STATE OF SOUTH DAKOTA
BEFORE THE
SOUTH DAKOTA PUBLIC UTILITIES COMMISSION

In the Matter of Otter Tail Power Company's Annual Status Report of the South Dakota Energy Efficiency Plan	Docket No. EL10-007
In the Matter of Otter Tail Power Company's Annual Filing to Update The Energy Efficiency Adjustment Rider	Docket No. EL10-011

SUMMARY OF FILING

Status Report

Overall results for the 2010 South Dakota EEP Program show the Company achieved 93% of budget, 70% of participation goals, 117% of projected energy savings goals, and 112% of proposed demand savings. A brief summary of each of the programs offered to South Dakota customers in 2010 is presented. Summary tables of actual results compared to goals are provided in Appendix A, Tables 1 through 3.

Financial Incentive

The Company is presenting two alternative methods for calculating the Company's financial incentive for 2010 EEP accomplishments. Otter Tail recommends that the Commission approve a "percent of spend" method for calculating the financial incentive, which would equal $73,145. Details of the alternative incentive calculation methods are included in the attached report under the section entitled "FINANCIAL INCENTIVE" and a summary spreadsheet is presented in Appendix A, Table 4.

Energy Adjustment Rider

The Company is requesting to continue the Energy Efficiency Adjustment Rider of $0.00063. No adjustment to the amount is requested at this time, regardless of which financial incentive calculation method is approved by the Commission. Discussion of EEP cost recovery and the EEP tracker balance is provided in the attached report under the section "ENERGY ADJUSTMENT RIDER." A summary spreadsheet is presented in Appendix A, Table 5 and Appendix B presents a copy of the Energy Efficiency Adjustment Rider.

Conclusion

Otter Tail Power Company requests approval of the 2010 Financial Incentive, totaling $73,145. The Company also requests approval to continue the energy adjustment surcharge of $0.00063 on customer's bills. The next status report will be filed on May 1, 2012, with the program subject to modifications as proposed and approved by the Commission at that time.

Otter Tail Power Company
South Dakota Energy Efficiency Program 2010 Status Report

Table of Contents

INTRODUCTION

The purpose of this Status Report is to present the results of direct impact, indirect impact, and miscellaneous programs completed from January 1, 2010 through December 31, 2010 through Otter Tail Power Company's South Dakota Energy Efficiency Partnership (EEP) Program. Cost recovery and the financial incentive calculations for the Program are also detailed in this report. This filing is the second Status Report provided to the South Dakota Public Utilities Commission and summarizes the results of the second full year of EEP activity since the Program's inception.

Direct Impact Programs

Residential

- Residential Demand Control
- Air Conditioning Control
- Air Source Heat Pumps
- Geothermal Heat Pumps

Commercial

- Lighting
- Motors
- Energy Grants
- Air Source Heat Pumps
- Geothermal Heat Pumps

Indirect Impact Programs

- Advertising & Education

Miscellaneous Programs

- EEP Development

Regulatory Requirements

Financial Incentive

Background

- On May 8, 2008, Otter Tail Power Company filed its proposed savings, costs, and net benefits as part of the proposed EEP filing for 2008-2009.
- On October 26, 2009, Otter Tail filed an application to update the Commission on its 2009 EEP and to request approval of its 2010 portfolio. The filing also requested budget and financial incentive modifications for 2010, but maintained energy and demand savings goals for 2010 consistent with 2008-2009 budgets.
- On February 23, 2010, the Commission granted approval of Otter Tail Power's request including budget and financial incentive modifications for 2010 as requested.
- On June 18, 2010, the Company filed revised higher goals for energy and demand savings and customer participation for 2010.
- On July 27, 2010 the Commission granted approval of Otter Tail Power Company's request for updated energy and demand savings goals for 2010 as requested.
- Approved budgets are listed in Appendix A, Tables 1 through 3, along with actual results realized by the Company for 2010.

Overview

Overall results for the 2010 South Dakota EEP Program show the Company achieved 93% of budget, 70% of participation goals, 117% of projected energy savings goals, and 112% of proposed demand savings.

Otter Tail is optimistic about future year energy efficiency plans in South Dakota. Over the past year Commission Staff and the utilities have discussed various incentive mechanisms to encourage utilities to pursue energy efficiency opportunities. Otter Tail has illustrated two incentive mechanisms and the impacts associated with each. One mechanism is based on a percentage of spending, which is the mechanism informally preferred by Staff. The second mechanism illustrates the incentive mechanism in place last year for Otter Tail. That mechanism was based on energy savings, spending, and net benefits.

In summary, the Company's 2010 Energy Efficiency Program was a cost-effective effort that achieved significant energy savings. Otter Tail appreciates the Commission's support for our program, and we applaud customers' response. Otter Tail looks forward to working with the Commission and Staff on shaping and bolstering our current program and the financial incentive. Energy efficiency is a long-term commitment that continues to evolve. Otter Tail is confident that working together we can create a sustainable energy future for South Dakota, of which energy efficiency will play a critical role.

DIRECT IMPACT – RESIDENTIAL

RESIDENTIAL DEMAND CONTROL

The Residential Demand Control (RDC) Program provides rebates for residential customers to purchase in-home demand response devices. This allows Otter Tail Power Company to directly control the energy from appliances customers have chosen such as water heaters, dryers, and electric space heating systems. This close-to-real time load management system influences load reduction and interruption by sending a signal during a control period that the house energy load is above a customer-predetermined and selected demand level. Customers receive a lower energy rate for allowing the Company to control their load.

Participation goals were not met in 2010. Factors affecting participation include:

- Participation in recent years has leveled off, suggesting market penetration may be occurring, and the next level of penetration will be difficult to obtain.
- RDC customers saw unprecedented hours of control prior to 2008, as did all controlled service customers, a fact not likely lost on potential RDC customers.
- The price differential between the residential general service (firm service) rate and the Residential Demand Control rate has narrowed, making the savings for participants much lower and making the program unattractive due to the life-style changes living with an RDC requires customers to make.

This Program has been approved for continuation in the 2011 EEP, but is not included in our proposed 2012-2013 plan. Otter Tail has had consecutive years of low participation, and believes market saturation has occurred under the current rate structure.

Participation & Budget

PARTICIPATION AND BUDGET – 2010			
RESIDENTIAL DEMAND CONTROL	**BUDGET**	**ACTUAL RESULTS**	**% OF BUDGET**
Participation	6	0	0%
Budget $	$5,000	$777	16%

Evaluation Methodology

The Company historically has claimed energy and demand savings for each RDC unit installed based on prior studies of customer data. However, since there was no participation in the program there is no energy savings.

Energy Savings & Adjustments

This load management program typically results in 7.263 kW of peak demand savings per residential installation and energy savings of 556.1 kWh at the meter.

RESIDENTIAL DEMAND CONTROL	Budgeted Savings at the Generator	Actual Savings at the Generator	% of Budget
Energy Savings – kWh	3,587	0	0%
Demand Savings – kW Winter Coincident Peak	46.85	0	0%

AIR CONDITIONING CONTROL

The air conditioning control program supports the cost to promote and implement cycling of cooling systems during summer season peaks. Implementation includes the cost to install radio receivers needed to communicate the cycling commands to the cooling equipment. In exchange for participating in this program customers receive a $7 a month bill credit during the four summer-season months.

In 2010, Otter Tail Power Company controlled air conditioning on 8 separate occasions for a total of 20 hours 38 minutes. This control time is within the 300-hour control limit approved for the air conditioning rider.

Last year Otter Tail modified the method of analyzing the program and no longer includes the participant incentive, the $7/month bill credit in program expense, in analyzing the cost effectiveness of the program. Actual goal for 2010 was 30 participants of which 11 were achieved.

To promote the **Cool***Savings* Air Conditioning Control Program in 2010, Otter Tail Power Company utilized bill inserts sent to residential customers containing program information along with a registration form. The **Cool***Savings* Air Conditioning Control Program has also been featured in presentations to Service Reps during annual and monthly training schedules. Going forward we have planned increased program promotions, retaining bill stuffers and adding online marketing and a testimonial feature story featured in our March 2011 Customer Connection.

This Program has been approved for continuation in the 2011 EEP and is proposed for 2012-2013.

Participation & Budget

PARTICIPATION AND BUDGET – 2010			
AIR CONDITIONING CONTROL	BUDGET	ACTUAL RESULTS	% OF BUDGET
Participation	30	11	37%
Budget $	$6,000	$4,493	75%

Evaluation Methodology

Company-specific load shapes were developed for summer air conditioning control analysis.

Energy Savings & Adjustments

Air conditioning control per participant produces energy savings of approximately 45.4 kWh per household, and impacts summer peak demand by 0.968 kW at the meter.

AIR CONDITIONING CONTROL	Budgeted Savings at the Generator	Actual Savings at the Generator	% of Budget
Energy Savings – kWh	1,464	537	37%
Demand Savings – kW Summer Coincident Peak	31.22	11.45	37%

AIR SOURCE HEAT PUMPS (Residential)

The Air Source Heat Pump 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. For 2010, Otter Tail relied on Energy Star qualifications for the minimum equipment efficiency requirement for this program. These efficiency requirements for 2010 were 8.2 HSPF, 14.5 SEER, and 12 EER for split system installations.

Otter Tail Power Company promotes energy efficient heat pumps through the following resources.

- *Guide to the programs and services* sent to contractors
- Brochures available in customer service center lobbies and by request
- *New construction resource* packets
- Presentations and literature distribution at Builder, Electrical and Electric Technologies Workshops for contractors
- Training material covered with service representatives in annual and monthly training
- Bill messages included on all customer monthly service statements
- Bill inserts about heat pump efficiency, tax credits, financing, and rebates
- Program, rate, technology, and rebate descriptions on the Company's web site: www.otpco.com

Rising energy costs, federal tax incentives, and emphasis on energy efficiency helped drive participation in air source heat pump installations.

This Program has been approved for continuation in the 2011 EEP and is proposed in the Company's 2012-2013 Plan. Required equipment efficiency specifications will remain in sync with Energy Star program requirements.

Participation & Budget

PARTICIPATION AND BUDGET – 2010			
AIR SOURCE HEAT PUMPS (R)	**BUDGET**	**ACTUAL RESULTS**	**% OF BUDGET**
Participation	20	22	110%
Budget $	$14,000	$11,140	80%

Evaluation Methodology

Energy savings estimates from the State of Minnesota's Division of Energy Resources (DER) Deemed Savings Database are used for cooling energy savings assumptions. The Company's engineering estimates are used to determine energy savings for heating for each air source heat pump system installed.

Energy Savings & Adjustments

Annual energy savings at the meter are 7,820 kWh per unit, with peak demand savings of 1.35 kW per unit installed.

AIR SOURCE HEAT PUMPS (R)	**Budgeted Savings at the Generator**	**Actual Savings at the Generator**	**% of Budget**
Energy Savings – kWh	168,130	184,943	110%
Demand Savings – kW Winter Coincident Peak	28.94	31.83	110%

GEOTHERMAL HEAT PUMPS (Residential)

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 of up to 400%. The Geothermal Heat Pump Program capitalizes on a renewable technology and targets customers currently using or considering the installation of less efficient resistance electric heating and cooling systems. A minimum Energy Star qualification is required for this program. During 2010 the required COP was 3.3 or higher.

Otter Tail Power Company promotes energy efficient heat pumps using the following promotional resources.

- *Guide to programs and services* sent to contractors
- Brochures available in customer service center lobbies and by request
- *New construction resource* packets
- Presentations and literature distribution at Builder, Electrical and Electric Technologies Workshops for contractors
- Training material covered with service representatives in annual and monthly training
- Bill messages included on all customer monthly service statements
- Promotional bill inserts about heat pump efficiency, tax credits, financing, and rebates
- Program, technology, rate, and rebate descriptions within the Company's web site at www.otpco.com

Rising and volatile energy costs and energy efficiency emphasis coupled with federal tax incentives have helped drive participation in geothermal heat pump installations.

This Program has been approved for continuation in the 2011 EEP and is proposed for the Company's 2012-2013 Plan. Required COP levels will be adjusted each year to match Energy Star program requirements.

Participation & Budget

PARTICIPATION AND BUDGET – 2010			
GEOTHERMAL HEAT PUMPS (R)	**BUDGET**	**ACTUAL RESULTS**	**% OF BUDGET**
Participation	10	10	100%
Budget $	$19,000	$8,222	43%

Evaluation Methodology

Engineering estimates are used to determine energy savings from each geothermal heat pump system installed.

Energy Savings & Adjustments

Energy savings at the meter are 11,200 kWh per unit, with peak demand savings of 8.0 kW per unit installed.

GEOTHERMAL HEAT PUMPS (R)	Budgeted Savings at the Generator	Actual Savings at the Generator	% of Budget
Energy Savings – kWh	120,400	120,400	100%
Demand Savings – kWh Winter Coincident Peak	86.00	86.00	100%

DIRECT IMPACT – COMMERCIAL

LIGHTING

The Lighting Program provides rebates to commercial and industrial customers for retrofit installations of energy-efficient lighting technologies. Typical measures implemented by customers include retrofits from inefficient incandescent, high intensity discharge, and linear fluorescent lighting systems to the following efficient technologies: screw-in compact fluorescent; fluorescent fixtures with T-8 and T-5 lamps and various electronic ballast configurations; and LED lighting systems.

The 2010 Lighting Program exceeded goals. The Company attributes this to existing low market penetration of efficient lighting systems and emphasis on energy efficiency.

Otter Tail actively promotes the Lighting Program through a variety of promotional resources.

- Presentations and literature distribution at Builder, Electrical and Electric Technologies Workshops for contractors
- *Guide to programs and services* sent to contractors
- *Make It Electric* newsletter for commercial and industrial customers
- Program, technology, and rebate descriptions within the Company's web site at www.otpco.com
- EEP bill inserts for South Dakota customers

This Program has been approved for continuation in the 2011 EEP and is proposed in the Company's 2012-2013 Plan.

Participation & Budget

PARTICIPATION AND BUDGET – 2010			
COMMERCIAL LIGHTING	**BUDGET**	**ACTUAL RESULTS**	**% OF BUDGET**
Participation	12	15	125%
Budget $	$30,000	$34,915	116%

Evaluation Methodology

Engineering calculations are used for impact savings for energy and demand from the Commercial Lighting Program.

Lighting loggers were utilized in previous years in other states to verify customer information concerning hours of operation. As an aggregate, results from the loggers were very close to the customers' estimates of annual hours of operation. Errors were

slightly on the side of *underestimating* rather than overestimating the annual hours of usage from the newly installed lights. Based on this information, the Company is satisfied using customers' estimates of hourly usage in the calculation of energy impacts from the Commercial Lighting Program.

Energy Savings & Adjustments

For retrofit lighting, lighting systems being installed are compared with systems being removed to determine the change in wattage. The hours of operation are multiplied by the watts to determine energy savings. Company personnel perform necessary verification.

COMMERCIAL LIGHTING	Budgeted Savings at the Generator	Actual Savings at the Generator	% of Budget
Energy Savings – kWh	280,094	479,819	171%
Demand Savings – kW Winter Coincident Peak	69.03	64.44	93%

MOTORS

The goal of the Motors Program is to educate dealers and customers on the benefits of installing new and replacement electric motors that meet the National Electrical Manufacturers Association (NEMA) Premium® efficiency requirements. The Program provides incentives to customers for the purchase of NEMA Premium® rated electric motors. The Motors Program is designed to reduce system peak demand and energy use by offering customers incentives to purchase NEMA Premium® efficiency motors from one horsepower up to 500 horsepower in size.

The 2010 Motors Program exceeded participation goals. The Company attributes this to a heightened interest in energy efficiency and associated energy savings.

Otter Tail Power Company promotes the Motors Program through a variety of promotional resources.

- Presentations and literature distribution at Builder, Electrical and Electric Technologies Workshops for contractors
- *Guide to programs and services* available to contractors
- *Make It Electric* newsletter for commercial and industrial customers
- Program, rate, and rebates described within the Company's web site at www.otpco.com
- EEP bill inserts for South Dakota customers

This Program has been approved for continuation in the 2011 EEP and is proposed in the Company's 2012-2013 Plan.

Participation & Budget

PARTICIPATION AND BUDGET – 2010			
MOTORS	**BUDGET**	**ACTUAL RESULTS**	**% OF BUDGET**
Participation	15	21	140%
Budget $	$10,000	$15,046	150%

Evaluation Methodology

The Company uses estimates from the State of Minnesota DER Deemed Savings Database, the Company's engineering estimates, and motor usage information from customers to determine the energy savings for each installed motor. In prior years, motor loggers were also utilized to verify customer information concerning hours of operation.

Energy Savings & Adjustments

Engineering estimates from the State of Minnesota DER Deemed Savings Database and the Company's engineering estimates are being used to calculate impact savings in the Motors Program. The Company also used data from Bonneville Power's Motor Master software project to develop standard motor efficiency numbers.

NEMA efficiency rating, horsepower, motor speed, and quantity are taken from the application form. An 80% loading factor was used in the calculation for kilowatt-hour savings. A nominal efficiency for each motor speed and horsepower was determined, based on an average of standard motors from Motor Master software. Run time hours were collected from customer rebate form information. The formula for energy savings is shown below.

Energy Saved (kWh) = Hours * Quantity * 0.746 kW/horsepower Conversion Factor * Loading Factor * Horsepower * (1/standard efficiency – 1/motor efficiency)

MOTORS	**Budgeted Savings at the Generator**	**Actual Savings at the Generator**	**% of Budget**
Energy Savings – kWh	37,733	38,896	103%
Demand Savings – kW Winter Coincident Peak	6.00	4.79	80%

CUSTOM EFFICIENCY PROGRAM

The Custom Efficiency Program pays incentives to commercial and industrial customers for energy saving installations, including new energy-efficient equipment and process changes. The Program is a comprehensive project, designed to cover energy saving applications outside the scope of prescriptive rebate programs. Six efficiency projects were performed in 2010 as shown in the following table.

Efficiency Custom Projects Type of System Installation	Quantity
Building Envelope	3
Ventilation System	1
Variable Speed Drive on Fan	1
Waste Water System Retrofit	1

Otter Tail Power Company promotes the custom efficiency program through a variety of promotional resources.

- Presentations and literature distribution at Builder, Electrical and Electric Technologies Workshops for contractors
- *Guide to programs and services* available to contractors
- *Make It Electric* newsletter for commercial and industrial customers
- Program, rate, and rebates described within the Company's web site at www.otpco.com
- EEP bill inserts for South Dakota customers

This Program has been approved for continuation in the 2011 EEP and is proposed for the Company's 2012-2013 Plan.

Participation & Budget

PARTICIPATION AND BUDGET – 2010			
CUSTOM EFFICIENCY	BUDGET	ACTUAL RESULTS	% OF BUDGET
Participation	6	6	100%
Budget $	$74,000	$81,439	110%

Evaluation Methodology

Impact savings estimates from the Custom Efficiency Program come directly from the customer, who submits detailed information showing demand and energy savings for each proposed measure. The Company then verifies the feasibility of the proposed savings, and if necessary, makes modifications to the submitted figures. Otter Tail Power Company offers assistance for our commercial and industrial customers to help them determine the energy and demand savings necessary in developing a Custom Efficiency Program proposal. Customers often work with internal or third-party engineers to determine and verify savings.

Energy Savings & Adjustments

Energy savings are based on customer Customer Efficiency Program proposals, generally developed by third-party engineers and reviewed and verified by Otter Tail Power Company engineering staff.

Custom Efficiency Program	Budgeted Savings at the Generator	Actual Savings at the Generator	% of Budget
Energy Savings – kWh	967,500	999,255	103%
Demand Savings – kW Winter Coincident Peak	121.59	191.64	158%

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. For 2010, Otter Tail relied on Energy Star qualifications as the minimum equipment efficiency requirement for this program. These efficiency requirements for 2010 were 8.2 HSPF, 14.5 SEER, and 12 EER for split system installations.

Otter Tail Power Company promotes energy efficient heat pumps using various resources.

- Presentations and literature distribution at Builder, Electrical and Electric Technologies Workshops for contractors
- *Guide to programs and services* sent to contractors
- Brochures available in customer service center lobbies and by request
- *New construction resource* packets
- Bill messages included on customer statements
- Bill inserts about heat pump efficiency, tax credits, financing, and rebates
- Training material covered with service representatives in annual and monthly training

- Program, technology, rate, and rebate descriptions within the Company's web site at www.otpco.com

Rising and volatile energy costs, federal incentives, and emphasis on energy efficiency have helped drive participation in air source heat pump installations.

This Program has been approved for continuation in the 2011 EEP and is proposed for the Company's 2012-2013 Plan. Required equipment efficiency specification levels will be adjusted each year to match Energy Star program requirements.

Participation & Budget

PARTICIPATION AND BUDGET – 2010			
AIR SOURCE HEAT PUMPS (C)	**BUDGET**	**ACTUAL RESULTS**	**% OF BUDGET**
Participation	22	22	100%
Budget $	$25,000	$15,020	60%

Participation in the commercial Air Source Heat Pump program was from two schools: one installed 6 units and the other installed 16 units for a total of 22 units.

Evaluation Methodology

Engineering estimates from the State of Minnesota DER Deemed Savings Database are used for cooling energy savings assumptions. The Company's engineering estimates are used to determine energy savings for heating for each air source heat pump system installed.

Energy Savings & Adjustments

Annual energy savings at the meter are 7,820 kWh with peak demand savings of 1.186 kW per unit installed.

AIR SOURCE HEAT PUMPS (C)	**Budgeted Savings at the Generator**	**Actual Savings at the Generator**	**% of Budget**
Energy Savings – kWh	184,943	184,943	100%
Demand Savings – kW Winter Coincident Peak	24.84	24.84	100%

GEOTHERMAL HEAT PUMPS (Commercial)

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%. The Geothermal Heat Pump Program capitalizes on a renewable technology and targets customers currently using or considering the installation of less efficient resistance electric heating and cooling systems. A minimum Energy Star qualification is required for this program of 3.3 COP or higher.

Otter Tail Power Company promotes energy efficient heat pumps using various promotional resources.

- Presentations and literature distribution at Builder, Electrical and Electric Technologies Workshops for contractors
- *Guide to programs and services* available to contractors
- Brochures available in customer service center lobbies and by request
- *New construction resource* packets
- Bill messages included on customer statements
- Bill inserts about heat pump efficiency, tax credits, financing, and rebates
- Training material covered with service representatives in annual and monthly training Program, technology, rate, and rebates described within the Company's web site at www.otpco.com

Rising and volatile energy costs, federal incentives, and energy efficiency emphasis has helped drive participation in geothermal heat pump installations.

This Program has been approved for continuation in the 2011 EEP and is proposed for the Company's 2012-2013 Plan. Required COP levels will be adjusted each year to match Energy Star program requirements.

Participation & Budget

PARTICIPATION AND BUDGET – 2010			
GEOTHERMAL HEAT PUMPS (C)	**BUDGET**	**ACTUAL RESULTS**	**% OF BUDGET**
Participation	25	33	132%
Budget $	$45,000	$39,476	88%

Participation in the Geothermal Heat Pumps Program is difficult to predict and budget. A single commercial customer can install 1 unit or 50 units, depending on the installation. Otter Tail has always budgeted low for commercial geothermal units, not knowing if there will be those large installations. In years where large quantities are installed in

facilities such as schools, 50 to 100 units are common. In years where there are no large installations, a total of 2 to 5 units for the entire year may be realized. In 2010, participation was comprised of five total customers installing 33 units: three customers each installed two units, and one customer each installed 5, 10, and 12 units, respectively.

Evaluation Methodology

Engineering estimates are used to determine energy savings from each geothermal heat pump system installed.

Energy Savings & Adjustments

Annual kilowatt-hour savings are 13,050 kilowatt-hours for energy savings, with peak demand savings of 8.734 kW per unit installed at the meter.

GEOTHERMAL HEAT PUMPS (C)	Budgeted Savings at the Generator	Actual Savings at the Generator	% of Budget
Energy Savings – kWh	350,719	462,949	132%
Demand Savings – kW Winter Coincident Peak	234.73	309.84	132%

INDIRECT IMPACT

ADVERTISING & EDUCATION - Residential

The residential Advertising & Education Program for 2010 was limited to educational outreach to South Dakota school children, targeting sixth graders, but including sixth through eighth grades. To accomplish this objective the Minnesota Science Museum was contracted to provide an energy-focused lyceum at four schools in the Otter Tail Power Company South Dakota service territory during the spring of 2010. The *Energy Connections* assembly program is a large-scale, 50-minute assembly focusing on the science of energy and energy conservation. Through dynamic demonstrations and audience participation using one-of-a-kind equipment displays, students are encouraged to use energy wisely. *Energy Connections* aims to help schools meet their academic standards for science. It delivers and reinforces messages to make conserving energy a lifestyle and includes a component to educate students about energy production. Program results for 2010 include five assemblies reaching 396 students. Total participation was down in 2010 because the lower student populations in participating schools. The program is offered on a first-come, first-served basis and smaller schools were quick to respond. To expand the program reach, the Science Museum will be allotted an extra day to reach additional 1-2 schools.

This Program has been approved for continuation in the 2011 EEP and is proposed in the Company's 2012-2013 Plan.

Participation & Budget

PARTICIPATION AND BUDGET – 2010			
ADVERTISING & EDUCATION	**BUDGET**	**ACTUAL RESULTS**	**% OF BUDGET**
Participation	625	396	63%
Budget $	$10,000	$5,992	60%

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 & Budget

PARTICIPATION AND BUDGET – 2010			
EEP DEVELOPMENT	**BUDGET**	**ACTUAL RESULTS**	**% OF BUDGET**
Participation	N/A	N/A	N/A
Total EEP Development 2010	$25,000	$27,297	109%

FINANCIAL INCENTIVE

The Company has been part of informal discussions regarding incentive mechanisms in South Dakota that will encourage utilities to pursue cost-effective energy efficiency opportunities.

Two illustrations of incentive mechanism models have been included in this filing, as shown in Appendix A, Table 4. The first example is based on energy savings and net benefits and is based on Otter Tail's prior financial incentive mechanism. The second is based on a percentage of spend, the method currently being discussed by utilities and Commission Staff.

Stakeholder discussions have revolved around a mechanism that is relatively easy to administer and understand. In addition, the preferred mechanism should provide the utility a reasonable incentive to pursue cost-effective energy efficiency.

Although numerous potential mechanisms do exist, Otter Tail believes we have illustrated the challenge that exists with the shared savings mechanism.

As outlined in the May 8, 2008 updated EEP filing, Otter Tail Power Company historically utilized a shared-savings incentive that awards the Company a small share of the total net benefits from investments in demand-side management corresponding to the EEP proposal. These benefits include avoided costs from investments in DSM. This incentive is capped at 30% of the Company's proposed annual spending.

Financial Incentive Example 1

The implementation of this incentive mechanism is as follows:

1. On June 18, 2010, Otter Tail Power Company filed revised proposed savings, costs, and net benefits for 2010.[1] Net benefits are the utility net benefits from the program analysis. These include benefits from production cost decreases, generation, transmission, and distribution credits, and sales tax cost decreases. From these total benefits, we subtract the program costs, including rebates and administrative costs. For 2010, the utility's total benefits were estimated to be $2,308,219. Total EEP program costs proposed were $263,000. Proposed net benefits were $2,045,219. Details of the net benefits are defined on page 2 of Appendix A, Table 2.

2. The incentive was originally designed to engage if the Company reaches 100% of the proposed energy savings goal. At anything less than 100% of the energy savings goal, the incentive is zero dollars. The financial incentive is capped at

[1] On October 26, 2009, Otter Tail filed to continue the South Dakota EEP through 2010. The filing requested modifications to the budget and participation goals, but maintained energy and demand savings goals for 2010 that were consistent with those in 2008-2009. On June 18, 2010, the Company filed revised higher goals for energy and demand savings for 2010.

30% of the utility's approved CIP expenditures. For 2010, the incentive is capped at 30% of $263,000 or $78,900.

On February 23, 2010, the Commission approved a change to the financial incentive mechanism that allows the incentive to engage once the Company achieves 90% of the energy goal.

3. The actual calculation of this incentive mechanism is as follows:
    a. The first step is to calculate an estimated incentive using a percentage of net benefits based on 7 steps: 90%, 100%, 110%, 120%, 130%, 140% and 150% of savings goal.
    b. The maximum incentive allowed (30% of the proposed budget or $78,900) is assigned to achieving 150% of the net benefits.
    c. The calculation is: $78,900 (max incentive) is divided by $ $3,067,828 (150% of $2,045,219, the budgeted net benefits) and is then divided by 7 (for seven steps). This determines a percentage of net benefits for each 10% step in energy savings above goal. In this case, the percentage to be used in 2010 is 0.367%.
    d. This percentage is multiplied by the number of 10% steps above 80% of goal in actual kWh savings.
    e. The resulting multiplier of actual net benefits is 1.36%.

4. At year-end, the utility calculates the actual 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 programs. Appendix A, Table 2 shows actual 2010 net benefits equal to $2,476,084.
5. The resulting financial incentive as a percent of net benefits is:
    1.36% x $2,476,084 = $33,561
6. Under this incentive mechanism the Company would receive a very small portion (just over 1%) of the actual net benefits achieved.
7. It is important to note that the Company willingly and in good faith increased its energy and demand goals in mid 2010. Doing so made it harder for the Company to achieve a financial incentive, based on the current mechanism.

As shown in Appendix A, Table 4, this incentive mechanism is maxed out at 30% of our original budget of $263,000 or $78,900. Although the Company achieved 117% of projected energy savings goals and 112% of projected demand savings goals, and stayed under budget by 7%, the incentive returns just a little over 1% of the net benefits provided by the program. On June 18, 2010, the Company had filed revised higher goals for energy and demand savings and customer participation for 2010 while leaving budgets consistent. Had the Company not increased our energy savings goal for 2010 the incentive to the Company likely would have been larger. This predicament clearly demonstrates that the incentive needs to be improved upon for continued pursuit of energy efficiency goals.

Financial Incentive Example 2

Consideration is currently being given to an incentive mechanism based on a percentage of spend. While this mechanism has its challenges, it is straightforward, easily understood, and can allow the utility a reasonable incentive for energy efficiency. As shown in Appendix A, Table 1, the Company spent $243,816 in 2010. The financial incentive under this method is therefore 30% x $243,816, or $73,145.

Otter Tail Power Company encourages the Commission to adopt the incentive mechanism in Example 2 and award the Company an incentive of $73,145. Our historical performance, achievement of goals, and good faith progress toward making energy efficiency attractive to customers while remaining a cost effective resource is evidence of our commitment.

REGULATORY REQUIREMENTS

ENERGY ADJUSTMENT RIDER / CARRYING COSTS

The South Dakota Energy Efficiency Partnership ("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, 2010. In addition, carrying charges and any applicable incentives (discussed in the next section, generally referred to as financial incentive), 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.

The tracker will also account for amounts collected from customers through the **"**ENERGY EFFICIENCY ADJUSTMENT FACTOR." The energy efficiency adjustment factor was collected monthly based on a kWh charge on customers' bills. For billing purposes, the charge was a separate line item on customers' electric service bills. We are not currently recovering any of these costs in base rates; therefore, Otter Tail 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 $0.00063, and Otter Tail proposes no changes regardless of the approved incentive amount.[2] Appendix A, Table 5 presents the EEP tracker account balances for 2010 and projected for 2011. When including the financial incentive amount of $33,561 (Financial Incentive Example #1) in the tracker, the year ending balance for 2010 is approximately $1,661. When including the proposed financial incentive amount of $73,145 (Financial Incentive Example #2) in the tracker, the year ending balance for 2010 is approximately $41,245. Going forward in 2011, approval of either of the financial incentives will bring the EEP tracker balance closer to zero, as shown in row 19 of Table 5.

The final version of the EEP Cost Recovery Rider that was approved by the South Dakota Commission, in the April 21, 2011 Order in docket EL10-011, is included in this filing as Appendix B. Once the 2010 EEP Incentive is approved, Otter Tail will file the relevant rate schedule that complies with the Commission's Order in this docket.

[2] Otter Tail has illustrated two incentive mechanisms in Appendix A, Table 4. One based on a percent of spend and one based on net benefits. The former mechanism is being discussed as the preferred mechanism by Staff, and the latter is the mechanism that was in place for Otter Tail in 2010.