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March 1, 2010

OTTER TAIL
POWER COMPANY

Patricia Van Gerpen Executive Director South Dakota Public Utilities Commission 500 East Capitol Avenue Pierre, South Dakota 57501-5070

Re: 2008/2009 South Dakota Energy Efficiency Plan Status Report Annual Filing to Update the Energy Efficiency Adjustment Rider

Docket No: EL09-022

Dear Executive Director Gerpen:

An Equal Opportunity Employer

Otter Tail Power Company is pleased with the 2008/2009 South Dakota Energy Efficiency Plan results. In particular, we commend the Commission and Staff for their diligence, prudence, and thoughtful approach to energy efficiency in South Dakota.

Otter Tail would like to emphasize the following points concerning the 2008/2009 South Dakota Energy Efficiency Plan Status Report Annual Filing:

- South Dakota customers responded overwhelmingly to the first-year portfolio of energy efficiency programs approved by the Commission and offered by the Company.
- The Company has exceeded its energy and demand savings, and participation goals for 2008/2009. The Company and its customers achieved 4,021,300 kWh savings and 1,442 kW savings, at 352% and 346% of goal respectively. The Company had a target goal of 725 participants, but achieved 750 participants or 103% of goal.
- This energy saving achievement represents approximately 1.1% of the 2006 MWh retail sales<sup>1</sup> in South Dakota. This is an impressive accomplishment and far exceeds the Company's historical average annual energy savings in Minnesota of approximately .70%<sup>2</sup> of annual MWh sales.

<sup>&</sup>lt;sup>2</sup> Energy savings in Minnesota have averaged .72% of retail weather normalized sales for 2004 to 2008. Minnesota's first year program in 1992 achieved approximately .3% of retail sales for that year. South Dakota's goal of approximately .36% was a reasonable and defendable starting point for a first-year program.



<sup>&</sup>lt;sup>1</sup> Otter Tail filed its SD Energy Efficiency Plan on March 29, 2007. At that time, the energy efficiency goal of 1,325,497 kWh was established in part based on 2006 Otter Tail Power Company Statistical Report retail sales for South Dakota of 364,520 MWh. The goal represented approximately .4% of annual SD retail sales for 2006. Actual achievement, compared to 2006 MWh retail sales, is approximately 1.1%.

- The Company is dutifully aware that the actual budget is 21% over its approved program budget<sup>3</sup>. However, the Company believes this is a prudent expense given the large energy and demand savings accomplishments. We respectfully request approval of \$280,163 in recoverable expenses through December 31, 2009, plus carrying costs and the financial incentive, for a total of \$326,567<sup>4</sup>.
- The Company is requesting approval for \$47,130 in financial incentives for 2008/2009 Energy Efficiency Plan accomplishments. This amount is a small share of the total net benefits of \$3,680,243<sup>5</sup> from investments in energy efficiency in 2008/2009. Details of the net benefits calculation are found in page 2 of Appendix A, Table 2.
- The Company is requesting to continue the Energy Efficiency Adjustment Rider. No adjustment to the amount is requested at this time.

### Enclosed for filing please find:

- 1. Summary of Filing and an Affidavit of Service.
- 2. Otter Tail Power Company's 2008/2009 Energy Efficiency Plan Status Report and supporting documentation and tables.
- 3. The Annual Filing to Update the Energy Efficiency Adjustment Rider.

If you or Commission Staff have any questions, please contact Kim Pederson at (218) 739-8303.

Very truly yours,

/s/ Kim Pederson, Manager Market Planning

**Enclosure** 

<sup>&</sup>lt;sup>3</sup> Modified approved budget was \$209,600. Actual expenses prior to inclusion of 2007 development, carrying, and financial incentive costs was \$252,676. <sup>4</sup> Details provided in Appendix A, Table 5

<sup>&</sup>lt;sup>5</sup> Details provided in Appendix A, Table 2

# 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. EL09-022

In the Matter of Otter Tail Power Company's Annual Filing to Update
The Energy Efficiency Adjustment Rider

Docket No. EL09-022

#### **SUMMARY OF FILING**

## **Status Report**

Otter Tail Power Company submits a brief summary of the programs offered to South Dakota customers in 2008/2009. The Company has also included budgets and program results under the section entitled "STATUS REPORT" and supporting documentation under "APPENDIX A."

#### **Financial Incentive**

Otter Tail Power Company respectfully requests approval of \$47,130 incentive for exceeding its energy, demand, participation goals for 2008/2009. Details of the incentive calculation and corresponding evaluation of direct impact projects are included in the attached report under the section entitled "FINANCIAL INCENTIVE." The Company also discusses proposed changes to the financial incentive and calculation going forward.

#### **Energy Adjustment Rider**

Otter Tail Power Company is also requesting Commission approval of the continuation of an energy adjustment factor of \$0.00063 as shown in the attached report under the section "ENEGY ADJUSTMENT RIDER".

#### Conclusion

Otter Tail Power Company requests approval of the 2008/2009 Financial Incentive, totaling \$47,130. The Company also requests approval to continue the energy adjustment surcharge of \$0.00063 on customer's bills. Furthermore, the Company requests continuation of the program through 2010 and into 2011. Our next status report will be filed on March 1, 2011, with the program subject to modifications as proposed and approved by the Commission at that time.

## **Section: Status Report**

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#### STATUS REPORT – 2008/2009 EEP PROJECTS

#### Introduction

This is Otter Tail Power Company's first South Dakota EEP (Energy Efficiency Partnership Plan) Status Report based on partial year 2008 and all of 2009 results. The Status Report covers direct impact, indirect impact, and miscellaneous projects for the approximately 1½ year period. Cost recovery and the financial incentive calculations are also detailed in this report.

## **Direct Impact Projects**

Residential

- Residential Demand Control
- Air Source Heat Pumps

#### Commercial

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

## **Indirect Impact Projects**

Advertising & Education

## **Miscellaneous Projects**

EEP Development

## **Regulatory Requirements**

### **Financial Incentive**

## Background

- On March 29, 2008, Otter Tail Power Company filed its first EEP Proposal with the South Dakota Public Utilities Commission.
- After Commission Staff review, Otter Tail filed a revised EEP plan on May 8, 2008, with a budget of \$157,100, along with an allocation of \$46,788 for development costs, totaling \$203,888. For this Status Report, the figures filed for on this date, and approved by the SDPUC, are considered to be the 'original approved budget'. The Company also filed for cost recovery and a financial incentive mechanism based on these figures.
- On August 27, 2008, Otter Tail filed for an additional budget revision, resulting in a slight change to the EEP budget of \$209,600 for programs and development costs. For this Status Report, the changes filed for on this date with Commission Staff are considered to be the 'modified budget'.
- On October 26, 2009, Otter Tail filed an application to update the Commission on its 2009 Energy Efficiency Program and to request approval of its 2010 portfolio. The filing also requested budget for 2010 and financial incentive modifications.
- On February 23, 2010, the Commission granted approval of Otter Tail Power's request including budget and financial incentive modifications for

2010 as requested.

 Both original approved and modified budgets are listed in the tables, along with actual results realized by the Company for 2008 and 2009.

#### Overview

Otter Tail is pleased with the results of this first-year program. We are optimistic about future year energy efficiency plans in South Dakota. However, we offer the following observations and reflections:

- The South Dakota Energy Efficiency Plan launched at a time of high and volatile fossil fuel prices. This volatility and associated concern helped focus attention on energy efficiency.
- The plan launched at a time of national and state heightened energy
  efficiency awareness. While the Company doesn't anticipate energy efficiency
  importance to be lessened, in fact quite the opposite is likely true, we are
  aware that that this recognition of energy efficiency as a critical resource likely
  helped spur interest in the Company's programs.
- It has been approximately two decades since the Company offered an energy efficiency plan in South Dakota. Market penetration of efficiency products is likely very low.
- Overall national, state, and regional economies impact customer behavior. A substantial body of economic literature shows the consequences of high unemployment, falling incomes, and reduced economic activity can have lasting consequences. Frozen credit markets and depressed consumer spending can stop or slow investments in energy efficiency. While advocates of energy efficiency view investments in saving energy as a solution to improving consumer and business bottom lines, the reality is that customers are often more concerned about short-term challenges. Stimulus activity continues to bolster energy efficiency investments. But predicting long-term goals for energy efficiency is problematic.
- The achieved energy goal represents approximately 16 months of program offering.

In summary, all indications are that Company's 2008/2009 Energy Efficiency Program was a tremendous success. We appreciate the Commission's support for our program, and we applaud customer's response. We look forward to working with the Commission and Staff on shaping and bolstering our current program. Energy efficiency is a long-term commitment that continues to evolve. We are 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) Project 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 2009. 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 have seen unprecedented hours of control prior to 2008, as did all controlled service customers, a fact not likely lost on potential RDC customers
- Fossil fuel prices have leveled creating less urgency to invest in alternative resources.

This Project has been approved for continuation in the 2010 EEP.

### Participation & Budget

PARTICIPATION AND BUDGET – 2008/09				
RESD DEMAND CONTROLLER  ORIGINAL APPROVED BUDGET  ORIGINAL APPROVED BUDGET  MODIFIED BUDGET  SUDGET  WO OF MODIFIED BUDGET  BUDGET  SUDGET  MODIFIED BUDGET				
Participation	8	8	3 customers	38%
Budget \$	\$9,900	\$6,800	\$1,472	22%

## **Evaluation Methodology**

The Company is claiming energy and demand savings for each RDC unit installed, based on prior studies of customer data.

## **Energy Savings & Adjustments**

Kilowatt hours: This load management project results in 6.04 kW of demand savings per residential installation, and energy savings of 556.1 kWh at the meter.

RESIDENTIAL DEMAND CONTROL	Savings At the Generator
Energy Savings – KWH	1,813
Demand Savings – KW	19.78

#### AIR CONDITIONING CONTROL

To promote the Cool Savings Air Conditioning Control Project in 2008/09, Otter Tail Power Company again utilized bill inserts sent to residential customers containing program information along with a registration form.

We will continue to promote this program with bill stuffers and special promotions. In 2009, Otter Tail Power Company controlled air conditioning very little with only 7 separate days for a total of 15 hours. This control time is within the 300-hour control limit approved for the air conditioning rider.

This Project has been approved for continuation in the 2010 EEP.

## Participation & Budget

PARTICIPATION AND BUDGET – 2008/09				
AIR CONDITIONING CONTROL  ORIGINAL APPROVED BUDGET  MODIFIED BUDGET  SUDGET  MODIFIED BUDGET  SUDGET  WO OF MODIFIED BUDGET  SUDGET  MODIFIED BUDGET				
Participation	30	30	18 customers	60%
Budget \$	\$12,600	\$9,500	\$2,795	29%

## **Evaluation Methodology**

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

Otter Tail Power Company has installed inexpensive run-time monitors on a number of the air conditioning units in 2008/09 to determine if the units are cycling properly. This information is currently being analyzed and will be used for future determination of hours of use for the air conditioning units.

## **Energy Savings & Adjustments**

Air conditioning control per participant produces energy savings of approximately 45.4 kWh per household, and impacts summer demand by 1.0610 kW at the meter.

AIR CONDITIONING CONTROL	Savings At the Generator
Energy Savings – KWH	881
Summer Demand Savings – KW	19.10

## **AIR SOURCE HEAT PUMPS (Residential)**

The Air Source Heat Pump Project 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 2009, Otter Tail relied on Energy Star qualifications for the minimum equipment efficiency requirement for this program. These efficiency requirements for 2009 were 8.2 HSPF, 14.0 SEER, and 11.5 EER for split system installations.

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

- guide to the programs and services available to contractors;
- brochures and examples included in the new construction resource packet that promotes energy efficient construction;
- bill messages included on all customer monthly service statements;
- bill inserts sent to all customers about heat pump efficiency, tax credits, financing, and rebates;
- program, rate and rebates described within the Company's web site: www.otpco.com.

Rising and volatile energy costs and the emphasis on energy efficiency helped drive participation in air source heat pump installations.

This Project has been approved for continuation in the 2010 EEP.

#### Participation & Budget

PARTICIPATION AND BUDGET – 2008/09					
AIR SOURCE HEAT PUMPS (R)  ORIGINAL APPROVED MODIFIED BUDGET  ORIGINAL APPROVED MODIFIED BUDGET  SUDGET  WO OF MODIFIED BUDGET  SUDGET  WO OF MODIFIED BUDGET					
Participation *			39 customers /		
•	13	13	39 units	300%	
Budget \$	\$8,800	\$8,800	\$21,659	246%	

## **Evaluation Methodology**

Engineering estimates from Minnesota's Deemed Savings Database and verified by the

Company's engineering estimates are used to determine energy savings from each air source heat pump system installed.

## **Energy Savings & Adjustments**

Annual kilowatt-hour savings are 2,310 per unit for energy savings, with summer demand savings of 3.864 kW per unit installed at the meter.

AIR SOURCE HEAT PUMPS (R)	Savings At the Generator
Energy Savings – KWH	97,862
Summer Demand Savings – KW	150.70

## **GEOTHERMAL HEAT PUMPS (Residential)**

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 often boast efficiencies of up to 400%. The Geothermal Heat Pump Project 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:

- the programs and services guide available to contractors;
- the new construction resource packet;
- promotional bill inserts sent to all customers;
- as part of the Company's web site: www.otpco.com; and
- information sent to all customers for a two month period via a return envelope flap.

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

This Project has been approved for continuation in the 2010 EEP.

## Participation & Budget

PARTICIPATION AND BUDGET – 2008/09					
GEOTHERMAL HEAT PUMPS (R)  ORIGINAL APPROVED MODIFIED BUDGET BUDGET  MODIFIED RESULTS  WOF MODIFIED BUDGET BUDGET					
Participation *			17 customers /		
	4	4	19 units	475%	
Budget \$	\$5,600	\$6,000	\$16,224	270%	

## **Evaluation Methodology**

Engineering estimates from the Minnesota Deemed Savings Database and the Company's engineering estimates are used to determine energy savings from each geothermal heat pump system installed.

## **Energy Savings & Adjustments**

Kilowatt hour savings are 11,200 kilowatt-hours per unit, with demand savings of 8.0 kW per unit installed at the meter.

GEOTHERMAL HEAT PUMPS (R)	Savings At the Generator
Energy Savings – KWH	229,717
Demand Savings – KW	165.94

### **DIRECT IMPACT – COMMERCIAL**

#### **LIGHTING**

The Lighting Project 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; pulse-start metal halide; and LED lighting systems.

The 2009 Lighting Project exceeded goals. The Company attributes this to high penetration of inefficient lighting systems and emphasis on energy efficiency.

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

- at the Company's annual Electric Technologies workshop for electrical and HVAC contractors;
- within the 2009 programs and services guide available to contractors; and,
- as part of the Company's web site: www.otpco.com.

This Project has been approved for continuation in the 2010 EEP.

#### Participation & Budget

PARTICIPATION AND BUDGET – 2008/09				
COMMERCIAL ORIGINAL APPROVED MODIFIED ACTUAL MODIFIED BUDGET BUDGET RESULTS BUDGET				
Participation			14 customers /	
	12	12	20 systems	167%
Budget \$	\$22,400	\$4,500	\$75,105	1669%

#### Evaluation Methodology

Engineering estimates are being used to calculate impact savings from the Commercial Lighting Project.

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 the customer's conservative estimates of hourly usage in the calculation of energy impacts from the Commercial Lighting Project.

## **Energy Savings & Adjustments**

Kilowatt hours: For retrofit lighting, lighting systems being installed are compared with systems being removed to determine kilowatt-hour savings. The customer provided hours of operation, with necessary verification being done by Company personnel.

COMMERCIAL LIGHTING	Savings At the Generator
Energy Savings – KWH	2,634,394
Demand Savings – KW	658.11

#### **MOTORS**

The goal of the Motor Project is to educate dealers and customers on the benefits of installing new and replacement electric motors that meet the NEMA Premium efficiency requirements. The Project provides incentives to customers for the purchase of NEMA Premium rated electric motors. The Motor Rebate Project 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 2009 Motor Rebate Project 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 Project through a variety of promotional resources:

- in the programs and services guide sent to all contractors;
- in the Make It Electric newsletter for commercial and industrial customers;
- as part of the Company's web site: www.otpco.com.

This Project has been approved for continuation in the 2010 EEP.

#### Participation & Budget

PARTICIPATION AND BUDGET – 2008/09					
MOTORS ORIGINAL % OF MODIFIED ACTUAL MODIFIED BUDGET BUDGET RESULTS BUDGET					
Participation			7 customers /		
	22	22	35 motors	159%	
Budget \$	\$13,100	\$5,000	\$21,473	429%	

### **Evaluation Methodology**

The Company uses estimates from the Minnesota Deemed Savings Database and the Company's engineering estimates, combined with motor usage information 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 Minnesota Deemed Savings Database and the Company's engineering estimates are being used to calculate impact savings in the Motors Project. 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 industry standard 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.

MOTORS	Savings At the Generator
Energy Savings – KWH	99,966
Demand Savings – KW	19.41

## **ENERGY GRANT (CUSTOM EFFICIENCY PROJECT)**

The Grant Project pays incentives to commercial and industrial customers for energy saving installations, including new energy-efficient equipment and process changes. The Grant Project is a comprehensive project, designed to cover energy saving applications outside of normal project guidelines.

- Approximately 35 commercial and industrial customers replied with interest to a letter sent in July promoting the Grant project and opening up an application period. The letter included criteria for analyzing the grant program, including the preference for public entity grants.
- Of these 35 customers, 21 submitted applications for efficiency incentives through the Grant Program.
- The Company has approved grants for 5 of these customers, totaling \$37,390.
- 4 of the 5 customers are public entities.

Grant Custom Projects Type of System Installation	Quantity
Building Envelope	2
Adjustable Speed Drives	2
Ventilation	1

Otter Tail Power Company promotes the custom efficiency project through a variety of promotional resources:

- in the programs and services guide sent to all contractors;
- in the Make It Electric newsletter for commercial and industrial customers;
- as part of the Company's web site: www.otpco.com.

This Project has been approved for continuation in the 2010 EEP.

## Participation & Budget

PARTICIPATION AND BUDGET – 2008/09				
ORIGINAL % OF APPROVED MODIFIED ACTUAL MODIFIED BUDGET BUDGET RESULTS BUDGET				
Participation			5 customers /	
	4	0	5 grants	N/A
Budget \$	\$57,000	\$0	\$56,747	N/A

To explain the change in budget figures for the Grant Project, in early 2009 Otter Tail Power was anticipating a very large installation of geothermal heat pumps as part of the EEP Program. To stay within total budget restrictions, the Company requested a budget change for its Grant Program, moving the dollars to the geothermal program, resulting in a zero budget and participation for Grants. In mid-2009, the anticipated geothermal project did not come to fruition, and the Company quickly re-instated the Grant Project for commercial customers.

#### Evaluation Methodology

Impact savings estimates from Energy Grants 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 to our commercial and industrial customers to help them determine the energy and demand savings necessary in developing a grant proposal.

Customers often work with internal or third-party engineers to determine and verify savings.

## **Energy Savings & Adjustments**

Kilowatt hours: Energy savings are based on customer figures and verification by Otter Tail Power Company engineering staff.

GRANTS	Savings At the Generator
Energy Savings – KWH	456,699
Demand Savings – KW	66.94

## AIR SOURCE HEAT PUMPS (Commercial)

The Air Source Heat Pump Project 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 2009, Otter Tail relied on Energy Star qualifications are the minimum equipment efficiency requirement for this program. These efficiency requirements for 2009 were 8.2 HSPF, 14.0 SEER, and 11.5 EER for split system installations.

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

- the programs and services guide available to contractors;
- the new construction resource packet;
- bill messages included on all customer statements;
- bill inserts about heat pump efficiency, tax credits, financing, and rebates;
- as part of the Company's web site: www.otpco.com.

Rising and volatile energy costs and the emphasis on energy efficiency has helped drive participation in air source heat pump installations.

This Project has been approved for continuation in the 2010 EEP.

#### Participation & Budget

PARTICIPATION AND BUDGET – 2008/09				
AIR SOURCE HEAT PUMPS (C)  ORIGINAL APPROVED BUDGET  ORIGINAL APPROVED BUDGET  MODIFIED BUDGET  SUDGET  WO OF MODIFIED BUDGET  RESULTS  WO OF MODIFIED BUDGET				
Participation *			5 customers /	
•	6	6	13 units	217%
Budget \$	\$7,000	\$35,000	\$9,352	27%

### **Evaluation Methodology**

Engineering estimates from Minnesota's Deemed Savings Database and verified by the Company's engineering estimates are used to determine energy savings from each air source heat pump system installed.

## **Energy Savings & Adjustments**

Kilowatt hours: Annually 2,573 kilowatt-hours per unit for energy savings with summer demand savings of 1.623 kW per unit installed at the meter.

AIR SOURCE HEAT PUMPS (C)	Savings At the Generator
Energy Savings – KWH	35,793
Demand Savings – KW	21.10

## **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 often boast efficiencies of up to 400%. The Geothermal Heat Pump Project 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:

- the programs and services guide available to contractors;
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- promotional bill inserts sent to all customers;
- as part of the Company's web site: www.otpco.com; and
- sent to all customers for a two month period via a return envelope flap.

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

This Project has been approved for continuation in the 2010 EEP.

### Participation & Budget

PARTICIPATION AND BUDGET – 2008/09				
GEOTHERMAL HEAT PUMPS (C)  ORIGINAL APPROVED MODIFIED BUDGET  MODIFIED RESULTS  WOF MODIFIED BUDGET BUDGET				
Participation *	1	1	2 customers / 33 units	3300%
Budget \$	\$2,700	\$106,000	\$18,430	17%

Participation in geothermal heat pumps systems is very 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 of units. 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 2009, Otter Tail anticipated a very large installation, which is why the budget was increased, but the installation didn't transpire. For 2008/09, two customers took part in the geothermal heat pump program, one installing 2 units, the other installing 31 units, totaling 33 units.

## **Evaluation Methodology**

Engineering estimates from the Minnesota Deemed Savings Database and the Company's 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 demand savings of 8.907 kW per unit installed at the meter.

GEOTHERMAL HEAT PUMPS (C)	Savings At the Generator
Energy Savings – KWH	464,175
Demand Savings – KW	320.88

#### INDIRECT IMPACT

#### ADVERTISING & EDUCATION - Residential

The residential Advertising & Education Project for 2008/2009 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 2009. 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 2008/2009 include four assemblies reaching 565 students.

This Project has been approved for continuation in the 2010 EEP.

PARTICIPATION AND BUDGET – 2008/09				
ADVERTISING & ORIGINAL APPROVED MODIFIED ACTUAL MODIFIED BUDGET RESULTS BUDGET				
Participation	625	625	565	90%
Budget \$	\$18,000	\$3,000	\$4,818	161%

# MISCELLANEOUS / INACTIVE PROJECT COSTS EEP DEVELOPMENT

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

PARTICIPATION AND BUDGET – 2007/2008/2009				
ORIGINAL APPROVED MODIFIED ACTUAL MODIFIED BUDGET BUDGET RESULTS BUDGET				
Participation	N/A	N/A	N/A	N/A
EEP DEVL - 2007	\$0	\$0	\$27,487	
EEP DEVL - 2008 / 2009	\$46,788	\$25,000	\$24,601	98%
Total EEP Development	\$46,788	\$25,000	\$52,088	208%

#### REGULATORY REQUIREMENTS

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

The South Dakota Energy Efficiency Partnership 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, 2009. 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 currently 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, we propose 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 filed Energy Efficiency Partnership (EEP) Cost Recovery Rider is included in this filing as Appendix B.

The current Energy Efficiency Adjustment Factor is \$0.00063, and we propose no changes at this time. Refer to Appendix A, Table 5 for more information.

Carrying costs throughout 2008 and 2009 were calculated to be very close to zero – going just slightly negative. This indicates the Company collected through the energy efficiency adjustment from customers an amount almost equal to its expenditures for the EEP program. When including the proposed financial incentive amount in the tracker, the ending balance going forward to 2010 is approximately four thousand dollars.

The following table outlines EEP expenses, the proposed incentive amount, carrying costs, amount recovered through the Energy Efficiency Adjustment Factor, and the current EEP tracker balance.

SOUTH DAKOTA EEP TRACKER REPORT	
12/31/09	
EEP DEVELOPMENT EXPENDITURES (2007)	\$27,486.62
EEP PROGRAM EXPENDITURES (2008/09)	\$252,676.79
TOTAL EEP EXPENDITURES (through 12/31/09)	\$280,163.41
CARRYING COSTS (through 12/31/09)	(\$726.05)
RECOVERED THROUGH ADJUSTMENT FACTOR (through 12/31/09)	(\$322,544.54)
EEP TRACKER BALANCE (12/31/09)	(\$43,107.18)
FINANCIAL INCENTIVE AWARDED (proposed, not included in tracker)	\$47,130.00
TOTAL AMOUNT REQUESTED TO BE RECOVERED (Expenditures + Carrying Costs + Financial Incentive)	\$326,567.36
EEP TRACKER BALANCE w/ FINANCIAL INCENTIVE AWARDED	\$4,022.82

#### FINANCIAL INCENTIVE

The Company proposed and the Commission approved a financial incentive mechanism as part of a successful energy-efficiency partnership in South Dakota.

The Company is requesting a financial incentive of \$47,130 for energy savings results from the 2008/09 EEP Program

See Appendix A, Table 2 and Table 4 for the Net Benefits and Financial Incentive calculations.

## **Background**

As outlined in the May 8, 2008 updated EEP filing, Otter Tail Power Company is utilizing 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. This shared-savings incentive mechanism was implemented in Minnesota for conservation programs regulated by the Minnesota Public Utilities Commission.

The implementation of the incentive mechanism is as follows:

- 1. On May 8, 2008, Otter Tail Power Company filed its proposed savings, costs, and net benefits as part of the proposed EEP filing. Net benefits are the utility net benefits from the program analysis. These include benefits from production costs 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 2008, the utility's total benefits were estimated to be \$1,292,464. Total EEP program costs proposed were \$157,100. Net benefits were \$1,135,765. Details of the net benefits are defined on page 2 of Appendix A, Table 2.
- 2. The current incentive is 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 30% of the utility's approved CIP expenditures. For 2008, the incentive is capped at 30% of \$157,100 or \$47,130.

In 2009, the Company used the originally approved budget of \$157,100 as part of the incentive cap calculation. The incentive mechanism as filed allows for any approved changes the Commission or Commission Staff makes to Otter Tail's EEP budget be used in the calculation of the incentive cap. Otter Tail's approved 2009 budget (less development costs) was \$184,600, which when used in the incentive calculation, would have yielded an incentive of \$55,380. However, the Company believes this aspect of the incentive mechanism may not have been made clear to Staff, and the Company will be using the originally approved budget of \$157,100 for the 2009 calculation. *Going forward, the Company will use the most recently approved EEP budget in the calculation of the incentive cap.* 

- 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. The Company will implement that change in our 2011 financial incentive filing (effective for the year 2010).
- 3. The actual calculation of the current incentive is as follows. The first step is to calculate an estimated incentive using a percentage of net benefits based on 6 steps: 100%, 110%, 120%, 130%, 140% and 150% of savings goal. The maximum incentive allowed (30% of the proposed budget or \$47,130) is assigned to achieving 150% of the net benefits. The calculation is: \$47,130 (max incentive) is divided by \$1,703,648 (150% of \$1,135,765) and is then divided by 6 (for six steps). This determines a percentage of net benefits for each step. In this case, that percentage to be used in 2008 is .46%. This percentage will be used with the actual results at year-end to determine the incentive achieved by the Company.
- 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. Appendix A, Table 2 shows actual 2008/09 results. The Company will receive a portion of the actual net benefits achieved.

As shown in Appendix A, Table 4, the incentive is maxed out at 30% of our original budget of \$157,100 or \$47,130.

Determine incentive - post year	
Inputs from previous sheet actual results	
1) 2008/09 Actual Energy Savings Achieved	4,021,300
2) 2008/09 Actual Expenditures	\$280,163
3) 2008/09 Actual Net Benefits	\$3,680,243
4) Actual percentage applied to net benefits	12.07%
5) Percent of actual net benefits – calculated incentive	\$444,036
6) Incentive cap = 30% of original budget	\$47,130
Incentive (lesser of lines 5 and 6)	\$47,130

## **SOUTH DAKOTA ENERGY EFFICIENCY PLAN - 2008/2009** Otter Tail Power Company Status Report

APPENDIX A, TABLE 1 Pages 1 & 2

		2008/2009 BUDGET			PARTICIPATION			
DIRECT IMPACT PROJECTS	ORIGINAL APPROVED BUDGET (5/2008)	MODIFIED BUDGET (8/2008)	ACTUAL EXPENSES	% OF MODIFIED BUDGET	ORIGINAL APPROVED	ACTUAL	% of GOAL	
RESIDENTIAL								
Residential Demand Control	\$9,900	\$6,800	\$1,472	22%	8	3	38%	
Air Source Heat Pumps -Residential *	\$8,800	\$8,800	\$21,659	246%	13	39	300%	
Geothermal Heat Pumps -Residential	\$5,600	\$6,000	\$16,224	270%	4	19	475%	
Air Conditioning Control *	\$12,600	\$9,500	\$2,795	29%	30	18	60%	
Total -Residential	\$36,900	\$31,100	\$42,151	136%	55	79	144%	
COMMERCIAL								
Grant	\$57,000	\$0	\$56,747		4	5	125%	
Motors	\$13,100	\$5,000	\$21,473	429%	22	35	159%	
Lighting	\$22,400	\$4,500	\$75,105	1669%	12	20	167%	
Air Source Heat Pumps -Commercial *	\$7,000	\$35,000	\$9,352	27%	6	13	217%	
Geothermal Heat Pumps -Commercial	\$2,700	\$106,000	\$18,430	17%	1	33	3300%	
Total -Commercial	\$102,200	\$150,500	\$181,107	120%	45	106	236%	
Total -Direct Impact	\$139,100	\$181,600	\$223,258	123%	100	185	185%	
INDIRECT IMPACT PROJECTS								
Advertising & Education	\$18,000	\$3,000	\$4,818	161%	625	565	90%	
Total - Indirect Impact	\$18,000	\$3,000	\$4,818	161%	625	565	90%	
Total - Without Development Costs	\$157,100	\$184,600	\$228,076	124%	725	750	103%	
DEVELOPMENT								
EEP DEVELOPMENT - 2007	\$0	\$0	\$27,487					
EEP DEVELOPMENT - 2008 / 2009	\$46,788	\$25,000	\$24,601	98%				
Total Development	\$46,788	\$25,000	\$52,088	208%				
TOTAL - ALL PROGRAMS (INC. DEVL)	\$203,888	\$209,600	\$280,163	134%	725	750	103%	
, ,								
Carrying Costs			(\$726)					
Proposed Incentive (currently not part of EEP Tracker)			\$47,130					
Total Recoverable with Carrying Costs & Incentive			\$326,567					
Recoverd through rates 12/31/09			(\$322,545)					
Balance - EEP Tracker 12/31/09			(\$43,107)					

Pages 1 & 2

	ENERGY SAVINGS			DEMAND SAVINGS				
DIRECT IMPACT PROJECTS	PROPOSED ENERGY SAVINGS (KWH)	ACTUAL ENERGY SAVINGS (KWH)	% OF GOAL	PROPOSED DEMAND SAVINGS (KW)	ACTUAL DEMAND SAVINGS (KW)	% OF GOAL		
RESIDENTIAL								
Residential Demand Control	4,836	1,813	37%	52.75	19.78	37%		
Air Source Heat Pumps -Residential *	32,621	97,862	300%	50.23	150.70	300%		
Geothermal Heat Pumps -Residential	48,361	229,717	475%	34.93	165.94	475%		
Air Conditioning Control *	1,468	881	60%	31.83	19.10	60%		
Total -Residential	87,286	330,273	378%	169.75	355.52	209%		
COMMERCIAL								
Grant	687,804	456,699	66%	148.47	66.94	45%		
Motors	57,594	99,966	174%	8.56	19.41	227%		
Lighting	280,176	2,634,394	940%	69.99	658.11	940%		
Air Source Heat Pumps -Commercial *	16,520	35,793	217%	9.74	21.10	217%		
Geothermal Heat Pumps -Commercial	14,066	464,175	3300%	9.72	320.88	3300%		
Total -Commercial	1,056,160	3,691,027	349%	246.48	1086.44	441%		
Total -Direct Impact	1,143,446	4,021,300	352%	416.23	1441.95	346%		
INDIRECT IMPACT PROJECTS								
Advertising & Education								
Total - Indirect Impact								
Total - Without Development Costs	1,143,446	4,021,300	352%	416.23	1441.95	346%		
DEVELOPMENT								
EEP DEVELOPMENT - 2007								
EEP DEVELOPMENT - 2008 / 2009								
Total Development								
TOTAL - ALL PROGRAMS (INC. DEVL)	1,143,446	4,021,300	352%	416.23	1441.95	346%		
Carrying Costs								
Proposed Incentive (currently not part of EEP Tracker)								
Total Recoverable with Carrying Costs & Incentive								
Recoverd through rates 12/31/09								
Balance - EEP Tracker 12/31/09								

**Net Benefits** 

**APPENDIX A, TABLE 2** 

Pages 1 & 2

	2008 /	Approved Savin	gs, Costs and	Benefits	2008 Actual Savings, Costs and Benefits				
DIRECT IMPACT PROJECTS	ENERGY SAVINGS (KWH)	PROPOSED BUDGET	TOTAL BENEFITS	UTILITY NET BENEFITS	ENERGY SAVINGS (KWH)	ACTUAL BUDGET	TOTAL BENEFITS	UTILITY NET BENEFITS	
RESIDENTIAL									
Residential Demand Control	4,836	\$9,900	\$73,640	\$63,740	1,813	\$1,472	\$27,615.02	\$26,143.01	
Air Source Heat Pumps - Residential *	32,621	\$8,800	\$102,766	\$93,966	97,862	\$21,659	\$308,297.12	\$286,637.63	
Geothermal Heat Pumps - Residential	48,361	\$5,600	\$94,181	\$88,581	229,717	\$16,224	\$447,361.44	\$431,137.18	
Air Conditioning Control *	1,468	\$12,600	\$53,357	\$40,757	881	\$2,795	\$32,014.43	\$29,219.33	
Total - Residential	87,286	\$36,900	\$323,945	\$287,045	330,273	\$42,151	\$815,288.01	\$773,137.15	
COMMERCIAL									
Grant	687,804	\$57,000	\$666,966	\$609,966	456,699	\$56,747	\$344,590.77	\$287,843.67	
Motors	57,594	\$13,100	\$44,389	\$31,289	99,966	\$21,473	\$91,956.45	\$70,483.73	
Lighting	280,176	\$22,400	\$216,856	\$194,456	2,634,394	\$75,105	\$2,039,024.81	\$1,963,919.37	
Air Source Heat Pumps - Commercial *	16,520	\$7,000	\$21,855	\$14,855	35,793	\$9,352	\$47,351.75	\$37,999.75	
Geothermal Heat Pumps - Commercial	14,066	\$2,700	\$18,854	\$16,154	464,175	\$18,430	\$622,195.03	\$603,765.52	
Total - Commercial	1,056,160	\$102,200	\$968,920	\$866,720	3,691,027	\$181,107	\$3,145,118.81	\$2,964,012.04	
Total - Direct Impact	1,143,446	\$139,100	\$1,292,865	\$1,153,765	4,021,300	\$223,258	\$3,960,406.82	\$3,737,149.19	
INDIRECT IMPACT PROJECTS									
Advertising & Education	0	\$18,000	\$0	(\$18,000)	0	\$4,818	\$0.00	(\$4,818.08)	
Development (all years)						\$52,088	\$0.00	(\$52,087.70)	
Total - Indirect Impact	0	\$18,000	\$0	(\$18,000)	0	\$56,906	\$0.00	(\$56,905.78)	
TOTAL - ALL PROGRAMS **	1,143,446	\$157,100	\$1,292,865	\$1,135,765	4,021,300	\$280,163	\$3,960,406.82	\$3,680,243.41	

<sup>\*</sup> Air conditioning programs include summer load reductions, which are not coincident to the system winter-peak \*\* Total costs do not include development costs for financial incentive calculation

## Benefit/Cost Results 2008/2009 SD EEP

## APPENDIX A, TABLE 2

Pages 1 & 2

	AS FILED	ACTUAL 2008/09
Data discounted to 2008	Utility Test	Utility Test
NPV Method: Midyear		
Discount Rates:	8%	8%
Benefit/Cost Ratio	8.23	14.14
Total Costs	\$157,100	\$280,163
Total Benefits	\$1,292,865	\$3,960,407
Net Benefits	\$1,135,765	\$3,680,243
		•
Total Benefits:		
Utility Elec. Production Cost Decr	\$360,912	\$1,137,454
Utility Generation Cap. Credit	\$721,704	\$2,182,046
Utility Transmission Cap. Credit	\$141,240	\$409,259
Utility Distribution Cap. Credit	\$3,925	\$11,877
Utility Sales Tax Cost Decrease	\$65,084	\$219,770
Total Benefits	\$1,292,865	\$3,960,407
		•
Total Costs:		
Utility Rebates Paid	\$73,227	\$165,567
Utility Fixed Admin Cost Increase	\$83,873	\$114,596
Total Costs	\$157,100	\$280,163

**APPENDIX A, TABLE 3** 

**Benefit Cost Ratios** 

	APPROVED BENEFIT / COST TEST RESULTS			ACTUAL BENEFIT / COST TEST RESULTS						
		RATEPAYER	TOTAL			RATEPAYER TOTAL				
	PART.	IMPACT	RESOURCE	SOCIETAL	UTILITY	PART.	IMPACT	RESOURCE	SOCIETAL	UTILITY
DIRECT IMPACT PROJECTS	TEST	TEST	TEST	TEST	TEST	TEST	TEST	TEST	TEST	TEST
RESIDENTIAL								•		
Residential Demand Control	9.94	0.87	6.45	6.07	7.44	9.82	0.94	10.11	9.51	18.76
Air Source Heat Pumps - Residential *	3.21	1.58	6.17	5.97	11.68	3.20	1.62	6.60	6.39	14.23
Geothermal Heat Pumps - Residential	2.29	1.17	3.60	3.43	16.82	2.28	1.20	3.81	3.63	27.57
Air Conditioning Control *	INF.	4.02	5.54	5.54	4.23	INF	10.01	16.60	16.60	11.45
Total - Residential										
COMMERCIAL										
Grant	2.10	1.10	3.11	2.96	11.70	5.48	0.84	5.17	4.85	6.07
Motors	9.53	0.56	3.85	3.51	3.39	10.79	0.68	6.23	5.77	4.28
Lighting	2.85	0.93	3.06	2.88	9.68	22.36	0.99	25.57	24.08	27.15
Air Source Heat Pumps - Commercial *	3.20	0.89	2.91	2.77	3.11	3.11	0.99	3.80	3.62	5.03
Geothermal Heat Pumps - Commercial	2.24	0.96	2.65	2.51	6.98	2.17	1.08	3.26	3.09	33.76
Total - Commercial										
Total - Direct Impact										
INDIRECT IMPACT PROJECTS										
Advertising & Education	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total - Indirect Impact	_				-					-
TOTAL - ALL PROGRAMS **	2.58	1.06	3.32	3.16	8.23	5.67	1.02	6.66	6.30	14.14

<sup>\*</sup> Air conditioning programs include summer load reductions, which are not coincident to the system winter-peak \*\* Total costs do not include development costs for financial incentive calculation

**APPENDIX A, TABLE 4** 

**Incentive Calculation** 

**Calculated Values Based on Pre-Year Inputs** 

Original Budget \$157,100 Energy Savings Goal at Original Budget

1,143,446

Multiplier for each 10% of energy savings goal (3)

0.461070%

((Budget x 30 percent) / Projected Net benefits @ 150% of goal) / 6

Estimated Net Benefits at Proposed Filing

\$1,135,765

#### **Calculation of Estimated Incentive**

Derived Numbers Give the Percent of Net Benefits Awarded at Different Percentages of Energy Savings Goal

	<u> </u>			
	_		Estimated	
			Benefits	Estimated
Percent of KWH Savings Goal	kWh Savings	Percent of Base	Achieved	Incentive
100 % of savings goal	1,143,446	0.46107%	\$1,135,765	\$5,237
110 % of savings goal	1,257,791	0.92214%	\$1,249,342	\$11,521
120 % of savings goal	1,372,135	1.38321%	\$1,362,918	\$18,852
130 % of savings goal	1,486,480	1.84428%	\$1,476,495	\$27,231
140 % of savings goal	1,600,824	2.30535%	\$1,590,071	\$36,657
150 % of savings goal	1,715,169	2.76642%	\$1,703,648	\$47,130

Incentive cap = 30% of budget	\$157,100
	30%
	\$47.130

## **Determine incentive - post year**

Inputs from previous sheet actual results		
2008 Actual Energy Savings Achieved (='Net Benefits'!G28)	4,021,300	351.68%
2008 Actual Expenditures (='Net Benefits'!H28)	\$280,163	
2008 Actual Net Benefits (=+Net Benefits 1.128)	\$3 680 243	

Actual percentage applied to net benefits 12.07% Percent of actual net benefits \$444,036

Incentive not to go negative or to exceed incentive CAP

**Calculated Incentive** \$47,130

**EEP Tracker Account / Cost Recovery** 

#### **EEP AUTOMATIC RECOVERY MECHANISM**

FILING DATE	
March 1	

				March 1	
			2007 ACTUAL	2008/09 ACTUAL	2010 Budget
		Calendar year	2007	2008/2009	2010
1	Estimated EEP Tracker Account Balance - end of prior year		\$0	\$27,487	(\$43,107)
2	Less: Remove EEP Balance to Separate Account		\$0	\$0	\$0
3					
4	True up from Previous Year (sum of lines 1 and 2)		\$0	\$27,487	(\$43,107)
5	EEP Program expenditures		\$27,487	\$252,677	\$263,000
6	Previous Year EEP Financial Incentives		\$0	\$0	\$47,130
7	Projected EEP Carrying Charge		\$0	(\$726)	\$0
8	EEP Cost Recovery through EE Adjustment Factor		\$0	(\$322,545)	\$0
9	Recoverable Tracker Balance (Line 4 Plus Lines 5 thru 8)		\$27,487	(\$43,107)	\$267,023
10	SD Sales (KWH budget)		0	837,027,245	412,473,609
11	Conservation Surcharge (1)		\$0.0000	\$0.00063	\$0.00063
12	Estimated EEP Tracker Account Balances				
13		Beginning Balance	\$0	\$27,487	(\$43,107)
14		EEP Program Expenditures	\$27,487	\$252,677	\$263,000
15		EEP Financial Incentives	\$0	\$0	\$47,130
16		Carrying Charges on Tracker Balance	\$0	(\$726)	\$0
17		EEP Cost Recovery thru Base Rates	\$0	\$0	\$0
18		EEP Cost Recovery From Surcharge	\$0	(\$322,545)	(\$259,858)
19		Ending Tracker Balance	\$27,487	(\$43,107)	\$7,165

(1) Effective for 12-month period July 1 through June 30

2008/2009 RECAP	
EEP DEVELOPMENT EXPENDITURES (2007) EEP PROGRAM EXPENDITURES (2008/09) TOTAL EXPENDITURES	\$27,486.62 \$252,676.79 \$280,163.41
CARRYING COSTS	(\$726.05)
RECOVERED THROUGH ENERGY EFFICIENCY ADJUSTMENT FACTOR	(\$322,544.54)
EEP TRACKER BALANCE 12/31/09	(\$43,107.18)
FINANCIAL INCENTIVE AWARDED (PROPOSED)	\$47,130.00
TOTAL AMOUNT REQUESTED TO BE RECOVERED (Expenditures + Carrying Costs + Financial Incentive)	\$326,567.36
EEP TRACKER BALANCE WITH FINANCIAL INCENTIVE INCLUDED	\$4,022.82



### ELECTRIC RATE SCHEDULE Energy Efficiency Partnership (EEP) Cost Recovery Rider

Fergus Falls, Minnesota

Original

# ENERGY EFFICIENCY PARTNERSHIP (EEP) COST RECOVERY RIDER

**RULES AND REGULATIONS:** Terms and conditions of this tariff and the General Rules and Regulations govern use under this schedule.

**APPLICATION OF SCHEDULE:** This rate schedule is applicable to electric service under all of the Company's retail rate schedules.

**ENERGY EFFICIENCY ADJUSTMENT:** There shall be added to each Customer's bill an Energy Efficiency Adjustment based on the applicable adjustment factor multiplied by the Customer's monthly energy (kWh) usage.

**DETERMINATION OF ENERGY EFFICIENCY ADJUSTMENT:** The Energy Efficiency Adjustment shall be the quotient of the recoverable EEP Tracker Balance, divided by projected retail sales (kWh) for a designated 12-month recovery period. The Adjustment may be updated annually by approval of the South Dakota Public Utilities Commission (SD PUC). The recoverable EEP Tracker Balance is determined as follows:

- 1. EEP Tracker account balance as of the end of the prior year;
- 2. Plus EEP expenditures;
- 3. Plus financial incentives awarded by the SD PUC;
- 4. Plus carrying charge;
- 5. Minus EEP cost recovery through this rider or base rates, if any.

All costs appropriately charged to the EEP Tracker account shall be eligible for recovery through this rider and all revenues received from the application of the Energy Efficiency Adjustment shall be credited to the EEP Tracker account.

**ENERGY EFFICIENCY ADJUSTMENT FACTOR:** Effective with bills rendered on and after October 1, 2008, the Energy Efficiency Adjustment Factor is \$0.00063.

<u>MANDATORY AND VOLUNTARY RIDERS</u>: The amount of a bill for service will be modified by any Mandatory Rate Riders that must apply or Voluntary Rate Riders selected by the Customer, unless otherwise noted in this rider. See Sections 12.00, 13.00 and 14.00 of the South Dakota electric rates for the matrices of riders.