

FILED
January 15, 2010
Data Center
Missouri Public
Service Commission

Exhibit No.
Issue: Energy Efficiency Programs
Witness: Sherrill L. McCormack
Type of Exhibit: Direct Testimony
Sponsoring Party: Empire District Gas
Case No.
Date Testimony Prepared: June 2009

**Before the Public Service Commission
of the State of Missouri**

Direct Testimony

of

Sherrill L. McCormack

June 2009

Empire Exhibit No. 15
Case No(s) GE-2009-0434
Date 1-08-10 Rptr KF

TABLE OF CONTENTS
OF
SHERRILL L MCCORMACK
ON BEHALF OF
THE EMPIRE DISTRICT GAS COMPANY
BEFORE THE
MISSOURI PUBLIC SERVICE COMMISSION

<u>SUBJECT</u>	<u>PAGE</u>
INTRODUCTION.....	1
ENERGY EFFICIENCY	2
ADJUSTMENTS.....	8

DIRECT TESTIMONY
OF
SHERRILL L. MCCORMACK
THE EMPIRE DISTRICT GAS COMPANY
BEFORE THE
MISSOURI PUBLIC SERVICE COMMISSION
CASE NO.

1 **INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME AND ADDRESS.**

3 A. My name is Sherrill L. McCormack and my business address is 602 Joplin Street, Joplin,
4 Missouri 64801.

5 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

6 A. I am currently employed by The Empire District Electric Company ("Empire" or
7 "Company") as the Energy Efficiency Coordinator.

8 **Q. ON WHOSE BEHALF ARE YOU APPEARING IN THIS MATTER?**

9 A. I am appearing on behalf of The Empire District Gas Company ("EDG"). EDG is a
10 wholly owned subsidiary of Empire that was formed to hold the Missouri Gas assets
11 acquired from Aquila, Inc. ("Aquila") on June 1, 2006.

12 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND**
13 **PROFESSIONAL EXPERIENCE.**

14 A. I hold a Bachelor of Science degree in Business Administration with a major in finance
15 from Mississippi State University. I also earned a Masters Degree in Business
16 Administration from Pittsburg State University. Prior to joining Empire, I held various
17 positions in banking and investments from 1978 to 1989 in Mississippi and Texas,
18 followed by two years as an adjunct business instructor at Labette County Community
19 College in Kansas and nine years as a business instructor with Crowder College in

SHERRILL L. MCCORMACK
DIRECT TESTIMONY

1 Missouri. In August 2001, I was employed by Empire as a Planning Analyst. Originally,
2 I worked with long-range financial forecasting and generation planning until November
3 2005. With the renewed interest in energy efficiency programs, my primary
4 responsibilities have shifted to coordinating the implementation of demand side
5 management and energy efficiency programs that have been authorized by the various
6 regulatory commissions that regulate Empire's gas and electric operations. In 2008 I
7 assumed my current position of Energy Efficiency Coordinator. I also participate in
8 Empire's integrated resource planning.

9 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

10 A. I will discuss EDG's current and proposed energy efficiency programs and the related
11 rate case adjustments.

12
13 **ENERGY EFFICIENCY**

14 **Q. WHAT ENERGY EFFICIENCY PROGRAMS DOES EDG HAVE IN PLACE?**

15 A. EDG currently has two energy efficiency programs in place, one for residential customers
16 and one for commercial customers. The residential program is the Weatherization
17 Program which consists of two segments. The larger segment of this program is
18 available to customers throughout EDG's service territory. The smaller segment is linked
19 to the ELIP participants in Sedalia. In addition to the residential programs there is an
20 experimental commercial energy audit program that is available to non-residential
21 customers.

22 **Q. HAS EMPIRE ATTEMPTED TO AUGMENT THESE TWO PROGRAMS SINCE**
23 **IT ACQUIRED AQUILA'S MISSOURI GAS OPERATIONS?**

SHERRILL L. MCCORMACK
DIRECT TESTIMONY

1 A. Yes. Empire has added the Apogee Home Energy Calculator and the Commercial
2 Energy Calculator to its web site. The Energy Calculators can be used to determine the
3 impact of tightening up a home or purchasing a more efficient furnace or water heater.
4 The customers have the ability to utilize these calculators as stand-alone tools or to link
5 the calculators to their historical usage and to the changes to see a more direct impact on
6 their individual gas bills.

7 In October of 2008, EDG implemented Project Help; an assistance program available to
8 its more elderly and disabled customers. Please refer to the testimony of EDG witness
9 Bill Gipson for additional details on this program.

10 Additionally in October, Empire partnered with the Community Action Agencies ("CAA
11 or Agency") to provide weatherization kits to 500 customers. Empire provided each
12 Agency with 100 kits which were distributed through the LIHEAP offices in an attempt
13 to broaden the reach of the weatherization program. Each kit contained a window
14 insulation kit for approximately 5 windows, 10 switch gaskets and 10 outlet gaskets, one
15 17' roll of closed cell foam weatherstripping for doors, and one 30' roll of rope caulk for
16 windows.

17 **Q. PLEASE PROVIDE AN UPDATE ON THE STATUS OF EDG'S EXISTING**
18 **ENERGY EFFICIENCY PROGRAMS.**

19 A. The existing energy efficiency programs came out of Aquila's last rate case, Case No.
20 GR-2004-0072, and were assumed by EDG upon Empire's purchase of the gas
21 operations. During EDG's first two contract years of the low income weatherization
22 program, 85 low income customers participated with \$141,364 of the \$205,000 budgeted
23 for this program being utilized through May 2008. Of these totals, 6 homes were part of

SHERRILL L. MCCORMACK
DIRECT TESTIMONY

1 the ELIP weatherization program in Sedalia and included total expenditures of \$11,522.
2 This compares to the \$48,000 budgeted for the ELIP Weatherization Program over these
3 two contract years. In the larger component of the Weatherization Program, EDG
4 provides funding to the CAA in its service territory for weatherization of low-income
5 customers' homes. The ELIP Weatherization Program in Sedalia is handled by the CAA
6 covering the Sedalia area. The weatherization and the education that occurs during this
7 process are designed to help the participating customers lower their energy consumption
8 while remaining comfortable.

9 **Q. PLEASE DESCRIBE THE EXPERIMENTAL COMMERCIAL ENERGY AUDIT**
10 **PROGRAM.**

11 A. This program is funded at \$7,500 annually and is available to small volume commercial
12 customers. The rebate is up to fifty percent (50%) of the cost of the audit, not to exceed
13 \$500. None of EDG's gas customers have utilized this program since the gas operations
14 were acquired by Empire in June 2006.

15 **Q. DOES EMPIRE PLAN TO CONTINUE TO OFFER ENERGY EFFICIENCY**
16 **PROGRAMS?**

17 A. Yes. EDG is proposing an energy efficiency portfolio consisting of Low-Income
18 Weatherization, three programs for residential and small commercial customers, and one
19 program for large commercial customers. The proposed budget for this energy
20 efficiency portfolio for the first three years of operation averages \$220,593 per year.

21 **Q. PLEASE DESCRIBE HOW THIS PORTFOLIO WAS DEVELOPED.**

22 A. Empire contacted Applied Energy Group ("AEG") to assist in the development of this
23 portfolio. AEG incorporated EDG specific data into the analysis which led to the

SHERRILL L. MCCORMACK
DIRECT TESTIMONY

1 portfolio EDG is proposing. Schedule SLM-1, which is attached hereto, details each
2 program, including program description, estimated energy and demand savings, estimated
3 participation levels, budget breakdown, and benefit cost test results. The schedule also
4 provides a summary at the portfolio level which includes benefit cost tests results for the
5 portfolio as a whole.

6 **Q. IS EDG PROPOSING ANY CHANGES TO THE LOW-INCOME**
7 **WEATHERIZATION PROGRAM?**

8 A. Yes. EDG is proposing a change to the Weatherization Program funding level and the
9 elimination of the special weatherization fund for the Sedalia ELIP participants.
10 Currently, the annual budget for the larger segment of the program is \$78,500 and the
11 annual budget for the Sedalia ELIP segment is \$24,000. EDG is proposing that the two
12 segments of the Weatherization Program be consolidated into a single program with an
13 average annual budget of \$72,667 over the next three years.

14 **Q. PLEASE EXPLAIN.**

15 A. EDG is recommending the elimination of the special weatherization fund for Sedalia
16 ELIP due to the lack of participation. Of the two contract years since acquisition of the
17 property, EDG has only seen customer participation in year one. At the end of the first
18 two contract years, \$36,478 from an overall budget of \$48,000 was unspent. Finally, the
19 expenditures on weatherization have not exceeded \$75,000 in either of these two contract
20 years.

21 **Q. PLEASE DESCRIBE THE ADDITIONAL RESIDENTIAL OR SMALL**
22 **COMMERCIAL PROGRAMS BEING PROPOSED BY EDG.**

SHERRILL L. MCCORMACK
DIRECT TESTIMONY

1 A. EDG is proposing three additional energy efficiency programs for the residential and
2 small commercial customer classes. The first is a High Efficiency Natural Gas Water
3 Heater program consisting of an ENERGY STAR® rated tank (.62 Energy Factor or
4 higher) and tankless water heaters. The proposed rebates are \$75 and \$200, respectively.
5 The average annual budget for this program is \$28,975 during the first three years of
6 operation.

7 The second program is the High Efficiency Natural Gas Space Heating program, which
8 provides incentives of \$200 for the purchase and installation of an ENERGY STAR
9 furnace with annual fuel utilization efficiency ("AFUE") of ninety percent (90%) or
10 better. Customers participating in this program may also receive a \$25 rebate toward the
11 purchase and installation of a programmable thermostat. The average annual budget for
12 this program is \$52,613 during the first three years of the program's operation.

13 The final program for the residential customer class is the Home Performance with
14 ENERGY STAR with an average annual budget of \$25,671 during the first three years of
15 operation. Designed to increase the energy efficiency of existing homes, the program
16 provides a rebate for a home energy audit and for insulation improvements as
17 recommended by the audit. At least one measure recommended in the audit would have
18 to be implemented for the audit rebate to be available. The maximum available per
19 customer under this program is \$400.

20 Additional detail for each of these proposed programs is contained in the attached
21 Schedule SLM-1.

22 **Q. DOES EDG PROPOSE A CONTINUATION OF THE EXPERIMENTAL**
23 **COMMERCIAL ENERGY AUDIT PROGRAM?**

SHERRILL L. MCCORMACK
DIRECT TESTIMONY

1 A. No. EDG recommends that the current audit program be discontinued, and that a new
2 program be implemented for our commercial customers.

3 **Q. PLEASE DESCRIBE THE ENERGY EFFICIENCY PROGRAM BEING**
4 **PROPOSED FOR THE LARGE COMMERCIAL CUSTOMERS?**

5 A. EDG is proposing a rebate program consisting of both prescriptive and custom rebates for
6 its large volume customers. The audit would be optional to the customer. However, the
7 customer would qualify for an audit rebate if an audit was performed and at least one
8 recommended measure installed. The audit rebate would be determined by the square
9 footage of the building audited. The average annual budget for this program over the first
10 three years is \$40,667. Additional details surrounding this program may be found in the
11 attached Schedule SLM-1.

12 **Q. DID EDG ANALYZE EACH OF THE ENERGY EFFICIENCY PROGRAMS**
13 **AND THE PORTFOLIO USING THE STANDARD BENEFIT COST TESTS?**

14 A. Yes. Each of the programs was analyzed separately and the portfolio was also analyzed.
15 The results of these analyses are shown in the attached Schedule SLM-1.

16 **Q. HAS EDG PREPARED PROPOSED TARIFF SHEETS FOR THESE NEW**
17 **ENERGY EFFICIENCY PROGRAMS AND ANY PROPOSED REVISIONS TO**
18 **THE EXISTING PROGRAMS?**

19 A. Yes. The proposed changes are displayed on tariff sheets 68 through 71 and 71.c through
20 71.h.

21 **Q. DOES EDG CURRENTLY HAVE AN ENERGY EFFICIENCY**
22 **COLLABORATIVE?**

SHERRILL L. MCCORMACK
DIRECT TESTIMONY

1 A. No. EDG as part of its energy efficiency proposal recommends that an advisory group
2 consisting of Public Service Commission Staff, the Office of Public Counsel, the
3 Missouri Department of Natural Resources Energy Center, an Industrial Customer
4 Representative, and EDG be organized. This group would provide input to EDG on the
5 implementation of the proposed energy efficiency portfolio, potential new energy
6 efficiency programs, and future evaluations of the programs.

7

8 **ADJUSTMENTS**

9 **Q. PLEASE DESCRIBE THE ENERGY EFFICIENCY ADJUSTMENT YOU ARE**
10 **SUPPORTING IN THIS RATE CASE.**

11 A. The overall adjustment to operating expense for the proposed energy efficiency portfolio
12 is an increase of \$105,352 and is detailed on Schedule SLM-2. This adjustment reflects
13 an annual average of the first three years of program expenditures on the proposed
14 portfolio of \$220,593 and the elimination of the annual expenses associated with the
15 existing energy efficiency programs during the test year, which amounted to \$115,241.
16 The difference is an increase to operating expense of \$105,352.

17 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

18 A. Yes.


AFFIDAVIT OF SHERRILL L. MCCORMACK

STATE OF MISSOURI)
) ss
COUNTY OF JASPER)

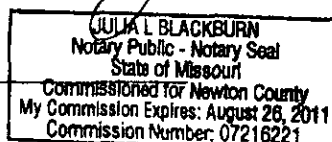
On the 5 day of June, 2009, before me appeared Sherrill L. McCormack, to me personally known, who, being by me first duly sworn, states that she is a Planning Analyst of The Empire District Electric Company and acknowledges that she has read the above and foregoing document and believes that the statements therein are true and correct to the best of her information, knowledge and belief.


Sherrill L. McCormack

Subscribed and sworn to before me this 5 day of June, 2009.


Notary Public

My commission expires: _____



Empire District Gas

Energy Efficiency Program Portfolio

May 10, 2009

Table of Contents

INTRODUCTION	3
LOW INCOME WEATHERIZATION PROGRAM.....	5
HIGH EFFICIENCY NATURAL GAS WATER HEATING PROGRAM.....	8
HIGH EFFICIENCY NATURAL GAS SPACE HEATING PROGRAM	11
HOME PERFORMANCE WITH ENERGY STAR PROGRAM.....	14
LARGE COMMERCIAL NATURAL GAS AUDIT AND REBATE PROGRAM...	17
SUMMARY.....	22

INTRODUCTION

Empire District Gas (EDG) is pleased to propose the following portfolio of energy efficiency programs for our natural gas customers. These programs were designed to encourage energy efficiency improvements in areas that constitute the largest use of natural gas in our customers' residences and or small businesses. We have also included one program for larger commercial customers to try and address their needs for energy efficiency improvements.

1. Consolidation

Rather than have various programs implemented individually throughout the service territory, EDG proposes to consolidate all programs that support energy efficiency under one umbrella portfolio. This will allow EDG to leverage each program and offer a comprehensive program that provides energy efficiency improvement opportunities to our customers.

2. Evaluation

Each program description includes a high level evaluation plan. For direct impact programs, EDG proposes both a process and impact evaluation, especially where impacts can be determined through billing analysis. The impact evaluation will be completed, at the latest, within six months of the second full year of implementation, provided there are enough participants for a statistically significant sample. The process evaluation will also be completed within six months of the second full year of implementation. We propose process evaluations for all programs except the Low Income Weatherization program.

All impact evaluations will be in compliance with International Program Measurement and Verification Protocols (IPMVP).

3. Collaboration

Wherever possible, EDG will collaborate with other utilities with overlapping service territories to leverage each utility's energy efficiency program and benefit from joint marketing and administration.

In addition, EDG proposes to develop a five-person advisory group consisting of EDG personnel, Commission staff, the Office of Public Council, the MO Department of Natural Resources, and an industrial customer representative. This advisory group will assist EDG in reviewing high level program design; any appropriate RFPs that may be issued and responses received, including selection of the vendor; and evaluation results. The group will also provide input into and recommendations for

improving the portfolio of programs as well as the individual programs within the portfolio.

4. Reporting

EDG will provide reports on program progress on a quarterly basis. The Advisory Group will also meet on a quarterly basis or as often as deemed necessary by the Advisory Group.

5. Cost Benefit Analysis

For comparison purposes, EDG has provided benefit cost analysis using both the traditional rate structure and the proposed Straight Fixed Variable (SFV) rate structure.

LOW INCOME WEATHERIZATION PROGRAM

1. PROJECT DESCRIPTION

The Low Income Weatherization project is designed to provide additional assistance to customers who are receiving weatherization services through the Community Action Program (CAP) agencies. These agencies receive funding from the Federal and State governments to implement weatherization to eligible residents. Eligibility to participate in EDG's Low Income Weatherization program will be based on DOE guidelines. Both renters and homeowners are eligible to participate and must follow the protocols set by DOE's Low Income Weatherization Assistance Program.

This project is designed to be administered through CAP agencies in EDG's service territory. Income verification, assessment of potential energy efficiency improvements and installation of measures will follow the protocols set forth by the Federal and State entities overseeing this program.

CAP agencies will be allowed to utilize EDG funding for measures that improve the energy efficiency of natural gas usage. These measures include natural gas heating systems, natural gas water heating systems, setback thermostats, and building envelope improvements. EDG funding must be used for cost effective measures. CAP agencies may use the NEAT audit or other similar recognized cost effectiveness audit procedure to ensure improvements covered under this program are cost effective or have an SIR of 1.0 or higher. Efficiency requirements for any measures that are installed will be in compliance with DOE guidelines for this program. Further, customers who receive funding under the Low Income Weatherization program are not eligible to receive rebates under any other EDG program.

This project will help low income customers reduce their energy costs at no cost to the customer. CAP agencies offer a cost effective and efficient implementation capability, which allows most of the funding to go directly to the purchase and installation of energy efficiency measures.

2. ANNUAL PEAK DEMAND AND ENERGY SAVINGS (per year)

Based on the anticipated participation levels, expected energy savings are as follows.

Years	Demand (MCF)	Energy (MCF)
Annual	13.1	1,310

3. PROJECT COST EFFECTIVENESS

Because the measures implemented should have an SIR of 1.0 based on the NEAT audit or be cost effective based on a similar analysis tool, it is assumed the measures will be cost effective. Based on assumptions documented in the benefit cost model, results of the cost effectiveness analysis are as follows:

Traditional Rate Structure				
RIM	Utility	Societal	TRC	Participant
.51	1.67	1.84	1.67	-

SFV Rate Structure				
RIM	Utility	Societal	TRC	Participant
.62	1.67	1.84	1.67	-

4. ANNUAL PARTICIPATION (per year)

Years	Participation
Annual	40

5. PROJECT BUDGET (per year)

Budget Categories	Years 1-2	Year 3
Project Delivery	\$70,000	\$70,000
Administration	\$1,500	\$1,500
Marketing/O&E		
Rebate		
Evaluation		\$3,500
Total	\$71,500	\$75,000

6. PLAN TO EVALUATE PROJECT EFFECTIVENESS

For the Low Income Weatherization program, an impact evaluation will be completed, at the latest, within 6 months of the second full year of implementation. This evaluation will be conducted provided there are enough participants for a statistically valid sample.

EDG will work with an external vendor to perform these evaluations. Further, with the small evaluation budgets, EDG will work to leverage impact and process evaluations across several programs if possible.

HIGH EFFICIENCY NATURAL GAS WATER HEATING PROGRAM

1. PROJECT DESCRIPTION

The High Efficiency Natural Gas Water Heating program is designed to assist EDG customers reduce natural gas use for water heating by providing incentives for high efficiency systems. Incentives will cover a portion of the incremental cost of the high efficiency equipment.

Eligible customers are existing customers with an active account who are being served under either the Company's Residential or Small Commercial rates. This program is also available for the new construction market. Therefore, eligible customers include builders, developers, and residential and commercial property owners who purchase a qualifying efficient natural gas water heating system and install it within EDG's service territory. This program is not available to inactive and final bill accounts.

Customers will be eligible to receive the following rebates:

- \$75 for an Energy Star rated natural gas tank water heater
- \$200 for a natural gas tankless water heater.

Qualifying tank systems are defined as Energy Star rated systems. Energy Star seeks to have about 25 percent of available models meet the Energy Star criteria for a product category. Consequently, as the market share of qualifying products increases, the qualifying criteria are raised, thereby resulting in market transformation. Utilizing Energy Star as the qualifier for this program ensures the bar is raised as the market moves toward higher and higher efficiency. All tankless water heaters are considered as qualifying for a rebate as their efficiency is .82 EF or higher.

At the current time, Energy Star certification applies to the following efficiencies:

- Natural gas tank water heater – .62 EF
- Natural gas tankless water heater - .82 EF

EDG will partner with local water heating contractors to deliver this program. EDG will provide the necessary information including rebate application forms, Energy Star qualification information and program information to partners for use in encouraging buyers to increase the efficiency of the systems they purchase. In addition to providing key partners with application forms, the forms will be available online.

EDG will promote this program to customers through a variety of channels, including but not limited to bill inserts, bill messages, the EDG website, online consumer educational opportunities, and presentations/ public speaking opportunities.

2. ANNUAL PEAK DEMAND AND ENERGY SAVINGS (per year)

Based on the anticipated participation levels, expected energy savings are as follows:

Years	Demand (MCF)	Energy (MCF)
Annual	5.6	555

3. PROJECT COST EFFECTIVENESS

Based on assumptions documented in the benefit cost model, results of the cost effectiveness analysis are as follows (See detail chart in Summary Section for individual measure BenCost results):

Traditional Rate Structure				
RIM	Utility	Societal	TRC	Participant
.54	1.95	.97	.89	1.38

SFV Rate Structure				
RIM	Utility	Societal	TRC	Participant
.66	1.94	.97	.89	1.10

4. ANNUAL PARTICIPATION (per year)

Years	Measure	Participation
Annual	Tank Water Heater	140
	Tankless Water Heater	40

5. PROJECT BUDGET (per year)

Budget Categories	Years 1-2	Year 3
Project Delivery	\$2,000	\$2,000
Administration	\$2,000	\$2,000
Marketing/O&E	\$6,000	\$6,000
Customer Incentive	\$18,500	\$18,500
Evaluation		\$1,425
Total	\$28,500	\$29,925

6. PLAN TO EVALUATE PROJECT EFFECTIVENESS

For the water heating program, the impact and process evaluations will be completed, at the latest, within 6 months of the second full year of implementation. The impact evaluation will look at the effectiveness of the program in reducing natural gas usage and the process evaluation will look at the efficiency with which the program is implemented. The evaluations will be conducted provided there are enough participants for a statistically valid sample.

EDG will work with an external vendor to perform these evaluations. Further, with the small evaluation budgets, EDG will work to leverage impact and process evaluations across several programs if possible.

HIGH EFFICIENCY NATURAL GAS SPACE HEATING PROGRAM

1. PROJECT DESCRIPTION

The High Efficiency Natural Gas Space Heating program is designed to assist EDG customers reduce natural gas use for space heating by providing incentives for high efficiency systems. Incentives will cover a portion of the incremental cost of the high efficiency equipment.

Eligible customers are existing customers with an active account who are being served under either the Company's Residential or Small Commercial rates. This program is also available for the new construction market. Therefore, eligible customers include builders, developers, and residential and commercial property owners who purchase a qualifying efficient natural gas space heating system and install it within EDG's service territory. This program is not available to inactive and final bill accounts.

Customers will be eligible to receive the following rebates:

- \$200 for an Energy Star rated natural gas furnace.
- \$200 for an Energy Star rated natural gas boiler.
- \$200 for an Energy Star rated natural gas combined heating/water heating system (falls under the category of boilers)
- \$25 for an Energy Star rated programmable thermostat if purchased in conjunction with a qualifying space heating system.

Qualifying systems are defined as Energy Star rated systems. Energy Star seeks to have about 25 percent of available models meet the Energy Star criteria for a product category. Consequently, as the market share of qualifying products increases, the qualifying criteria are raised, thereby resulting in market transformation. Utilizing Energy Star as the qualifier for this program ensures the bar is raised as the market moves toward higher and higher efficiency.

At the current time, Energy Star certification applies to the following efficiencies:

- Natural gas furnace – 90% AFUE
- Natural gas boilers – 85% AFUE
- Natural gas combined heating/water heating system (falls under the category of boilers) – 85% AFUE

EDG will partner with local heating and plumbing contractors to deliver this program. EDG will provide the necessary information including rebate

application forms, Energy Star qualification information and program information to partners for use in encouraging buyers to increase the efficiency of the systems they purchase. In addition to providing key partners with application forms, the forms will be available online.

EDG will promote this program to customers through a variety of channels, including but not limited to bill inserts, bill messages, the EDG website, online consumer educational opportunities, and presentations/ public speaking opportunities.

2. ANNUAL PEAK DEMAND AND ENERGY SAVINGS (per year)

Based on the anticipated participation levels, expected energy savings are as follows:

Years	Demand (MCF)	Energy (MCF)
Annual	22.7	2,267

3. PROJECT COST EFFECTIVENESS

Based on assumptions documented in the benefit cost model, results of the cost effectiveness analysis are as follows (See detail chart in Summary Section for individual measure BenCost results):

Traditional Rate Structure				
RIM	Utility	Societal	TRC	Participant
.62	3.93	2.61	2.36	3.97

SFV Rate Structure				
RIM	Utility	Societal	TRC	Participant
.80	3.92	2.61	2.36	3.07

4. ANNUAL PARTICIPATION (per year)

Years	Measure	Participation
Annual	Heating System	175
Annual	Setback Thermostat	150

5. PROJECT BUDGET (per year)

Budget Categories	Years 1-2	Year 3
Project Delivery	\$2,000	\$2,000
Administration	\$2,000	\$2,000
Marketing/O&E	\$6,000	\$6,000
Customer Incentive	\$41,750	\$41,750
Evaluation		\$2,588
Total	\$51,750	\$54,338

6. PLAN TO EVALUATE PROJECT EFFECTIVENESS

For the space heating program, the impact and process evaluations will be completed, at the latest, within 6 months of the second full year of implementation. The impact evaluation will look at the effectiveness of the program in reducing natural gas usage and the process evaluation will look at the efficiency with which the program is implemented. The evaluations will be conducted provided there are enough participants for a statistically valid sample.

EDG will work with an external vendor to perform these evaluations. Further, with the small evaluation budgets, EDG will work to leverage impact and process evaluations across several programs if possible.

HOME PERFORMANCE WITH ENERGY STAR PROGRAM

1. PROJECT DESCRIPTION

Home Performance with ENERGY STAR® is a unique program which enhances the traditional existing home energy audit service. This program uses the ENERGY STAR® brand to help encourage and facilitate whole-house energy improvements to existing housing. It focuses on the private-sector contractors and service professionals who currently work on existing homes – replacing HVAC systems, adding insulation, installing new windows, etc. EDG requires auditors to be accredited under Building Performance Institute (BPI) standards.

The program strives to provide homeowners with consumer education, value and a whole-house approach. A participating BPI-certified Home Performance auditor can identify a variety of home energy efficiency problems, including poor insulation, air leaks through cracks and gaps, and ineffective moisture control by first performing a home assessment. Upon completion of the assessment, the auditor will provide a listing of improvements that can be made to the residence.

Contractors/consultants are trained to provide a "one-stop" problem solving solution that fixes multiple improvements that, as a package, will increase the home's energy efficiency. While the program goal is saving energy, its market-based approach and message focus on addressing a variety of customer needs – comfort, energy savings, durability, and health & safety. It also encourages the development of a skilled and available contractor/ consultant infrastructure that has an economic self-interest in providing and promoting comprehensive, building science-based retrofit services.

The benefits for a customer that participates in the program include:

- Significant savings on energy bills
- Higher home resale value
- A quieter, more comfortable living environment
- Improved air quality for better health
- Greater home durability with lower maintenance
- Increased environmental safety and energy efficiency

EDG will offer this program by leveraging, as much as possible, the activities of electric utilities with overlapping service territories that have implemented this program. EDG proposes to provide customers who receive the initial Home Performance Audit a rebate of \$25 toward the

cost of the audit. EDG also will offer rebates for insulation at 50% of the total cost of the insulation. The maximum a customer can receive under this program is \$400. In addition, participants in this program are also eligible to receive rebates under the High Efficiency Natural Gas Water Heating program and High Efficiency Natural Gas Space Heating program.

2. ANNUAL PEAK DEMAND AND ENERGY SAVINGS (per year)

Years	Demand (MCF)	Energy (MCF)
Annual	8.1	810

3. PROJECT COST EFFECTIVENESS

Based on assumptions documented in the benefit cost model, results of the cost effectiveness analysis are as follows:

Traditional Rate Structure				
RIM	Utility	Societal	TRC	Participant
.59	2.92	1.12	1.02	1.69

SFV Rate Structure				
RIM	Utility	Societal	TRC	Participant
.74	2.91	1.12	1.02	1.32

4. ANNUAL PARTICIPATION (per year)

Years	Measure	Participation
Annual	Insulation	45

5. PROJECT BUDGET (per year)

Budget Categories	Years 1-2	Year 3
Project Delivery	\$1,000	\$1,000
Administration	\$2,000	\$2,000
Marketing/O&E	\$4,250	\$4,250
Customer Incentive	\$18,000	\$18,000
Evaluation		\$1,263
Total	\$25,250	\$26,513

6. PLAN TO EVALUATE PROJECT EFFECTIVENESS

For the Home Performance with Energy Star program, the impact and process evaluations will be completed, at the latest, within 6 months of the second full year of implementation. The impact evaluation will look at the effectiveness of the program in reducing natural gas usage and the process evaluation will look at the efficiency with which the program is implemented. The evaluations will be conducted provided there are enough participants for a statistically valid sample.

EDG will work with an external vendor to perform these evaluations. Further, with the small evaluation budgets, EDG will work to leverage impact and process evaluations across several programs if possible.

LARGE COMMERCIAL NATURAL GAS AUDIT AND REBATE PROGRAM

1. PROJECT DESCRIPTION

The Large Commercial Natural Gas Audit and Rebate program is a direct impact program for large commercial customers in the retrofit and new construction markets. Eligible customers are existing customers with an active account who are being served under the Company's Large Volume Firm rate or under the Large Volume Transportation rate. This program offers both prescriptive rebates and custom rebates for the installation of natural gas energy efficiency improvements and will also offer a reimbursement for the cost of an energy audit that was performed in support of any measure that receives a rebate.

Certain measures will receive prescriptive rebates including those which install, replace or retrofit qualifying natural gas heating systems and set-back thermostats. Boiler and furnace tune-ups will also be eligible for a prescriptive rebate as will energy efficient food services equipment. These rebates are based upon a fixed schedule by type and size of equipment. All other rebates under this project will receive financial incentives which are customized or individually determined using *BENCOST*. This will ensure that they pass the Societal B/C Test.

The energy audit incentive will only be provided to a customer that qualifies for a rebate under this program. The incentive offer will be 50% of the cost of the audit with a maximum which is structured as follows:

- \$275 per building under 25,000 sq. ft.
- \$375 for buildings over 25,000 sq. ft.

There will be a limit of three buildings per customer per year for audit incentives. Audits must be performed by qualified professionals¹. Audit reports must cover multiple aspects of energy use including:

- HVAC System Controls
- HVAC System Efficiency and Operation
- Building Envelope
- Commercial Cooking (where applicable)

The following is the list of the available prescriptive rebates for the Large Commercial Natural Gas Audit and Rebate program. The rebate amounts allow for a cost effective rebate that provides an incentive for the installation of high efficiency heating equipment.

¹ Qualified is defined as having a CEM, being a Professional Engineer, or having equivalent experience.

Equipment or Service	Rebate
Heating System Equipment	
Energy Star Electronic Setback Thermostat w/furnace installation	\$25
Energy Star High Efficiency Air-Forced Furnaces	\$200
Food Service Products	
Convection Ovens	\$400
Combi Ovens	\$800
High Efficiency Fryers	\$700
Rotating Rack Oven	\$500
Boilers	
Continuous Modulating Burners (retrofits to existing boilers only)	25% of equipment cost; \$5,000 cap per burner
New Hot Water Space Heating Boilers	
Boiler less than or equal to 300,000 BTU/hour output; min 85% AFUE	\$500/MMBTU + \$200/MMBTU per percentage point above min. AFUE (max \$750)
300,001 to 999,999 BTU/hour output min 83% AFUE	\$500/MMBTU + \$200/MMBTU per percentage point above min. AFUE (max \$1,500)
1,000,000 to 9,999,999 BTU/hour output min 83% AFUE	\$500/MMBTU + \$200/MMBTU per percentage point above min. AFUE (max \$3,000)
New High Pressure Steam Space Heating Boilers (>15 psig operating pressure)	
Boiler less than or equal to 300,000 BTU/hour output; min 81.5% AFUE	\$500/MMBTU + \$200/MMBTU per percentage point above min. AFUE (max \$750)
300,001 to 999,999 BTU/hour output min 81.5% AFUE	\$500/MMBTU + \$200/MMBTU per percentage point above min. AFUE (max \$1,500)
1,000,000 to 9,999,999 BTU/hour output min 81.5% AFUE	\$500/MMBTU + \$200/MMBTU per percentage point above min. AFUE (max \$3,000)
New Low Pressure Steam Space Heating Boilers (<= 15 psig operating pressure)	
Boiler less than or equal to 300,000 BTU/hour output; min 83% AFUE	\$500/MMBTU + \$200/MMBTU per percentage point above min. AFUE (max \$750)
300,001 to 999,999 BTU/hour output min 83% AFUE	\$500/MMBTU + \$200/MMBTU per percentage point above min. AFUE (max \$1,500)
1,000,000 to 9,999,999 BTU/hour output min 83% AFUE	\$500/MMBTU + \$200/MMBTU per percentage point above min. AFUE (max \$3,000)
Other Related Equipment	
Gas-fired Boiler Tune Up (min. size >= 1 million Btu/hr.)	50% of cost up to \$500 Boiler is eligible for tune-up every 2 years.
Vent Dampers	50% of equipment cost with a \$500 cap per boiler
Steam Traps	25% of cost up to \$250/trap

O2 Trim Control	25% of cost up to \$3,000
-----------------	---------------------------

The program will also provide custom rebates to eligible customers for the installation of any natural gas related energy efficiency improvement that does not qualify for a prescriptive rebate. All custom rebates will be individually determined and analyzed using *BENCOST* to ensure that they pass the Societal Benefit/Cost Test. Any measure that is pre-qualified (evaluated prior to being installed), must produce a Societal Benefit/Cost test result of 1.0 or higher.

Rebates are calculated as the lesser of the following:

- A buydown to a two year payback
- \$5.50 per MCF saved during the first year

The following are examples of how each of these criteria could determine the custom rebate:

Custom rebate project with marginal energy savings	
Incremental cost	\$130,000
MCF savings	3,400
Customer annual bill savings	\$22,400
Payback	5.80
rebate at 2 year payback	\$85,200
rebate at \$5.50 per MCF	\$18,700
societal BC ratio	1.50

Custom rebate project with high energy savings	
Incremental cost	\$55,000
MCF savings	3,800
Customer annual bill savings	\$22,400
Payback	2.46
rebate at 2 year payback	\$10,200
rebate at \$5.50 per MCF	\$20,900
societal BC ratio	3.60

Note that the \$ per MCF criteria will usually be the deciding factor for projects that have lower societal BC results due to high cost per MCF saved. The payback criteria conversely would be the deciding factor for projects that have higher societal BC results due to lower cost per MCF saved.

The project delivery and administrative budgets for this project reflects the

cost to process both the prescriptive and custom rebates. Evaluating custom rebate applications can require significant analysis, often because customers do not have all the information necessary to run the *BENCOST* model. Measures proposed under this project include those that will require outside expert assistance in order to determine the potential energy savings, base case, incremental cost and other parameters necessary for performing cost effectiveness testing. Also, in all likelihood, EDG's program will actually review many projects that will be rejected or have to be modified because they do not meet the criteria necessary to qualify for rebate.

EDG will promote this program to customers through a variety of channels, including but not limited to bill inserts targeted to large volume customers, the EDG website, one-on-one meetings between our representatives and large customers, one-on-one meetings between our representatives and trade allies that provide energy-related services to large volume customers, and presentations/public speaking opportunities.

2. EFFECT ON PEAK DEMAND AND ENERGY CONSUMPTION

Year	Demand (MCF)	Energy (MCF)
1-3	37.7	3,774

3. ESTIMATE OF PROJECT COST EFFECTIVENESS

Traditional Rate Structure				
RIM	Utility	Societal	TRC	Participant
.85	8.57	3.71	3.36	4.01

SFV Rate Structure				
RIM	Utility	Societal	TRC	Participant
.90	8.57	3.70	3.36	3.78

4. ESTIMATE OF PARTICIPATION AND PROJECT USE PERCENTAGE

Years 1-3	Participation
Rebates	13

5. PROJECT BUDGET

Budget Categories	Years 1-2	Year 3
Project Delivery	\$5,000	\$5,000
Administration	Included in delivery	Included in delivery
Marketing/O&E	\$5,000	\$5,000
Customer Incentive	\$30,000	\$30,000
Evaluation		\$2,000
Total	\$40,000	\$42,000

6. PLAN TO EVALUATE PROJECT EFFECTIVENESS

For the Large Commercial Audit and Rebate program, the impact and process evaluations will be completed, at the latest, within 6 months of the second full year of implementation. The impact evaluation will look at the effectiveness of the program in reducing natural gas usage and the process evaluation will look at the efficiency with which the program is implemented. The evaluations will be conducted provided there are enough participants for a statistically valid sample.

EDG will work with an external vendor to perform these evaluations. Further, with the small evaluation budgets, EDG will work to leverage impact and process evaluations across several programs if possible.

SUMMARY

Number of Customers Touched and Effect on Peak Demand and Energy Consumption

Program	CUSTOMERS TOUCHED	Demand (MCF)	Energy (MCF)
Low Income Weatherization	40	13.1	1,310
High Efficiency Water Heating	180	5.6	555
High Efficiency Space Heating	175	22.7	2,267
Home Performance w/Energy Star	45	8.1	810
Large Commercial Audit and Rebate	13	37.7	3,774
Total	453	87.2	8,716

Project Budget (Annual – including evaluation)

Budget Categories	Program Delivery	Admin-istration	Promotion/Advertising	Customer Incentive	Evalu-ation	Total
Low Income Weatherization	\$70,000	\$1,500			\$3,500	\$75,000
High Efficiency Water Heating	\$2,000	\$2,000	\$6,000	\$18,500	\$1,425	\$29,925
High Efficiency Space Heating	\$2,000	\$2,000	\$6,000	\$41,750	\$2,588	\$54,338
Home Performance w/Energy Star	\$1,000	\$2,000	\$4,250	\$18,000	\$1,263	\$26,513
Large Commercial Audit and Rebate	\$5,000		\$5,000	\$30,000	\$2,000	\$42,000
Total	\$80,000	\$7,500	\$21,250	\$108,250	\$10,775	\$227,775

Benefit-Cost Ratios using Traditional Rate Structure					
	RIM	Utility	Societal	TRC	Participant
L/I WX	.51	1.67	1.84	1.67	-
Water Heating	.54	1.95	.97	.89	1.38
Tank	.54	2.05	1.37	1.24	2.44
Tankless	.52	1.79	.75	.70	.86
Space Heating	.62	3.93	2.61	2.36	3.97
Furnace	.62	3.71	2.74	2.49	4.29
Setback TStat	.66	5.99	2.03	1.84	2.71
Home Perf	.59	2.92	1.12	1.02	1.69
Large Comm	.85	8.57	3.71	3.36	4.01
Total Portfolio	.61	3.63	2.15	1.95	3.72

Benefit-Cost Ratios using Straight Fixed Variable Rate Structure					
	RIM	Utility	Societal	TRC	Participant
L/I WX	.62	1.67	1.84	1.67	-
Water Heating	.66	1.94	.97	.89	1.10
Tank	.67	2.05	1.37	1.24	1.93
Tankless	.64	1.79	.75	.70	.69
Space Heating	.80	3.92	2.61	2.36	3.07
Furnace	.79	3.70	2.74	2.48	3.33
Setback TStat	.86	5.99	2.02	1.83	2.07
Home Perf	.74	2.91	1.12	1.02	1.32
Large Comm	.90	8.57	3.71	3.36	3.78
Total Portfolio	.78	3.63	2.15	1.94	2.84

EDG DSM Expense Adjustment

Schedule SLM-2

Proposed Programs--3 year average

Weatherization	\$ 72,667
Water Heater Rebates	\$ 28,975
Heating System Rebates	\$ 52,613
Home Performance	\$ 25,671
Lg Commerical Audits/Rebates	\$ 40,667

Total Expense for Proposed Programs \$ 220,593

Less: Existing Programs--GL Balance 12/31/08

Weatherization (Regular & ELIP WX)	\$ (107,741)
Commercial Audits	\$ (7,500)

Total Existing Programs Expense \$ (115,241)

Additional Expense Adjustment \$ 105,352