



400 North Fourth Street  
Bismarck, ND 58501  
(701) 222-7900

November 11, 2005

Ms. Pam Bonrud  
Executive Director  
South Dakota Public Utilities Commission  
State Capitol Building  
500 East Capitol  
Pierre, SD 57501-5070

RECEIVED

NOV 14 2005

SOUTH DAKOTA PUBLIC  
UTILITIES COMMISSION

Re: Natural Gas Conservation Programs &  
Conservation Tracking Adjustment  
Docket No. NG05-\_\_\_\_\_

Dear Ms. Bonrud:

Montana-Dakota Utilities Co. (Montana-Dakota), a Division of MDU Resources Group, Inc., herewith submits for the Commission's consideration and approval a portfolio of Natural Gas Conservation Programs and an associated Conservation Tracking Adjustment.

Montana-Dakota is proposing this portfolio of conservation programs in order to recognize the natural gas market conditions currently facing consumers and expected to continue through the upcoming winter heating season.

Montana-Dakota has focused its efforts on programs that provide the opportunity to be implemented this winter while providing savings over the long term. Montana-Dakota is proposing to implement the following programs in order to raise customer awareness regarding energy saving measures and to provide incentives in order to make certain energy efficiency measures more cost effective for customers to employ. The programs will be promoted through local advertising, the Company's web site, home shows, bill inserts and community meetings. As noted, Montana-Dakota is partnering with ENERGY STAR in order to promote the use of equipment that meets the strict energy efficiency guidelines established by the federal government. Additional details regarding each program are provided in Attachment A.

1. *Customer Conservation Starter Kits.* This program is intended to provide a means of alerting customers of the expected high prices. A packet of materials that provide information on ways to conserve energy along with an outlet gasket and a switch plate gasket will be available to customers.
2. *Residential/Small General Service On-Line Energy Audit.* This program will provide Residential and Small General Service customers the opportunity to utilize an internet based tool that will offer guidance regarding the potential savings associated with energy efficiency measures that customers may implement in their homes.
3. *High-Efficiency Furnace Incentive.* This program will provide customers with a rebate of \$150 for purchasing and installing an ENERGY STAR rated furnace to replace an existing less efficient furnace. The ENERGY STAR rated furnaces have an Annual Fuel Utilization Efficiency (AFUE) rating of at least 90%.
4. *High-Efficiency Boilers.* This program will provide customers with a rebate of \$100 for purchasing and installing an ENERGY STAR rated boiler to replace an existing less efficient boiler. The ENERGY STAR rated boilers have an Annual Fuel Utilization Efficiency (AFUE) rating of at least 86%.
5. *High-Efficiency Water Heater Incentive.* A program designed to provide customers with a \$30 incentive for purchasing and installing a high efficiency water heater (defined as a unit with an energy factor of at least .62) to replace an existing less efficient water heater.
6. *Programmable Thermostats.* Montana-Dakota will offer a \$20 incentive for the purchase of a programmable thermostat that meets the ENERGY STAR guidelines.

The programs have been determined to be cost effective based on the benefit cost ratios produced by the Rate Payer, Societal, Participant and Utility tests where such quantification is possible. The results of the above-noted tests are summarized, by program with Black Hills shown on Attachment B, Page 2 and East River shown on Attachment C, Page 2. As noted above, the programs may be effectively promoted and administered by the Company in a timely manner in order to provide benefit to customers during the upcoming winter heating season and on a long term basis once implemented.

As shown on Attachment B, Page 1, the total cost of the above programs for the Black Hills service area is estimated to be approximately \$202,464 in the first year while producing an annual energy savings of approximately 23,000 dk. The estimated tracking adjustment required to recover the costs associated with the programs and the lost distribution revenues is estimated to be approximately \$0.047 per dk for all residential and firm general service customers. As shown on Attachment C, Page 1, the total cost of the above programs for the East River service area is estimated to be approximately \$26,937 in the first year while producing an annual energy savings of approximately 3,400 dk. The estimated tracking adjustment required to recover the costs associated with the programs and the lost distribution revenues is estimated to be approximately \$0.057 per dk for all residential and firm general service customers. The distribution revenue adjustment is necessary because of the fixed costs recovered through the Distribution Delivery Charge. To the extent a customer uses less natural gas, the Company is not recovering the fixed costs associated with providing service.

In order to alleviate the impact of the foreseen higher prices, consumers must lower their energy usage. A tracking adjustment for both the recovery of the program costs and the lost distribution revenues is essential to provide the Company the opportunity to earn the authorized return on the investment to serve customers.

A Conservation Program Tracking Mechanism Rate 90 is provided in Attachment D. The Conservation Program Tracking Mechanism is proposed to be implemented effective with the approval of the conservation programs described herein with the first rate adjustment effective May 1, 2006. The first rate adjustment will reflect the actual costs and dk savings as of February 28, 2006. Thereafter, the tracking adjustment will reflect an annual period of March 1 through February 28 of the subsequent years.

Attached as Exhibit A is the South Dakota "Report of Tariff Schedule Change" form required pursuant to ARSD 20:10:13:26.

The Company will comply with ARSD 20:10:13:18 by posting the Notice shown in Exhibit B in a conspicuous place in each business office in its affected gas service territory in South Dakota for at least 30 days before the change becomes effective.

Montana-Dakota respectfully requests an expedited review by the Commission with approval of the programs and the Conservation Program Tracking Mechanism Rate 90 on an expedited basis.

Please refer all inquiries regarding this filing to:

Mr. Donald R. Ball  
Assistant Vice President – Regulatory Affairs  
Montana-Dakota Utilities Co.  
400 North Fourth Street  
Bismarck, ND 58501

Also, please send copies of all written inquiries, correspondence and pleadings to:

Mr. David A. Gerdes  
May, Adam, Gerdes & Thompson  
503 South Pierre Street  
P.O. Box 160  
Pierre, South Dakota 57501-0160

The original and ten (10) copies of this Letter of Transmittal, Attachments and Exhibits are hereby filed with the South Dakota Public Utilities Commission.

Montana-Dakota respectfully requests that this filing be accepted as being in full compliance with the filing requirements of this Commission

Please acknowledge receipt by stamping or initialing the duplicate copy of this letter attached hereto and returning the same in the enclosed self-addressed, stamped envelope.

Sincerely,



Donald R. Ball  
Assistant Vice President –  
Regulatory Affairs

Attachments

cc: D. A. Gerdes

Report of Tariff Schedule Change

NAME OF UTILITY: Montana-Dakota Utilities Co.  
 ADDRESS: 400 North Fourth Street  
 Bismarck, ND 58501

Section No.	Class of Service	New Sheet No.
1	Table of Contents	3rd Revised Sheet No. 1
3	Conservation Program Tracking Mechanism	Original Sheet No. 31

Change: Rates (Conservation Program Tracking Mechanism)  
 (State part of tariff schedule affected by change, such as: Applicability, availability, rates, etc.)

Reason for Change Implement Natural Gas Conservation Programs

Present Rates .....  
 Proposed Rates .....  
 Approximate annual reduction in revenue ..... N/A  
 Approximate annual increase in revenue ..... N/A

Points Affected	Estimated Number of Customers Whose Cost of Service will be:					
	Reduced		Increased		Unchanged	
	# of Customers	Amount in \$	# of Customers	Amount in \$	# of Customers	Amount in \$
All	N/A	N/A	N/A	N/A	N/A	N/A

Include Statement of Facts, expert opinions, documents and exhibits supporting the change requested.

Received: \_\_\_\_\_

Montana-Dakota Utilities Co.  
 (Reporting Utility)

By: \_\_\_\_\_  
 Executive Director  
 South Dakota  
 Public Utilities Commission

By: Donald R. Ball  
 Ass't Vice President- Regulatory Affairs  
 (Name and Title)

**On November 14, 2005 Montana-Dakota Utilities Co., a Division of MDU Resources Group, Inc., filed with the South Dakota Public Utilities Commission new Rate 90 which affect Montana-Dakota Utilities Co.'s gas customers in South Dakota. The new rate and South Dakota rules and regulations are available in this office for inspection. Please inquire at cashier's desk.**

## **Montana-Dakota Utilities Co. Natural Gas Conservation Programs**

Montana-Dakota's review of natural gas conservation programs focused on programs that would be best suited for implementation in the short term while providing long-term benefits to customers participating in the programs. Montana-Dakota is proposing to offer incentives to existing homes only, as new construction homes typically use high efficiency equipment as the standard.

For the considered demand-side programs, an analysis involved a feasibility study of each program taking into account the cost associated with the program and savings in gas commodity costs available to participating customers. A utility, rate payer, societal and participant test was run for each program where applicable. The results are provided in Attachment B.

### **Customer Conservation Starter Kits**

Montana-Dakota will provide customers with a small packet containing the "Energy Savers Tips on Saving Energy & Money at Home" booklet. This booklet is produced by the U.S. Department of Energy and contains information on home energy use, insulation and weatherization, heating and cooling, water heating, windows, landscaping, lighting, appliances, and major appliance shopping guide. The packet will also contain an outlet gasket and a switch plate gasket. It is estimated that the conservation kits will cost approximately \$2.00 per packet and will be available to customers while supplies last.

The customer conservation starter kits are designed to provide the consumer information on ways they can reduce their energy use at home. Although it is difficult to quantify the effects on a customer's consumption level of providing the conservation packets to customers, they are a valuable resource for providing an educational tool to customers who are interested in controlling their energy use.

### **Residential/Small General Service On-Line Energy Audit**

Energy audits provide a way for customers to better understand how they use energy and what they can do to use it more efficiently. Montana-Dakota will implement an online internet energy audit program to provide customers with this valuable tool. This Energy Audit program will be linked from Montana-Dakota's web site and will provide the customer the opportunity to answer questions regarding their home (for example: demographics, appliances, energy systems and customer practices). In turn, the software will analyze the responses and provide information regarding annual energy costs by home energy system or appliance, monthly energy

usage and costs, recommendations for improving home energy efficiency and comfort, estimated cost savings from the implementation of recommendations and links to additional energy consumer information. As an alternative for those customers who do not have access to the internet, Montana-Dakota will offer a mail-in survey and results will be mailed back to the customer.

Internet energy audits provide a useful tool to customers who are interested in reducing the amount of energy they consume in their home. Montana-Dakota has obtained a cost estimate of approximately \$50,000 for the license and set-up of an internet audit program with a \$10,000 annual maintenance fee for the program and a \$350 per month hosting service. The cost of the Energy Audit will be allocated to all states served by Montana-Dakota.

This tool will provide the customer an opportunity to evaluate their energy consumption and provide the company an opportunity to educate the consumer on conservation and energy utilization.

### **High Efficiency Furnaces (ENERGY STAR Rated)**

Furnaces are the most common residential heating system in the United States and, according to Montana-Dakota's customer energy use survey 79% of South Dakota natural gas customers use a furnace to heat their home. The typical incremental cost difference between the standard and high efficiency models is \$470.

Montana-Dakota's high efficiency furnace program will offer a \$150 incentive for the purchase and installation of an ENERGY STAR rated furnace. ENERGY STAR furnaces have an Annual Fuel Utilization Efficiency (AFUE) of at least 90%, which is currently 10% higher than standard efficiency models available in the market. Therefore, an average customer who uses 57 dk of natural gas for heating will save a minimum of 6.9 dk per year for the 15 year life of the furnace. Actual energy savings may be higher depending on the age and condition of the customer's existing furnace.

It is expected that this program will have a participation level of approximately 5% which represents approximately 1,442 customers in the Black Hills area and 191 customers in the East River service area over the next three years. Based on this participation rate, the total program costs in South Dakota are expected to be \$255,900 with estimated consumption savings of 5,705 dk annually or 11,402 dk over the three-year period.

### **High Efficiency Boilers (ENERGY STAR Rated)**

According to Montana-Dakota's customer energy use survey, 11% of South Dakota residential natural gas customers use a boiler to heat their home. The typical incremental cost difference between the standard and high efficiency models is \$500.

Montana-Dakota's high efficiency boiler program will offer a \$100 incentive for the purchase and installation of an ENERGY STAR rated boiler. ENERGY STAR boilers have an Annual Fuel Utilization Efficiency (AFUE) of at least 86%, which is currently 5% higher than standard efficiency models available in the market. Therefore an average customer who uses 57 dk of natural gas for heating will save a minimum of 3.4 dk per year for the 15 year life of the boiler. Actual energy savings may be higher or lower depending on the age and condition of the customer's existing boiler.

It is expected that this program will have a participation level of approximately 5% which represents approximately 202 customers in the Black Hills area and 27 customers in the East River service area over the next three years. Based on this participation rate, the total program costs in South Dakota are expected to be \$33,850 with estimated consumption savings of 396 dk annually or 790 dk over the three-year period.

### **High Efficiency Water Heaters**

According to Montana-Dakota's customer energy use survey 68% of South Dakota residential natural gas customers use natural gas to heat water. The typical incremental cost difference between the standard and high efficiency models is \$60.

Montana-Dakota's high efficiency water heater program will offer a \$30 incentive for the purchase and installation of a high efficiency water heater. High efficiency water heaters have an energy factor that is equal to or greater than .62. Currently standard efficiency models available in the market have an energy factor of .57. Therefore, an average customer who uses 26 dk of natural gas for water heating will save a minimum of 1.3 dk per year for the 10 year life of the water heater. Actual energy savings may be higher depending on the age and condition of the customer's existing water heater.

It is expected that this program will have a participation level of approximately 2% which represents approximately 494 customers in the Black Hills area and 65 customers in the East River service area over the next three years. Based on this participation rate, the program costs are expected to be \$27,750 with estimated consumption savings of 291 dk annually or 727 dk over the three-year period.

### **Programmable Thermostats (Energy Star Rated)**

Programmable thermostats automatically adjust a customer's home temperature settings, allowing them to save energy while away or sleeping. The programmable units are more convenient and accurate than manual thermostats and improve the comfort of the home. The programmable thermostats save energy by offering 4 convenient, pre-programmed temperature settings. Typical cost of the thermostats range from \$50-\$100.

Montana-Dakota's programmable thermostat program will offer a \$20 incentive for the purchase and installation of a programmable thermostat that meets the ENERGY STAR guidelines. Typically a customer will save 3% of their heating energy use for every degree of setback, with an eight hour minimum setback period. Thermostats that meet the ENERGY STAR guidelines are pre-programmed for a 5 degree set back. Therefore an average customer who sets back their thermostat 5 degrees and uses 57 dk of natural gas for heating will save approximately of 8.6 dk per year for the 15 year life of the thermostat. Actual energy savings may be higher or lower depending on the degree of setback temperature that the customers desire.

It is expected that this program will have a participation level of approximately 15% which represents approximately 4,102 customers in the Black Hills area and 544 customers in the East River service area over the next three years. Based on this participation rate, the program costs are expected to be \$103,870 with estimated consumption savings of 20,223 dk annually or 40,445 dk over the three-year period.

**Montana-Dakota Utilities Co.  
Gas Utility - South Dakota (Black Hills)  
Gas Conservation Tracking Adjustment**

**Estimated Conservation Program Costs:**

High Efficiency Furnace Replacement		\$111,400	1/
High Efficiency Boiler Replacement		13,350	2/
High Efficiency Water Heater Replacement		9,190	3/
Programmable Thermostats		44,270	4/
Energy Audits		10,798	
Conservation Starter Kits		<u>13,456</u>	
		<u>\$202,464</u>	
Estimated Dk Savings	23,214		5/
Currently Effective Distribution Delivery Charge	<u>\$1.571</u>		
Annual Distribution Margin Loss		\$36,469	
Total Conservation Tracking Adjustment Balance		\$238,933	
Projected Firm Sales		5,112,187	dk
Estimated Tracking Adjustment		<u><u>\$0.047</u></u>	per dk

1/ Attachment B, Page 3.

2/ Attachment B, Page 4.

3/ Attachment B, Page 5.

4/ Attachment B, Page 6.

5/ Attachment B, Page 2.

**Montana-Dakota Utilities Co.  
Gas Utility - South Dakota (Black Hills)  
Summary of DSM Model Runs**

**Benefit Cost Ratios**

Program	Utility	Rate Payer	Societal	Participant
High Efficiency Furnace	1.75	3.66	1.26	1.86
High Efficiency Boiler	1.27	2.04	0.55	0.94
High Efficiency Water Heater	1.11	1.65	1.07	2.23
Programmable Thermostats	3.03	32.46	12.07	12.26
Energy Audits (BH Share)	NA	NA	NA	NA
Weatherization Kits (BH Share)	NA	NA	NA	NA

**All Programs ( 3 Year Implementation)**

Program	Cost Per Participant	Year 1 Cost	Year 2 Cost	Year 3 Cost	Total Cost	Annual Dk Reduced	Project Life	Total Dk Reduction
High Efficiency Furnace	\$157.00	\$111,400	\$68,200	\$46,450	\$226,050	4,975	15	118,816
High Efficiency Boiler	148.00	13,350	9,350	7,250	29,950	343	15	6,958
High Efficiency Water Heater	50.00	9,190	7,690	7,690	24,570	257	10	4,313
Programmable Thermostats	22.00	44,270	27,870	19,650	91,790	17,639	15	422,781
Energy Audits (BH Share)	0.30	10,798	2,388	2,388	15,574	NA	NA	NA
Weatherization Kits (BH Share)	2.00	13,456	13,456	13,456	40,368	NA	NA	NA
<b>Totals</b>		<b>\$202,464</b>	<b>\$128,954</b>	<b>\$96,884</b>	<b>\$428,302</b>	<b>23,214</b>		<b>552,868</b>

## SD (Black Hills) Residential High Efficiency Furnace Energy Star Rated (90% plus)

Customer Class: Residential

Cost Montana-Dakota				\$/Part	Total \$ Yr 1	Total \$ Yr 2	Total \$ Yr 3	Total \$
Operating Costs				\$ -	\$ -	\$ -	\$ -	\$ -
Incentive Costs	\$	150.00	Incentive	\$ 150	\$ 108,150	\$ 64,950	\$ 43,200	\$ 216,300
Administrative & Advertising				\$ 7	\$ 3,250	\$ 3,250	\$ 3,250	\$ 9,750
<b>Total Cost</b>				<b>\$ 157</b>	<b>\$ 111,400</b>	<b>\$ 68,200</b>	<b>\$ 46,450</b>	<b>\$ 226,050</b>

### Notes

Administrative cost is estimated at \$3,250 per year for Montana-Dakota  
Incentive is \$150.00

### Participant Costs (Incremental Cost Basis)

Cost of STD Efficiency Model (80% AFUE)	\$	700		75,000 BTUH
Cost of High Efficiency Model (90% AFUE)	\$	1,170		75,000 BTUH
<b>Increased Cost of Higher Eff Model</b>	<b>\$</b>	<b>470</b>		

### Participation Rate Calculation

	% of Cust	Cust
Total Customers in Class	100.00%	36,459
Total Customers with Gas Forced-Air Heating	79.10%	28,839

Total Available for Program	28,839	
Total Estimated Saturation Percentage	5.0%	
<b>Total Participants</b>	<b>1,442</b>	3.96% of total Customer Base
Participation Year 1	2005-2006	721 50%
Participation Year 2	2007	433 30%
Participation Year 3	2008	288 20%

### Energy Savings Calculation

Equipment	Efficiency	Annual Dk
Base Efficiency	78%	57.3
High Efficiency	90%	50.4
<b>Energy Reduction</b>	<b>12%</b>	<b>6.9</b>

Energy Star LBNL 2004

Actual savings will vary by customer depending on use and other factors.

Gas Reduction Annual per Participant	6.9 dk
Total Year 1	4,975 dk
Total Year 3	9,950 dk

# SD (Black Hills) Residential High Efficiency Boilers Energy Star Rated (85% plus)

<b>Customer Class:</b>	<b>Residential</b>
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<b>Cost Montana-Dakota</b>		<b>\$/Part</b>	<b>Total \$ Yr 1</b>	<b>Total \$ Yr 2</b>	<b>Total \$ Yr 3</b>	<b>Total \$</b>
Operating Costs		\$ -	\$ -	\$ -	\$ -	\$ -
Incentive Costs	\$ 100.00 Incentive	\$ 100	\$ 10,100	\$ 6,100	\$ 4,000	\$ 20,200
Administrative & Advertising		\$ 48	\$ 3,250	\$ 3,250	\$ 3,250	\$ 9,750
<b>Total Cost</b>		<b>\$ 148</b>	<b>\$ 13,350</b>	<b>\$ 9,350</b>	<b>\$ 7,250</b>	<b>\$ 29,950</b>

**Notes**  
 Administrative cost is estimated at \$3,250 per year for Montana-Dakota  
 Incentive is \$100.00

<b>Participant Costs (Incremental Cost Basis)</b>		
Cost of STD Efficiency Model (80% AFUE)		\$ 700
Cost of High Efficiency Model (86% AFUE)		\$ 1,200
<b>Increased Cost of Higher Eff Model</b>		<b>\$ 500</b>

<b>Participation Rate Calculation</b>		
	<b>% of Cust</b>	<b>Customers</b>
Total Customers in Class	100.00%	36,459
Total Customers with Gas Boilers	11.10%	4,047

Total Available for Program	4,047	
Total Estimated Saturation Percentage	5.0%	
<b>Total Participants</b>	<b>202</b>	0.55% of total Customer Base
Participation Year 1	2005-2006	101 50%
Participation Year 2	2007	61 30%
Participation Year 3	2008	40 20%

<b>Energy Savings Calculation</b>			
<b>Equipment</b>	<b>Efficiency</b>	<b>Annual Dk</b>	
Existing Units	80%	57.3	Energy Star LBNL 2004
High Efficiency	86%	53.9	
<b>Energy Reduction</b>	<b>6%</b>	<b>3.4</b>	Actual savings will vary by customer depending on use and other factors.

Gas Reduction Annual per Participant	3.4 dk
Total Year 1	343 dk
Total Year 3	687 dk

## SD (Black Hills) Residential High Efficiency Water Heaters Minimum Energy Factor of .62

Customer Class: Residential

### Cost Montana-Dakota

		\$/Part	Total \$ Yr 1	Total \$ Yr 2	Total \$ Yr 3	Total \$
Operating Costs		\$ -	\$ -	\$ -	\$ -	\$ -
Incentive Costs	\$ 30.00 Incentive	\$ 30	\$ 5,940	\$ 4,440	\$ 4,440	\$ 14,820
Administrative & Advertising		\$ 20	\$ 3,250	\$ 3,250	\$ 3,250	\$ 9,750
<b>Total Cost</b>		<b>\$ 50</b>	<b>\$ 9,190</b>	<b>\$ 7,690</b>	<b>\$ 7,690</b>	<b>\$ 24,570</b>

### Notes

Administrative cost is estimated at \$3,250 per year for Montana-Dakota  
Incentive is \$30.00

### Participant Costs (Incremental Cost Basis)

Cost of STD Efficiency Model	\$ 438	40 Gallon
Cost of High Efficiency Model	\$ 498	40 Gallon
<b>Increased Cost of Higher Eff Model</b>	<b>\$ 60</b>	

### Participation Rate Calculation

	% of Cust	Customers
Total Customers in Class	100.00%	36,459
Total Customers with Gas Water Heaters	67.70%	24,683

Total Available for Program	24,683	
Total Estimated Saturation Percentage	2.0%	
<b>Total Participants</b>	<b>494</b>	1.35% of total Customer Base
Participation Year 1	2005-2006	198 40%
Participation Year 2	2007	148 30%
Participation Year 3	2008	148 30%

### Energy Savings Calculation

Equipment	Energy Factor	Annual Dk	
Std Eff Std Vent	57%	26.0	American Council for an Energy Efficient Economy
High Eff Std Vent	62%	24.7	Power shots energy factor is higher at .62 and .64 (GPCR)
<b>Energy Reduction</b>	<b>5%</b>	<b>1.3</b>	Actual savings will vary by customer depending on use and other factors.

Gas Reduction Annual per Participant	1.3 dk
Total Year 1	257 dk
Total Year 3	642 dk

# SD (Black Hills) Residential Programmable Thermostats Energy Star Rated

Customer Class: Residential

### Cost Montana-Dakota

	\$/Part	Total \$ Yr 1	Total \$ Yr 2	Total \$ Yr 3	Total \$
Operating Costs	\$ -	\$ -	\$ -	\$ -	\$ -
Incentive Costs \$ 20.00 Incentive	\$ 20	\$ 41,020	\$ 24,620	\$ 16,400	\$ 82,040
Administrative & Advertising	\$ 2	\$ 3,250	\$ 3,250	\$ 3,250	\$ 9,750
<b>Total Cost</b>	<b>\$ 22</b>	<b>\$ 44,270</b>	<b>\$ 27,870</b>	<b>\$ 19,650</b>	<b>\$ 91,790</b>

### Notes

Administrative cost is estimated at \$3,250 per year for Montana-Dakota  
Incentive cost is \$20.00

### Participant Costs (Incremental Cost Basis)

Standard Thermostat	\$ 40	Industry Data Energy Star
Programmable Thermostat	\$ 100	Industry Data Energy Star
<b>Increased Cost of Higher Efficiency Model</b>	<b>\$ 60</b>	

### Participation Rate Calculation

	% of Cust	Customers
Total Customers in Class	100.00%	36,459
Customer available for Thermostat	75.00%	27,344

Total Available for Program	27,344	
Total Estimated Saturation Percentage	15.0%	
<b>Total Participants</b>	<b>4,102</b>	11.25% of total Customer Base
Participation Year 1 2005-2006	2,051	50%
Participation Year 2 2007	1,231	30%
Participation Year 3 2008	820	20%

### Energy Savings Calculation

Equipment	Degree Setback	% saving per degree	Annual Dk	
Standard T-Stat	-	NA	57.3	Average use per Montana-Dakota Customer (Residential)
Programmable T-Stat	5	3%	48.7	Per Energy Star
<b>Energy Reduction</b>		<b>15%</b>	<b>8.6</b>	Actual savings will vary by customer depending on use and other factors.

Gas Reduction Annual per Participant	8.6 dk
Total Year 1	17,639 dk
Total Year 3	35,277 dk

**Montana-Dakota Utilities Co.  
Gas Utility - South Dakota (East River)  
Gas Conservation Tracking Adjustment**

**Estimated Conservation Program Costs:**

High Efficiency Furnace Replacement		\$14,800	1/
High Efficiency Boiler Replacement		1,800	2/
High Efficiency Water Heater Replacement		1,180	3/
Programmable Thermostats		5,840	4/
Energy Audits		1,477	
Conservation Starter Kits		<u>1,840</u>	
		<u>\$26,937</u>	

Estimated Dk Savings	3,401	5/	
Currently Effective Distribution Delivery Charge	<u>\$2,915</u>		
Annual Distribution Margin Loss			\$9,914

Total Conservation Tracking Adjustment Balance \$36,851

Projected Firm Sales 645,188 dk

Estimated Tracking Adjustment \$0.057 per dk

- 1/ Attachment B, Page 3.
- 2/ Attachment B, Page 4.
- 3/ Attachment B, Page 5.
- 4/ Attachment B, Page 6.
- 5/ Attachment B, Page 2.

**Montana-Dakota Utilities Co.  
Gas Utility - South Dakota (East River)  
Summary of DSM Model Runs**

**Benefit Cost Ratios**

Program	Utility	Rate Payer	Societal	Participant
High Efficiency Furnace	1.42	4.04	1.38	2.21
High Efficiency Boiler	1.01	1.86	0.51	0.96
High Efficiency Water Heater	0.96	1.71	1.09	2.43
Programmable Thermostats	2.07	35.86	13.28	13.33
Energy Audits (East River Share)	NA	NA	NA	NA
Weatherization Kits (East River Share)	NA	NA	NA	NA

**All Programs ( 3 Year Implementation)**

Program	Cost Per Participant	Year 1 Cost	Year 2 Cost	Year 3 Cost	Total Cost	Annual Dk Reduced	Project Life	Total Dk Reduction
High Efficiency Furnace	\$156.00	\$14,800	\$8,950	\$6,100	\$29,850	730	15	17,350
High Efficiency Boiler	144.00	1,800	1,200	900	3,900	53	15	992
High Efficiency Water Heater	48.00	1,180	1,000	1,000	3,180	34	10	575
Programmable Thermostats	22.00	5,840	3,660	2,580	12,080	2,584	15	61,661
Energy Audits (East River Share)	0.31	1,477	327	327	2,131	NA	NA	NA
Weatherization Kits (East River Share)	2.00	1,840	1,840	1,840	5,520	NA	NA	NA
<b>Totals</b>		<b>\$26,937</b>	<b>\$16,977</b>	<b>\$12,747</b>	<b>\$56,661</b>	<b>3,401</b>		<b>80,578</b>

## SD (East River) Residential High Efficiency Furnace Energy Star Rated (90% plus)

**Customer Class:** Residential

Cost Montana-Dakota				\$/Part	Total \$ Yr 1	Total \$ Yr 2	Total \$ Yr 3	Total \$
Operating Costs				\$ -	\$ -	\$ -	\$ -	\$ -
Incentive Costs	\$ 150.00	Incentive		\$ 150	\$ 14,400	\$ 8,550	\$ 5,700	\$ 28,650
Administrative & Advertising				\$ 6	\$ 400	\$ 400	\$ 400	\$ 1,200
<b>Total Cost</b>				<b>\$ 156</b>	<b>\$ 14,800</b>	<b>\$ 8,950</b>	<b>\$ 6,100</b>	<b>\$ 29,850</b>

### Notes

Administrative cost is estimated at \$400 per year for Montana-Dakota  
Incentive is \$150.00

### Participant Costs (Incremental Cost Basis)

Cost of STD Efficiency Model (80% AFUE)	\$ 700	75,000 BTUH
Cost of High Efficiency Model (90% AFUE)	\$ 1,170	75,000 BTUH
<b>Increased Cost of Higher Eff Model</b>	<b>\$ 470</b>	

### Participation Rate Calculation

	% of Cust	Cust
Total Customers in Class	100.00%	4,832
Total Customers with Gas Forced-Air Heating	79.10%	3,822

Total Available for Program	3,822	
Total Estimated Saturation Percentage	5.0%	
<b>Total Participants</b>	<b>191</b>	3.95% of total Customer Base
Participation Year 1	2005-2006	96 50%
Participation Year 2	2007	57 30%
Participation Year 3	2008	38 20%

### Energy Savings Calculation

Equipment	Efficiency	Annual Dk
Base Efficiency	78%	63.1
High Efficiency	90%	55.5
<b>Energy Reduction</b>	<b>12%</b>	<b>7.6</b>

Energy Star LBNL 2004

Actual savings will vary by customer depending on use and other factors.

Gas Reduction Annual per Participant	7.6 dk
Total Year 1	730 dk
Total Year 3	1,452 dk

## SD (East River) Residential High Efficiency Boilers Energy Star Rated (85% plus)

**Customer Class:** Residential

### Cost Montana-Dakota

	\$/Part	Total \$ Yr 1	Total \$ Yr 2	Total \$ Yr 3	Total \$
Operating Costs	\$ -	\$ -	\$ -	\$ -	\$ -
Incentive Costs \$ 100.00 Incentive	\$ 100	\$ 1,400	\$ 800	\$ 500	\$ 2,700
Administrative & Advertising	\$ 44	\$ 400	\$ 400	\$ 400	\$ 1,200
<b>Total Cost</b>	<b>\$ 144</b>	<b>\$ 1,800</b>	<b>\$ 1,200</b>	<b>\$ 900</b>	<b>\$ 3,900</b>

### Notes

Administrative cost is estimated at \$400 per year for Montana-Dakota  
Incentive is \$100.00

### Participant Costs (Incremental Cost Basis)

Cost of STD Efficiency Model (80% AFUE)	\$ 700
Cost of High Efficiency Model (86% AFUE)	\$ 1,200
<b>Increased Cost of Higher Eff Model</b>	<b>\$ 500</b>

### Participation Rate Calculation

	% of Cust	Customers
Total Customers in Class	100.00%	4,832
Total Customers with Gas Boilers	11.10%	536

Total Available for Program	536	
Total Estimated Saturation Percentage	5.0%	
<b>Total Participants</b>	<b>27</b>	0.56% of total Customer Base
Participation Year 1 2005-2006	14	50%
Participation Year 2 2007	8	30%
Participation Year 3 2008	5	20%

### Energy Savings Calculation

Equipment	Efficiency	Annual Dk	
Existing Units	80%	63.1	Energy Star LBNL 2004
High Efficiency	86%	59.3	
<b>Energy Reduction</b>	<b>6%</b>	<b>3.8</b>	Actual savings will vary by customer depending on use and other factors.

Gas Reduction Annual per Participant	3.8 dk
Total Year 1	53 dk
Total Year 3	103 dk

## SD (East River) Residential High Efficiency Water Heaters Minimum Energy Factor of .62

Customer Class: Residential

### Cost Montana-Dakota

			\$/Part	Total \$ Yr 1	Total \$ Yr 2	Total \$ Yr 3	Total \$
Operating Costs			\$ -	\$ -	\$ -	\$ -	\$ -
Incentive Costs	\$ 30.00 Incentive		\$ 30	\$ 780	\$ 600	\$ 600	\$ 1,980
Administrative & Advertising			\$ 18	\$ 400	\$ 400	\$ 400	\$ 1,200
<b>Total Cost</b>			<b>\$ 48</b>	<b>\$ 1,180</b>	<b>\$ 1,000</b>	<b>\$ 1,000</b>	<b>\$ 3,180</b>

### Notes

Administrative cost is estimated at \$400 per year for Montana-Dakota  
Incentive is \$30.00

### Participant Costs (Incremental Cost Basis)

Cost of STD Efficiency Model	\$ 438	40 Gallon
Cost of High Efficiency Model	\$ 498	40 Gallon
<b>Increased Cost of Higher Eff Model</b>	<b>\$ 60</b>	

### Participation Rate Calculation

	% of Cust	Customers
Total Customers in Class	100.00%	4,832
Total Customers with Gas Water Heaters	67.70%	3,271

Total Available for Program	3,271	
Total Estimated Saturation Percentage	2.0%	
<b>Total Participants</b>	<b>65</b>	1.35% of total Customer Base
Participation Year 1	2005-2006	26 40%
Participation Year 2	2007	20 30%
Participation Year 3	2008	20 30%

### Energy Savings Calculation

Equipment	Energy Factor	Annual Dk	
Std Eff Std Vent	57%	26.0	American Council for an Energy Efficient Economy
High Eff Std Vent	62%	24.7	Power shots energy factor is higher at .62 and .64 (GPCR)
<b>Energy Reduction</b>	<b>5%</b>	<b>1.3</b>	Actual savings will vary by customer depending on use and other factors.

Gas Reduction Annual per Participant	1.3 dk
Total Year 1	34 dk
Total Year 3	85 dk

## SD (East River) Residential Programmable Thermostats Energy Star Rated

**Customer Class:** Residential

Cost Montana-Dakota				\$/Part	Total \$ Yr 1	Total \$ Yr 2	Total \$ Yr 3	Total \$
Operating Costs				\$ -	\$ -	\$ -	\$ -	\$ -
Incentive Costs	\$	20.00	Incentive	\$ 20	\$ 5,440	\$ 3,260	\$ 2,180	\$ 10,880
Administrative & Advertising				\$ 2	\$ 400	\$ 400	\$ 400	\$ 1,200
<b>Total Cost</b>				<b>\$ 22</b>	<b>\$ 5,840</b>	<b>\$ 3,660</b>	<b>\$ 2,580</b>	<b>\$ 12,080</b>

**Notes**

Administrative cost is estimated at \$400 per year for Montana-Dakota  
Incentive cost is \$20.00

Participant Costs (Incremental Cost Basis)				
Standard Thermostat			\$ 40	Industry Data Energy Star
Programmable Thermostat			\$ 100	Industry Data Energy Star
<b>Increased Cost of Higher Efficiency Model</b>			<b>\$ 60</b>	

Participation Rate Calculation			% of Cust	Customers
Total Customers in Class			100.00%	4,832
Customer available for Thermostat			75.00%	3,624

Total Available for Program			3,624	
Total Estimated Saturation Percentage			15.0%	
<b>Total Participants</b>			<b>544</b>	11.26% of total Customer Base
Participation Year 1	2005-2006		272	50%
Participation Year 2	2007		163	30%
Participation Year 3	2008		109	20%

Energy Savings Calculation				
Equipment	Degree Setback	% saving per degree	Annual Dk	
Standard T-Stat	-	NA	63.1	Average use per Montana-Dakota Customer (Residential)
Programmable T-Stat	5	3%	53.6	Per Energy Star
<b>Energy Reduction</b>		<b>15%</b>	<b>9.5</b>	Actual savings will vary by customer depending on use and other factors.

Gas Reduction Annual per Participant	9.5	dk
Total Year 1	2,584	dk
Total Year 3	5,168	dk





**State of South Dakota  
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**State of South Dakota  
 Gas Rate Schedule – SDPUC Volume No. 2**

Section No. 3  
 Original Sheet No. 31

**CONSERVATION PROGRAM TRACKING MECHANISM Rate 90**

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**Applicability:**

This rate schedule represents a Conservation Program Tracking Mechanism and specifies the procedure to be utilized to recover the costs of conservation programs, as authorized by the Commission, including the recovery of distribution delivery charge revenues reduced as a result of the conservation programs. Service provided under the Company's Residential Service Rate 60 and 66 and Firm General Service Rates 70, 72 and 76 shall be subject to this tracking mechanism.

**Conservation Program Tracker:**

An adjustment per dk will be determined for each rate schedule subject to the Conservation Program Tracking Mechanism. Monthly bills beginning with the first billing cycle following May 1, 2006 and each May 1 thereafter, will be adjusted by the application of the Conservation Tracking Adjustment rate indicated below. The rate will reflect the amortization of the conservation program costs including the dk savings associated with each measure implemented in the prior 12 month period. The currently authorized Distribution Delivery Charge will be applied to the dk savings to compute the reduction in Distribution Delivery revenues associated with the conservation programs. The total program costs including the lost distribution revenues will be amortized over projected volumes to be sold over the next 12 month period. Following the initial one-year term, and annually thereafter, the Conservation Program Tracker rate calculation shall include any over or under collection of revenue from the preceding twelve month recovery period.

**Conservation Tracking Adjustment:**

Black Hills	\$0.000 per dk
East River	\$0.000 per dk

N

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**State of South Dakota  
 Gas Rate Schedule – SDPUC Volume No. 2**

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Section No. 1  
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**Conservation Program Tracker:**

An adjustment per dk will be determined for each rate schedule subject to the Conservation Program Tracking Mechanism. Monthly bills beginning with the first billing cycle following May 1, 2006 and each May 1 thereafter, will be adjusted by the application of the Conservation Tracking Adjustment rate indicated below. The rate will reflect the amortization of the conservation program costs including the dk savings associated with each measure implemented in the prior 12 month period. The currently authorized Distribution Delivery Charge will be applied to the dk savings to compute the reduction in Distribution Delivery revenues associated with the conservation programs. The total program costs including the lost distribution revenues will be amortized over projected volumes to be sold over the next 12 month period. Following the initial one-year term, and annually thereafter, the Conservation Program Tracker rate calculation shall include any over or under collection of revenue from the preceding twelve month recovery period.

**Conservation Tracking Adjustment:**

Black Hills	\$0.000 per dk
East River	\$0.000 per dk

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