

**Otter Tail Power Company**  
**South Dakota Energy Efficiency Program 2021 Status Report**

**Table of Contents**

<b>I.</b>	<b>INTRODUCTION .....</b>	<b>1</b>
<b>II.</b>	<b>DIRECT IMPACT – RESIDENTIAL .....</b>	<b>2</b>
<b>A.</b>	<b>AIR CONDITIONING CONTROL.....</b>	<b>2</b>
<b>B.</b>	<b>APPLIANCE RECYCLING.....</b>	<b>3</b>
<b>C.</b>	<b>HOME LIGHTING .....</b>	<b>5</b>
<b>D.</b>	<b>RESIDENTIAL HEAT PUMPS.....</b>	<b>6</b>
<b>E.</b>	<b>SMART THERMOSTATS .....</b>	<b>8</b>
<b>III.</b>	<b>DIRECT IMPACT – COMMERCIAL.....</b>	<b>10</b>
<b>A.</b>	<b>COMMERCIAL DIRECT INSTALL .....</b>	<b>10</b>
<b>B.</b>	<b>COMMERCIAL HEAT PUMPS .....</b>	<b>10</b>
<b>C.</b>	<b>COMMERCIAL LIGHTING .....</b>	<b>12</b>
<b>D.</b>	<b>CUSTOM ENERGY EFFICIENCY PROJECT .....</b>	<b>14</b>
<b>E.</b>	<b>DRIVE POWER .....</b>	<b>15</b>
<b>IV.</b>	<b>INDIRECT IMPACT .....</b>	<b>16</b>
	<b>ADVERTISING and EDUCATION.....</b>	<b>16</b>
<b>V.</b>	<b>MISCELLANEOUS / INACTIVE PROJECT COSTS .....</b>	<b>18</b>
	<b>EEP DEVELOPMENT.....</b>	<b>18</b>
<b>VI.</b>	<b>FINANCIAL INCENTIVE .....</b>	<b>18</b>
<b>VII.</b>	<b>REGULATORY REQUIREMENTS .....</b>	<b>19</b>
	<b>ENERGY ADJUSTMENT RIDER / CARRYING COSTS .....</b>	<b>19</b>

## I. INTRODUCTION

The purpose of this Status Report is to present the results of direct impact, indirect impact, and miscellaneous programs completed from January 1, 2021, through December 31, 2021, through Otter Tail Power Company's (Otter Tail, the Company) South Dakota Energy Efficiency Partnership (EEP) program. Cost recovery and the financial incentive calculations for the program are also detailed in this report. Otter Tail has filed this annual filing with the South Dakota Public Utilities Commission (Commission, SDPUC) since its first EEP Status Report annual filing in 2010 which summarized partial-year 2008 and full-year 2009 conservation activities.

### Direct Impact Programs

#### Residential

- Air Conditioning Control
- Appliance Recycling
- Home Lighting
- Residential Heat Pumps
- Smart Thermostats

#### Commercial

- Commercial Direct Install
- Commercial Heat Pumps
- Commercial Lighting
- Custom Energy Efficiency Project
- Drive Power

### Indirect Impact Programs

- Advertising and Education

### Miscellaneous and Inactive Programs

- EEP Development

### Financial Incentive

### Regulatory Requirements

## **Background**

- On July 1, 2020, Otter Tail requested approval of its 2021-2023 EEP, Docket No. EL20-022.
- At the November 24, 2020 SDPUC meeting, the Commission voted unanimously to approve Otter Tail's proposed EEP for 2021-2023.
- At the October 12, 2021 SDPUC meeting, the Commission voted unanimously to approve a Company requested increase of \$155,000 to the 2021 EEP program year.

## **Overview**

Overall results for the 2021 South Dakota EEP Program show the Company achieved 99 percent of projected participation goals, 98 percent of projected energy savings goals, and 82 percent of projected demand savings while maintaining spending at 100 percent of the budget.

<b>Summary of Budget to Actuals – 2021</b>			
	<b>Budget</b>	<b>Actual</b>	<b>% of Goal</b>
Expenses All Programs	\$930,000	\$927,005	100%
Participation	9,894	9,794	99%
Energy Savings - kWh	12,100,300	11,869,229	98%
Demand Savings - kW	2,318.1	1,910.3	82%

The Company’s 2021 EEP program achieved significant energy and demand savings, stayed within allowed budget parameters, and resulted in an overall cost-effective effort for program participants and South Dakota ratepayers. Otter Tail appreciates the Commission’s support for our program, and we applaud customers’ response. Energy efficiency is a long-term commitment that continues to evolve in South Dakota. Otter Tail is confident that working together with customers we can continue to create a sustainable energy future for South Dakota, of which energy efficiency will play a critical role.

Approved 2021 South Dakota EEP program goals, budgets, net benefits, benefit-cost ratios, and lifetime kWh savings are listed in Appendix A, Tables 1 through 4, along with actual results for 2021.

## **II. DIRECT IMPACT – RESIDENTIAL**

### **A. AIR CONDITIONING CONTROL**

The Air Conditioning Control Program targets residential customers with central air conditioning systems. Customers are encouraged to enroll in the program and receive a \$8.25/month credit for each of the four summer months (June-September). In 2021, Otter Tail controlled air conditioning 59 days totaling of 212 hours and 2 minutes. This control time is within the 300-hour control limit approved for the air conditioning rider.

Otter Tail promotes air conditioning control using various resources listed below:

- *Programs and Services Guide* sent to contractors.
- Bill inserts promoting EEP program opportunities for South Dakota customers.
- Customer care booklet that is sent to all new customers.
- Home page hero spots on the Company website.
- Training material covered with service representatives.
- Bill messages included on customer monthly service statements.
- Brochures available upon request.
- Program, rate, and rebate pages described within the Company’s website.

## Participation and Budget

<b>PARTICIPATION AND BUDGET – 2021</b>				
<b>Air Conditioning Control</b>	<b>Actual Annual Added<sup>1</sup></b>	<b>Actual Cumulative</b>	<b>Proposed Cumulative</b>	<b>% of Cumulative Goal</b>
Participation	19	628	700	90%

		<b>Actual Spend</b>	<b>Proposed Spend</b>	<b>% of Goal</b>
Budget \$		\$2,836	\$5,500	52%

## Evaluation Methodology

Otter Tail continues to use savings based on a previous study performed where the company extracted interval customer data from its load research database to analyze customer's 15-minute loads. Otter Tail used this interval data to compare energy consumption on non-control days to control days when the weather was similar between the periods.

## Energy Savings and Adjustments

<b>Air Conditioning Control</b>	<b>Actual Savings at the Generator</b>	<b>Budgeted Savings at the Generator</b>	<b>% of Goal</b>
Energy Savings – kWh	7,801	8,239	95%
Demand Savings – kW Summer Coincident Peak	130.1	145.1	90%

### **B. APPLIANCE RECYCLING**

The Company's Appliance Recycling program offers customers incentives to recycle qualified inefficient but operating refrigerators and freezers, dehumidifiers, and window air-conditioning units at no cost to the customer. During a scheduled visit to recycle refrigerators and/or freezers, customers may also recycle a window air-conditioner and/or dehumidifier. The Company offers contact-free participation for customers who are wanting to safely recycle inefficient appliances.

<sup>1</sup> At the June 23, 2020 South Dakota Public Utility Commission meeting, Commissioner Fiegen requested the Company report the number of participants added annually.

Otter Tail promotes Appliance Recycling using various resources listed below:

- *Programs and Services Guide* sent to contractors.
- Bill inserts promoting EEP program opportunities for South Dakota customers.
- Customer care booklet that is sent to all new customers.
- Home page hero spots on the Company website.
- Training material covered with service representatives.
- Bill messages included on customer monthly service statements.
- Brochures available upon request.
- Program, rate, and rebate pages described within the Company’s website.

### Participation and Budget

<b>PARTICIPATION AND BUDGET – 2021</b>			
<b>Appliance Recycling</b>	<b>Actual</b>	<b>Proposed</b>	<b>% of Goal</b>
Participation*	7	100	7%
Budget \$	\$6,874	\$7,000	98%

\* Participation is based on the number of units installed.

The Company recognizes the low results for its Appliance Recycling program and reports participation challenges in other jurisdictions as well. Likely causes include:

- Supply chain shortages in the home appliance market resulting in challenges for customers planning to upgrade to newer appliances.
- Declining availability in new appliances driving up pricing on the used appliance market, encouraging more customers to sell their used appliances instead of recycling them through this program.
- Uncertainty of conditions in the food market perhaps encouraging more and more customers to keep older, inefficient units for added perishable food storage.

The Company acknowledges the relatively high ratio of program expense to actual participation in 2021. Otter Tail attributes this to two primary reasons:

- 1) A level of startup and promotional costs needed to get the program operational in year one regardless of participation numbers.
- 2) The contract for services in place with the recycling services provider is structured as a flat cost per trip rather than a fee per appliance recycled. With actual participation lower than anticipated, this cost structure increased the actual cost per appliance recycled significantly more than what Otter Tail budgeted for in terms of participants and trips.

Otter Tail recognizes the importance of cost effectiveness in EEP programs and further acknowledges the disappointing cost effectiveness results for the Appliance Recycling program. The Company is currently working with its appliance recycling service provider to evaluate operational solutions to reduce costs while still meeting customer expectations. These strategies include cost reductions in operations for appliance pickup, storage, and transportation to recycling facilities as well as seasonal promotional strategies to condense program activity into specified time periods throughout the year to reduce the cost per appliance recycled. The Company will monitor the effectiveness of these strategies and the resulting feasibility of Appliance Recycling in its EEP plan for 2023 and beyond.

**Evaluation Methodology**

Energy savings estimates utilize the State of Minnesota’s Division of Energy Resources’ Technical Reference Manual (MN TRM) energy savings algorithms.

**Energy Savings and Adjustments**

<b>Appliance Recycling</b>	<b>Actual Savings at the Generator</b>	<b>Budgeted Savings at the Generator</b>	<b>% of Goal</b>
Energy Savings – kWh	7,702	19,461	40%
Demand Savings – kW Summer Coincident Peak	1.1	15.1	7%

**C. HOME LIGHTING**

The Home Lighting program promotes qualified ENERGY STAR LED lighting sold by participating retailers to customers of Otter Tail Power Company. The project also provides cash rebate incentives to residential customers for hard-wired retrofits of inefficient lighting technologies to LED lighting systems. Finally, the project offers incentives for installation of hard-wired LED lighting in new construction applications.

Otter Tail actively promotes the Home Lighting program through a variety of promotional resources:

- *Programs and Services Guide* sent to contractors.
- Program, technology, and rebate information available on the Company’s website.
- Bill inserts promoting EEP program opportunities for South Dakota customers.
- Messages on customer billing statements.

### Participation and Budget

<b>PARTICIPATION AND BUDGET – 2021</b>			
<b>Home Lighting</b>	<b>Actual</b>	<b>Proposed</b>	<b>% of Goal</b>
Participation*	7,922	7,055	112%
Budget \$	\$37,107	\$32,000	116%

\* Participation is based on the number of units installed.

### Evaluation Methodology

Engineering calculations and the MN TRM are used for impact savings for energy and demand from the Home Lighting program.

### Energy Savings and Adjustments

<b>Home Lighting</b>	<b>Actual Savings at the Generator</b>	<b>Proposed Savings at the Generator</b>	<b>% of Goal</b>
Energy Savings – kWh	350,351	332,958	105%
Demand Savings – kW Summer Coincident Peak	33.4	30.8	108%

#### D. RESIDENTIAL HEAT PUMPS

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

Otter Tail continued to include a special category of air source heat pump, the cold climate heat pump (CCHP), in our 2021 program. CCHPs are identified as ducted systems rated with a heating seasonal performance factor (HSPF) of 9 or greater, or ductless systems rated with an HSPF of 10 or greater, and labeled as Energy Star or with minimum ratings of 15 seasonal energy efficiency ratio (SEER).

In 2021 air source heat pumps met the following minimum rating requirements:

<b>Air Source Heat Pumps</b>			
	<b>HSPF</b>	<b>SEER</b>	<b>EER</b>
Split System	> or = 8.5	> or = 15.0	> or = 12.5
Package Terminal	-	-	> or = 12
CCHP - Ducted	> or = 9.0	> or = 15.0	-
CCHP - Ductless	> or = 10.0	> or = 15.0	-

Geothermal heat pumps are most often used in the coldest climates where the winter season ground temperature is significantly warmer and less variable than outside air temperatures. Because of the consistent, steady ground temperatures, geothermal heat pumps can achieve efficiencies over 400 percent. Geothermal heat pump offerings capitalize on a renewable technology and target customers currently using or considering the installation of less efficient electric heating and cooling systems.

In 2021 geothermal heat pumps met the following minimum rating requirements:

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



Otter Tail promotes energy efficient air source heat pumps through the following resources:

- Media advertising including television, radio, and digital media.
- *Programs and Services Guide* sent to contractors.
- Training material covered with service representatives.
- Bill messages included on customer monthly service statements.
- Bill inserts featuring heat pump efficiency and rebates.
- Program, technology, and rebate information available on the Company’s website.

### Participation and Budget

<b>PARTICIPATION AND BUDGET – 2021</b>			
<b>Residential Heat Pumps</b>	<b>Actual</b>	<b>Proposed</b>	<b>% of Goal</b>
Participation*	67	20	335%
Budget \$	\$181,781	\$124,000	147%

\* Participation is based on the number of units installed.

### Evaluation Methodology

Energy savings estimates utilize the State of Minnesota’s Division of Energy Resources’ Technical Reference Manual (MN TRM) energy savings algorithms. The Company has modified the MN TRM assumptions to reflect the climate conditions in its South Dakota service area.

### Energy Savings and Adjustments

<b>Residential Heat Pumps</b>	<b>Actual Savings at the Generator</b>	<b>Proposed Savings at the Generator</b>	<b>% of Goal</b>
Energy Savings – kWh	1,177,513	806,786	146%
Demand Savings – kW Summer Coincident Peak	68.2	25.6	266%

### E. SMART THERMOSTATS

The Smart Thermostat program promotes qualified Tier II and III smart thermostats. The rebate level is dependent on thermostat communication capabilities (tier level) and use of electricity for heating and/or cooling. The rebate amounts for

customers with electric cooling but without electric heating range from \$35-50 based on tier level. The rebate amounts for customers with electric heating range from \$100-150 based on tier level.

Otter Tail actively promotes the Smart Thermostat program through a variety of promotional resources:

- *Programs and Services Guide* sent to contractors.
- Program, technology, and rebate information available on the Company’s website.
- Bill inserts featuring smart thermostat rebates.

### Participation and Budget

<b>PARTICIPATION AND BUDGET – 2021</b>			
<b>Smart Thermostats</b>	<b>Actual</b>	<b>Proposed</b>	<b>% of Goal</b>
Participation*	17	31	55%
Budget \$	\$2,977	\$5,000	60%

\* Participation is based on the number of units installed.

### Evaluation Methodology

Engineering calculations and the MN TRM are used for impact savings for energy and demand for the Smart Thermostat program.

### Energy Savings and Adjustments

<b>Smart Thermostats</b>	<b>Actual Savings at the Generator</b>	<b>Proposed Savings at the Generator</b>	<b>% of Goal</b>
Energy Savings – kWh	19,045	34,700	55%
Demand Savings – kW Summer Coincident Peak	0.4	1.5	27%

### III. DIRECT IMPACT – COMMERCIAL

#### A. COMMERCIAL DIRECT INSTALL

Otter Tail’s Commercial Direct Install (CDI) project provides free installation of low-cost energy efficiency measures for participating small to mid-sized commercial customers. The project further capitalizes on personal interactions to ensure customers in this market segment have opportunities to engage in:

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

#### Participation and Budget

<b>PARTICIPATION AND BUDGET – 2021</b>			
<b>Commercial Direct Install</b>	<b>Actual</b>	<b>Proposed</b>	<b>% of Goal</b>
Participation*	427	1,005	42%
Budget \$	\$8,544	\$17,000	50%

\* Participation is based on the number of units installed.

#### Evaluation Methodology

Energy savings estimates utilize the MN TRM algorithms for energy savings.

#### Energy Savings and Adjustments

<b>Commercial Direct Install</b>	<b>Actual Savings at the Generator</b>	<b>Proposed Savings at the Generator</b>	<b>% of Goal</b>
Energy Savings – kWh	108,059	243,984	44%
Demand Savings – kW Summer Coincident Peak	15.7	17.4	90%

#### B. COMMERCIAL HEAT PUMPS

The Commercial Heat Pump program targets customers currently using resistant electric heat or considering the installation of less efficient heating and cooling systems by offering rebates for high-efficiency air source and geothermal heat pumps. The

Company relies on Energy Star qualifications as a guide for the minimum equipment efficiency requirement for its air source and geothermal heat pumps.

Otter Tail continued to include a special category of air source heat pump, the cold climate heat pump (CCHP), in our 2021 program. CCHPs are identified as ducted systems rated with an HSPF of 9 or greater, or ductless systems rated with an HSPF of 10 or greater, and labeled as Energy Star or with minimum ratings of 15 SEER.

In 2021 air source heat pumps met the following minimum rating requirements.:

<b>Air Source Heat Pumps</b>			
	<b>HSPF</b>	<b>SEER</b>	<b>EER</b>
Split System	> or = 8.5	> or = 15.0	> or = 12.5
Package Terminal	-	-	> or = 12
CCHP - Ducted	> or = 9.0	> or = 15.0	-
CCHP - Ductless	> or = 10.0	> or = 15.0	-

Geothermal heat pumps are most often used in the coldest climates where the ground temperature is significantly warmer and less variable than outside air temperatures. Because of the consistent, steady ground temperatures, geothermal heat pumps can achieve efficiencies of up to 400 percent. Geothermal heat pump offerings capitalize on a renewable technology and target customers currently using or considering the installation of less efficient resistance electric heating and cooling systems.

In 2021 geothermal heat pumps met the following minimum rating requirements.

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

Otter Tail promotes energy efficient heat pumps using various resources:

- Media campaign that included television, radio, and digital media.
- *Programs and Services Guide* sent to contractors.
- Bill messages included on customer statements.
- Bill inserts about heat pump efficiency and rebates.
- Training material covered with service representatives.
- Program, technology, and rebate information available on the Company’s website.

## Participation and Budget

<b>PARTICIPATION AND BUDGET – 2021</b>			
<b>Commercial Heat Pumps</b>	<b>Actual</b>	<b>Proposed</b>	<b>% of Goal</b>
Participation*	23	13	177%
Budget \$	\$95,983	\$170,000	56%

\* Participation is based on the number of units installed.

## Evaluation Methodology

Energy savings estimates utilize the MN TRM algorithms for energy savings. The Company has modified the MN TRM assumptions to reflect the climate conditions for the Company’s South Dakota service area.

## Energy Savings and Adjustments

<b>Commercial Heat Pumps</b>	<b>Actual Savings at the Generator</b>	<b>Proposed Savings at the Generator</b>	<b>% of Goal</b>
Energy Savings – kWh	434,753	982,177	44%
Demand Savings – kW Summer Coincident Peak	25.1	17.7	142%

### C. COMMERCIAL LIGHTING

The Commercial Lighting program provides incentives to commercial and industrial customers installing qualifying energy-efficient lighting technologies in new construction applications and for retrofitting to energy-efficient lighting technologies such as LED lamps and fixtures and lighting controls.

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

- *Programs and Services Guide* sent to contractors.
- Program, technology, and rebate information available on the Company’s website.

### Participation and Budget

<b>PARTICIPATION AND BUDGET – 2021</b>			
<b>Commercial Lighting</b>	<b>Actual</b>	<b>Proposed</b>	<b>% of Goal</b>
Participation	88	69	128%
Budget \$	\$179,477	\$158,000	114%

Advancements in LED product technology continued to play a key role in participation that exceeded expectations in Otter Tail’s 2021 Commercial Lighting program. Product efficiency, improved light quality, reduced maintenance costs, and utility incentives have all contributed to increasing program participation.

### Evaluation Methodology

Engineering calculations are used for impact savings for energy and demand from the Commercial Lighting 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. Hours of operation are determined by the MN TRM according to customer building type. Company personnel conduct visual verification of retrofit projects as needed.

### Energy Savings and Adjustments

<b>Commercial Lighting</b>	<b>Actual Savings at the Generator</b>	<b>Proposed Savings at the Generator</b>	<b>% of Goal</b>
Energy Savings – kWh	1,756,436	1,638,575	107%
Demand Savings – kW Summer Coincident Peak	278.3	158.8	175%

#### **D. CUSTOM ENERGY EFFICIENCY PROJECT**

The Custom Energy Efficiency Project pays incentives to commercial and industrial customers for energy saving installations such as process changes and new, energy efficient equipment that the Company does not incentivize through prescriptive programs.

Otter Tail promotes the Custom Energy Efficiency Project through a variety of promotional resources:

- *Programs and Services Guide* available to contractors.
- Program, technology, and rebate information available on the Company's website.
- Direct contact between customers and Otter Tail program implementation and sales staff.

#### **Participation and Budget**

<b>PARTICIPATION AND BUDGET – 2021</b>			
<b>Custom Energy Efficiency Project</b>	<b>Actual</b>	<b>Proposed</b>	<b>% of Goal</b>
Participation	3	12	25%
Budget \$	\$59,284	\$61,500	96%

Otter Tail provided incentives for three Custom Energy Efficiency projects in 2021:

Custom Geothermal Heat Pump	1
Custom Lighting	1
Refrigeration Equipment	1
<b>Total</b>	<b>3</b>

#### **Evaluation Methodology**

Otter Tail assists our commercial and industrial customers as needed to help determine the energy and demand savings on a per measure basis needed to develop a grant proposal and often works with internal or third-party engineers to determine and verify savings. The Company will also consider and verify estimated energy savings when submitted by a qualified and independent third-party energy services provider.

## Energy Savings and Adjustments

<b>Custom Energy Efficiency Program</b>	<b>Actual Savings at the Generator</b>	<b>Proposed Savings at the Generator</b>	<b>% of Goal</b>
Energy Savings – kWh	518,671	535,822	97%
Demand Savings – kW Summer Coincident Peak	55.4	123.1	45%

### E. DRIVE POWER

The goal of the Drive Power program is to educate dealers and customers on the benefits of installing adjustable speed drives and new and replacement electric motors that meet or exceed the National Electrical Manufacturers Association (NEMA) Premium® efficiency requirements. The program provides incentives for customers to reduce peak demand and energy use by purchasing motors that meet or exceed NEMA Premium® efficiency.

Otter Tail promotes the Drive Power program through a variety of promotional resources:

- *Programs and Services Guide* available to contractors.
- Program, technology, and rebate information available on the Company's website.

## Participation and Budget

<b>PARTICIPATION AND BUDGET – 2021</b>			
<b>Drive Power</b>	<b>Actual</b>	<b>Proposed</b>	<b>% of Goal</b>
Participation*	347	364	95%
Budget \$	\$292,724	\$292,000	100%

\* Participation is based on the number of units installed.

## Evaluation Methodology

The Company uses estimates from the MN TRM, the Company's engineering estimates, and motor usage information from customers to determine the energy savings for each installed motor. The Company also used data from Bonneville Power's MotorMaster software project to develop standard motor efficiency numbers.



For adjustable speed drive projects, Otter Tail relies on methodologies developed by the Electric Power Research Institute (EPRI) for fan- and pump-based adjustable speed drive systems. Hours of operation for associated loading factors are provided by the customer as inputs for the energy and demand savings calculations.

### Energy Savings and Adjustments

Drive Power	Actual Savings at the Generator	Proposed Savings at the Generator	% of Goal
Energy Savings – kWh	7,488,898	7,497,598	100%
Demand Savings – kW Summer Coincident Peak	1,302.7	1,783.0	73%

## IV. INDIRECT IMPACT

### ADVERTISING and EDUCATION

The residential Advertising and Education program for 2021 was planned to include:

- Educational outreach to South Dakota school children in third through sixth grades.
- Educational and energy savings information provided through the Home Energy Analyzer (HEA), an online home energy audit tool for customer access.
- General advertisement of energy efficiency program opportunities through bill inserts, newsletters, and through resources posted on the company website [www.otpc.com](http://www.otpc.com).

A planned component of the Advertising and Education program was *Energy Connections*, an educational outreach program to school age children that is focused on the science of energy, energy resources, conservation, and efficiency. The Minnesota Science Museum, which operates the program on behalf of Otter Tail, suspended their program offering due to pandemic restrictions.

Otter Tail is working with the Science Museum to resume offering the *Energy Connections* program, if feasible, in 2022.

The Home Energy Analyzer is an online educational and energy savings resource available to South Dakota residential customers. The tool helps residential customers

analyze their energy use and identify ways to reduce energy use and costs. Customers may complete a home profile, develop a personalized plan to reduce energy consumption, and compare their electric bills. The HEA was accessed by 217 South Dakota residential customers during 2021.

The general advertisement component of the Advertising and Education program includes support for developing and producing bill inserts, contractor educational information, and online materials that promote energy saving opportunities for customers and programs available through the EEP portfolio, including the HEA tool.

The Advertising and Education program reaches commercial customers through free energy efficiency assessments provided for small- to mid-sized businesses participating in the Commercial Direct Install program. Each two-page assessment identified the top three to five efficiency opportunities, with information on energy (kWh) savings, demand (kW) savings, annual energy cost savings, estimated cost, and simple payback. As part of evaluating the effectiveness of the Commercial Direct Install and Commercial Advertising and Education efforts, Otter Tail will be evaluating the degree of CDI/Commercial Advertising and Education participants' completion of deeper efficiency retrofits upon customers receiving assessments.

### Participation and Budget

<b>SD 2021 A &amp; E Detailed Participation</b>	
Science Museum School Tour	0
Home Energy Analyzer	217
Commercial Direct Install Assessment	48
<b>Total</b>	<b>265</b>

<b>PARTICIPATION AND BUDGET – 2021</b>			
<b>Advertising and Education</b>	<b>Actual</b>	<b>Proposed</b>	<b>% of Goal</b>
Participation	265	525	50%
Budget \$	\$40,233	\$38,000	106%

## V. MISCELLANEOUS / INACTIVE PROJECT COSTS

### EEP DEVELOPMENT

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

#### Participation and Budget

<b>PARTICIPATION AND BUDGET – 2021</b>			
<b>EEP Development</b>	<b>Actual</b>	<b>Proposed</b>	<b>% of Goal</b>
Participation	N/A	N/A	N/A
Budget \$	\$19,104	\$20,000	96%

## VI. FINANCIAL INCENTIVE

On June 26, 2012, the Commission’s Order approved financial incentive investments in energy efficiency based on a “30% fixed percentage recovery on the lesser of actual expenses incurred or the company’s approved budget expenses for the planned program year.” The Commission’s approval was consistent with South Dakota Staff’s June 8, 2012, memorandum which recommended, “...this method is the appropriate and most reasonable methodology based on prior mechanisms and recovery options.”

As shown in Appendix A, Table 2, the Company spent \$927,005 in 2021. The approved budget for 2021 was \$930,000. The maximum incentive that can be awarded is 30 percent of \$927,005, or \$278,101. Total net benefits provided to South Dakota customers by 2021 EEP projects was \$5,674,184. **The proposed incentive is 4.90 percent of net benefits provided by the program.**

Otter Tail requests approval of a financial incentive of \$278,101 as calculated and shown in Appendix A, Table 5.

## **VII. REGULATORY REQUIREMENTS**

### **ENERGY ADJUSTMENT RIDER / CARRYING COSTS**

The South Dakota EEP account was established on February 1, 2007, when the Company started active development of an energy efficiency plan for South Dakota. This filing includes information regarding the tracker balance as of December 31, 2021. In addition, carrying charges and any applicable incentives (discussed in the financial incentive section), as well as any offsets or adjustments have been included. The Company has calculated the monthly carrying charge equivalent to the Company's approved rate of return (ROR).

The tracker also accounts for amounts collected from customers through the "ENERGY EFFICIENCY ADJUSTMENT FACTOR." The energy efficiency adjustment factor is collected monthly based on a kWh charge on customers' bills. For billing purposes, the charge is a separate line item on customers' electric service bills. Otter Tail is not currently recovering any of these costs in base rates; therefore, the Company proposes the energy efficiency adjustment charge recovery mechanism continues as an appropriate means to recover costs associated with developing and implementing the South Dakota Energy Efficiency Partnership.

The current Energy Efficiency Adjustment Factor is \$0.00195/kWh. Otter Tail does not propose to change the EEP factor at this time. Appendix A, Table 7 presents the EEP tracker account balances for year-end 2021 and projections for 2022 through June 2023. When including the financial incentive amount of \$278,101, carrying charges, and the continuation of the current EEP surcharge in the tracker, Otter Tail forecasts the tracker balance to be approximately \$142,895 on July 1, 2023. The 2022 and 2023 approved EEP expense budget are nearly 44 percent less than the 2021 approved budget. Due to this, the EEP Factor can remain stable, and the tracker balance is forecasted to reduce by over 50 percent throughout 2022. In reviewing the projections through June of 2024, with the lower budgets in 2022 and 2023, the surcharge is forecasted to decrease significantly with the Company's May 1, 2023 filing.

Otter Tail understands the importance of keeping rates low and stable but is also mindful of carrying charges and the impact to customers. Based on maintaining the existing surcharge rate, the forecasted total carrying charge amount for July 2022 through June 2023 is \$21,606. If Otter Tail were to update the surcharge rate, a 10% increase to \$0.00215/kWh would result in a June 2023 End of Period Balance of

\$39,789 and a cumulative carrying charge amount for July 2022 through June 2023 of \$18,329. This increase would only reduce the cumulative carrying charge by \$3,277. With customers experiencing economic pressures from pandemic recovery and other economic conditions, Otter Tail recommends to not increase the surcharge rate at this time and believes the rate will still trend down in 2023 due to the reduction in budget. This will also provide rate stability, mitigating the year-to-year change to the customer's bill.

The following table summarizes the expenses and revenues discussed above.

	<b>January 2022 - June 2022</b>	<b>July 2022 - June 2023</b>
<b>Beginning Balance</b>	<b>\$413,363</b>	<b>\$291,525</b>
Carrying Charges	\$13,288	\$21,606
EEP Program Expenses	\$379,266	\$525,000
EEP Incentive Proposed	\$0	\$278,101
EEP Rider Revenue	(\$514,391)	(\$973,337)
<b>Ending Balance</b>	<b>\$291,525</b>	<b>\$142,895</b>
<b>EEP Factor</b>	<b>\$0.00195/kWh</b>	<b>\$0.00195/kWh</b>