Residential	$1,435,701	$1,420,600	13,534,589	9,741,399	$0.11	$0.15	9,237.05	3,888.20	$155	$365
Commercial										
Adjustable Speed Drives	$456,547	$340,400	6,621,857	3,810,456	$0.07	$0.09	1,043.19	504.20	$438	$675
Air Conditioning Control - Commercial	$13,176	$38,000	615	1,222	$21.44	$31.10	19.71	54.76	$669	$694
Air Source Heat Pumps	$90,929	$70,000	496,206	696,459	$0.18	$0.10	5.02	10.46	$18,120	$6,692
Commercial Design Assistance	$534,730	$490,500	2,407,950	2,419,175	$0.22	$0.20	556.40	509.21	$961	$963
Geothermal Heat Pumps	$440,123	$124,000	2,146,064	704,911	$0.21	$0.18	52.70	18.08	$8,351	$6,858
Custom Efficiency Grants	$533,619	$721,000	7,368,498	3,476,772	$0.07	$0.21	1,298.09	1,022.58	$411	$705
Industrial Focused Efficiency	$281,502	$235,000	2,351,523	1,428,172	$0.12	$0.16	292.46	217.13	$963	$1,082
Lighting Retrofit	$2,261,252	$563,000	17,508,437	3,400,273	$0.13	$0.17	3,781.17	1,091.24	$598	$516
Lighting - New Construction	$177,320	$143,000	2,930,603	2,164,338	$0.06	$0.07	694.11	369.52	$255	$387
Motors	$176,207	$81,000	836,081	140,895	$0.21	$0.57	143.37	22.65	$1,229	$3,576
PC Power Supply	$7,587	$67,000	92,218	793,399	$0.08	$0.08	21.50	184.96	$353	$362
Recommissioning/Retrocommissioning	$75,638	$272,000	199,173	1,937,520	$0.38	$0.14	0.00	36.54	$0	$7,444
Refrigeration	$156,254	$170,000	768,039	1,238,014	$0.20	$0.14	117.75	241.85	$1,327	$703
Granted Budget Increase		$1,000,000								
Total - Commercial	$5,204,885	$4,314,900	43,727,263	22,211,605	$0.12	$0.19	8,025.47	4,283.18	$649	$1,007
Low-Income										
House Therapy	$153,005	$150,000	243,039	244,399	$0.63	$0.61	24.87	30.49	$6,151	$4,920
Total - Low-Income	$153,005	$150,000	243,039	244,399	$0.63	$0.61	24.87	30.49	$6,151	$4,920
Other Projects										
Publicly-Owned Property Solar	$35,405	$116,000	26,606	111,999	$1.33	$1.04	10.76	0.00	$3,289	$0
Total - Other	$35,405	$116,000	26,606	111,999	$1.33	$1.04	10.76	0.00	$3,289	$0
Total - Direct Impact	$6,828,998	$6,001,500	57,531,497	32,309,402	$0.12	$0.19	17,298.16	8,201.87	$395	$732
Miscellaneous Projects										
Town Energy Challenge - Inactive	$1,300	$0	0	0	$0.00	$0.00	0.00	0.00	$0	$0
Company CIP Projects	$1,310	$0	0	0	$0.00	$0.00	0.00	0.00	$0	$0
Accounting Adjustments	($5,238)	$0	0	0	$0.00	$0.00	0.00	0.00	$0	$0
Total - Miscellaneous	($2,628)	$0	0	0	$0.00	$0.00	0.00	0.00	$0	$0
Total - Indirect Impact	$944,411	$1,008,909	54,553	0	$17.31	$0.00	0.00	0.00	$0	$0
Total - 2016 CIP Project Costs	$7,770,781	$7,010,409	57,586,050	32,309,402	$0.13	$0.22	17,298.16	8,201.87	$449	$855

Appendix B- Other Evaluations

- **Bill Analyzer Evaluation Program Year 2016**
- **OPOWER 2016 Results Report**

123 E. 4th St, Cincinnati Ohio 45202

Final Memorandum

To: **Otter Tail Power Company**

From: **Ken Skinner, Integral Analytics**

Date: **February 24, 2017**

RE: **Impact Evaluation Results for the Bill Analyzer Program (Program Year 2016)**

This memo presents the final results from the billing analysis of Otter Tail Power Company's (Otter Tail'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	627
Used Home Energy Center	1064
Used the Bill History or Bill Analysis	260
Used CSR	631
Level 1	544
Level 2	1608
Level 3	1207[1]

[1] The saving impact of 1,207 kWh / year achieved via using level 3 is not statistically significant at a confidence level of 95%, i.e. there is 95% chance that the impact could be anywhere from as low as not saving at all to as high as 1,200+ kWh / year, with 1,207 kWh/year being in the middle of this range.

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 Otter Tail'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:

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

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, 2010 to Dec. 2016 from participants in Minnesota, a control group of non-participating Otter Tail residential customers also in Minnesota, weather data (average monthly temperate) for the same period, other Otter Tail 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	1,435	680
Eliminated due to excessive missing or zero reads or extremely small reads in most months	102	42
Eliminated Dashboard (IBP) only customers[3]	0	0
Estimation Sample	1,333	638
Total Sample Size (5278)	1,971 homes	

The numbers of 2016 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 are presented in Table 3. Since a

[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 for 2016.

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

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.

	HEC	CSR	CCSS	Completed		
				Level 1	Level 2	Level 3
Number	187	11	661	1060	324	158
% of total	14%	1%	48%	78%	24%	12%

Finally, table 4 presents that average annual kWh usage for both the participants and non-participants for 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016.

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

Estimation

The estimated models are presented in Table 5-7.[4]

[4] The models include weather terms, monthly indicator terms and other Otter Tail 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.

Table 5: Estimated Overall Savings – dependent variable is monthly kWh usage, using usage from Jan. 2010 through Dec. 2016 (savings are negative).

Independent Variable	Coefficient (kWh/month)	t-value
Logged into the Bill Analyzer website	-52.24	-2.66
Sample Size	63,463 obs	
R-Squared	57%	

Table 6: Estimated Savings by Tool Used – dependent variable is monthly kWh usage, using usage from Jan. 2010 through Dec. 2016 (savings are negative)

Independent Variable	Coefficient (kWh/month)	t-value
Used Home Energy Center	-88.65	-3.27
Used the Bill History or Bill Analysis	-21.74	-0.90
Used CSR	-52.57	-0.71
Sample Size	63,463 obs	
R-Squared	57%	

Table 7: Estimated Savings by Achieved Level – dependent variable is daily kWh usage, using usage from Jan. 2011 through Dec. 2016 (savings are negative) of those who actively participated in 2016. (savings are negative).

Independent Variable	Coefficient (kWh/month)	t-value
Reached Level 1	-45.40	-2.10
Reached Level 2	-133.99	-3.32
Reached Level 3[5]	-100.56	-1.29[6]
Sample Size	63,463 obs	
R-Squared	57%	

[5] The coefficient estimates are total saving of each level. Therefore, the total saving of level 1 customers is 544 kWh per year (45.40*12). The total saving of level 2 customers is 1,608 kWh per year (134*12). Level 3 with t-value = -1.29 which means the saving estimate of 1,207 is not significantly different from 0).

[6] Not significant at 95% confidence level

These estimated models show that the Bill Analyzer program does induce energy conservation by participants, with a statistically significant average annual savings of 627 kWh / year. Customers who used CSR achieved the highest savings level of 631 kWh / year. Customer who used the bill history or bill analysis tools achieved some savings of 260 kWh per year.

As one would expect, the higher the level the customer achieves, the higher the resulting savings. Customers who reached level 1 show statistical significant savings of 544 kWh per year. Customers reached level 2 in total saved 1,608 kWh per year (the saving estimate is the total saving of level 2). Getting to level 3 results in annual savings not statistically significant, i.e. the saving is not significantly different from zero; also note that level 3 customers achieved no saving in 2016. The saving estimates associated with various levels are consistent with results from last year because they fall within the confidence interval of program year 2016.

Conclusion

In summary, these results show that the Bill Analyzer program does induce energy conservation by participants, with a statistically significant average annual savings of 627 kWh. Customers who used HEC achieved the highest savings level of 1,064 kWh. Customer who used the bill history or bill analysis tools achieved some savings (260 kWh). Customers who used CSR saved 631 kWh.

As one would expect, the higher the level the customer achieves, the higher the resulting savings. Customers who reached level 1 show statistical significant savings of 544 kWh per year. Customers reached level 2 in total saved 1,608 kWh per year (the saving estimate is the total saving of level 2). Getting to level 3 does not lift savings from level 2.

Based on the estimated results and their statistical significance, the most appropriate savings estimate for the Bill Analyzer program is the overall estimate of 627 kWh / year per participant based on the sample of 1,333 participating accounts.

APPENDIX:

Estimated Overall Model

Dependent Variable: billed_kwh

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1808	43192450359	23889630	44.86	<.0001
Error	61655	32835369064	532566		
Corrected Total	63463	76027819423			

R-Square	Coeff Var	Root MSE	billed_kwh Mean
0.568114	59.84100	729.7713	1219.517

Source	DF	Type I SS	Mean Square	F Value	Pr > F
ConcatID	1758	40544141397	23062652	43.30	<.0001
sum_cd*sum_hd*monthi	47	2604026781	55404825	104.03	<.0001
overall_BA	1	9782022	9782022	18.37	<.0001
Opower	1	19675074	19675074	36.94	<.0001
OtherPrograms	1	14825086	14825086	27.84	<.0001

Source	DF	Type III SS	Mean Square	F Value	Pr > F
sum_cd*sum_hd*monthi	47	2606391026	55455128	104.13	<.0001
overall_BA	1	3757986	3757986	7.06	0.0079
Opower	1	17714686	17714686	33.26	<.0001
OtherPrograms	1	14825086	14825086	27.84	<.0001

Parameter		Estimate	Standard Error	t Value	Pr > |t|
sum_cd*sum_hd*monthi	18718	-0.2041673	0.02220282	-9.20	<.0001
sum_cd*sum_hd*monthi	18748	-0.0561113	0.00353232	-15.89	<.0001
sum_cd*sum_hd*monthi	18779	-0.0639493	0.00443671	-14.41	<.0001
sum_cd*sum_hd*monthi	18809	-0.1426381	0.01695742	-8.41	<.0001
sum_cd*sum_hd*monthi	18840	-0.0539296	0.00361199	-14.93	<.0001
sum_cd*sum_hd*monthi	18871	-0.0618058	0.00321875	-19.20	<.0001
sum_cd*sum_hd*monthi	18901	-0.0479282	0.00635647	-7.54	<.0001
sum_cd*sum_hd*monthi	18993	1.1586390	0.36189344	3.20	0.0014
sum_cd*sum_hd*monthi	19024	-0.0127832	0.01225256	-1.04	0.2968
sum_cd*sum_hd*monthi	19053	-0.1495442	0.01710423	-8.74	<.0001
sum_cd*sum_hd*monthi	19084	-0.0718906	0.00574496	-12.51	<.0001
sum_cd*sum_hd*monthi	19114	-0.0512222	0.00268395	-19.08	<.0001
sum_cd*sum_hd*monthi	19145	-0.0830947	0.00821574	-10.11	<.0001
sum_cd*sum_hd*monthi	19175	-0.0609463	0.00641869	-9.50	<.0001
sum_cd*sum_hd*monthi	19206	-0.0414229	0.00265156	-15.62	<.0001
sum_cd*sum_hd*monthi	19237	-0.1466888	0.00874101	-16.78	<.0001
sum_cd*sum_hd*monthi	19418	-0.1667700	0.25357115	-0.66	0.5107
sum_cd*sum_hd*monthi	19449	-0.0476129	0.00612403	-7.77	<.0001
sum_cd*sum_hd*monthi	19479	-0.0781386	0.00473742	-16.49	<.0001

sum_cd*sum_hd*monthi	19510	-0.0697339	0.00767838	-9.08<.0001
sum_cd*sum_hd*monthi	19540	-0.0591519	0.00438098	-13.50<.0001
sum_cd*sum_hd*monthi	19571	-0.0279231	0.00217102	-12.86<.0001
sum_cd*sum_hd*monthi	19602	-0.0959197	0.00544777	-17.61<.0001
sum_cd*sum_hd*monthi	19632	-0.1176185	0.03570348	-3.290.0010
sum_cd*sum_hd*monthi	19783	-0.0058744	0.01543084	-0.380.7034
sum_cd*sum_hd*monthi	19814	-0.0257942	0.00440099	-5.86<.0001
sum_cd*sum_hd*monthi	19844	-0.0346985	0.00228765	-15.17<.0001
sum_cd*sum_hd*monthi	19875	-0.0700868	0.00487623	-14.37<.0001
sum_cd*sum_hd*monthi	19905	-0.1207571	0.00880337	-13.72<.0001
sum_cd*sum_hd*monthi	19936	-0.0665763	0.00413757	-16.09<.0001
sum_cd*sum_hd*monthi	19967	-0.0650322	0.00393000	-16.55<.0001
sum_cd*sum_hd*monthi	20148	-0.0932569	0.23814157	-0.390.6954
sum_cd*sum_hd*monthi	20179	-0.3038521	0.02395903	-12.68<.0001
sum_cd*sum_hd*monthi	20209	-0.0609638	0.00392765	-15.52<.0001
sum_cd*sum_hd*monthi	20240	-0.0973932	0.00668356	-14.57<.0001
sum_cd*sum_hd*monthi	20270	-0.0381085	0.00450058	-8.47<.0001
sum_cd*sum_hd*monthi	20301	-0.0329227	0.00208581	-15.78<.0001
sum_cd*sum_hd*monthi	20332	-0.0440997	0.00246256	-17.91<.0001
sum_cd*sum_hd*monthi	20362	-0.1487211	0.01361659	-10.92<.0001
sum_cd*sum_hd*monthi	20514	-0.0530672	0.03563043	-1.490.1364
sum_cd*sum_hd*monthi	20545	-0.0860157	0.00572848	-15.02<.0001
sum_cd*sum_hd*monthi	20575	-0.0625699	0.00369834	-16.92<.0001
sum_cd*sum_hd*monthi	20606	-0.0945587	0.00657251	-14.39<.0001
sum_cd*sum_hd*monthi	20636	-0.1197513	0.01365102	-8.77<.0001
sum_cd*sum_hd*monthi	20667	-0.0843961	0.00529167	-15.95<.0001
sum_cd*sum_hd*monthi	20698	-0.1583161	0.01046460	-15.13<.0001
sum_cd*sum_hd*monthi	20728	-0.5727068	0.17330929	-3.300.0010
overall_BA		-52.240637	119.66607532	-2.660.0079
Opower		-58.646854	410.16868489	-5.77<.0001
OtherPrograms		-108.938017	020.64750840	-5.28<.0001

Dependent Variable: billed_kwh

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1810	43198030974	23866315	44.82	<.0001
Error	61653	32829788449	532493		
Corrected Total	63463	76027819423			

R-Square	Coeff Var	Root MSE	billed_kwh Mean
0.568187	59.83689	729.7212	1219.517

Source	DF	Type I SS	Mean Square	F Value	Pr > F
ConcatID	1758	40544141397	23062652	43.31	<.0001
sum_cd*sum_hd*monthi	47	2604026781	55404825	104.05	<.0001
Used_HEC	1	15212243	15212243	28.57	<.0001
used_BA	1	2406019	2406019	4.52	0.0335
used_CSR	1	181252	181252	0.34	0.5596
Opower	1	18683117	18683117	35.09	<.0001
OtherPrograms	1	13380166	13380166	25.13	<.0001

Source	DF	Type III SS	Mean Square	F Value	Pr > F
sum_cd*sum_hd*monthi	47	2607799588	55485098	104.20	<.0001
Used_HEC	1	5700059	5700059	10.70	0.0011
used_BA	1	431110	431110	0.81	0.3682
used_CSR	1	271807	271807	0.51	0.4749
Opower	1	17106063	17106063	32.12	<.0001
OtherPrograms	1	13380166	13380166	25.13	<.0001

Parameter		Estimate	Standard Error	t Value	Pr > |t|
sum_cd*sum_hd*monthi	18628	0.0000000	.	.	.
sum_cd*sum_hd*monthi	18659	0.0000000	.	.	.
sum_cd*sum_hd*monthi	18687	0.0000000	.	.	.
sum_cd*sum_hd*monthi	18718	-0.2049603	0.02220337	-9.23	<.0001
sum_cd*sum_hd*monthi	18748	-0.0562420	0.00353224	-15.92	<.0001
sum_cd*sum_hd*monthi	18779	-0.0641732	0.00443681	-14.46	<.0001
sum_cd*sum_hd*monthi	18809	-0.1437297	0.01695996	-8.47	<.0001
sum_cd*sum_hd*monthi	18840	-0.0541699	0.00361265	-14.99	<.0001
sum_cd*sum_hd*monthi	18871	-0.0620432	0.00321971	-19.27	<.0001
sum_cd*sum_hd*monthi	18901	-0.0481368	0.00635673	-7.57	<.0001
sum_cd*sum_hd*monthi	18932	0.0000000	.	.	.
sum_cd*sum_hd*monthi	18962	0.0000000	.	.	.
sum_cd*sum_hd*monthi	18993	1.1592295	0.36186868	3.20	0.0014
sum_cd*sum_hd*monthi	19024	-0.0127709	0.01225159	-1.04	0.2972
sum_cd*sum_hd*monthi	19053	-0.1496524	0.01710517	-8.75	<.0001
sum_cd*sum_hd*monthi	19084	-0.0718987	0.00574457	-12.52	<.0001
sum_cd*sum_hd*monthi	19114	-0.0512679	0.00268400	-19.10	<.0001
sum_cd*sum_hd*monthi	19145	-0.0832109	0.00821559	-10.13	<.0001
sum_cd*sum_hd*monthi	19175	-0.0609543	0.00641815	-9.50	<.0001

sum_cd*sum_hd*monthi	19206	-0.0414731	0.00265155	-15.64<.0001
sum_cd*sum_hd*monthi	19237	-0.1469454	0.00874106	-16.81<.0001
sum_cd*sum_hd*monthi	19418	-0.1667909	0.25355370	-0.660.5107
sum_cd*sum_hd*monthi	19449	-0.0477347	0.00612387	-7.79<.0001
sum_cd*sum_hd*monthi	19479	-0.0781535	0.00473711	-16.50<.0001
sum_cd*sum_hd*monthi	19510	-0.0697519	0.00767795	-9.08<.0001
sum_cd*sum_hd*monthi	19540	-0.0591803	0.00438084	-13.51<.0001
sum_cd*sum_hd*monthi	19571	-0.0279491	0.00217094	-12.87<.0001
sum_cd*sum_hd*monthi	19602	-0.0958551	0.00544746	-17.60<.0001
sum_cd*sum_hd*monthi	19632	-0.1176891	0.03570200	-3.300.0010
sum_cd*sum_hd*monthi	19783	-0.0058460	0.01542978	-0.380.7048
sum_cd*sum_hd*monthi	19814	-0.0257281	0.00440088	-5.85<.0001
sum_cd*sum_hd*monthi	19844	-0.0346509	0.00228759	-15.15<.0001
sum_cd*sum_hd*monthi	19875	-0.0699937	0.00487625	-14.35<.0001
sum_cd*sum_hd*monthi	19905	-0.1203993	0.00880347	-13.68<.0001
sum_cd*sum_hd*monthi	19936	-0.0666090	0.00413739	-16.10<.0001
sum_cd*sum_hd*monthi	19967	-0.0650341	0.00392982	-16.55<.0001
sum_cd*sum_hd*monthi	20148	-0.0929543	0.23812511	-0.390.6963
sum_cd*sum_hd*monthi	20179	-0.3041145	0.02395684	-12.69<.0001
sum_cd*sum_hd*monthi	20209	-0.0609032	0.00392742	-15.51<.0001
sum_cd*sum_hd*monthi	20240	-0.0971885	0.00668353	-14.54<.0001
sum_cd*sum_hd*monthi	20270	-0.0380386	0.00450036	-8.45<.0001
sum_cd*sum_hd*monthi	20301	-0.0328508	0.00208579	-15.75<.0001
sum_cd*sum_hd*monthi	20332	-0.0440389	0.00246253	-17.88<.0001
sum_cd*sum_hd*monthi	20362	-0.1484609	0.01361596	-10.90<.0001
sum_cd*sum_hd*monthi	20514	-0.0531938	0.03562772	-1.490.1354
sum_cd*sum_hd*monthi	20545	-0.0859234	0.00572797	-15.00<.0001
sum_cd*sum_hd*monthi	20575	-0.0625156	0.00369788	-16.91<.0001
sum_cd*sum_hd*monthi	20606	-0.0943753	0.00657201	-14.36<.0001
sum_cd*sum_hd*monthi	20636	-0.1193162	0.01365043	-8.74<.0001
sum_cd*sum_hd*monthi	20667	-0.0842605	0.00529118	-15.92<.0001
sum_cd*sum_hd*monthi	20698	-0.1582794	0.01046383	-15.13<.0001
sum_cd*sum_hd*monthi	20728	-0.5725496	0.17329734	-3.300.0010
Used_HEC		-88.650229	827.09549679	-3.270.0011
used_BA		-21.735053	224.15592378	-2.300.0027
used_CSR		-52.567921	873.57786652	3.200.0014
Opower		-57.446226	210.13545864	-5.67<.0001
OtherPrograms		-104.101354	020.76742101	-5.01<.0001

Dependent Variable: billed_kwh

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1810	43195543420	23864941	44.81	<.0001
Error	61653	32832276003	532533		
Corrected Total	63463	76027819423			

R-Square	Coeff Var	Root MSE	billed_kwh Mean
0.568154	59.83916	729.7488	1219.517

Source	DF	Type I SS	Mean Square	F Value	Pr > F
ConcatID	1758	40544141397	23062652	43.31	<.0001
sum_cd*sum_hd*monthi	47	2604026781	55404825	104.04	<.0001
l1	1	3367419	3367419	6.32	0.0119
l2	1	8523320	8523320	16.01	<.0001
l3	1	2024219	2024219	3.80	0.0512
Opower	1	19357723	19357723	36.35	<.0001
OtherPrograms	1	14102561	14102561	26.48	<.0001

Source	DF	Type III SS	Mean Square	F Value	Pr > F
sum_cd*sum_hd*monthi	47	2607165484	55471606	104.17	<.0001
l1	1	2356135	2356135	4.42	0.0354
l2	1	5872389	5872389	11.03	0.0009
l3	1	881821	881821	1.66	0.1982
Opower	1	17548415	17548415	32.95	<.0001
OtherPrograms	1	14102561	14102561	26.48	<.0001

Parameter		Estimate	Standard Error	t Value	Pr > |t|
sum_cd*sum_hd*monthi	18718	-0.2047490	0.02220251	-9.22	<.0001
sum_cd*sum_hd*monthi	18748	-0.0563063	0.00353280	-15.94	<.0001
sum_cd*sum_hd*monthi	18779	-0.0641961	0.00443752	-14.47	<.0001
sum_cd*sum_hd*monthi	18809	-0.1433546	0.01696185	-8.45	<.0001
sum_cd*sum_hd*monthi	18840	-0.0541109	0.00361265	-14.98	<.0001
sum_cd*sum_hd*monthi	18871	-0.0620169	0.00321985	-19.26	<.0001
sum_cd*sum_hd*monthi	18901	-0.0479239	0.00635638	-7.54	<.0001
sum_cd*sum_hd*monthi	18993	1.1582438	0.36188223	3.20	0.0014
sum_cd*sum_hd*monthi	19024	-0.0128705	0.01225254	-1.05	0.2935
sum_cd*sum_hd*monthi	19053	-0.1497892	0.01710429	-8.76	<.0001
sum_cd*sum_hd*monthi	19084	-0.0719136	0.00574487	-12.52	<.0001
sum_cd*sum_hd*monthi	19114	-0.0512717	0.00268396	-19.10	<.0001
sum_cd*sum_hd*monthi	19145	-0.0831097	0.00821519	-10.12	<.0001
sum_cd*sum_hd*monthi	19175	-0.0609431	0.00641853	-9.49	<.0001
sum_cd*sum_hd*monthi	19206	-0.0414423	0.00265149	-15.63	<.0001
sum_cd*sum_hd*monthi	19237	-0.1468789	0.00874120	-16.80	<.0001

sum_cd*sum_hd*monthi	19418	-0.1668089	0.25356331	-0.66	0.5106
sum_cd*sum_hd*monthi	19449	-0.0476016	0.00612415	-7.77	<.0001
sum_cd*sum_hd*monthi	19479	-0.0780346	0.00473769	-16.47	<.0001
sum_cd*sum_hd*monthi	19510	-0.0697267	0.00767841	-9.08	<.0001
sum_cd*sum_hd*monthi	19540	-0.0590675	0.00438143	-13.48	<.0001
sum_cd*sum_hd*monthi	19571	-0.0278810	0.00217121	-12.84	<.0001
sum_cd*sum_hd*monthi	19602	-0.0958481	0.00544797	-17.59	<.0001
sum_cd*sum_hd*monthi	19632	-0.1181776	0.03570369	-3.31	0.0009
sum_cd*sum_hd*monthi	19783	-0.0058609	0.01543036	-0.38	0.7041
sum_cd*sum_hd*monthi	19814	-0.0257564	0.00440088	-5.85	<.0001
sum_cd*sum_hd*monthi	19844	-0.0346402	0.00228777	-15.14	<.0001
sum_cd*sum_hd*monthi	19875	-0.0699295	0.00487655	-14.34	<.0001
sum_cd*sum_hd*monthi	19905	-0.1205111	0.00880379	-13.69	<.0001
sum_cd*sum_hd*monthi	19936	-0.0665234	0.00413764	-16.08	<.0001
sum_cd*sum_hd*monthi	19967	-0.0649610	0.00393000	-16.53	<.0001
sum_cd*sum_hd*monthi	20148	-0.0945022	0.23815541	-0.40	0.6915
sum_cd*sum_hd*monthi	20179	-0.3037809	0.02395828	-12.68	<.0001
sum_cd*sum_hd*monthi	20209	-0.0609024	0.00392764	-15.51	<.0001
sum_cd*sum_hd*monthi	20240	-0.0972349	0.00668381	-14.55	<.0001
sum_cd*sum_hd*monthi	20270	-0.0380685	0.00450050	-8.46	<.0001
sum_cd*sum_hd*monthi	20301	-0.0328718	0.00208599	-15.76	<.0001
sum_cd*sum_hd*monthi	20332	-0.0440636	0.00246267	-17.89	<.0001
sum_cd*sum_hd*monthi	20362	-0.1485354	0.01361683	-10.91	<.0001
sum_cd*sum_hd*monthi	20514	-0.0531508	0.03562987	-1.49	0.1358
sum_cd*sum_hd*monthi	20545	-0.0859928	0.00572850	-15.01	<.0001
sum_cd*sum_hd*monthi	20575	-0.0625737	0.00369827	-16.92	<.0001
sum_cd*sum_hd*monthi	20606	-0.0945629	0.00657229	-14.39	<.0001
sum_cd*sum_hd*monthi	20636	-0.1197701	0.01365083	-8.77	<.0001
sum_cd*sum_hd*monthi	20667	-0.0844188	0.00529144	-15.95	<.0001
sum_cd*sum_hd*monthi	20698	-0.1582729	0.01046483	-15.12	<.0001
sum_cd*sum_hd*monthi	20728	-0.5721667	0.17330399	-3.30	0.0010
l1		-45.397422	321.58263659	-2.10	0.0354
l2		-133.989638	340.34941134	-3.32	0.0009
l3		-100.559515	878.14593596	-1.29	0.1982
Opower		-58.129514	210.12630798	-5.74	<.0001
OtherPrograms		-106.620591	520.71884224	-5.15	<.0001

OPOWER

Otter Tail Home Energy Reports Program:
2016 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. Households selected for the program 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.

- 30,000 residential customers were originally selected to receive reports at varying frequencies as part of the treatment population, of which 28,841 received reports. Targeted households were all located within Otter Tail's Minnesota service territory. These participants began receiving reports in June 2011 and are referred to as the June 2011 wave in this document.
    - A statistically equivalent group of approximately 5,000 households was randomly assigned to serve as a control population; these households did not receive reports.
    - Both samples were randomly selected from the same population to ensure unbiased measurement and verification of program results. The average annual electricity usage of the treatment and control populations was alike between 12,000-13,000 kWh.
    - As part of the territory-wide expansion in August 2015, mentioned below in this section, the control group associated with the June 2011 wave was disbanded. Customers originally preserved for the control group became eligible for conversion to the treatment group. The savings measurement methodology is described in greater detail in Section 2.

- 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. In August 2015, the control group was discontinued and approximately 9,500 residential customers, including those from the control group established with the 2011 wave, were added to the program as an expansion to serve as many eligible customers as possible.

    - Because the size of the annual refill groups was too small to maintain an independent control group, the program impact for each of these refill groups was 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.

- In July 2016, approximately 4,750 additional residential customers in Otter Tail's Minnesota service territory were added to the program as a refill to offset attrition. Of these, 4,360 participants received reports. At the end of 2016, 3,657 customers remained active for carryover into 2017.

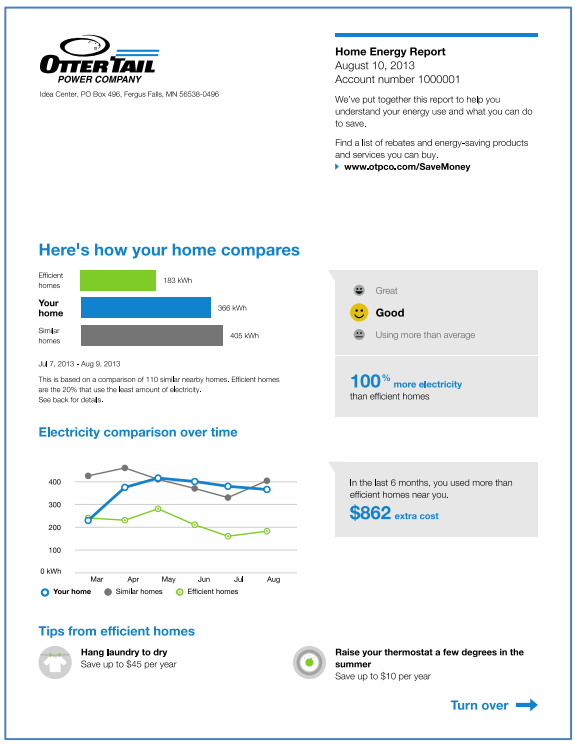
- An update to the Modeled Savings Protocol was submitted for approval to the MN DER with a request to apply the revised methodology to all waves of the program in 2016. The revised methodology is described in more detail in Section 2.

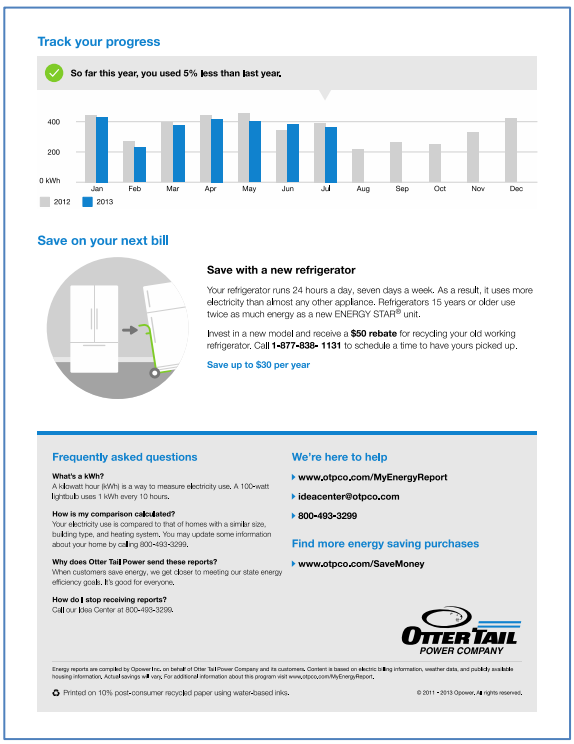
Home Energy Reports, pictured in Figure 1, contain various personalized components designed to motivate and educate customers on energy efficiency actions. Components include:

- 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.

In 2016, Home Energy Reports were upgraded to provide a more dynamic customer experience. The new report experience introduced a personal tracker, dynamic marketing modules to promote programs and include seasonal information, an informative Frequently Asked Questions section, and a stronger Otter Tail Power branding experience.

Figure 1: Example of Otter Tail Home Energy Report (Front & Back)





In 2016, a total of 35,800 customers received reports. 35,616 customers remained active at the end of 2016. Of these recipients, 16,117 were in the original 2011 pilot wave; 2,610 in the 2012 wave; 2,209 in the 2013 wave; 1,785 in the 2014 wave; 8,577 in the 2015 wave; and 4,318 in the 2016 wave.

Cumulatively, 71 customers chose to opt out of the program in 2016, which corresponds to an opt-out rate of 0.21 percent for the year. The 2016 opt-out rate compares favorably to opt-out rates between 1-3 percent at other Minnesota utilities and is lower than the Opower overall average. In the same timeframe, 5,012 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 six reports in 2016 but are included as participants.

Figure 2: 2016 Account Closures & Opt-Outs by Wave

Month	Account Closures	Opt-Outs
June 2011 Wave	1,286	37
October 2012 Wave	325	8
July 2013 Wave	343	3
July 2014 Wave	331	3
August 2015 Wave	1,670	14
July 2016 Wave	1,057	6
2016 Total	**5,012**	**71**

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 in order 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, 2013, 2014, 2015, and 2016 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, 2013, 2014, 2015, and 2016 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."

As of August 2016, 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 in order 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 to the 2016 program.

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:

$$Savings = b0 + b1(sqft) + b2(age) + b3(\#\ of\ occupants) + b4(baseline\ usage) + b5(owner)$$

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 2016 amounted to 10,976 MWh. Over the course of 2016, participants saved at a rate of 2.41 percent. A month-by-month breakdown of savings by deployment wave is shown below in Figure 3.

Figure 3: 2016 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)
January 2016	825	121	93	67	167	
February 2016	737	110	85	61	161	
March 2016	696	103	84	59	159	
April 2016	559	83	65	48	133	
May 2016	417	61	51	35	100	
June 2016	487	70	58	40	117	
July 2016	468	70	54	39	116	
August 2016	582	84	69	48	149	34
September 2016	472	71	53	39	124	32
October 2016	415	59	48	35	107	35
November 2016	466	67	53	39	122	40
December 2016	664	96	77	56	174	65
2016 Total	**6,789**	**994**	**790**	**565**	**1,630**	**208**

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

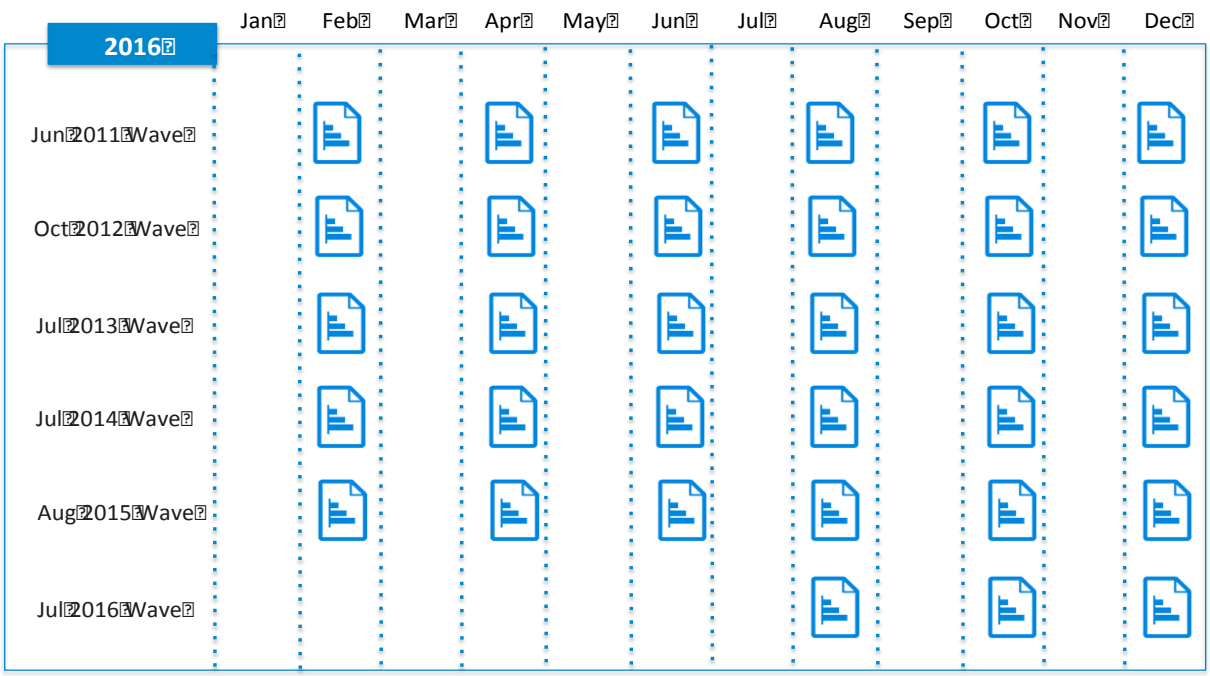
attributable savings. Opower will remove these jointly attributable savings, to avoid the risk of 'double-counting'.

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 2016 will be reduced by 154 MWh to account for these jointly attributable savings. Net annual savings for the program in 2016 is therefore adjusted to 10,822 MWh, which is equal to an average of 302.3 kilowatt-hours in energy savings per participant household.

4) Program Design

Figure 4 displays the frequency with which Home Energy Reports were sent to program participants in 2016. Participants received, on average, six reports per year on a bi-monthly cadence. Customers in the June 2011 wave, October 2012 wave, July 2013 wave, July 2014 wave, and August 2015 wave generally received reports in February, April, June, August, October, and December. Customers in the newly added July 2016 wave generally received reports in August, October, and December.

Figure 4: Program Design for 2016



Appendix C- Project Information Sheets

Total - Otter Tail Power

Spending & Savings	2014 Actual	2015 Actual	2016 Plan	2016 Actual
Total CIP Expenditures	$5,188,931	$6,105,074	$5,894,409	$7,770,781
% Total CIP Expenditures / Adjusted GOR	3.3%	3.9%	3.8%	5.0%
Conservation Expenditures	$5,127,767	$6,023,703	$5,774,409	
% Conservation Exp / Minimum Total CIP Exp	219.6%	258.0%	247.3%	
Total Low Income Expenditures	$526,144	$614,357	$648,516	$655,050
% Low Income Exp / Res Gross Operating Revenue	1.1%	1.3%	1.3%	1.3%
Electric Utility Infrastructure Expenditures	$0	$0	$0	$0
Non-electric Equivalent Savings (kWh)	0	0	0	0
Electric Utility Infrastructure Savings (kWh)	0	0	0	0
Demand-side Savings At Generator (kWh)	33,805,393	48,652,627	32,197,405	57,586,050
Total Credited Savings (kWh)	33,805,393	48,652,627	32,197,405	57,586,050
% Total Credited Savings / Annual Energy Sales	1.6%	2.3%	1.5%	2.8%

Sales Info	2014			2015			2016		
Category	Cust#	kWh Sales	GOR ($)	Cust#	kWh Sales	GOR ($)	Cust#	kWh Sales	GOR ($)
Residential	48,580	599,034,000	55,018,000	48,724	548,069,000	55,083,000	0	527,808,000	53,962,000
Commercial	11,031	329,159,000	29,648,000	11,069	306,856,000	30,316,000	0	305,679,000	30,542,000
Industrial	783	1,356,602,000	88,105,000	778	1,494,944,000	104,024,000	0	1,680,939,000	112,724,000
Farm	0	0	0	0	0	0	0	0	0
Other	368	31,809,000	3,212,000	374	30,385,000	3,330,000	0	28,586,000	3,225,000
Total	**60,762**	**2,316,604,000**	**175,983,000**	**60,945**	**2,380,254,000**	**192,753,000**	**0**	**2,543,012,000**	**200,453,000**

Program – 2014 Actual

Program Name	Program Design Manager	Spend ($)	Annual Credited Savings (kWh)	kW Savings @ Generator	Spend/Annual Credited Savings (kWh)	Spend/Lifetime Credited Savings	Spend/kW Savings @ Generator
Accounting Adjustments	Otter Tail Power	13,052	0	0	0.000	0.000	0.000
Adj. Speed Drives	Otter Tail Power	435,839	5,647,504	899	0.077	0.005	484.560
Advertising & Ed - Commercial	Otter Tail Power	30,683	0	0	0.000	0.000	0.000
Advertising & Ed - Residential	Otter Tail Power	116,647	0	0	0.000	0.000	0.000
Air Conditioning Control - C/I	Otter Tail Power	10,068	2,110	95	4.771	0.954	106.443
Air Conditioning Control - Res	Otter Tail Power	49,219	3,474	51	14.166	0.944	962.233
Air Source Heat Pump - C/I	Otter Tail Power	38,739	409,884	4	0.095	0.008	8,819.171
Air Source Heat Pump - RES	Otter Tail Power	67,881	849,068	13	0.080	0.007	5,205.026
Appliance Recycling	Otter Tail Power	91,078	475,932	67	0.191	0.026	1,365.585
Be Bright - Change A Light	Otter Tail Power	244,783	4,389,009	515	0.056	0.006	475.336
Business Education	Otter Tail Power	996	0	0	0.000	0.000	0.000
CIP Development-Planning-Evaluation	Otter Tail Power	292,626	0	0	0.000	0.000	0.000
Commercial Design Assistance	Otter Tail Power	214,451	361,875	102	0.593	0.085	2,096.260
Company CIP Projects	Otter Tail Power	40,274	0	0	0.000	0.000	0.000
Compressed Air Audits - C/I	Otter Tail Power	22,503	0	0	0.000	0.000	0.000
Electronically Commutated Motors	Otter Tail Power	9,091	31,327	3	0.290	0.019	3,213.471
Energy Feedback Program	Otter Tail Power	323,243	2,532,552	1,420	0.128	0.026	227.637
Financing - C/I	Otter Tail Power	5,408	0	0	0.000	0.000	0.000
Financing - Res	Otter Tail Power	5,408	0	0	0.000	0.000	0.000
Geothermal Heat Pump - C/I	Otter Tail Power	62,871	125,318	2	0.502	0.042	30,417.791
Geothermal Heat Pump -RES	Otter Tail Power	153,490	883,557	21	0.174	0.014	7,220.678
Grants	Otter Tail Power	340,395	2,037,200	466	0.167	0.011	729.822
Home Insulation	Otter Tail Power	30,476	181,640	0	0.168	0.008	0.000
Home Transformer	Otter Tail Power	52,218	88,635	5	0.589	0.039	10,667.658
House Therapy	Otter Tail Power	142,588	204,930	21	0.696	0.046	6,661.005
Implementation & Training - C/I	Otter Tail Power	55,352	0	0	0.000	0.000	0.000
Implementation & Training - RES	Otter Tail Power	48,166	0	0	0.000	0.000	0.000
Industrial Focused Efficiency	Otter Tail Power	248,292	2,516,836	661	0.099	0.007	375.820
Lighting - C/I	Otter Tail Power	1,252,180	8,090,987	2,009	0.155	0.013	623.275
Lighting New Construction -C/I	Otter Tail Power	125,698	2,170,324	495	0.058	0.005	253.865
Made in Minnesota Solar Energy Assessment	Otter Tail Power	103,909	0	0	0.000	0.000	0.000
Motors	Otter Tail Power	165,384	607,146	155	0.272	0.018	1,066.374
PC Power Supply	Otter Tail Power	16,268	184,989	43	0.088	0.015	377.184
Publicly-Owned Property Solar	Otter Tail Power	0	0	0	0.000	0.000	0.000
PUC Assessments	Otter Tail Power	17,020	0	0	0.000	0.000	0.000
Recommissioning/Retrocommissioning	Otter Tail Power	26,210	0	0	0.000	0.000	0.000
Refrigeration	Otter Tail Power	189,112	1,240,938	215	0.152	0.015	877.824
Regulatory Assessments	Otter Tail Power	99,858	0	0	0.000	0.000	0.000
Residential Demand Control	Otter Tail Power	1,877	599	1	3.134	0.209	2,400.580
School Kits	Otter Tail Power	25,460	337,657	25	0.075	0.005	1,035.862
Town Energy Challenge Pilot	Otter Tail Power	10,850	83,714	59	0.130	0.009	183.217
Transmission & Distribution Cost Study	Otter Tail Power						
Water Heater Store and Save	Otter Tail Power	9,264	348,186	3,216	0.027	0.003	2.881
Total		**5,188,927**	**33,805,391**	**10,563**	**0.153**	**0.013**	**491.236**

Program – 2015 Actual

Program Name	Spend ($)	Annual Credited Savings (kWh)	kW Savings @ Generator	Spend/Annual Credited Savings (kWh)	Spend/Lifetime Credited Savings	Spend/kW Savings @ Generator
Accounting Adjustments	487	0	0	0.000	0.000	0.000
Adj. Speed Drives	736,720	14,374,741	2,136	0.051	0.003	344.974
Advertising & Ed - Commercial	27,429	0	0	0.000	0.000	0.000
Advertising & Ed - Residential	162,564	0	0	0.000	0.000	0.000
Air Conditioning Control - C/I	15,482	592	13	26.140	5.228	1,178.212
Air Conditioning Control - Res	65,889	7,817	115	8.429	0.562	572.506
Air Source Heat Pump - C/I	145,340	895,049	10	0.162	0.014	13,929.218
Air Source Heat Pump - RES	172,951	1,150,790	10	0.150	0.013	17,652.528
Appliance Recycling	84,472	425,693	61	0.198	0.026	1,390.384
Be Bright - Change A Light	249,015	4,547,734	531	0.055	0.006	468.643
Business Education	0	0	0	0.000	0.000	0.000
CIP Development-Planning-Evaluation	438,035	0	0	0.000	0.000	0.000
Commercial Design Assistance	344,530	1,406,516	279	0.245	0.035	1,236.114
Company CIP Projects	2,059	0	0	0.000	0.000	0.000
Compressed Air Audits - C/I	21,977	0	0	0.000	0.000	0.000
Electronically Commutated Motors	20,451	86,973	8	0.235	0.016	2,605.310
Energy Feedback Program	413,575	2,829,382	1,586	0.146	0.029	260.696
Financing - C/I	2,098	0	0	0.000	0.000	0.000
Financing - Res	12,586	0	0	0.000	0.000	0.000
Geothermal Heat Pump - C/I	108,507	474,416	13	0.229	0.019	8,400.409
Geothermal Heat Pump -RES	174,094	842,842	18	0.207	0.017	9,910.202
Grants	422,609	2,921,337	617	0.145	0.010	684.555
Home Insulation	27,119	80,749	0	0.336	0.017	0.000
Home Transformer	21,619	113,359	6	0.191	0.013	3,577.130
House Therapy	148,992	253,694	24	0.587	0.039	6,199.180
Implementation & Training - C/I	78,398	0	0	0.000	0.000	0.000
Implementation & Training - RES	65,666	0	0	0.000	0.000	0.000
Industrial Focused Efficiency	215,889	1,596,206	170	0.135	0.009	1,270.551
Lighting - C/I	1,020,718	6,238,971	1,599	0.164	0.014	638.189
Lighting New Construction -C/I	249,497	7,599,977	1,080	0.033	0.003	230.948
Made in Minnesota Solar Energy Assessment	116,741	0	0	0.000	0.000	0.000
Motors	194,528	1,261,134	176	0.154	0.010	1,106.079
PC Power Supply	6,081	73,137	17	0.083	0.014	356.639
Publicly-Owned Property Solar	0	0	0	0.000	0.000	0.000
PUC Assessments	17,331	0	0	0.000	0.000	0.000
Recommissioning/Retrocommissioning	33,390	0	0	0.000	0.000	0.000
Refrigeration	150,685	830,141	135	0.182	0.018	1,119.660
Regulatory Assessments	105,610	0	0	0.000	0.000	0.000
Residential Demand Control	0	0	0	0.000	0.000	0.000
School Kits	19,684	240,090	13	0.082	0.005	1,499.025
Town Energy Challenge Pilot	764	0	0	0.000	0.000	0.000
Transmission & Distribution Cost Study						
Water Heater Store and Save	11,491	401,286	3,706	0.029	0.003	3.101
Total	**6,105,073**	**48,652,626**	**12,323**	**0.125**	**0.010**	**495.421**

Program – 2016 Plan

Program Name	Spend ($)	Annual Credited Savings (kWh)	kW Savings @ Generator	Spend/Annual Credited Savings (kWh)	Spend/Lifetime Credited Savings	Spend/kW Savings @ Generator
Accounting Adjustments	0	0	0	0.000	0.000	0.000
Adj. Speed Drives	340,400	3,810,456	504	0.089	0.006	675.129
Advertising & Ed - Commercial	25,000	0	0	0.000	0.000	0.000
Advertising & Ed - Residential	150,000	0	0	0.000	0.000	0.000
Air Conditioning Control - C/I	38,000	1,221	55	31.114	6.223	693.942
Air Conditioning Control - Res	82,000	7,234	107	11.336	0.756	769.518
Air Source Heat Pump - C/I	70,000	696,458	10	0.101	0.008	6,690.676
Air Source Heat Pump - RES	123,000	1,301,886	18	0.094	0.008	6,747.211
Appliance Recycling	119,000	574,491	81	0.207	0.028	1,469.855
Be Bright - Change A Light	358,000	4,033,665	478	0.089	0.010	748.609
Business Education	0	0	0	0.000	0.000	0.000
CIP Development-Planning-Evaluation	450,000	0	0	0.000	0.000	0.000
Commercial Design Assistance	490,500	2,419,175	509	0.203	0.029	963.258
Company CIP Projects	0	0	0	0.000	0.000	0.000
Compressed Air Audits - C/I	20,000	0	0	0.000	0.000	0.000
Electronically Commutated Motors	37,000	93,001	8	0.398	0.027	4,358.271
Energy Feedback Program	370,600	2,085,662	1,169	0.178	0.036	316.906
Financing - C/I	32,000	0	0	0.000	0.000	0.000
Financing - Res	13,000	0	0	0.000	0.000	0.000
Geothermal Heat Pump - C/I	124,000	704,911	18	0.176	0.015	6,857.047
Geothermal Heat Pump -RES	145,000	921,413	22	0.157	0.013	6,525.777
Grants	721,000	3,476,772	1,023	0.207	0.014	705.079
Home Insulation	58,000	184,998	0	0.314	0.016	0.000
Home Transformer	62,000	203,386	14	0.305	0.020	4,337.464
House Therapy	150,000	244,399	30	0.614	0.041	4,919.570
Implementation & Training - C/I	60,000	0	0	0.000	0.000	0.000
Implementation & Training - RES	40,000	0	0	0.000	0.000	0.000
Industrial Focused Efficiency	235,000	1,428,172	217	0.165	0.011	1,082.302
Lighting - C/I	563,000	3,400,273	1,091	0.166	0.014	515.927
Lighting New Construction -C/I	143,000	2,164,337	370	0.066	0.006	386.986
Made in Minnesota Solar Energy Assessment	103,909	0	0	0.000	0.000	0.000
Motors	81,000	140,895	23	0.575	0.038	3,576.080
PC Power Supply	67,000	793,400	185	0.084	0.014	362.241
Publicly-Owned Property Solar	0	0	0	0.000	0.000	0.000
PUC Assessments	20,000	0	0	0.000	0.000	0.000
Recommissioning/Retrocommissioning	272,000	1,937,519	37	0.140	0.009	7,443.973
Refrigeration	170,000	1,238,014	242	0.137	0.014	702.914
Regulatory Assessments	95,000	0	0	0.000	0.000	0.000
Residential Demand Control	0	0	0	0.000	0.000	0.000
School Kits	26,000	121,629	10	0.214	0.014	2,707.588
Town Energy Challenge Pilot	0	0	0	0.000	0.000	0.000
Transmission & Distribution Cost Study				0.000		0.000
Water Heater Store and Save	40,000	214,035	1,980	0.187	0.019	20.200
Total	**5,894,409**	**32,197,405**	**8,202**	**0.183**	**0.016**	**718.665**

Program – 2016 Actual

Program Name	Spend ($)	Annual Credited Savings (kWh)	kW Savings @ Generator	Spend/Annual Credited Savings (kWh)	Spend/Lifetime Credited Savings	Spend/kW Savings @ Generator
Accounting Adjustments	-5,238	0	0	0.000		0.000
Adj. Speed Drives	456,547	6,621,857	1,043	0.069		437.646
Advertising & Ed - Commercial	18,804	0	0	0.000		0.000
Advertising & Ed - Residential	128,063	0	0	0.000		0.000
Air Conditioning Control - C/I	13,176	615	20	21.441		668.535
Air Conditioning Control - Res	65,455	10,761	157	6.083		416.900
Air Source Heat Pump - C/I	90,929	496,206	5	0.183		18,119.866
Air Source Heat Pump - RES	183,038	1,094,724	10	0.167		18,991.079
Appliance Recycling	102,070	483,592	69	0.211		1,484.099
Be Bright - Change A Light	427,217	5,868,394	686	0.073		623.092
Business Education	0	0	0	0.000		0.000
CIP Development-Planning-Evaluation	423,743	0	0	0.000		0.000
Commercial Design Assistance	534,730	2,407,950	556	0.222		961.060
Company CIP Projects	1,310	0	0	0.000		0.000
Compressed Air Audits - C/I	17,550	0	0	0.000		0.000
Electronically Commutated Motors	25,382	117,216	11	0.217		2,392.715
Energy Feedback Program	340,546	4,182,815	4,572	0.081		74.493
Financing - C/I	9,991	0	0	0.000		0.000
Financing - Res	13,281	0	0	0.000		0.000
Geothermal Heat Pump - C/I	440,123	2,146,064	53	0.205		8,351.387
Geothermal Heat Pump -RES	169,102	880,937	19	0.192		9,091.417
Grants	533,619	7,368,498	1,298	0.072		411.079
Home Insulation	37,960	215,070	0	0.176		0.000
Home Transformer	14,363	40,303	2	0.356		6,685.189
House Therapy	153,005	243,039	25	0.630		6,151.489
Implementation & Training - C/I	52,328	0	0	0.000		0.000
Implementation & Training - RES	42,454	0	0	0.000		0.000
Industrial Focused Efficiency	281,502	2,351,523	292	0.120		962.530
Lighting - C/I	2,261,252	17,508,437	3,781	0.129		598.029
Lighting New Construction -C/I	177,320	2,930,603	694	0.061		255.465
Made in Minnesota Solar Energy Assessment	116,741	54,553	0	2.140		0.000
Motors	176,207	836,081	143	0.211		1,229.069
PC Power Supply	7,587	92,218	22	0.082		352.845
Publicly-Owned Property Solar	35,405	26,606	11	1.331		3,289.249
PUC Assessments	7,143	0	0	0.000		0.000
Recommissioning/Retrocommissioning	75,638	199,173	0	0.380		0.000
Refrigeration	156,254	768,039	118	0.203		1,326.955
Regulatory Assessments	112,059	0	0	0.000		0.000
Residential Demand Control	0	0	0	0.000		0.000
School Kits	32,619	240,310	14	0.136		2,256.455
Town Energy Challenge Pilot	1,300	0	0	0.000		0.000
Transmission & Distribution Cost Study	2,254	0	0	0.000		0.000
Water Heater Store and Save	37,950	400,467	3,699	0.095		10.261
Total	**7,770,781**	**57,586,050**	**8,201**	**0.135**		**947.541**

Category – 2014 Actual

Category Name		Spend ($)	Annual Credited Savings (kWh)	kW Savings @ Generator	Spend/Annual Credited Savings (kWh)	Spend/Lifetime Credited Savings	Spend/kW Savings @ Generator
Appliance Harvesting		91,078	475,932	67	0.191	0.026	1,365.585
Compressed Air		22,503	0	0	0.000	0.000	0.000
Internal Training		55,352	0	0	0.000	0.000	0.000
Low Income Weatherization		142,588	204,930	21	0.696	0.046	6,661.005
Market Research and Product Development		292,626	0	0	0.000	0.000	0.000
Motors & Drives		601,223	6,254,650	1,055	0.096	0.006	570.126
Non-Residential Computer Efficiency and Plug Loads		16,268	184,989	43	0.088	0.015	377.184
Non-Residential Custom Efficiency		614,897	4,554,036	1,127	0.135	0.009	545.568
Non-Residential Heat Pumps		101,610	535,202	6	0.190	0.016	15,730.295
Non-Residential Lighting		1,377,879	10,261,311	2,504	0.134	0.011	550.233
Non-Residential Load Management		10,068	2,110	95	4.771	0.954	106.443
Non-Residential Refrigeration		189,112	1,240,938	215	0.152	0.015	877.824
Non-Residential Whole Building - Non-Process Related		214,451	361,875	102	0.593	0.085	2,096.260
Other - Direct		11,846	83,714	59	0.142	0.009	200.037
Other - Indirect		259,638	0	0	0.000	0.000	0.000
Regulatory Charges		220,787	0	0	0.000	0.000	0.000
Residential Behavioral Change		323,243	2,532,552	1,420	0.128	0.026	227.637
Residential Building Envelope		30,476	181,640	0	0.168	0.008	0.000
Residential Domestic Hot Water		9,264	348,186	3,216	0.027	0.003	2.881
Residential Heat Pumps		221,371	1,732,625	34	0.128	0.011	6,454.262
Residential Lighting		244,783	4,389,009	515	0.056	0.006	475.336
Residential Load Management		51,096	4,073	52	12.544	0.836	983.884
Residential Space Heating (non-Heat Pumps)		9,091	31,327	3	0.290	0.019	3,213.471
Whole House		77,678	426,292	29	0.182	0.012	2,635.501
Total		**5,188,927**	**33,805,391**	**10,563**	**0.153**	**0.013**	**491.236**

Category – 2015 Actual

Category Name	Spend ($)	Annual Credited Savings (kWh)	kW Savings @ Generator	Spend/Annual Credited Savings (kWh)	Spend/Lifetime Credited Savings	Spend/kW Savings @ Generator
Appliance Harvesting	84,472	425,693	61	0.198	0.026	1,390.384
Compressed Air	21,977	0	0	0.000	0.000	0.000
Internal Training	78,398	0	0	0.000	0.000	0.000
Low Income Weatherization	148,992	253,694	24	0.587	0.039	6,199.180
Market Research and Product Development	438,035	0	0	0.000	0.000	0.000
Motors & Drives	931,248	15,635,875	2,311	0.060	0.004	402.885
Non-Residential Computer Efficiency and Plug Loads	6,081	73,137	17	0.083	0.014	356.639
Non-Residential Custom Efficiency	671,888	4,517,543	787	0.149	0.010	853.445
Non-Residential Heat Pumps	253,847	1,369,465	23	0.185	0.015	10,870.903
Non-Residential Lighting	1,270,216	13,838,949	2,680	0.092	0.008	474.011
Non-Residential Load Management	15,482	592	13	26.140	5.228	1,178.212
Non-Residential Refrigeration	150,685	830,141	135	0.182	0.018	1,119.660
Non-Residential Whole Building - Non-Process Related	344,530	1,406,516	279	0.245	0.035	1,236.114
Other - Direct	764	0	0	0.000	0.000	0.000
Other - Indirect	272,889	0	0	0.000	0.000	0.000
Regulatory Charges	239,682	0	0	0.000	0.000	0.000
Residential Behavioral Change	413,575	2,829,382	1,586	0.146	0.029	260.696
Residential Building Envelope	27,119	80,749	0	0.336	0.017	0.000
Residential Domestic Hot Water	11,491	401,286	3,706	0.029	0.003	3.101
Residential Heat Pumps	347,045	1,993,633	27	0.174	0.015	12,682.233
Residential Lighting	249,015	4,547,734	531	0.055	0.006	468.643
Residential Load Management	65,889	7,817	115	8.429	0.562	572.506
Residential Space Heating (non-Heat Pumps)	20,451	86,973	8	0.235	0.016	2,605.310
Whole House	41,303	353,448	19	0.117	0.008	2,154.021
Total	**6,105,073**	**48,652,626**	**12,323**	**0.125**	**0.010**	**495.421**

Category – 2016 Plan

Category Name	Spend ($)	Annual Credited Savings (kWh)	kW Savings @ Generator	Spend/Annual Credited Savings (kWh)	Spend/Lifetime Credited Savings	Spend/kW Savings @ Generator
Appliance Harvesting	119,000	574,491	81	0.207	0.028	1,469.855
Compressed Air	20,000	0	0	0.000	0.000	0.000
Internal Training	60,000	0	0	0.000	0.000	0.000
Low Income Weatherization	150,000	244,399	30	0.614	0.041	4,919.570
Market Research and Product Development	450,000	0	0	0.000	0.000	0.000
Motors & Drives	421,400	3,951,351	527	0.107	0.007	799.848
Non-Residential Computer Efficiency and Plug Loads	67,000	793,400	185	0.084	0.014	362.241
Non-Residential Custom Efficiency	1,228,000	6,842,464	1,276	0.179	0.012	962.194
Non-Residential Heat Pumps	194,000	1,401,370	29	0.138	0.012	6,796.071
Non-Residential Lighting	706,000	5,564,610	1,461	0.127	0.011	483.309
Non-Residential Load Management	38,000	1,221	55	31.114	6.223	693.942
Non-Residential Refrigeration	170,000	1,238,014	242	0.137	0.014	702.914
Non-Residential Whole Building - Non-Process Related	490,500	2,419,175	509	0.203	0.029	963.258
Other - Direct	0	0	0	0.000	0.000	0.000
Other - Indirect	260,000	0	0	0.000	0.000	0.000
Regulatory Charges	218,909	0	0	0.000	0.000	0.000
Residential Behavioral Change	370,600	2,085,662	1,169	0.178	0.036	316.906
Residential Building Envelope	58,000	184,998	0	0.314	0.016	0.000
Residential Domestic Hot Water	40,000	214,035	1,980	0.187	0.019	20.200
Residential Heat Pumps	268,000	2,223,299	40	0.121	0.010	6,625.573
Residential Lighting	358,000	4,033,665	478	0.089	0.010	748.609
Residential Load Management	82,000	7,234	107	11.336	0.756	769.518
Residential Space Heating (non-Heat Pumps)	37,000	93,001	8	0.398	0.027	4,358.271
Whole House	88,000	325,015	24	0.271	0.018	3,682.516
Total	**5,894,409**	**32,197,405**	**8,202**	**0.183**	**0.016**	**718.665**

Category – 2016 Actual

Category Name	Spend ($)	Annual Credited Savings (kWh)	kW Savings @ Generator	Spend/Annual Credited Savings (kWh)	Spend/Lifetime Credited Savings	Spend/kW Savings @ Generator
Appliance Harvesting	102,070	483,592	69	0.211		1,484.099
Compressed Air	17,550	0	0	0.000		0.000
Internal Training	52,328	0	0	0.000		0.000
Low Income Weatherization	153,005	243,039	25	0.630		6,151.489
Market Research and Product Development	423,743	0	0	0.000		0.000
Motors & Drives	632,755	7,457,938	1,187	0.085		533.270
Non-Residential Computer Efficiency and Plug Loads	7,587	92,218	22	0.082		352.845
Non-Residential Custom Efficiency	890,759	9,919,194	1,591	0.090		560.031
Non-Residential Heat Pumps	531,051	2,642,269	58	0.201		9,200.677
Non-Residential Lighting	2,438,573	20,439,040	4,475	0.119		544.898
Non-Residential Load Management	13,176	615	20	21.441		668.535
Non-Residential Refrigeration	156,254	768,039	118	0.203		1,326.955
Non-Residential Whole Building - Non-Process Related	534,730	2,407,950	556	0.222		961.060
Other - Direct	35,405	26,606	11	1.331		3,289.249
Other - Indirect	212,592	0	0	0.000		0.000
Regulatory Charges	238,197	54,553	0	4.366		0.000
Residential Behavioral Change	340,546	4,182,815	4,572	0.081		74.493
Residential Building Envelope	37,960	215,070	0	0.176		0.000
Residential Domestic Hot Water	37,950	400,467	3,699	0.095		10.261
Residential Heat Pumps	352,140	1,975,661	28	0.178		12,470.299
Residential Lighting	427,217	5,868,394	686	0.073		623.092
Residential Load Management	65,455	10,761	157	6.083		416.900
Residential Space Heating (non-Heat Pumps)	25,382	117,216	11	0.217		2,392.715
Whole House	46,983	280,613	17	0.167		2,829.513
Total	**7,773,409**	**57,586,050**	**17,298**	**0.135**		**449.378**

Exemptions - Otter Tail Power

2017		
Year	kWh Sales	GOR ($)
2013		
2014		
2015		
2017 Adjustment	0	0

2016		
Year	kWh Sales	GOR ($)
2010		
2011		
2012		
2016 Adjustment	0	0

2015		
Year	kWh Sales	GOR ($)
2010	0	
2011	0	
2012	0	0
2015 Adjustment	0	0

2014		
Year	kWh Sales	GOR ($)
2010	0	
2011	0	
2012	0	0
2014 Adjustment	0	0

2013		
Year	kWh Sales	GOR ($)
2007	0	
2008	0	
2009	0	0
2013 Adjustment	0	0

2012		
Year	kWh Sales	GOR ($)
2007	0	
2008	0	
2009	0	0
2012 Adjustment	0	0

2011		
Year	kWh Sales	GOR ($)
2007	0	
2008	0	
2009	0	0
2011 Adjustment	0	0

2010		
Year	kWh Sales	GOR ($)
2005	0	
2006	0	
2007	0	0
2010 Adjustment	0	0

Program Name: Accounting Adjustments
Program Design Manager: Otter Tail Power
Category: Other - Indirect

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Active	Active	Active
Utility Metrics				
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)	$0.00	$0.00	$0.00	$0.00
Administration (2011-present)	$0.00	$0.00	$0.00	$0.00
Evaluation, Measurement & Verification	$0.00	$0.00	$0.00	$0.00
Advertising & Promotion	$0.00	$0.00	$0.00	$0.00
Incentives	$0.00	$0.00	$0.00	$0.00
Other	$13,052.16	$486.63	$0.00	($5,237.72)
Total Utility Costs	**$13,052.16**	**$486.63**	**$0.00**	**($5,237.72)**
Program Participants				
Total Participants	0	0	0	0
% of Spending by Customer Segments				
Residential	0%	0%	0%	0%
Commerical	0%	0%	0%	0%
Industrial	0%	0%	0%	0%
Farm	0%	0%	0%	0%
Other	100%	100%	100%	100%
Total % of Spending	**100%**	**100%**	**100%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)	0.0%	0.0%	0.0%	0.0%
Budget % (% of Total Utility Costs)	0.0%	0.0%	0.0%	0.0%
Energy Savings				**0**
Annual kWh Savings @ Meter	0	0	0	0
Annual kWh Savings @ Generator	0	0	0	0
Cost per Annual kWh Saved @ Generator	$0.0000	$0.0000	$0.0000	$0.0000
Peak kW Savings @ Meter	0.000	0.000	0.000	0.000
Peak kW Savings @ Generator	0.000	0.000	0.000	0.000
Cost per Peak kW Saved @ Generator	$0.00	$0.00	$0.00	$0.00
Benefit/Cost Ratios				
Utility Ratio	0.00	0.00	0.00	N/A
Utility NPV	$13,052	$487	$0	$5,238
Ratepayer Ratio	0.00	0.00	0.00	N/A
Ratepayer NPV	$0	$0	$0	$5,238
Participant Ratio	0.00	0.00	0.00	N/A
Participant NPV	$0	$0	$0	$0
Societal Ratio	0.00	0.00	0.00	N/A
Societal NPV	$0	$0	$0	$5,238
Narrative				

Program Name: Adj. Speed Drives
Program Design Manager: Otter Tail Power
Category: Motors & Drives

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Active	Active	Active
Utility Metrics				
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)	$29,138.09	$43,440.08	$45,000.00	$29,823.98
Administration (2011-present)	$7,516.98	$6,087.07	$20,000.00	$8,618.73
Evaluation, Measurement & Verification	$106.29	$573.38	$4,000.00	$701.50
Advertising & Promotion	$4,859.98	$4,639.69	$5,600.00	$5,422.61
Incentives	$394,217.57	$681,979.67	$265,800.00	$411,980.63
Other	$0.00	$0.00	$0.00	$0.00
Total Utility Costs	**$435,838.91**	**$736,719.89**	**$340,400.00**	**$456,547.45**
Program Participants				
Total Participants	150	365	135	290
% of Spending by Customer Segments				
Residential	0%	0%	0%	0%
Commerical	30%	30%	30%	30%
Industrial	70%	70%	70%	70%
Farm	0%	0%	0%	0%
Other	0%	0%	0%	0%
Total % of Spending	**100%**	**100%**	**100%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)	0.0%	0.0%	0.0%	0.0%
Budget % (% of Total Utility Costs)	0.0%	0.0%	0.0%	0.0%
Energy Savings				
Annual kWh Savings @ Meter	5,216,035	13,276,511	3,519,337	6,115,947
Annual kWh Savings @ Generator	5,647,504	14,374,741	3,810,456	6,621,857
Cost per Annual kWh Saved @ Generator	$0.0772	$0.0513	$0.0893	$0.0689
Peak kW Savings @ Meter	830.735	1,972.421	465.679	963.490
Peak kW Savings @ Generator	899.453	2,135.579	504.200	1,043.190
Cost per Peak kW Saved @ Generator	$484.56	$344.97	$675.13	$437.65
Benefit/Cost Ratios				
Utility Ratio	12.26	19.17	11.19	15.56
Utility NPV	$4,905,411	$13,384,050	$3,469,813	$6,648,006
Ratepayer Ratio	1.43	1.49	1.41	1.53
Ratepayer NPV	$1,599,157	$4,637,423	$1,115,131	$2,462,268
Participant Ratio	4.42	6.11	3.62	3.79
Participant NPV	$2,984,828	$11,550,078	$1,976,531	$4,909,769
Societal Ratio	8.76	9.07	6.76	5.79
Societal NPV	$7,087,502	$18,655,547	$4,779,018	$8,644,382
Narrative				

Program Name: Advertising & Ed - Commercial
Program Design Manager: Otter Tail Power
Category: Other - Indirect

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Active	Active	Active
Utility Metrics				
kWh Line Loss Factor	7.640%	0.000%	7.640%	7.640%
kW Line Loss Factor	7.640%	0.000%	7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)	$12,951.13	$25,249.47	$25,000.00	$16,166.34
Administration (2011-present)	$5,046.55	$1,762.76	$0.00	$2,047.26
Evaluation, Measurement & Verification	$47.98	$35.26	$0.00	$36.48
Advertising & Promotion	$12,637.39	$382.00	$0.00	$553.43
Incentives	$0.00	$0.00	$0.00	$0.00
Other	$0.00	$0.00	$0.00	$0.00
Total Utility Costs	**$30,683.05**	**$27,429.49**	**$25,000.00**	**$18,803.51**
Program Participants				
Total Participants	39	54	10	33
% of Spending by Customer Segments				
Residential	0%	0%	0%	0%
Commerical	100%	100%	100%	100%
Industrial	0%	0%	0%	0%
Farm	0%	0%	0%	0%
Other	0%	0%	0%	0%
Total % of Spending	**100%**	**100%**	**100%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)	0.0%	0.0%	0.0%	0.0%
Budget % (% of Total Utility Costs)	0.0%	0.0%	0.0%	0.0%
Energy Savings				
Annual kWh Savings @ Meter	0	0	0	0
Annual kWh Savings @ Generator	0	0	0	0
Cost per Annual kWh Saved @ Generator	$0.0000	$0.0000	$0.0000	$0.0000
Peak kW Savings @ Meter	0.000	0.000	0.000	0.000
Peak kW Savings @ Generator	0.000	0.000	0.000	0.000
Cost per Peak kW Saved @ Generator	$0.00	$0.00	$0.00	$0.00
Benefit/Cost Ratios				
Utility Ratio	0.00	0.00	0.00	0.00
Utility NPV	($30,683)	($27,429)	($25,000)	($18,804)
Ratepayer Ratio	0.00	0.00	0.00	0.00
Ratepayer NPV	($30,683)	($27,429)	($25,000)	($18,804)
Participant Ratio	0.00	0.00	0.00	inf.
Participant NPV	$0	$0	$0	$0
Societal Ratio	0.00	0.00	0.00	0.00
Societal NPV	($30,683)	($27,429)	($25,000)	($18,804)
Narrative				

Program Name: Advertising & Ed - Residential
Program Design Manager: Otter Tail Power
Category: Other - Indirect

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Active	Active	Active
Utility Metrics				
kWh Line Loss Factor	7.640%	0.000%	7.640%	7.640%
kW Line Loss Factor	7.640%	0.000%	7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)	$29,947.48	$72,071.27	$135,000.00	$35,996.72
Administration (2011-present)	$6,262.70	$2,921.53	$6,000.00	$2,449.65
Evaluation, Measurement & Verification	$191.94	$141.06	$4,000.00	$109.46
Advertising & Promotion	$80,244.48	$87,429.81	$0.00	$89,506.71
Incentives	$0.00	$0.00	$0.00	$0.00
Other	$0.00	$0.00	$5,000.00	$0.00
Total Utility Costs	**$116,646.60**	**$162,563.67**	**$150,000.00**	**$128,062.54**
Program Participants				
Total Participants	49,807	14,322	10,000	16,436
% of Spending by Customer Segments				
Residential	100%	100%	100%	100%
Commerical	0%	0%	0%	0%
Industrial	0%	0%	0%	0%
Farm	0%	0%	0%	0%
Other	0%	0%	0%	0%
Total % of Spending	**100%**	**100%**	**100%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)	31.0%	31.0%	31.0%	31.0%
Budget % (% of Total Utility Costs)	31.0%	31.0%	31.0%	31.0%
Energy Savings				
Annual kWh Savings @ Meter	0	0	0	0
Annual kWh Savings @ Generator	0	0	0	0
Cost per Annual kWh Saved @ Generator	$0.0000	$0.0000	$0.0000	$0.0000
Peak kW Savings @ Meter	0.000	0.000	0.000	0.000
Peak kW Savings @ Generator	0.000	0.000	0.000	0.000
Cost per Peak kW Saved @ Generator	$0.00	$0.00	$0.00	$0.00
Benefit/Cost Ratios				
Utility Ratio	0.00	0.00	0.00	0.00
Utility NPV	($116,647)	($162,564)	($150,000)	($128,063)
Ratepayer Ratio	0.00	0.00	0.00	0.00
Ratepayer NPV	($116,647)	($162,564)	($150,000)	($128,063)
Participant Ratio	0.00	0.00	0.00	inf.
Participant NPV	$0	$0	$0	$0
Societal Ratio	0.00	0.00	0.00	0.00
Societal NPV	($116,647)	($162,564)	($150,000)	($128,063)
Narrative				

Program Name: Air Conditioning Control - C/I
Program Design Manager: Otter Tail Power
Category: Non-Residential Load Management

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Active	Active	Active
Utility Metrics				
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)	$4,630.50	$5,893.64	$17,500.00	$1,766.31
Administration (2011-present)	$3,820.44	$5,007.81	$6,350.00	$3,148.22
Evaluation, Measurement & Verification	$0.00	$286.96	$2,000.00	$180.07
Advertising & Promotion	$0.00	$33.16	$6,210.00	$3,041.84
Incentives	$1,617.50	$4,260.00	$5,940.00	$5,040.00
Other	$0.00	$0.00	$0.00	$0.00
Total Utility Costs	**$10,068.44**	**$15,481.57**	**$38,000.00**	**$13,176.44**
Program Participants				
Total Participants	39	6	25	9
% of Spending by Customer Segments				
Residential	0%	0%	0%	0%
Commerical	100%	100%	100%	100%
Industrial	0%	0%	0%	0%
Farm	0%	0%	0%	0%
Other	0%	0%	0%	0%
Total % of Spending	**100%**	**100%**	**100%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)	0.0%	0.0%	0.0%	0.0%
Budget % (% of Total Utility Costs)	0.0%	0.0%	0.0%	0.0%
Energy Savings				
Annual kWh Savings @ Meter	1,949	547	1,128	568
Annual kWh Savings @ Generator	2,110	592	1,221	615
Cost per Annual kWh Saved @ Generator	$4.7713	$26.1404	$31.1142	$21.4408
Peak kW Savings @ Meter	87.363	12.136	50.576	18.204
Peak kW Savings @ Generator	94.590	13.140	54.760	19.709
Cost per Peak kW Saved @ Generator	$106.44	$1,178.21	$693.94	$668.54
Benefit/Cost Ratios				
Utility Ratio	24.45	2.35	4.19	4.36
Utility NPV	$236,111	$20,947	$121,246	$44,253
Ratepayer Ratio	21.16	2.01	4.09	3.60
Ratepayer NPV	$234,543	$18,334	$120,285	$41,468
Participant Ratio	0.00	#NULL!	0.00	inf.
Participant NPV	$3,260	$8,181	$6,946	$9,205
Societal Ratio	43.21	4.77	7.23	10.27
Societal NPV	$356,691	$42,312	$199,738	$75,461
Narrative				

Program Name: Air Conditioning Control - Res
Program Design Manager: Otter Tail Power
Category: Residential Load Management

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Active	Active	Active
Utility Metrics				
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)	$27,764.60	$36,752.40	$45,000.00	$36,430.98
Administration (2011-present)	$10,826.33	$14,491.40	$14,450.00	$10,703.50
Evaluation, Measurement & Verification	$642.67	$1,226.39	$2,000.00	$388.77
Advertising & Promotion	$9,985.50	$13,391.90	$19,050.00	$17,931.63
Incentives	$0.00	$26.95	$0.00	$0.00
Other	$0.00	$0.00	$1,500.00	$0.00
Total Utility Costs	**$49,219.10**	**$65,889.04**	**$82,000.00**	**$65,454.88**
Program Participants				
Total Participants	72	162	150	221
% of Spending by Customer Segments				
Residential	100%	100%	100%	100%
Commerical	0%	0%	0%	0%
Industrial	0%	0%	0%	0%
Farm	0%	0%	0%	0%
Other	0%	0%	0%	0%
Total % of Spending	**100%**	**100%**	**100%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)	31.0%	31.0%	31.0%	31.0%
Budget % (% of Total Utility Costs)	31.0%	31.0%	31.0%	31.0%
Energy Savings				
Annual kWh Savings @ Meter	3,209	7,220	6,681	9,939
Annual kWh Savings @ Generator	3,474	7,817	7,234	10,761
Cost per Annual kWh Saved @ Generator	$14.1660	$8.4287	$11.3359	$6.0827
Peak kW Savings @ Meter	47.243	106.296	98.419	145.009
Peak kW Savings @ Generator	51.151	115.089	106.560	157.004
Cost per Peak kW Saved @ Generator	$962.23	$572.51	$769.52	$416.90
Benefit/Cost Ratios				
Utility Ratio	2.73	4.87	3.82	7.05
Utility NPV	$85,183	$254,669	$230,959	$395,704
Ratepayer Ratio	2.58	4.39	3.53	6.11
Ratepayer NPV	$82,214	$247,610	$224,420	$385,702
Participant Ratio	0.00	0.00	0.00	inf.
Participant NPV	$4,473	$10,621	$9,777	$14,955
Societal Ratio	4.05	7.15	5.56	10.26
Societal NPV	$150,164	$405,253	$373,624	$605,930
Narrative				

Program Name: Air Source Heat Pump - C/I
Program Design Manager: Otter Tail Power
Category: Non-Residential Heat Pumps

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Active	Active	Active
Utility Metrics				
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)	$9,269.93	$40,694.84	$13,000.00	$32,395.87
Administration (2011-present)	$557.17	$4,422.14	$5,000.00	$1,941.49
Evaluation, Measurement & Verification	$675.86	$325.34	$2,340.00	$187.86
Advertising & Promotion	$456.08	$1,170.32	$1,500.00	$1,003.47
Incentives	$27,780.00	$98,727.20	$47,160.00	$55,400.00
Other	$0.00	$0.00	$1,000.00	$0.00
Total Utility Costs	**$38,739.04**	**$145,339.84**	**$70,000.00**	**$90,928.69**
Program Participants				
Total Participants	55	131	131	63
% of Spending by Customer Segments				
Residential	0%	0%	0%	0%
Commerical	90%	90%	90%	90%
Industrial	10%	10%	10%	10%
Farm	0%	0%	0%	0%
Other	0%	0%	0%	0%
Total % of Spending	**100%**	**100%**	**100%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)	0.0%	0.0%	0.0%	0.0%
Budget % (% of Total Utility Costs)	0.0%	0.0%	0.0%	0.0%
Energy Savings				
Annual kWh Savings @ Meter	378,569	826,667	643,249	458,296
Annual kWh Savings @ Generator	409,884	895,049	696,458	496,206
Cost per Annual kWh Saved @ Generator	$0.0945	$0.1624	$0.1005	$0.1832
Peak kW Savings @ Meter	4.057	9.637	9.663	4.635
Peak kW Savings @ Generator	4.393	10.434	10.462	5.018
Cost per Peak kW Saved @ Generator	$8,819.17	$13,929.22	$6,690.68	$18,119.87
Benefit/Cost Ratios				
Utility Ratio	9.19	5.91	11.48	5.21
Utility NPV	$317,438	$714,189	$733,816	$382,804
Ratepayer Ratio	1.07	1.04	1.27	0.99
Ratepayer NPV	$23,548	$33,154	$171,593	($6,784)
Participant Ratio	2.90	3.83	2.31	4.53
Participant NPV	$220,024	$777,559	$360,786	$467,084
Societal Ratio	3.86	3.64	3.66	3.84
Societal NPV	$361,178	$850,072	$791,925	$475,799
Narrative				

Program Name: Air Source Heat Pump - RES
Program Design Manager: Otter Tail Power
Category: Residential Heat Pumps

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Active	Active	Active
Utility Metrics				
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)	$10,776.91	$52,322.53	$31,000.00	$62,220.64
Administration (2011-present)	$647.75	$5,685.67	$5,000.00	$3,728.89
Evaluation, Measurement & Verification	$785.74	$418.29	$2,300.00	$360.82
Advertising & Promotion	$530.22	$1,504.71	$1,500.00	$1,927.30
Incentives	$55,140.00	$113,020.00	$82,200.00	$114,800.00
Other	$0.00	$0.00	$1,000.00	$0.00
Total Utility Costs	**$67,880.62**	**$172,951.20**	**$123,000.00**	**$183,037.65**
Program Participants				
Total Participants	198	123	137	121
% of Spending by Customer Segments				
Residential	100%	100%	100%	100%
Commerical	0%	0%	0%	0%
Industrial	0%	0%	0%	0%
Farm	0%	0%	0%	0%
Other	0%	0%	0%	0%
Total % of Spending	**100%**	**100%**	**100%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)	31.0%	31.0%	31.0%	31.0%
Budget % (% of Total Utility Costs)	31.0%	31.0%	31.0%	31.0%
Energy Savings				
Annual kWh Savings @ Meter	784,199	1,062,870	1,202,422	1,011,087
Annual kWh Savings @ Generator	849,068	1,150,790	1,301,886	1,094,724
Cost per Annual kWh Saved @ Generator	$0.0799	$0.1503	$0.0945	$0.1672
Peak kW Savings @ Meter	12.045	9.049	16.837	8.902
Peak kW Savings @ Generator	13.041	9.798	18.230	9.638
Cost per Peak kW Saved @ Generator	$5,205.03	$17,652.53	$6,747.21	$18,991.08
Benefit/Cost Ratios				
Utility Ratio	10.79	5.42	9.86	5.25
Utility NPV	$664,453	$764,312	$1,089,279	$777,506
Ratepayer Ratio	1.05	0.87	1.06	0.90
Ratepayer NPV	$36,979	($137,108)	$65,944	($107,268)
Participant Ratio	6.37	5.33	7.35	5.31
Participant NPV	$789,853	$1,117,348	$1,305,587	$1,096,113
Societal Ratio	6.27	4.02	6.69	4.05
Societal NPV	$842,485	$961,927	$1,400,575	$983,302
Narrative				

Program Name: Appliance Recycling
Program Design Manager: Otter Tail Power
Category: Appliance Harvesting

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Active	Active	Active
Utility Metrics				
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)	$48,536.45	$43,955.14	$58,500.00	$50,465.73
Administration (2011-present)	$8,430.79	$9,161.45	$15,000.00	$8,881.47
Evaluation, Measurement & Verification	$359.82	$118.61	$2,500.00	$180.06
Advertising & Promotion	$11,301.38	$10,787.08	$15,750.00	$19,392.42
Incentives	$22,450.00	$20,450.00	$27,250.00	$23,150.00
Other	$0.00	$0.00	$0.00	$0.00
Total Utility Costs	**$91,078.44**	**$84,472.28**	**$119,000.00**	**$102,069.68**
Program Participants				
Total Participants	449	409	545	463
% of Spending by Customer Segments				
Residential	100%	100%	100%	100%
Commerical	0%	0%	0%	0%
Industrial	0%	0%	0%	0%
Farm	0%	0%	0%	0%
Other	0%	0%	0%	0%
Total % of Spending	**100%**	**100%**	**100%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)	31.0%	31.0%	31.0%	31.0%
Budget % (% of Total Utility Costs)	31.0%	31.0%	31.0%	31.0%
Energy Savings				
Annual kWh Savings @ Meter	439,571	393,170	530,600	446,646
Annual kWh Savings @ Generator	475,932	425,693	574,491	483,592
Cost per Annual kWh Saved @ Generator	$0.1914	$0.1984	$0.2071	$0.2111
Peak kW Savings @ Meter	61.600	56.113	74.775	63.521
Peak kW Savings @ Generator	66.696	60.755	80.960	68.776
Cost per Peak kW Saved @ Generator	$1,365.59	$1,390.38	$1,469.85	$1,484.10
Benefit/Cost Ratios				
Utility Ratio	2.68	2.87	3.00	2.95
Utility NPV	$152,924	$157,930	$237,809	$199,424
Ratepayer Ratio	0.70	0.73	0.78	0.76
Ratepayer NPV	($106,189)	($89,674)	($99,737)	($92,733)
Participant Ratio	0.00	0.00	0.00	inf.
Participant NPV	$351,832	$334,704	$454,806	$393,214
Societal Ratio	4.41	4.67	4.78	4.69
Societal NPV	$233,729	$235,219	$346,597	$291,472
Narrative				

Program Name: Be Bright - Change A Light
Program Design Manager: Otter Tail Power
Category: Residential Lighting

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Active	Active	Active
Utility Metrics				
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)	$56,801.76	$49,913.04	$128,775.00	$66,262.20
Administration (2011-present)	$18,407.48	$20,479.73	$22,000.00	$20,859.48
Evaluation, Measurement & Verification	$2,433.03	$149.02	$6,000.00	$1,207.24
Advertising & Promotion	$9,712.97	$11,717.81	$19,000.00	$8,474.75
Incentives	$157,427.76	$166,755.03	$182,225.00	$330,413.16
Other	$0.00	$0.00	$0.00	$0.00
Total Utility Costs	**$244,783.00**	**$249,014.63**	**$358,000.00**	**$427,216.83**
Program Participants				
Total Participants	111,329	129,607	99,000	163,823
% of Spending by Customer Segments				
Residential	100%	100%	100%	100%
Commerical	0%	0%	0%	0%
Industrial	0%	0%	0%	0%
Farm	0%	0%	0%	0%
Other	0%	0%	0%	0%
Total % of Spending	**100%**	**100%**	**100%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)	31.0%	31.0%	31.0%	31.0%
Budget % (% of Total Utility Costs)	31.0%	31.0%	31.0%	31.0%
Energy Savings				
Annual kWh Savings @ Meter	4,053,689	4,200,287	3,725,493	5,420,049
Annual kWh Savings @ Generator	4,389,009	4,547,734	4,033,665	5,868,394
Cost per Annual kWh Saved @ Generator	$0.0558	$0.0548	$0.0888	$0.0728
Peak kW Savings @ Meter	475.625	490.757	441.684	633.257
Peak kW Savings @ Generator	514.969	531.352	478.220	685.640
Cost per Peak kW Saved @ Generator	$475.34	$468.64	$748.61	$623.09
Benefit/Cost Ratios				
Utility Ratio	9.64	10.80	7.27	8.89
Utility NPV	$2,115,440	$2,440,434	$2,243,438	$3,369,928
Ratepayer Ratio	0.82	0.85	0.88	0.88
Ratepayer NPV	($511,732)	($468,324)	($349,380)	($537,168)
Participant Ratio	15.59	12.99	23.84	11.71
Participant NPV	$3,354,929	$3,652,671	$3,400,943	$4,954,871
Societal Ratio	9.49	8.84	10.12	8.59
Societal NPV	$2,693,629	$3,032,778	$2,959,190	$4,246,775
Narrative				

Program Name: **Business Education**
Program Design Manager: **Otter Tail Power**
Category: **Other - Direct**

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Inactive	Active	Inactive
Utility Metrics				
kWh Line Loss Factor	7.640%		7.640%	7.640%
kW Line Loss Factor	7.640%		7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)	$12.37		$0.00	
Administration (2011-present)	$563.89		$0.00	
Evaluation, Measurement & Verification	$419.80		$0.00	
Advertising & Promotion	$0.00		$0.00	
Incentives	$0.00		$0.00	
Other	$0.00		$0.00	
Total Utility Costs	**$996.06**	**$0.00**	**$0.00**	
Program Participants				
Total Participants	0		0	
% of Spending by Customer Segments				
Residential	0%		0%	
Commerical	90%		90%	
Industrial	10%		10%	
Farm	0%		0%	
Other	0%		0%	
Total % of Spending	**100%**	**0%**	**100%**	
Low-Income Participation				
Participant % (% of Total Participants)	0.0%		0.0%	
Budget % (% of Total Utility Costs)	0.0%		0.0%	
Energy Savings				
Annual kWh Savings @ Meter	0		0	
Annual kWh Savings @ Generator	0		0	
Cost per Annual kWh Saved @ Generator	$0.0000	$0.0000	$0.0000	
Peak kW Savings @ Meter	0.000		0.000	
Peak kW Savings @ Generator	0.000		0.000	
Cost per Peak kW Saved @ Generator	$0.00	$0.00	$0.00	
Benefit/Cost Ratios				
Utility Ratio	0.00		0.00	
Utility NPV	($996)		$0	
Ratepayer Ratio	0.00		0.00	
Ratepayer NPV	($996)		$0	
Participant Ratio	0.00		0.00	
Participant NPV	$0		$0	
Societal Ratio	0.00		0.00	
Societal NPV	($996)		$0	
Narrative				

Program Name: CIP Development-Planning-Evaluation
Program Design Manager: Otter Tail Power
Category: Market Research and Product Development

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Active	Active	Active
Utility Metrics				
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)	$65,041.77	$0.00	$0.00	$280,702.24
Administration (2011-present)	$175,983.84	$0.00	$0.00	$112,479.57
Evaluation, Measurement & Verification	$38,471.87	$0.00	$0.00	$30,375.68
Advertising & Promotion	$13,128.75	$0.00	$0.00	$185.96
Incentives	$0.00	$0.00	$0.00	$0.00
Other	$0.00	$438,034.88	$450,000.00	$0.00
Total Utility Costs	**$292,626.23**	**$438,034.88**	**$450,000.00**	**$423,743.45**
Program Participants				
Total Participants	0	0	0	0
% of Spending by Customer Segments				
Residential	0%	0%	0%	0%
Commerical	0%	0%	0%	0%
Industrial	0%	0%	0%	0%
Farm	0%	0%	0%	0%
Other	100%	100%	100%	100%
Total % of Spending	**100%**	**100%**	**100%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)	0.0%	0.0%	0.0%	0.0%
Budget % (% of Total Utility Costs)	0.0%	0.0%	0.0%	0.0%
Energy Savings				
Annual kWh Savings @ Meter	0	0	0	0
Annual kWh Savings @ Generator	0	0	0	0
Cost per Annual kWh Saved @ Generator	$0.0000	$0.0000	$0.0000	$0.0000
Peak kW Savings @ Meter	0.000	0.000	0.000	0.000
Peak kW Savings @ Generator	0.000	0.000	0.000	0.000
Cost per Peak kW Saved @ Generator	$0.00	$0.00	$0.00	$0.00
Benefit/Cost Ratios				
Utility Ratio	0.00	0.00	0.00	0.00
Utility NPV	($292,626)	($438,035)	($450,000)	($423,743)
Ratepayer Ratio	0.00	0.00	0.00	0.00
Ratepayer NPV	($292,626)	($438,035)	($450,000)	($423,743)
Participant Ratio	0.00	0.00	0.00	0.00
Participant NPV	$0	$0	$0	$0
Societal Ratio	0.00	0.00	0.00	0.00
Societal NPV	($292,626)	($438,035)	($450,000)	($423,743)
Narrative				

Program Name: Commercial Design Assistance
Program Design Manager: Otter Tail Power
Category: Non-Residential Whole Building - Non-Process Related

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Active	Active	Active
Utility Metrics				
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)	$169,821.35	$200,938.48	$138,927.00	$168,442.84
Administration (2011-present)	$6,643.33	$7,680.45	$20,000.00	$6,773.05
Evaluation, Measurement & Verification	$495.50	$493.70	$5,000.00	$180.06
Advertising & Promotion	$8,091.12	$5,268.35	$11,585.00	$3,792.47
Incentives	$29,400.00	$130,149.00	$314,988.00	$355,542.00
Other	$0.00	$0.00	$0.00	$0.00
Total Utility Costs	**$214,451.30**	**$344,529.98**	**$490,500.00**	**$534,730.42**
Program Participants				
Total Participants	2	8	6	12
% of Spending by Customer Segments				
Residential	0%	0%	0%	0%
Commerical	100%	100%	100%	100%
Industrial	0%	0%	0%	0%
Farm	0%	0%	0%	0%
Other	0%	0%	0%	0%
Total % of Spending	**100%**	**100%**	**100%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)	0.0%	0.0%	0.0%	0.0%
Budget % (% of Total Utility Costs)	0.0%	0.0%	0.0%	0.0%
Energy Savings				
Annual kWh Savings @ Meter	334,228	1,299,058	2,234,350	2,223,982
Annual kWh Savings @ Generator	361,875	1,406,516	2,419,175	2,407,950
Cost per Annual kWh Saved @ Generator	$0.5926	$0.2450	$0.2028	$0.2221
Peak kW Savings @ Meter	94.486	257.426	470.306	513.888
Peak kW Savings @ Generator	102.302	278.720	509.210	556.396
Cost per Peak kW Saved @ Generator	$2,096.26	$1,236.11	$963.26	$961.06
Benefit/Cost Ratios				
Utility Ratio	2.58	5.48	7.20	6.89
Utility NPV	$337,856	$1,543,375	$3,040,695	$3,147,301
Ratepayer Ratio	1.14	1.36	1.55	1.52
Ratepayer NPV	$66,652	$501,967	$1,251,119	$1,261,289
Participant Ratio	0.97	2.71	2.25	1.86
Participant NPV	($10,213)	$1,180,424	$1,218,119	$1,610,357
Societal Ratio	1.82	3.49	5.08	2.94
Societal NPV	$419,582	$2,244,350	$4,672,167	$4,002,128
Narrative				

Program Name: Company CIP Projects
Program Design Manager: Otter Tail Power
Category: Other - Indirect

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Active	Active	Active
Utility Metrics				
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)	$31,254.73	$1,382.02	$0.00	$0.00
Administration (2011-present)	$7,253.36	($33.18)	$0.00	$0.00
Evaluation, Measurement & Verification	$1,055.51	$0.00	$0.00	$0.00
Advertising & Promotion	$0.00	$0.00	$0.00	$0.00
Incentives	$710.00	$710.00	$0.00	$1,310.00
Other	$0.00	$0.00	$0.00	$0.00
Total Utility Costs	**$40,273.60**	**$2,058.84**	**$0.00**	**$1,310.00**
Program Participants				
Total Participants	0	0	0	0
% of Spending by Customer Segments				
Residential	0%	0%	0%	0%
Commerical	0%	0%	0%	0%
Industrial	0%	0%	0%	0%
Farm	0%	0%	0%	0%
Other	100%	100%	100%	100%
Total % of Spending	**100%**	**100%**	**100%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)	0.0%	0.0%	0.0%	0.0%
Budget % (% of Total Utility Costs)	0.0%	0.0%	0.0%	0.0%
Energy Savings				
Annual kWh Savings @ Meter	0	0	0	0
Annual kWh Savings @ Generator	0	0	0	0
Cost per Annual kWh Saved @ Generator	$0.0000	$0.0000	$0.0000	$0.0000
Peak kW Savings @ Meter	0.000	0.000	0.000	0.000
Peak kW Savings @ Generator	0.000	0.000	0.000	0.000
Cost per Peak kW Saved @ Generator	$0.00	$0.00	$0.00	$0.00
Benefit/Cost Ratios				
Utility Ratio	0.00	0.00	0.00	N/A
Utility NPV	($40,274)	($2,059)	$0	($1,310)
Ratepayer Ratio	0.00	0.00	0.00	N/A
Ratepayer NPV	($40,274)	($2,059)	$0	($1,310)
Participant Ratio	0.00	0.00	0.00	N/A
Participant NPV	$0	$0	$0	$1,310
Societal Ratio	0.00	0.00	0.00	N/A
Societal NPV	($40,274)	($2,059)	$0	$0
Narrative				

Program Name: Compressed Air Audits - C/I
Program Design Manager: Otter Tail Power
Category: Compressed Air

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Active	Active	Active
Utility Metrics				
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)	$5,084.91	$5,301.99	$3,000.00	$416.44
Administration (2011-present)	$0.00	$908.34	$500.00	$3,660.29
Evaluation, Measurement & Verification	$0.00	$0.00	$500.00	$50.40
Advertising & Promotion	$1,412.16	$1,606.73	$1,000.00	$1,062.71
Incentives	$16,006.25	$14,160.00	$0.00	$12,360.00
Other	$0.00	$0.00	$15,000.00	$0.00
Total Utility Costs	**$22,503.32**	**$21,977.06**	**$20,000.00**	**$17,549.84**
Program Participants				
Total Participants	3	3	4	3
% of Spending by Customer Segments				
Residential	0%	0%	0%	0%
Commerical	10%	10%	10%	10%
Industrial	90%	90%	90%	90%
Farm	0%	0%	0%	0%
Other	0%	0%	0%	0%
Total % of Spending	**100%**	**100%**	**100%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)	0.0%	0.0%	0.0%	0.0%
Budget % (% of Total Utility Costs)	0.0%	0.0%	0.0%	0.0%
Energy Savings				
Annual kWh Savings @ Meter	0	0	0	0
Annual kWh Savings @ Generator	0	0	0	0
Cost per Annual kWh Saved @ Generator	$0.0000	$0.0000	$0.0000	$0.0000
Peak kW Savings @ Meter	0.000	0.000	0.000	0.000
Peak kW Savings @ Generator	0.000	0.000	0.000	0.000
Cost per Peak kW Saved @ Generator	$0.00	$0.00	$0.00	$0.00
Benefit/Cost Ratios				
Utility Ratio	0.00	0.00	0.00	0.00
Utility NPV	($22,503)	($21,977)	($20,000)	($17,550)
Ratepayer Ratio	0.00	0.00	0.00	0.00
Ratepayer NPV	($22,503)	($21,977)	($20,000)	($17,550)
Participant Ratio	0.00	0.00	0.00	0.80
Participant NPV	$0	$0	$0	($3,090)
Societal Ratio	0.00	0.00	0.00	0.00
Societal NPV	($22,503)	($21,977)	($20,000)	($20,640)
Narrative				

Program Name: Electronically Commutated Motors
Program Design Manager: Otter Tail Power
Category: Residential Space Heating (non-Heat Pumps)

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Active	Active	Active
Utility Metrics				
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)	$1,059.99	$3,543.20	$9,000.00	$3,423.65
Administration (2011-present)	$3,595.95	$4,100.58	$6,000.00	$5,717.49
Evaluation, Measurement & Verification	$361.57	$231.67	$2,000.00	$150.47
Advertising & Promotion	$73.87	$1,475.50	$8,000.00	$1,090.12
Incentives	$4,000.00	$11,100.00	$12,000.00	$15,000.00
Other	$0.00	$0.00	$0.00	$0.00
Total Utility Costs	**$9,091.38**	**$20,450.95**	**$37,000.00**	**$25,381.73**
Program Participants				
Total Participants	40	111	120	150
% of Spending by Customer Segments				
Residential	100%	100%	100%	100%
Commerical	0%	0%	0%	0%
Industrial	0%	0%	0%	0%
Farm	0%	0%	0%	0%
Other	0%	0%	0%	0%
Total % of Spending	**100%**	**100%**	**100%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)	31.0%	31.0%	31.0%	31.0%
Budget % (% of Total Utility Costs)	31.0%	31.0%	31.0%	31.0%
Energy Savings				
Annual kWh Savings @ Meter	28,934	80,328	85,896	108,260
Annual kWh Savings @ Generator	31,327	86,973	93,001	117,216
Cost per Annual kWh Saved @ Generator	$0.2902	$0.2351	$0.3978	$0.2165
Peak kW Savings @ Meter	2.613	7.250	7.841	9.797
Peak kW Savings @ Generator	2.829	7.850	8.490	10.608
Cost per Peak kW Saved @ Generator	$3,213.47	$2,605.31	$4,358.27	$2,392.71
Benefit/Cost Ratios				
Utility Ratio	3.24	1.35	2.67	4.89
Utility NPV	$20,334	$143,003	$61,751	$98,784
Ratepayer Ratio	0.73	0.53	0.74	0.82
Ratepayer NPV	($10,807)	($502,844)	($35,546)	($27,307)
Participant Ratio	5.62	#NULL!	5.79	5.99
Participant NPV	$46,235	$676,293	$143,743	$187,110
Societal Ratio	3.31	1.35	2.98	4.30
Societal NPV	$34,834	$143,003	$108,908	$158,223
Narrative				

Program Name: Energy Feedback Program
Program Design Manager: Otter Tail Power
Category: Residential Behavioral Change

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Active	Active	Active
Utility Metrics				
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)	$303,906.08	$396,087.16	$335,600.00	$328,191.30
Administration (2011-present)	$1,366.99	$419.69	$8,000.00	$0.00
Evaluation, Measurement & Verification	$6,030.02	$7,308.90	$22,000.00	$5,019.86
Advertising & Promotion	$11,940.02	$9,758.98	$5,000.00	$7,334.90
Incentives	$0.00	$0.00	$0.00	$0.00
Other	$0.00	$0.00	$0.00	$0.00
Total Utility Costs	**$323,243.11**	**$413,574.73**	**$370,600.00**	**$340,546.06**
Program Participants				
Total Participants	34,254	38,621	32,810	37,133
% of Spending by Customer Segments				
Residential	100%	100%	100%	100%
Commerical	0%	0%	0%	0%
Industrial	0%	0%	0%	0%
Farm	0%	0%	0%	0%
Other	0%	0%	0%	0%
Total % of Spending	**100%**	**100%**	**100%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)	31.0%	31.0%	31.0%	31.0%
Budget % (% of Total Utility Costs)	31.0%	31.0%	31.0%	31.0%
Energy Savings				
Annual kWh Savings @ Meter	2,339,065	2,613,217	1,926,317	3,863,248
Annual kWh Savings @ Generator	2,532,552	2,829,382	2,085,662	4,182,815
Cost per Annual kWh Saved @ Generator	$0.1276	$0.1462	$0.1777	$0.0814
Peak kW Savings @ Meter	1,311.508	1,465.224	1,080.086	4,222.277
Peak kW Savings @ Generator	1,419.996	1,586.427	1,169.430	4,571.543
Cost per Peak kW Saved @ Generator	$227.64	$260.70	$316.91	$74.49
Benefit/Cost Ratios				
Utility Ratio	1.53	1.46	1.23	3.89
Utility NPV	$170,083	$190,939	$84,609	$983,165
Ratepayer Ratio	0.54	0.50	0.51	0.92
Ratepayer NPV	($412,622)	($596,087)	($444,460)	($107,835)
Participant Ratio	0.00	#NULL!	0.00	inf.
Participant NPV	$610,173	$824,095	$554,009	$1,142,429
Societal Ratio	1.53	1.46	1.23	3.89
Societal NPV	$170,083	$190,939	$84,609	$983,165
Narrative				

Program Name: Financing - C/I
Program Design Manager: Otter Tail Power
Category: Other - Indirect

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Active	Active	Active
Utility Metrics				
kWh Line Loss Factor	7.640%	0.000%	7.640%	7.640%
kW Line Loss Factor	7.640%	0.000%	7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)	$468.82	$187.85	$10,500.00	$2,645.04
Administration (2011-present)	$1,245.55	$394.70	$3,500.00	$5,071.56
Evaluation, Measurement & Verification	$216.13	$7.39	$1,000.00	$281.46
Advertising & Promotion	$1,681.66	$7.31	$8,000.00	$1,526.46
Incentives	$216.12	$1,500.73	$0.00	$466.74
Other	$1,580.07	$0.00	$9,000.00	$0.00
Total Utility Costs	**$5,408.35**	**$2,097.98**	**$32,000.00**	**$9,991.24**
Program Participants				
Total Participants	0	0	5	1
% of Spending by Customer Segments				
Residential	0%	0%	0%	0%
Commerical	90%	90%	90%	90%
Industrial	10%	10%	10%	10%
Farm	0%	0%	0%	0%
Other	0%	0%	0%	0%
Total % of Spending	**100%**	**100%**	**100%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)	0.0%	0.0%	0.0%	0.0%
Budget % (% of Total Utility Costs)	0.0%	0.0%	0.0%	0.0%
Energy Savings				
Annual kWh Savings @ Meter	0	0	0	0
Annual kWh Savings @ Generator	0	0	0	0
Cost per Annual kWh Saved @ Generator	$0.0000	$0.0000	$0.0000	$0.0000
Peak kW Savings @ Meter	0.000	0.000	0.000	0.000
Peak kW Savings @ Generator	0.000	0.000	0.000	0.000
Cost per Peak kW Saved @ Generator	$0.00	$0.00	$0.00	$0.00
Benefit/Cost Ratios				
Utility Ratio	0.00	0.00	0.00	0.00
Utility NPV	($5,408)	($2,098)	($32,000)	($9,991)
Ratepayer Ratio	0.00	0.00	0.00	0.00
Ratepayer NPV	($5,408)	($2,098)	($32,000)	($9,991)
Participant Ratio	0.00	0.00	0.00	inf.
Participant NPV	$0	$0	$0	$467
Societal Ratio	0.00	0.00	0.00	0.00
Societal NPV	($5,408)	($2,098)	($32,000)	($9,525)
Narrative				

Program Name: Financing - Res
Program Design Manager: Otter Tail Power
Category: Other - Indirect

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Active	Active	Active
Utility Metrics				
kWh Line Loss Factor	0.000%	0.000%	0.000%	7.640%
kW Line Loss Factor	0.000%	0.000%	0.000%	7.640%
Utility Cost Components				
Delivery (2011-present)	$468.82	$3,569.16	$5,000.00	$2,645.04
Administration (2011-present)	$1,245.55	$7,499.29	$1,500.00	$5,071.56
Evaluation, Measurement & Verification	$216.13	$140.49	$500.00	$281.46
Advertising & Promotion	$1,681.66	$138.98	$2,000.00	$1,526.46
Incentives	$216.12	$1,238.45	$0.00	$3,756.32
Other	$1,580.07	$0.00	$4,000.00	$0.00
Total Utility Costs	**$5,408.35**	**$12,586.37**	**$13,000.00**	**$13,280.82**
Program Participants				
Total Participants	0	6	7	1
% of Spending by Customer Segments				
Residential	100%	100%	100%	100%
Commerical	0%	0%	0%	0%
Industrial	0%	0%	0%	0%
Farm	0%	0%	0%	0%
Other	0%	0%	0%	0%
Total % of Spending	**100%**	**100%**	**100%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)	31.0%	31.0%	31.0%	31.0%
Budget % (% of Total Utility Costs)	31.0%	31.0%	31.0%	31.0%
Energy Savings				
Annual kWh Savings @ Meter	0	0	0	0
Annual kWh Savings @ Generator	0	0	0	0
Cost per Annual kWh Saved @ Generator	$0.0000	$0.0000	$0.0000	$0.0000
Peak kW Savings @ Meter	0.000	0.000	0.000	0.000
Peak kW Savings @ Generator	0.000	0.000	0.000	0.000
Cost per Peak kW Saved @ Generator	$0.00	$0.00	$0.00	$0.00
Benefit/Cost Ratios				
Utility Ratio	0.00	0.00	0.00	0.00
Utility NPV	($5,408)	($12,586)	($13,000)	($13,281)
Ratepayer Ratio	0.00	0.00	0.00	0.00
Ratepayer NPV	($5,408)	($12,586)	($13,000)	($13,281)
Participant Ratio	0.00	0.00	0.00	inf.
Participant NPV	$216	$0	$0	$3,756
Societal Ratio	0.00	0.00	0.00	0.00
Societal NPV	($5,192)	($12,586)	($13,000)	($9,525)
Narrative				

Program Name: Geothermal Heat Pump - C/I
Program Design Manager: Otter Tail Power
Category: Non-Residential Heat Pumps

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Active	Active	Active
Utility Metrics				
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)	$38,970.00	$21,570.11	$21,000.00	$52,450.46
Administration (2011-present)	$2,342.30	$2,343.93	$3,500.00	$3,143.36
Evaluation, Measurement & Verification	$2,841.27	$172.44	$2,000.00	$304.16
Advertising & Promotion	$1,917.33	$620.32	$2,000.00	$1,624.67
Incentives	$16,800.00	$83,800.00	$94,500.00	$382,600.00
Other	$0.00	$0.00	$1,000.00	$0.00
Total Utility Costs	**$62,870.90**	**$108,506.80**	**$124,000.00**	**$440,122.64**
Program Participants				
Total Participants	4	25	35	102
% of Spending by Customer Segments				
Residential	0%	0%	0%	0%
Commerical	90%	90%	90%	90%
Industrial	10%	10%	10%	10%
Farm	0%	0%	0%	0%
Other	0%	0%	0%	0%
Total % of Spending	**100%**	**100%**	**100%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)	0.0%	0.0%	0.0%	0.0%
Budget % (% of Total Utility Costs)	0.0%	0.0%	0.0%	0.0%
Energy Savings				
Annual kWh Savings @ Meter	115,744	438,171	651,056	1,982,104
Annual kWh Savings @ Generator	125,318	474,416	704,911	2,146,064
Cost per Annual kWh Saved @ Generator	$0.5017	$0.2287	$0.1759	$0.2051
Peak kW Savings @ Meter	1.909	11.930	16.702	48.674
Peak kW Savings @ Generator	2.067	12.917	18.084	52.701
Cost per Peak kW Saved @ Generator	$30,417.79	$8,400.41	$6,857.05	$8,351.39
Benefit/Cost Ratios				
Utility Ratio	1.99	5.08	7.83	5.70
Utility NPV	$62,252	$442,934	$847,276	$2,068,862
Ratepayer Ratio	0.75	1.05	1.25	1.06
Ratepayer NPV	($41,356)	$27,924	$194,504	$136,542
Participant Ratio	1.55	1.40	1.10	1.58
Participant NPV	$44,292	$200,374	$69,293	$1,206,362
Societal Ratio	1.46	1.53	1.93	1.73
Societal NPV	$58,548	$281,778	$683,229	$1,556,604
Narrative				

Program Name: Geothermal Heat Pump -RES
Program Design Manager: Otter Tail Power
Category: Residential Heat Pumps

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Active	Active	Active
Utility Metrics				
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)	$26,805.82	$38,321.18	$19,000.00	$18,511.93
Administration (2011-present)	$1,611.17	$4,164.20	$5,000.00	$1,109.42
Evaluation, Measurement & Verification	$1,954.39	$306.36	$2,400.00	$107.35
Advertising & Promotion	$1,318.85	$1,102.06	$1,500.00	$573.41
Incentives	$121,800.00	$130,200.00	$116,100.00	$148,800.00
Other	$0.00	$0.00	$1,000.00	$0.00
Total Utility Costs	**$153,490.23**	**$174,093.80**	**$145,000.00**	**$169,102.11**
Program Participants				
Total Participants	41	34	43	36
% of Spending by Customer Segments				
Residential	100%	100%	100%	100%
Commerical	0%	0%	0%	0%
Industrial	0%	0%	0%	0%
Farm	0%	0%	0%	0%
Other	0%	0%	0%	0%
Total % of Spending	**100%**	**100%**	**100%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)	31.0%	31.0%	31.0%	31.0%
Budget % (% of Total Utility Costs)	31.0%	31.0%	31.0%	31.0%
Energy Savings				
Annual kWh Savings @ Meter	816,053	778,449	851,017	813,633
Annual kWh Savings @ Generator	883,557	842,842	921,413	880,937
Cost per Annual kWh Saved @ Generator	$0.1737	$0.2066	$0.1574	$0.1920
Peak kW Savings @ Meter	19.633	16.225	20.522	17.179
Peak kW Savings @ Generator	21.257	17.567	22.220	18.600
Cost per Peak kW Saved @ Generator	$7,220.68	$9,910.20	$6,525.78	$9,091.42
Benefit/Cost Ratios				
Utility Ratio	6.75	4.63	8.29	5.30
Utility NPV	$882,794	$631,796	$1,057,528	$726,810
Ratepayer Ratio	1.14	0.86	1.23	0.91
Ratepayer NPV	$129,879	($127,227)	$226,928	($89,706)
Participant Ratio	1.51	1.84	1.56	1.88
Participant NPV	$425,882	$580,797	$487,286	$640,678
Societal Ratio	1.78	1.63	1.96	1.76
Societal NPV	$669,003	$458,580	$860,437	$566,384
Narrative				

Program Name: Grants
Program Design Manager: Otter Tail Power
Category: Non-Residential Custom Efficiency

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Active	Active	Active
Utility Metrics				
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)	$112,286.41	$116,165.15	$196,000.00	$99,487.48
Administration (2011-present)	$10,134.02	$2,698.32	$30,000.00	$3,115.87
Evaluation, Measurement & Verification	$14,854.60	$9,944.64	$34,000.00	$10,005.85
Advertising & Promotion	$8,200.13	$5,209.59	$8,800.00	$5,815.66
Incentives	$194,920.00	$288,591.00	$452,200.00	$415,194.00
Other	$0.00	$0.00	$0.00	$0.00
Total Utility Costs	**$340,395.16**	**$422,608.70**	**$721,000.00**	**$533,618.86**
Program Participants				
Total Participants	37	41	38	61
% of Spending by Customer Segments				
Residential	0%	0%	0%	0%
Commerical	10%	10%	10%	10%
Industrial	90%	90%	90%	90%
Farm	0%	0%	0%	0%
Other	0%	0%	0%	0%
Total % of Spending	**100%**	**100%**	**100%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)	0.0%	0.0%	0.0%	0.0%
Budget % (% of Total Utility Costs)	0.0%	0.0%	0.0%	0.0%
Energy Savings				
Annual kWh Savings @ Meter	1,881,558	2,698,147	3,211,147	6,805,544
Annual kWh Savings @ Generator	2,037,200	2,921,337	3,476,772	7,368,498
Cost per Annual kWh Saved @ Generator	$0.1671	$0.1447	$0.2074	$0.0724
Peak kW Savings @ Meter	430.775	570.183	944.455	1,198.918
Peak kW Savings @ Generator	466.409	617.348	1,022.580	1,298.092
Cost per Peak kW Saved @ Generator	$729.82	$684.55	$705.08	$411.08
Benefit/Cost Ratios				
Utility Ratio	7.91	9.31	7.08	17.37
Utility NPV	$2,352,396	$3,513,023	$4,383,084	$8,733,830
Ratepayer Ratio	1.73	1.61	2.03	1.70
Ratepayer NPV	$1,133,726	$1,498,612	$2,594,411	$3,811,484
Participant Ratio	1.34	1.87	1.11	1.34
Participant NPV	$376,182	$1,143,028	$235,191	$1,464,868
Societal Ratio	3.57	4.40	3.17	3.26
Societal NPV	$3,191,921	$4,901,994	$5,127,440	$9,969,421
Narrative				

Program Name: **Home Insulation**
Program Design Manager: **Otter Tail Power**
Category: **Residential Building Envelope**

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Active	Active	Active
Utility Metrics				
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)	$1,786.30	$3,402.37	$5,000.00	$5,258.68
Administration (2011-present)	$3,692.03	$5,231.41	$8,800.00	$4,594.26
Evaluation, Measurement & Verification	$119.94	$181.90	$2,000.00	$497.40
Advertising & Promotion	$16,047.50	$13,319.78	$15,700.00	$17,446.07
Incentives	$8,830.23	$4,983.89	$26,500.00	$10,163.17
Other	$0.00	$0.00	$0.00	$0.00
Total Utility Costs	**$30,476.00**	**$27,119.35**	**$58,000.00**	**$37,959.58**
Program Participants				
Total Participants	31	21	55	28
% of Spending by Customer Segments				
Residential	100%	100%	100%	100%
Commerical	0%	0%	0%	0%
Industrial	0%	0%	0%	0%
Farm	0%	0%	0%	0%
Other	0%	0%	0%	0%
Total % of Spending	**100%**	**100%**	**100%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)	31.0%	31.0%	31.0%	31.0%
Budget % (% of Total Utility Costs)	31.0%	31.0%	31.0%	31.0%
Energy Savings				
Annual kWh Savings @ Meter	167,763	74,580	170,864	198,638
Annual kWh Savings @ Generator	181,640	80,749	184,998	215,070
Cost per Annual kWh Saved @ Generator	$0.1678	$0.3358	$0.3135	$0.1765
Peak kW Savings @ Meter	0.000	0.000	0.000	0.000
Peak kW Savings @ Generator	0.000	0.000	0.000	0.000
Cost per Peak kW Saved @ Generator	$0.00	$0.00	$0.00	$0.00
Benefit/Cost Ratios				
Utility Ratio	3.20	1.72	1.98	3.52
Utility NPV	$66,984	$19,561	$56,862	$95,573
Ratepayer Ratio	0.33	0.47	0.51	0.56
Ratepayer NPV	($198,565)	($53,188)	($109,968)	($103,849)
Participant Ratio	6.82	2.78	2.76	5.82
Participant NPV	$348,903	$73,160	$175,949	$255,346
Societal Ratio	1.80	1.11	1.29	2.45
Societal NPV	$65,454	$6,701	$38,751	$117,130
Narrative				

Program Name: Home Transformer
Program Design Manager: Otter Tail Power
Category: Whole House

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Active	Active	Active
Utility Metrics				
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)	$23,208.02	$3,770.94	$17,000.00	$1,618.52
Administration (2011-present)	$16,459.79	$6,840.19	$4,305.00	$6,481.27
Evaluation, Measurement & Verification	$178.33	$0.00	$2,000.00	$207.08
Advertising & Promotion	$5,498.98	$1,908.12	$6,000.00	$1,222.62
Incentives	$6,857.37	$9,100.00	$32,695.00	$4,834.00
Other	$15.44	$0.00	$0.00	$0.00
Total Utility Costs	**$52,217.93**	**$21,619.25**	**$62,000.00**	**$14,363.49**
Program Participants				
Total Participants	240	670	1,575	239
% of Spending by Customer Segments				
Residential	100%	100%	100%	100%
Commerical	0%	0%	0%	0%
Industrial	0%	0%	0%	0%
Farm	0%	0%	0%	0%
Other	0%	0%	0%	0%
Total % of Spending	**100%**	**100%**	**100%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)	31.0%	31.0%	31.0%	31.0%
Budget % (% of Total Utility Costs)	31.0%	31.0%	31.0%	31.0%
Energy Savings				
Annual kWh Savings @ Meter	81,863	104,698	187,847	37,224
Annual kWh Savings @ Generator	88,635	113,359	203,386	40,303
Cost per Annual kWh Saved @ Generator	$0.5891	$0.1907	$0.3048	$0.3564
Peak kW Savings @ Meter	4.521	5.582	13.202	1.984
Peak kW Savings @ Generator	4.895	6.044	14.294	2.149
Cost per Peak kW Saved @ Generator	$10,667.66	$3,577.13	$4,337.46	$6,685.19
Benefit/Cost Ratios				
Utility Ratio	0.93	3.10	2.04	1.78
Utility NPV	($3,470)	$45,438	$64,780	$11,179
Ratepayer Ratio	0.42	0.62	0.61	0.55
Ratepayer NPV	($67,336)	($41,599)	($81,709)	($20,607)
Participant Ratio	28.87	31.74	18.98	31.26
Participant NPV	$94,750	$129,093	$224,741	$48,422
Societal Ratio	1.41	5.62	4.12	3.19
Societal NPV	$20,042	$77,321	$130,593	$24,374
Narrative				

Program Name: House Therapy
Program Design Manager: Otter Tail Power
Category: Low Income Weatherization

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Active	Active	Active
Utility Metrics				
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)	$10,087.05	$131,685.42	$129,000.00	$135,915.67
Administration (2011-present)	$12,273.93	$8,937.05	$13,000.00	$10,553.81
Evaluation, Measurement & Verification	$1,955.10	$233.24	$2,500.00	$387.13
Advertising & Promotion	$3,281.20	$995.64	$3,000.00	$1,744.88
Incentives	$114,942.80	$7,141.08	$0.00	$4,403.72
Other	$48.41	$0.00	$2,500.00	$0.00
Total Utility Costs	**$142,588.49**	**$148,992.43**	**$150,000.00**	**$153,005.21**
Program Participants				
Total Participants	100	145	160	127
% of Spending by Customer Segments				
Residential	100%	100%	100%	100%
Commerical	0%	0%	0%	0%
Industrial	0%	0%	0%	0%
Farm	0%	0%	0%	0%
Other	0%	0%	0%	0%
Total % of Spending	**100%**	**100%**	**100%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)	100.0%	100.0%	100.0%	31.0%
Budget % (% of Total Utility Costs)	100.0%	100.0%	100.0%	31.0%
Energy Savings				
Annual kWh Savings @ Meter	189,273	234,312	225,727	224,471
Annual kWh Savings @ Generator	204,930	253,694	244,399	243,039
Cost per Annual kWh Saved @ Generator	$0.6958	$0.5873	$0.6138	$0.6296
Peak kW Savings @ Meter	19.771	22.198	28.161	22.973
Peak kW Savings @ Generator	21.406	24.034	30.490	24.873
Cost per Peak kW Saved @ Generator	$6,661.00	$6,199.18	$4,919.57	$6,151.49
Delivered Fuel Savings				
Gallons of #2 Fuel Oil	0	0	0	0
Gallons of LPG	0	0	0	0
Dekatherms Natural Gas	0.0	0.0	0.0	0.0
Total Savings (Derived)	0.0	0.0	**0.0**	0.0
Total Energy Savings	**204,929.6**	**253,694.2**	**244,399.1**	**243,038.7**
Benefit/Cost Ratios				
Utility Ratio	0.86	1.04	1.17	1.11
Utility NPV	($19,557)	$5,754	$25,679	$17,268
Ratepayer Ratio	0.40	0.48	0.58	0.50
Ratepayer NPV	($153,659)	($166,622)	($136,800)	($166,982)
Participant Ratio	0.00	0.00	0.00	inf.
Participant NPV	$312,528	$300,507	$340,727	$388,301
Societal Ratio	9.79	6.11	9.54	10.63
Societal NPV	$270,269	$141,313	$196,476	$207,713
Narrative				

Program Name: Implementation & Training - C/I
Program Design Manager: Otter Tail Power
Category: Internal Training

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Active	Active	Active
Utility Metrics				
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)	$48,444.47	$67,783.91	$13,000.00	$47,232.69
Administration (2011-present)	$3,083.82	$3,906.17	$2,000.00	$1,083.02
Evaluation, Measurement & Verification	$1,257.55	$5,283.92	$2,000.00	$3,506.81
Advertising & Promotion	$2,544.33	$1,423.57	$2,000.00	$505.90
Incentives	$0.00	$0.00	$0.00	$0.00
Other	$22.10	$0.00	$41,000.00	$0.00
Total Utility Costs	**$55,352.27**	**$78,397.57**	**$60,000.00**	**$52,328.41**
Program Participants				
Total Participants	408	443	250	464
% of Spending by Customer Segments				
Residential	0%	0%	0%	0%
Commerical	90%	90%	90%	90%
Industrial	10%	10%	10%	10%
Farm	0%	0%	0%	0%
Other	0%	0%	0%	0%
Total % of Spending	**100%**	**100%**	**100%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)	0.0%	0.0%	0.0%	0.0%
Budget % (% of Total Utility Costs)	0.0%	0.0%	0.0%	0.0%
Energy Savings				
Annual kWh Savings @ Meter	0	0	0	0
Annual kWh Savings @ Generator	0	0	0	0
Cost per Annual kWh Saved @ Generator	$0.0000	$0.0000	$0.0000	$0.0000
Peak kW Savings @ Meter	0.000	0.000	0.000	0.000
Peak kW Savings @ Generator	0.000	0.000	0.000	0.000
Cost per Peak kW Saved @ Generator	$0.00	$0.00	$0.00	$0.00
Benefit/Cost Ratios				
Utility Ratio	0.00	0.00	0.00	0.00
Utility NPV	($55,352)	($78,398)	($60,000)	($52,328)
Ratepayer Ratio	0.00	0.00	0.00	0.00
Ratepayer NPV	($55,352)	($78,398)	($60,000)	($52,328)
Participant Ratio	0.00	0.00	0.00	inf.
Participant NPV	$0	$0	$0	$0
Societal Ratio	0.00	0.00	0.00	0.00
Societal NPV	($55,352)	($78,398)	($60,000)	($52,328)
Narrative				

Program Name: Implementation & Training - RES
Program Design Manager: Otter Tail Power
Category: Other - Indirect

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Active	Active	Active
Utility Metrics				
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)	$42,155.16	$56,776.11	$12,400.00	$38,319.93
Administration (2011-present)	$2,683.47	$3,271.82	$1,200.00	$878.65
Evaluation, Measurement & Verification	$1,094.29	$4,425.83	$1,200.00	$2,845.07
Advertising & Promotion	$2,214.02	$1,192.39	$0.00	$410.43
Incentives	$0.00	$0.00	$0.00	$0.00
Other	$19.23	$0.00	$25,200.00	$0.00
Total Utility Costs	**$48,166.17**	**$65,666.15**	**$40,000.00**	**$42,454.09**
Program Participants				
Total Participants	74	78	175	67
% of Spending by Customer Segments				
Residential	100%	100%	100%	100%
Commerical	0%	0%	0%	0%
Industrial	0%	0%	0%	0%
Farm	0%	0%	0%	0%
Other	0%	0%	0%	0%
Total % of Spending	**100%**	**100%**	**100%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)	31.0%	31.0%	31.0%	31.0%
Budget % (% of Total Utility Costs)	31.0%	31.0%	31.0%	31.0%
Energy Savings				
Annual kWh Savings @ Meter	0	0	0	0
Annual kWh Savings @ Generator	0	0	0	0
Cost per Annual kWh Saved @ Generator	$0.0000	$0.0000	$0.0000	$0.0000
Peak kW Savings @ Meter	0.000	0.000	0.000	0.000
Peak kW Savings @ Generator	0.000	0.000	0.000	0.000
Cost per Peak kW Saved @ Generator	$0.00	$0.00	$0.00	$0.00
Benefit/Cost Ratios				
Utility Ratio	0.00	0.00	0.00	0.00
Utility NPV	($48,166)	($65,666)	($40,000)	($42,454)
Ratepayer Ratio	0.00	0.00	0.00	0.00
Ratepayer NPV	($48,166)	($65,666)	($40,000)	($42,454)
Participant Ratio	0.00	0.00	0.00	inf.
Participant NPV	$0	$0	$0	$0
Societal Ratio	0.00	0.00	0.00	0.00
Societal NPV	($48,166)	($65,666)	($40,000)	($42,454)
Narrative				

Program Name: Industrial Focused Efficiency
Program Design Manager: Otter Tail Power
Category: Non-Residential Custom Efficiency

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Active	Active	Active
Utility Metrics				
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)	$22,648.66	$68,193.82	$85,500.00	$70,196.67
Administration (2011-present)	$10,782.37	$13,180.25	$21,500.00	$6,525.56
Evaluation, Measurement & Verification	$1,201.82	$4,277.28	$2,000.00	$4,610.51
Advertising & Promotion	$1,478.11	$1,068.55	$6,000.00	$1,322.34
Incentives	$212,181.50	$129,169.21	$120,000.00	$198,846.48
Other	$0.00	$0.00	$0.00	$0.00
Total Utility Costs	**$248,292.46**	**$215,889.11**	**$235,000.00**	**$281,501.56**
Program Participants				
Total Participants	1	2	4	2
% of Spending by Customer Segments				
Residential	0%	0%	0%	0%
Commerical	0%	0%	0%	0%
Industrial	100%	100%	100%	100%
Farm	0%	0%	0%	0%
Other	0%	0%	0%	0%
Total % of Spending	**100%**	**100%**	**100%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)	0.0%	0.0%	0.0%	0.0%
Budget % (% of Total Utility Costs)	0.0%	0.0%	0.0%	0.0%
Energy Savings				
Annual kWh Savings @ Meter	2,324,550	1,474,256	1,319,060	2,171,867
Annual kWh Savings @ Generator	2,516,836	1,596,206	1,428,172	2,351,523
Cost per Annual kWh Saved @ Generator	$0.0987	$0.1353	$0.1645	$0.1197
Peak kW Savings @ Meter	610.193	156.936	200.541	270.116
Peak kW Savings @ Generator	660.668	169.918	217.130	292.460
Cost per Peak kW Saved @ Generator	$375.82	$1,270.55	$1,082.30	$962.53
Benefit/Cost Ratios				
Utility Ratio	13.35	5.64	6.42	5.02
Utility NPV	$3,066,083	$1,002,050	$1,274,536	$1,132,546
Ratepayer Ratio	2.06	1.17	1.38	1.10
Ratepayer NPV	$1,707,144	$177,482	$412,725	$129,467
Participant Ratio	2.56	3.25	0.57	2.02
Participant NPV	$996,307	$910,063	($763,336)	$670,982
Societal Ratio	7.82	3.68	1.17	2.84
Societal NPV	$4,603,125	$1,314,933	$319,893	$1,365,918
Narrative				

Program Name: Lighting - C/I
Program Design Manager: Otter Tail Power
Category: Non-Residential Lighting

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Active	Active	Active
Utility Metrics				
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)	$155,234.53	$233,907.23	$98,000.00	$302,178.86
Administration (2011-present)	$11,301.60	$7,655.89	$21,973.00	$12,433.17
Evaluation, Measurement & Verification	$3,034.08	$1,892.61	$7,000.00	$963.35
Advertising & Promotion	$6,083.13	$4,388.82	$6,000.00	$7,155.54
Incentives	$1,076,526.97	$772,873.57	$430,027.00	$1,938,521.36
Other	$0.00	$0.00	$0.00	$0.00
Total Utility Costs	**$1,252,180.31**	**$1,020,718.12**	**$563,000.00**	**$2,261,252.28**
Program Participants				
Total Participants	582	548	346	1,086
% of Spending by Customer Segments				
Residential	0%	0%	0%	0%
Commerical	70%	70%	70%	70%
Industrial	30%	30%	30%	30%
Farm	0%	0%	0%	0%
Other	0%	0%	0%	0%
Total % of Spending	**100%**	**100%**	**100%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)	0.0%	0.0%	0.0%	0.0%
Budget % (% of Total Utility Costs)	0.0%	0.0%	0.0%	0.0%
Energy Savings				
Annual kWh Savings @ Meter	7,472,836	5,762,314	3,140,492	16,170,793
Annual kWh Savings @ Generator	8,090,987	6,238,971	3,400,273	17,508,437
Cost per Annual kWh Saved @ Generator	$0.1548	$0.1636	$0.1656	$0.1292
Peak kW Savings @ Meter	1,855.544	1,477.205	1,007.869	3,492.291
Peak kW Savings @ Generator	2,009.034	1,599.399	1,091.240	3,781.172
Cost per Peak kW Saved @ Generator	$623.27	$638.19	$515.93	$598.03
Benefit/Cost Ratios				
Utility Ratio	7.12	5.86	7.35	8.30
Utility NPV	$7,664,934	$4,961,778	$357,609	$16,499,749
Ratepayer Ratio	1.48	1.38	1.66	1.50
Ratepayer NPV	$2,883,378	$1,653,016	$1,645,331	$6,229,825
Participant Ratio	1.53	5.25	1.87	9.31
Participant NPV	$2,107,834	$4,376,545	$1,141,744	$14,616,771
Societal Ratio	3.13	6.46	3.95	12.40
Societal NPV	$8,850,300	$6,964,308	$4,253,096	$23,710,120
Narrative				

Program Name: Lighting New Construction -C/I
Program Design Manager: Otter Tail Power
Category: Non-Residential Lighting

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Active	Active	Active
Utility Metrics				
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)	$11,914.48	$19,041.23	$17,250.00	$15,944.56
Administration (2011-present)	$4,006.21	$1,956.61	$19,000.00	$8,244.56
Evaluation, Measurement & Verification	$659.33	$374.86	$2,000.00	$779.93
Advertising & Promotion	$6,919.55	$4,785.84	$7,000.00	$5,571.34
Incentives	$102,198.74	$223,338.92	$97,750.00	$146,779.96
Other	$0.00	$0.00	$0.00	$0.00
Total Utility Costs	**$125,698.31**	**$249,497.46**	**$143,000.00**	**$177,320.35**
Program Participants				
Total Participants	128	277	202	365
% of Spending by Customer Segments				
Residential	0%	0%	0%	0%
Commerical	70%	70%	70%	70%
Industrial	30%	30%	30%	30%
Farm	0%	0%	0%	0%
Other	0%	0%	0%	0%
Total % of Spending	**100%**	**100%**	**100%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)	0.0%	0.0%	0.0%	0.0%
Budget % (% of Total Utility Costs)	0.0%	0.0%	0.0%	0.0%
Energy Savings				
Annual kWh Savings @ Meter	2,004,511	7,019,339	1,998,982	2,706,705
Annual kWh Savings @ Generator	2,170,324	7,599,977	2,164,337	2,930,603
Cost per Annual kWh Saved @ Generator	$0.0579	$0.0328	$0.0661	$0.0605
Peak kW Savings @ Meter	457.309	997.783	341.291	641.078
Peak kW Savings @ Generator	495.138	1,080.319	369.523	694.108
Cost per Peak kW Saved @ Generator	$253.87	$230.95	$386.99	$255.46
Benefit/Cost Ratios				
Utility Ratio	17.51	28.88	13.99	21.11
Utility NPV	$2,074,918	$6,956,339	$1,857,088	$3,565,563
Ratepayer Ratio	1.62	1.50	1.55	1.73
Ratepayer NPV	$844,088	$2,395,937	$710,122	$1,584,445
Participant Ratio	0.99	5.26	2.04	1.67
Participant NPV	($15,030)	$5,699,809	$662,981	$1,245,062
Societal Ratio	2.21	7.80	4.00	2.91
Societal NPV	$1,729,739	$9,279,615	$2,039,776	$3,586,507
Narrative				

Program Name: Made in Minnesota Solar Energy Assessment
Program Design Manager: Otter Tail Power
Category: Regulatory Charges

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Active	Active	Active
Utility Metrics				
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)	$0.00	$0.00	$0.00	$0.00
Administration (2011-present)	$0.00	$0.00	$0.00	$0.00
Evaluation, Measurement & Verification	$0.00	$0.00	$0.00	$0.00
Advertising & Promotion	$0.00	$0.00	$0.00	$0.00
Incentives	$0.00	$0.00	$0.00	$0.00
Other	$103,909.00	$116,741.00	$103,909.00	$116,741.00
Total Utility Costs	**$103,909.00**	**$116,741.00**	**$103,909.00**	**$116,741.00**
Program Participants				
Total Participants	0	3	0	0
% of Spending by Customer Segments				
Residential	0%	0%	0%	0%
Commerical	0%	0%	0%	0%
Industrial	0%	0%	0%	0%
Farm	0%	0%	0%	0%
Other	100%	100%	100%	100%
Total % of Spending	**100%**	**100%**	**100%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)	0.0%	0.0%	0.0%	0.0%
Budget % (% of Total Utility Costs)	0.0%	0.0%	0.0%	0.0%
Energy Savings				
Annual kWh Savings @ Meter	0	0	0	50,385
Annual kWh Savings @ Generator	0	0	0	54,553
Cost per Annual kWh Saved @ Generator	$0.0000	$0.0000	$0.0000	$2.1400
Peak kW Savings @ Meter	0.000	0.000	0.000	0.000
Peak kW Savings @ Generator	0.000	0.000	0.000	0.000
Cost per Peak kW Saved @ Generator	$0.00	$0.00	$0.00	$0.00
Benefit/Cost Ratios				
Utility Ratio	0.00	0.00	0.00	N/A
Utility NPV	($103,909)	($116,741)	($103,909)	($116,741)
Ratepayer Ratio	0.00	0.00	0.00	N/A
Ratepayer NPV	($103,909)	($116,741)	($103,909)	($116,741)
Participant Ratio	0.00	0.00	0.00	N/A
Participant NPV	$0	$0	$0	$0
Societal Ratio	0.00	0.00	0.00	N/A
Societal NPV	($103,909)	($116,741)	($103,909)	($116,741)
Narrative				

Program Name: **Motors**
Program Design Manager: **Otter Tail Power**
Category: **Motors & Drives**

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Active	Active	Active
Utility Metrics				
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)	$21,632.94	$25,296.41	$36,000.00	$26,781.75
Administration (2011-present)	$6,257.26	$3,052.46	$8,000.00	$7,172.04
Evaluation, Measurement & Verification	$929.23	$233.27	$2,000.00	$786.34
Advertising & Promotion	$3,984.41	$2,990.81	$3,275.00	$4,550.78
Incentives	$132,580.00	$162,955.00	$31,725.00	$136,916.54
Other	$0.00	$0.00	$0.00	$0.00
Total Utility Costs	**$165,383.84**	**$194,527.95**	**$81,000.00**	**$176,207.45**
Program Participants				
Total Participants	161	204	71	261
% of Spending by Customer Segments				
Residential	0%	0%	0%	0%
Commerical	30%	30%	30%	30%
Industrial	70%	70%	70%	70%
Farm	0%	0%	0%	0%
Other	0%	0%	0%	0%
Total % of Spending	**100%**	**100%**	**100%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)	0.0%	0.0%	0.0%	0.0%
Budget % (% of Total Utility Costs)	0.0%	0.0%	0.0%	0.0%
Energy Savings				**0**
Annual kWh Savings @ Meter	560,760	1,164,783	130,131	772,205
Annual kWh Savings @ Generator	607,146	1,261,134	140,895	836,081
Cost per Annual kWh Saved @ Generator	$0.2724	$0.1542	$0.5749	$0.2108
Peak kW Savings @ Meter	143.241	162.435	20.920	132.413
Peak kW Savings @ Generator	155.090	175.872	22.650	143.367
Cost per Peak kW Saved @ Generator	$1,066.37	$1,106.08	$3,576.08	$1,229.07
Benefit/Cost Ratios				
Utility Ratio	4.39	6.21	1.88	5.28
Utility NPV	$560,067	$1,012,791	$71,468	$754,533
Ratepayer Ratio	1.33	1.26	0.91	1.31
Ratepayer NPV	$178,996	$251,973	($14,270)	$219,219
Participant Ratio	3.74	7.28	1.81	4.13
Participant NPV	$389,538	$1,125,409	$54,318	$710,440
Societal Ratio	6.20	8.50	1.93	5.14
Societal NPV	$909,531	$1,582,389	$107,777	$1,102,284
Narrative				

Program Name: PC Power Supply
Program Design Manager: Otter Tail Power
Category: Non-Residential Computer Efficiency and Plug Loads

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Active	Active	Active
Utility Metrics				
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)	$4,553.99	$2,733.10	$19,783.00	$2,386.52
Administration (2011-present)	$3,218.40	$822.51	$8,500.00	$1,054.45
Evaluation, Measurement & Verification	$0.00	$118.61	$2,000.00	$118.33
Advertising & Promotion	$1,150.00	$22.10	$2,500.00	$0.00
Incentives	$7,346.00	$2,385.00	$34,217.00	$4,028.00
Other	$0.00	$0.00	$0.00	$0.00
Total Utility Costs	**$16,268.39**	**$6,081.32**	**$67,000.00**	**$7,587.30**
Program Participants				
Total Participants	1,148	457	3,562	428
% of Spending by Customer Segments				
Residential	0%	0%	0%	0%
Commerical	90%	90%	90%	90%
Industrial	10%	10%	10%	10%
Farm	0%	0%	0%	0%
Other	0%	0%	0%	0%
Total % of Spending	**100%**	**100%**	**100%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)	0.0%	0.0%	0.0%	0.0%
Budget % (% of Total Utility Costs)	0.0%	0.0%	0.0%	0.0%
Energy Savings				
Annual kWh Savings @ Meter	170,856	67,549	732,784	85,173
Annual kWh Savings @ Generator	184,989	73,137	793,400	92,218
Cost per Annual kWh Saved @ Generator	$0.0879	$0.0832	$0.0844	$0.0823
Peak kW Savings @ Meter	39.836	15.749	170.829	19.860
Peak kW Savings @ Generator	43.131	17.052	184.960	21.503
Cost per Peak kW Saved @ Generator	$377.18	$356.64	$362.24	$352.85
Benefit/Cost Ratios				
Utility Ratio	3.33	4.16	4.69	4.84
Utility NPV	$37,971	$19,239	$247,505	$29,148
Ratepayer Ratio	0.98	1.11	1.25	1.23
Ratepayer NPV	($994)	$2,477	$62,107	$6,894
Participant Ratio	4.17	4.46	5.81	6.24
Participant NPV	$36,588	$16,662	$190,238	$24,658
Societal Ratio	2.89	3.27	4.77	4.88
Societal NPV	$38,701	$19,287	$273,042	$32,070
Narrative				

Program Name: Publicly-Owned Propery Solar
Program Design Manager: Otter Tail Power
Category: Other - Direct

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Inactive	Inactive	Active	Active
Utility Metrics				
kWh Line Loss Factor			7.640%	7.640%
kW Line Loss Factor			7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)				$5,821.02
Administration (2011-present)				$3,905.23
Evaluation, Measurement & Verification				$0.00
Advertising & Promotion				$979.23
Incentives				$24,700.00
Other				$0.00
Total Utility Costs	**$0.00**	**$0.00**	**$0.00**	**$35,405.48**
Program Participants				
Total Participants				1
% of Spending by Customer Segments				
Residential				0%
Commerical				100%
Industrial				0%
Farm				0%
Other				0%
Total % of Spending	**0%**	**0%**	**0%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)		0.0%		0.0%
Budget % (% of Total Utility Costs)		0.0%		0.0%
Energy Savings				
Annual kWh Savings @ Meter				24,573
Annual kWh Savings @ Generator				26,606
Cost per Annual kWh Saved @ Generator	$0.0000	$0.0000	$0.0000	$1.3307
Peak kW Savings @ Meter				9.942
Peak kW Savings @ Generator				10.764
Cost per Peak kW Saved @ Generator	$0.00	$0.00	$0.00	$3,289.25
Benefit/Cost Ratios				
Utility Ratio				1.31
Utility NPV				$11,099
Ratepayer Ratio				0.71
Ratepayer NPV				($19,107)
Participant Ratio				0.82
Participant NPV				($18,053)
Societal Ratio				0.78
Societal NPV				($23,706)
Narrative				

Program Name: **Publicly-Owned Propery Solar**
Program Design Manager: **Otter Tail Power**
Category:

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Active	Active	Active
Utility Metrics				
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)	$0.00	$0.00	$0.00	$0.00
Administration (2011-present)	$0.00	$0.00	$0.00	$0.00
Evaluation, Measurement & Verification	$0.00	$0.00	$0.00	$0.00
Advertising & Promotion	$0.00	$0.00	$0.00	$0.00
Incentives	$0.00	$0.00	$0.00	$0.00
Other	$17,020.02	$17,331.05	$20,000.00	$7,143.12
Total Utility Costs	**$17,020.02**	**$17,331.05**	**$20,000.00**	**$7,143.12**
Program Participants				
Total Participants	0	0	0	0
% of Spending by Customer Segments				
Residential	0%	0%	0%	0%
Commerical	0%	0%	0%	0%
Industrial	0%	0%	0%	0%
Farm	0%	0%	0%	0%
Other	100%	100%	100%	100%
Total % of Spending	**100%**	**100%**	**100%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)	0.0%	0.0%	0.0%	0.0%
Budget % (% of Total Utility Costs)	0.0%	0.0%	0.0%	0.0%
Energy Savings				
Annual kWh Savings @ Meter	0	0	0	0
Annual kWh Savings @ Generator	0	0	0	0
Cost per Annual kWh Saved @ Generator	$0.0000	$0.0000	$0.0000	$0.0000
Peak kW Savings @ Meter	0.000	0.000	0.000	0.000
Peak kW Savings @ Generator	0.000	0.000	0.000	0.000
Cost per Peak kW Saved @ Generator	$0.00	$0.00	$0.00	$0.00
Benefit/Cost Ratios				
Utility Ratio	0.00	0.00	0.00	N/A
Utility NPV	($17,020)	($17,331)	($20,000)	($7,143)
Ratepayer Ratio	0.00	0.00	0.00	N/A
Ratepayer NPV	($17,020)	($17,331)	($20,000)	($7,143)
Participant Ratio	0.00	0.00	0.00	N/A
Participant NPV	$0	$0	$0	$0
Societal Ratio	0.00	0.00	0.00	N/A
Societal NPV	($17,020)	($17,331)	($20,000)	($7,143)
Narrative				

Program Name: Recommissioning/Retrocommissioning
Program Design Manager: Otter Tail Power
Category: Non-Residential Custom Efficiency

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Active	Active	Active
Utility Metrics				
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)	$13,847.38	$12,343.75	$67,000.00	$31,232.04
Administration (2011-present)	$5,170.58	$6,325.34	$35,000.00	$5,774.02
Evaluation, Measurement & Verification	$59.98	$241.95	$4,000.00	$640.91
Advertising & Promotion	$7,131.88	$4,329.33	$10,000.00	$5,291.46
Incentives	$0.00	$10,150.00	$156,000.00	$32,700.00
Other	$0.00	$0.00	$0.00	$0.00
Total Utility Costs	**$26,209.82**	**$33,390.37**	**$272,000.00**	**$75,638.43**
Program Participants				
Total Participants	0	0	10	1
% of Spending by Customer Segments				
Residential	0%	0%	0%	0%
Commerical	90%	90%	90%	90%
Industrial	10%	10%	10%	10%
Farm	0%	0%	0%	0%
Other	0%	0%	0%	0%
Total % of Spending	**100%**	**100%**	**100%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)	0.0%	0.0%	0.0%	0.0%
Budget % (% of Total Utility Costs)	0.0%	0.0%	0.0%	0.0%
Energy Savings				
Annual kWh Savings @ Meter	0	0	1,789,493	183,956
Annual kWh Savings @ Generator	0	0	1,937,519	199,173
Cost per Annual kWh Saved @ Generator	$0.0000	$0.0000	$0.1404	$0.3798
Peak kW Savings @ Meter	0.000	0.000	33.748	0.000
Peak kW Savings @ Generator	0.000	0.000	36.540	0.000
Cost per Peak kW Saved @ Generator	$0.00	$0.00	$7,443.97	$0.00
Benefit/Cost Ratios				
Utility Ratio	0.00	0.00	2.15	0.10
Utility NPV	($26,210)	($33,390)	$313,531	($68,063)
Ratepayer Ratio	0.00	0.00	0.73	0.09
Ratepayer NPV	($26,210)	($33,390)	($213,057)	($78,146)
Participant Ratio	0.00	0.00	1.99	0.36
Participant NPV	$0	$0	$351,412	($76,228)
Societal Ratio	0.00	0.00	1.45	0.05
Societal NPV	($26,210)	($43,540)	$211,373	($154,849)
Narrative				

Program Name: Refrigeration
Program Design Manager: Otter Tail Power
Category: Non-Residential Refrigeration

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Active	Active	Active
Utility Metrics				
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)	$88,443.55	$71,003.13	$57,000.00	$44,483.52
Administration (2011-present)	$8,226.08	$5,477.33	$15,500.00	$5,372.59
Evaluation, Measurement & Verification	$606.28	$118.61	$3,000.00	$239.23
Advertising & Promotion	$7,054.65	$5,287.65	$9,705.00	$5,248.99
Incentives	$84,755.99	$68,798.25	$84,795.00	$100,909.28
Other	$25.73	$0.00	$0.00	$0.00
Total Utility Costs	**$189,112.28**	**$150,684.97**	**$170,000.00**	**$156,253.61**
Program Participants				
Total Participants	89	103	119	94
% of Spending by Customer Segments				
Residential	0%	0%	0%	0%
Commerical	90%	90%	90%	90%
Industrial	10%	10%	10%	10%
Farm	0%	0%	0%	0%
Other	0%	0%	0%	0%
Total % of Spending	**100%**	**100%**	**100%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)	0.0%	0.0%	0.0%	0.0%
Budget % (% of Total Utility Costs)	0.0%	0.0%	0.0%	0.0%
Energy Savings				
Annual kWh Savings @ Meter	1,146,130	766,718	1,143,430	709,361
Annual kWh Savings @ Generator	1,240,938	830,141	1,238,014	768,039
Cost per Annual kWh Saved @ Generator	$0.1524	$0.1815	$0.1373	$0.2034
Peak kW Savings @ Meter	198.974	124.299	223.373	108.757
Peak kW Savings @ Generator	215.433	134.581	241.850	117.754
Cost per Peak kW Saved @ Generator	$877.82	$1,119.66	$702.91	$1,326.95
Benefit/Cost Ratios				
Utility Ratio	3.43	2.38	4.63	2.70
Utility NPV	$459,949	$207,862	$616,802	$266,354
Ratepayer Ratio	1.06	0.89	1.27	0.97
Ratepayer NPV	$34,685	($42,587)	$167,168	($11,931)
Participant Ratio	3.48	3.58	4.17	4.24
Participant NPV	$382,427	$289,635	$422,516	$357,185
Societal Ratio	3.33	2.46	4.59	3.32
Societal NPV	$586,373	$268,951	$783,856	$375,379
Narrative				

Program Name: Regulatory Assessments
Program Design Manager: Otter Tail Power
Category: Regulatory Charges

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Active	Active	Active
Utility Metrics				
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)	$0.00	$0.00	$0.00	$0.00
Administration (2011-present)	$0.00	$0.00	$0.00	$0.00
Evaluation, Measurement & Verification	$0.00	$0.00	$0.00	$0.00
Advertising & Promotion	$0.00	$0.00	$0.00	$0.00
Incentives	$0.00	$0.00	$0.00	$0.00
Other	$99,857.65	$105,609.85	$95,000.00	$112,058.86
Total Utility Costs	**$99,857.65**	**$105,609.85**	**$95,000.00**	**$112,058.86**
Program Participants				
Total Participants	0	0	0	0
% of Spending by Customer Segments				
Residential	0%	0%	0%	0%
Commerical	0%	0%	0%	0%
Industrial	0%	0%	0%	0%
Farm	0%	0%	0%	0%
Other	100%	100%	100%	100%
Total % of Spending	**100%**	**100%**	**100%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)	0.0%	0.0%	0.0%	0.0%
Budget % (% of Total Utility Costs)	0.0%	0.0%	0.0%	0.0%
Energy Savings				
Annual kWh Savings @ Meter	0	0	0	0
Annual kWh Savings @ Generator	0	0	0	0
Cost per Annual kWh Saved @ Generator	$0.0000	$0.0000	$0.0000	$0.0000
Peak kW Savings @ Meter	0.000	0.000	0.000	0.000
Peak kW Savings @ Generator	0.000	0.000	0.000	0.000
Cost per Peak kW Saved @ Generator	$0.00	$0.00	$0.00	$0.00
Benefit/Cost Ratios				
Utility Ratio	0.00	0.00	0.00	N/A
Utility NPV	($99,858)	($105,610)	($95,000)	($112,059)
Ratepayer Ratio	0.00	0.00	0.00	N/A
Ratepayer NPV	($99,858)	($105,610)	($95,000)	($112,059)
Participant Ratio	0.00	0.00	0.00	N/A
Participant NPV	$0	$0	$0	$0
Societal Ratio	0.00	0.00	0.00	N/A
Societal NPV	($99,858)	($105,610)	($95,000)	($112,059)
Narrative				

Program Name: School Kits
Program Design Manager: Otter Tail Power
Category: Whole House

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Active	Active	Active
Utility Metrics				
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)	$3,004.46	$2,327.18	$4,000.00	$3,993.86
Administration (2011-present)	$3,548.47	$7,547.54	$5,225.00	$7,084.38
Evaluation, Measurement & Verification	$0.00	$444.16	$2,000.00	$239.46
Advertising & Promotion	$0.00	$22.10	$5,000.00	$0.00
Incentives	$18,907.35	$9,343.05	$8,775.00	$20,448.40
Other	$0.00	$0.00	$1,000.00	$853.23
Total Utility Costs	**$25,460.28**	**$19,684.03**	**$26,000.00**	**$32,619.33**
Program Participants				
Total Participants	1,252	2,913	1,275	431
% of Spending by Customer Segments				
Residential	100%	100%	100%	100%
Commerical	0%	0%	0%	0%
Industrial	0%	0%	0%	0%
Farm	0%	0%	0%	0%
Other	0%	0%	0%	0%
Total % of Spending	**100%**	**100%**	**100%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)	31.0%	31.0%	31.0%	31.0%
Budget % (% of Total Utility Costs)	31.0%	31.0%	31.0%	31.0%
Energy Savings				
Annual kWh Savings @ Meter	311,860	221,747	112,337	221,951
Annual kWh Savings @ Generator	337,657	240,090	121,629	240,310
Cost per Annual kWh Saved @ Generator	$0.0754	$0.0820	$0.2138	$0.1357
Peak kW Savings @ Meter	22.701	12.128	8.869	13.352
Peak kW Savings @ Generator	24.579	13.131	9.603	14.456
Cost per Peak kW Saved @ Generator	$1,035.86	$1,499.02	$2,707.59	$2,256.45
Benefit/Cost Ratios				
Utility Ratio	5.71	5.46	2.46	3.51
Utility NPV	$119,862	$87,880	$37,872	$81,730
Ratepayer Ratio	0.70	0.67	0.66	0.68
Ratepayer NPV	($62,392)	($53,842)	($32,334)	($55,032)
Participant Ratio	0.00	#NULL!	0.00	inf.
Participant NPV	$253,967	$192,848	$98,741	$195,131
Societal Ratio	28.21	13.22	4.66	11.81
Societal NPV	$178,305	$126,320	$62,968	$131,607
Narrative				

Program Name: Town Energy Challenge Pilot
Program Design Manager: Otter Tail Power
Category: Other - Direct

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Active	Active	Active
Utility Metrics				
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)	$9,750.00	$0.00	$0.00	$0.00
Administration (2011-present)	$0.00	$0.00	$0.00	$0.00
Evaluation, Measurement & Verification	$0.00	$0.00	$0.00	$0.00
Advertising & Promotion	$0.00	$0.00	$0.00	$0.00
Incentives	$0.00	$0.00	$0.00	$0.00
Other	$1,100.00	$763.84	$0.00	$1,300.00
Total Utility Costs	**$10,850.00**	**$763.84**	**$0.00**	**$1,300.00**
Program Participants				
Total Participants	273	0	0	0
% of Spending by Customer Segments				
Residential	79%	50%	50%	50%
Commerical	21%	50%	50%	50%
Industrial	0%	0%	0%	0%
Farm	0%	0%	0%	0%
Other	0%	0%	0%	0%
Total % of Spending	**100%**	**100%**	**100%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)	31.0%	0.0%	0.0%	0.0%
Budget % (% of Total Utility Costs)	31.0%	0.0%	0.0%	0.0%
Energy Savings				
Annual kWh Savings @ Meter	77,318	0	0	0
Annual kWh Savings @ Generator	83,714	0	0	0
Cost per Annual kWh Saved @ Generator	$0.1296	$0.0000	$0.0000	$0.0000
Peak kW Savings @ Meter	54.695	0.000	0.000	0.000
Peak kW Savings @ Generator	59.219	0.000	0.000	0.000
Cost per Peak kW Saved @ Generator	$183.22	$0.00	$0.00	$0.00
Benefit/Cost Ratios				
Utility Ratio	1.72	0.00	0.00	N/A
Utility NPV	$7,813	($764)	$0	($1,300)
Ratepayer Ratio	0.63	0.00	0.00	N/A
Ratepayer NPV	($11,152)	($764)	$0	($1,300)
Participant Ratio	0.00	#NULL!	0.00	N/A
Participant NPV	$19,859	$0	$0	$0
Societal Ratio	1.72	0.00	0.00	N/A
Societal NPV	$7,813	($764)	$0	($1,300)
Narrative				

Program Name: Transmission & Distribustion Cost Study
Program Design Manager: Otter Tail Power
Category: Regulatory Charges

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
			Active	Active
Utility Metrics				
kWh Line Loss Factor				7.640%
kW Line Loss Factor				7.640%
Utility Cost Components				**0**
Delivery (2011-present)				$0.00
Administration (2011-present)				$1,926.11
Evaluation, Measurement & Verification				$328.08
Advertising & Promotion				$0.00
Incentives				$0.00
Other				$0.00
Total Utility Costs				**$2,254.19**
Program Participants				
Total Participants				0
% of Spending by Customer Segments				
Residential				0%
Commerical				0%
Industrial				0%
Farm				0%
Other				100%
Total % of Spending				**100%**
Low-Income Participation				
Participant % (% of Total Participants)				0.0%
Budget % (% of Total Utility Costs)				0.0%
Energy Savings				
Annual kWh Savings @ Meter				0
Annual kWh Savings @ Generator				0
Cost per Annual kWh Saved @ Generator				$0.0000
Peak kW Savings @ Meter				0.000
Peak kW Savings @ Generator				0.000
Cost per Peak kW Saved @ Generator				$0.00
Benefit/Cost Ratios				
Utility Ratio				N/A
Utility NPV				($2,254)
Ratepayer Ratio				N/A
Ratepayer NPV				($2,254)
Participant Ratio				N/A
Participant NPV				$0
Societal Ratio				N/A
Societal NPV				($2,254)
Narrative				

Program Name: Water Heater Store and Save
Program Design Manager: Otter Tail Power
Category: Residential Domestic Hot Water

	2014 Actual	2015 Actual	2016 Plan	2016 Actual
	Active	Active	Active	Active
Utility Metrics				
kWh Line Loss Factor	7.640%	7.640%	7.640%	7.640%
kW Line Loss Factor	7.640%	7.640%	7.640%	7.640%
Utility Cost Components				
Delivery (2011-present)	$2,257.45	$10,724.40	$20,000.00	$17,843.24
Administration (2011-present)	$1,431.89	$461.72	$15,000.00	$2,958.30
Evaluation, Measurement & Verification	$505.96	$176.32	$5,000.00	$118.33
Advertising & Promotion	$5,068.38	$129.00	$0.00	$17,030.25
Incentives	$0.00	$0.00	$0.00	$0.00
Other	$0.00	$0.00	$0.00	$0.00
Total Utility Costs	**$9,263.68**	**$11,491.44**	**$40,000.00**	**$37,950.12**
Program Participants				
Total Participants	14,026	16,165	8,622	16,132
% of Spending by Customer Segments				
Residential	93%	94%	60%	100%
Commerical	7%	6%	40%	0%
Industrial	0%	0%	0%	0%
Farm	0%	0%	0%	0%
Other	0%	0%	0%	0%
Total % of Spending	**100%**	**100%**	**100%**	**100%**
Low-Income Participation				
Participant % (% of Total Participants)	31.0%	31.0%	19.0%	31.0%
Budget % (% of Total Utility Costs)	31.0%	31.0%	19.0%	31.0%
Energy Savings				
Annual kWh Savings @ Meter	321,585	370,628	197,683	369,871
Annual kWh Savings @ Generator	348,186	401,286	214,035	400,467
Cost per Annual kWh Saved @ Generator	$0.0266	$0.0286	$0.1869	$0.0948
Peak kW Savings @ Meter	2,970.100	3,423.048	1,828.913	3,416.060
Peak kW Savings @ Generator	3,215.786	3,706.202	1,980.200	3,698.635
Cost per Peak kW Saved @ Generator	$2.88	$3.10	$20.20	$10.26
Benefit/Cost Ratios				
Utility Ratio	62.19	63.70	9.34	18.39
Utility NPV	$566,798	$720,525	$333,574	$659,842
Ratepayer Ratio	16.02	16.39	6.43	9.59
Ratepayer NPV	$540,094	$687,364	$315,476	$625,024
Participant Ratio	0.00	#NULL!	0.00	inf.
Participant NPV	$27,963	$192,848	$18,951	$36,459
Societal Ratio	62.19	63.70	9.34	18.39
Societal NPV	$566,798	$720,525	$333,574	$659,842
Narrative				

CERTIFICATE OF SERVICE

RE: In the Matter of Otter Tail Power Company's 2016 Demand Side Management Financial Incentive Project, Annual Filing to Update the Conservation Improvement Project Rider, and 2016 CIP Status Report
Docket Nos. E017/M-17-___, E017/CIP-13-277.03

I, KimWard, hereby certify that I have this day served a copy of the following, or a summary thereof, on Daniel P. Wolf 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 3**1st** day of **March**, **2017**

/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
Julia	Anderson	Julia.Anderson@ag.state.mn.us	Office of the Attorney General-DOC	1800 BRM Tower 445 Minnesota St St. Paul, MN 551012134	Electronic Service	No	GEN_SL_Otter Tail Power Company_GEN_SL_Otter Tail Power Company_GENERAL SERVICE LIST
Christopher	Anderson	canderson@allete.com	Minnesota Power	30 W Superior St Duluth, MN 558022191	Electronic Service	No	GEN_SL_Otter Tail Power Company_GEN_SL_Otter Tail Power Company_GENERAL SERVICE LIST
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_GEN_SL_Otter Tail Power Company_GENERAL SERVICE LIST
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_GEN_SL_Otter Tail Power Company_GENERAL 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	GEN_SL_Otter Tail Power Company_GEN_SL_Otter Tail Power Company_GENERAL SERVICE LIST
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