

Exhibit No.: 018
Issue: Natural Gas
Conservation
Initiatives
Witness: David Hendershot
Sponsoring Party: Missouri Gas Energy
Case No.: GR-2006-0422
Date Testimony Prepared: November 21, 2006

MISSOURI PUBLIC SERVICE COMMISSION

MISSOURI GAS ENERGY

CASE NO. GR-2006-0422

REBUTTAL TESTIMONY OF

DAVID HENDERSHOT

FILED²

FEB 07 2007

Missouri Public
Service Commission

Jefferson City, Missouri

November 2006

MGE Exhibit No. 18
Case No(s). GR-2006-0422
Date 1-10-07 Rptr nt

REBUTTAL TESTIMONY

OF DAVID HENDERSHOT

CASE NO. GR-2006-O422

NOVEMBER 2006

1 **Q. WOULD YOU PLEASE STATE YOUR NAME AND BUSINESS ADDRESS?**

2 A. My name is David Hendershot, and my business address is 3420 Broadway, Kansas
3 City, Missouri 64111.

4

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

6 A. I am Manager, Business Support Services for Missouri Gas Energy ("MGE" or
7 "Company"), a division of Southern Union Company. In this position my
8 responsibilities include leading and directing projects related to improving operational
9 efficiencies throughout the company. This includes evaluation of current business
10 practices and development and implementation of new procedures and/or policies.

11

12 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND.**

13 A. I graduated from Cleveland State University with a B.A. in Economics and I hold an
14 M.S. in Management from Baker University.

15

16 **Q. PLEASE DESCRIBE YOUR PROFESSIONAL BACKGROUND.**

17 A. I have been in my present position since 2003.

18

1 Prior to being named Manager, Business Support Services, I served as a Project
2 Manager beginning in 2002. I joined the Company in January of 2000 as Credit and
3 Collections Manager.

4
5 Prior to my employment with MGE, I worked for Trans Union (a national credit
6 reporting agency) for 17 years.

7
8 **Q. WHAT IS THE PURPOSE OF THIS TESTIMONY?**

9 A. In response to the direct testimony of Missouri Public Service Commission Staff
10 ("MoPSC Staff") witness Anne Ross, I will describe certain natural gas conservation
11 initiatives that MGE is prepared to undertake under certain conditions.

12
13 **Q. PLEASE EXPLAIN THE CONDITIONS UNDER WHICH MGE WOULD BE**
14 **WILLING TO UNDERTAKE THE CONSERVATION INITIATIVES YOU**
15 **WILL DESCRIBE.**

16 A. MGE would be willing to undertake these natural gas conservation initiatives if the
17 Commission 1) adopts a residential rate design that leaves MGE financially
18 indifferent to volumes consumed by residential customers; and 2) includes the cost of
19 these initiatives in the calculation of rates. MGE witness Feingold explains why the
20 first condition is reasonable and MGE witness Noack addresses the reasonableness of
21 the second condition.

1 **Q. PLEASE DESCRIBE THE NATURAL GAS CONSERVATION INITIATIVES**
2 **MGE IS PREPARED TO UNDERTAKE IF THE ABOVE CONDITIONS ARE**
3 **MET.**

4 **A.** Based on information gathered from the National Action Plan for Energy Efficiency,
5 MGE has designed a proposal that seeks to:

- 6 • Recognize energy efficiency as a high-priority energy resource;
- 7 • Make a strong and sustainable long-term commitment to implement cost-
- 8 effective energy efficiency as a resource;
- 9 • Communicate broadly the benefits of, and opportunities for, energy efficiency;
- 10 and
- 11 • Promote sufficient, timely and stable program funding to deliver cost-effective
- 12 energy efficiency.

13 Broadly, MGE's proposal – the details of which are set forth in Schedule DH-1
14 appended hereto – includes the following elements:

- 15 • Communication and education regarding natural gas conservation and energy
- 16 efficiency; and
- 17 • Promotion of a water heater rebate program designed to encourage the
- 18 installation of energy efficient appliances and, therefore, improve natural gas
- 19 conservation efforts.

20 Together, these elements are intended to assist our customers in the wise and efficient
21 use of natural gas. Other elements of a conservation program may be added in the
22 future.

23

1 **Q. PLEASE EXPLAIN THE RATIONALE FOR THE CONSERVATION**
2 **INITIATIVES MGE HAS PROPOSED.**

3 A. The first element of the program – communication and education regarding natural
4 gas conservation and energy efficiency – will assist customers in evaluating the
5 energy efficiency of their homes while at the same time helping them identify the
6 cost-effectiveness of potential energy efficiency improvements. By making available
7 an on-line energy analyzer, and by promoting its use (as well as the benefits of energy
8 efficiency) through a variety of communications media, MGE believes customers will
9 become better equipped to make sound energy decisions leading to improved natural
10 gas conservation efforts throughout MGE's service territory.

11
12 The second element of the program – promotion of a water heater rebate program –
13 will assist residential customers with a universal need that comprises a sizeable
14 portion of energy usage in the typical home. By coupling education on ways to
15 conserve energy and natural gas with financial incentives for the installation of
16 efficient natural gas water heating appliances, MGE believes significant and long-
17 term natural gas conservation benefits can be achieved.

18
19 **Q. HAS MGE IDENTIFIED THE COST OF THESE NATURAL GAS**
20 **CONSERVATION INITIATIVES?**

21 A. Yes. We believe these initiatives can be administered effectively for an annual cost of
22 \$750,000. Details of this cost estimate can be found in Schedule DH-2.

23

1 **Q. THE NATURAL GAS CONSERVATION INITIATIVES MGE PROPOSES TO**
2 **IMPLEMENT DO NOT INCLUDE THE PROMOTION OF FURNACE**
3 **REBATES. PLEASE EXPLAIN WHY.**

4 A. MGE has designed natural gas conservation initiatives that it believes it can
5 implement effectively and successfully. Although MGE has no conceptual opposition
6 to the promotion of a furnace rebate program, I am concerned that rolling out such a
7 promotion at the same time as the other two initiatives (education/communication
8 regarding natural gas conservation and energy efficiency and promotion of a water
9 heater rebate program) may compromise the overall success of these initiatives.
10 MGE's preference, therefore, is to focus its initial energy conservation initiatives as
11 proposed herein and consider expanding to the promotion of furnace rebates after we
12 have achieved success with those initial efforts.

13

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

15 A. Yes, at this time.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Missouri Gas Energy's
Tariff Sheets Designed to Increase Rates
for Gas Service in the Company's Missouri
Service Area.

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)
)
)

Case No. GR-2006-0422


AFFIDAVIT OF DAVID C. HENDERSHOT

STATE OF MISSOURI)

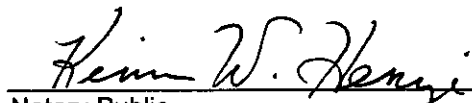
ss.

COUNTY OF JACKSON)

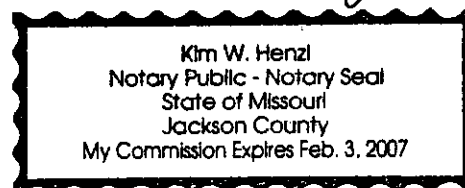
David C. Hendershot, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Rebuttal Testimony in question and answer form, to be presented in the above case; that the answers in the foregoing Rebuttal Testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true and correct to the best of his knowledge and belief.


DAVID C. HENDERSHOT

Subscribed and sworn to before me this 17th day of November 2006.


Notary Public

My Commission Expires: Feb. 3, 2007



Natural Gas Energy Conservation

Business Plan

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Executive Summary

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Executive Summary

This business plan has two main components. Together these programs are intended to assist our customers in the wise use of energy. It is anticipated that other components of a conservation program may potentially be added in the future.

The first component is energy efficiency education in general and becoming an Energy Star partner specifically. Utilizing Energy Star materials/sources, we intend to implement and promote the use of an on-line energy analyzer to assist customers in evaluating their energy needs. This independent third party was chosen to minimize any potential conflicts or biases in the energy model.

Energy analyzers can assist customers in evaluating the energy efficiency of their homes while at the same time identifying potential energy improvements. There is a wide variety (hundreds) of analyzers available with a large range of accuracy and often conflicting results. For these reasons, we propose utilizing the *Home Energy Saver* sponsored by U.S. Department of Energy as part of the Energy Star program. The overall objective is to assist customers in improving the energy efficiency of their homes.

As a potential alternative or supplement to the *Home Energy Saver*, MGE is willing to explore utilization of the energy analyzer tools currently being deployed by Kansas City Power and Light Company. Because a significant portion of MGE's service territory overlaps that of KCPL, use of a common tool may be more convenient to our customers.

The second component is to develop and promote a comprehensive hot water program for the conservation of natural gas energy.

Water heating accounts for approximately 15% of a home's energy use. Consequently, it is very important to choose an energy efficient model. The right decision at the time of purchase can more than offset the higher initial cost (when compared to electric) of purchase and installation. In fact, operating costs with natural gas are typically about 50% lower than a comparable electric hot water tank. Savings can vary depending on the fuel costs and the unit's efficiency. Taking into account energy conservation and environmental issues, clean burning natural gas water heaters provide the best way to heat water.

The Federally mandated *EnergyGuide* label on a new appliance can help the consumer estimate the water heater's annual operating cost. It can assist in comparing the annual cost of operation of various models and fuels. Typical features of the newer energy efficient gas hot water tanks include such items as improved insulation, more efficient burner system, as well as more efficient heat transfer. Today's natural gas water heater represents an extraordinary value in overall performance, reliability and cost.

Anticipated annual program expenses

Energy Education:

- Print/radio/direct mail and educational materials at \$45,161

Hot Water Rebate Program:

- Cost of goods sold, Administrative expense, advertising/promotion, at \$704,839
- Total anticipated expenses at \$750,000

I. Natural Gas Energy Conservation Education

- a. MGE will become an Energy Star partner and expand information available to customers through missourigasenergy.com, print, radio and other informational materials.
- b. MGE will implement and promote the use of an-line energy analyzer (the Home Energy Saver)
 - Energy Advisor
 - Home Energy Yardstick

About The Home Energy Saver (<http://hes.lbl.gov/>)

The Home Energy Saver is designed to help consumers identify the best ways to save energy in their homes, and find the resources to make the savings happen. The Home Energy Saver was the first Internet-based tool for calculating energy use in residential buildings. The project is sponsored by the U.S. Department of Energy (DOE), as part of the national ENERGY STAR Program for improving energy efficiency in homes, with previous support from the U.S. Environmental Protection Agency (EPA), the US Department of Housing and Urban Development's PATH program, and the California Energy Commission's Public Interest Energy Research (PIER) program.

About 750,000 people visit the HES site each year. Over 90% are homeowners and renters, but many third parties use the site as well.

The Home Energy Saver quickly computes a home's energy use on-line based on methods developed at Lawrence Berkeley National Laboratory. Users can estimate how much energy and money can be saved and how much emissions can be reduced by implementing energy-efficiency improvements. All end uses (heating, cooling, major appliances, lighting, and miscellaneous uses) are included. A detailed description of underlying calculation methods and data is provided in a series of special reports (appliances | heating and cooling (report and appendices | electricity tariffs).

The Home Energy Saver's Energy Advisor calculates energy use and savings opportunities, based on a detailed description of the home provided by the user. Users can begin the process by simply entering their zip code, and in turn receive instant initial estimates. By providing more information about the home the user will receive increasingly customized results along with energy-saving upgrade recommendations.

The Energy Advisor calculates heating and cooling consumption using the DOE-2 building simulation program (version 2.1E), developed by the U.S. Department of Energy. The program performs a full annual simulation for a typical weather year (involving 8760 hourly calculations) in about 10-20 seconds, after the user assembles the necessary information describing their home. Users can choose from 239 weather locations around the United States. DOE-2 performs a very sophisticated series of calculations, but the web-based user interface is relatively simple and results are distilled into a useful form. Default energy prices for each fuel and state are also available, or users can enter a specific price of their choosing.

The Energy Advisor calculates domestic water heating energy consumption using a detailed model developed by LBNL researchers. Users can see how household size, age, # of occupants, equipment efficiencies, and water inlet temperatures affect bottom-line energy costs.

By simply entering the number and approximate age of their major appliances, users can estimate their energy consumption, based on historic sales-weighted efficiency data. A very detailed module is also included to estimate energy consumption for lighting and dozens of miscellaneous gas and electric appliances, with default values based on data compiled over the years by LBNL researchers.

The results pages provide a list of recommendations--ranked by payback time--tailored to the particular home being evaluated. The user can vary the energy efficiency assumptions in many cases, as well as the retrofit costs and then recalculate the table. The results can be viewed on line, and via a detailed printable report which includes retrofit description and other details as well as links to additional information.

In addition to calculating energy use on-line, the Home Energy Saver's Making it Happen and Energy Librarian modules connect users to an expanding array of "how-to" information resources throughout the Internet. These modules help users successfully capitalize on the energy savings opportunities identified by the Energy Advisor module. Users benefit from a dynamic information base unparalleled by resources that could be published on static electronic media. These modules offer a host of links to practical information, ranging from lists of specific efficient products ... to tips about selecting a good contractor ... to information on what assistance your utility might have to offer. The site also features an extensive glossary and frequently-asked questions module.

Through special arrangement with Home Energy Magazine, the Home Energy Saver features extensive passages from the book No-Regrets Remodeling as part of the Making It Happen module.

The Ask An Energy Expert Service is provided courtesy of USDOE's Energy Efficiency and Renewable Energy Network.

II. Energy Efficient Water Heating

a. Residential Incentives

Rebates:

(traditional gas water heaters)

Natural gas water heaters can produce savings in overall home energy costs. Through MGE's proposed energy efficient water heating program, customers may also be eligible for cash-back allowances, designed to encourage the installation of energy efficient water heaters and to help customers start saving right away.

Rebate Design:			
Natural Gas	Replacement of Electric with Gas	Replacement of Gas with Gas	Tankless
Water Heater	\$75	\$75	\$200

note 1: type of rebate will be certified by the customer on the Rebate Request form.
(The customer will certify they have purchased and installed a specific hot Water tank as well as indicate what type of tank was replaced.)

note 2: the replacement hot water tank must have an Energy Factor (EF) rating of 0.62

note 3: tankless hot water systems must have an Energy Factor (EF) rating of 0.80

Tax Credits:

(some tankless water heaters)

A tax credit can provide significant savings. It reduces the amount of income tax a customer must pay. Unlike a deduction, which reduces the amount of income subject to tax, a tax credit directly reduces the tax itself. The customer should make reference to the IRS rules to determine what qualifies for the tax credit.

ENERGY POLICY ACT OF 2005 SUMMARY OF TAX CREDITS FOR HOMEOWNERS				
Product Category	Product Type	Tax Credit Specification	Tax Credit	Notes
Water Heaters	Gas, Oil, Propane Water Heater	Energy Factor 0.80	\$300 ²	Only some tankless water heaters currently qualify. This is over 33 percent more efficient than the current federal standard. For a partial list of qualifying products go to the Gas

				Appliance Manufacturing Association EXIT Manufacturer's Certification Statement³ required. For tax purposes, save your receipt and the Manufacturer's Certification Statement.
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³Subject to a \$500 maximum per homeowner for all improvements combined.

http://www.energystar.gov/index.cfm?c=new_specs.water_heaters

<http://www.accee.org/consumerguide/topwater.htm>

note 1: tankless hot water systems must have an Energy Factor (EF) rating of 0.80

b. Expense Analysis

Cost of Goods Sold:			
Natural Gas	Replacement of Electric with Gas	Replacement of Gas with Gas	Tankless
Water Heater	\$75	\$75	\$200
Anticipated customers (annually)	200	6,384	200
Anticipated Expense (annually)	\$15,000	\$478,800	\$40,000

Notes to proposed Residential Incentives:

Targeted at \$100 per gas hot water tank

Assumptions:

average life of 15 years for hot water tank

approximately 7% of customers replace hot water tanks in the average year (gas to gas)

approximately 15 customers per month switch electric to gas (electric to gas)

19% program participation rate (gas to gas)

480,000 residential customers

Gas to Gas

480,000 X .07 = 33,600 per year

33,600 X .19 = 6,384 rebates per year

6,384 X \$75 = \$478,800

Electric to Gas

200 X \$75 = \$15,000

Tankless

200 X \$200 = \$40,000

c. Features and Benefits

- Gas water heaters heat water faster than electricity

- Low maintenance compared to electric
- Low operating costs compared to electric
- Clean burning – lower emissions

d. Education / Literature (examples)

Water Heating: Where Your Money Goes:

According to the U.S. Energy Information Administration, water heating accounts for up to 20 percent of the total utility expense for many U.S. households. You can save energy and money by learning how this energy is used.

Your energy consumption for water heating is divided among three types of use: heating efficiency, standby loss, and hot water consumption. You should apply different conservation measures to reduce each use.

Heating efficiency describes how well your water heater converts electricity or gas into hot water. When you next buy a water heater, study the yellow Energy Guide label that is required on all appliances, and compare the listed Energy Factor (EF) that is used to rate water heaters. Find the highest EF available to identify the most efficient appliances.

Standby losses include the heat that goes through the walls of your water heater tank even when no one is using hot water. The best defense against standby loss is a heavily-insulated tank. If you buy a tank with a high Energy Factor (above), you're getting the best built-in tank insulation available. If you have an existing water heater that is more than a few years old, the best way to reduce standby loss is by installing an external water heater blanket. If you install a blanket be sure to follow the manufacturer's instructions to avoid safety hazards.

Hot water consumption is the water you use at appliances and faucets. Every gallon of hot water you use is replaced by a gallon of cold water in your water heater that must be heated. If you reduce your hot water consumption, you'll reduce the amount of gas your water heater consumes.

http://www.srmi.biz/Tips.Water_Heating_and_Conservation.Water_heating_where_your_money_goe.htm

Installing Water Heater Blankets:

The heat loss from your water heater can be reduced by installing an exterior blanket of fiberglass insulation. This is one of the most common and effective energy-conservation measures available. Most older water heaters have only an inch of fiberglass, and most newer ones have an inch of foam insulation. Neither of these insulation levels is adequate for minimizing heat loss.

Water-heater blankets come in kits, which also contain straps and/or tape to hold the blanket on. The straps hold the insulation to the water heater, and the tape seals the vertical seam in the insulation. With gas water heaters, don't insulate the top and leave two inches of clearance between the insulation and the gas valve

http://www.srmi.biz/Tips.Water_Heating_and_Conservation.Water_heater_blankets.htm

Removing Sediment Buildup:

Draining sediment from a water heater's tank is an energy-saving procedure anyone can do quickly and easily. Periodically removing accumulated sediment helps conventional water heaters operate at optimum efficiency. The sediment consists of hard-water minerals and other debris that enter the storage tank along with the incoming water. As the water is heated, the minerals separate from the water and fall to the bottom of the tank.

Over time, the mineral deposits build up to the point that they act as insulation on the bottom of the tank, isolating the water from effects of the burner firing below (on gas and oil units). The harder it is for heat to get through the sediment layer, the longer the burner has to fire in order to heat the water.

The solution is to remove the sediment layer. You do not have to turn off the power source (electricity, gas, or oil) to the water in order to drain the sediment.

A small drain valve is on the outside of the water heater tank's jacket near the bottom. It looks like a miniature hose bibb on the outside of a house. Attach a short length of standard garden hose to this valve, stick the free end of the hose into either a floor drain nearby or a large bucket, and open the valve.

Water will flow from the bottom of the water heater and out the valve and through the hose, taking sediment along with it. After draining five gallons or so from the tank, shut off the valve, disconnect the hose, and empty the bucket (if you used one) into a sink or toilet. You've not only improved the efficiency of your water heater, but you've also extended its service life.

What is the reason? There is a thin film of water that is trapped between the sediment and the bottom of the tank. When the burner fires, the thin layer of water heats to an abnormally high temperature that deteriorates the tank's glass lining, speeding up its rusting process. Accumulated sediment is also responsible for the popping, banging, rumbling, and percolating noises often heard from a water heater as the burner fires or the elements heat up.

Depending on the mineral content of your water, a water heater tank should be drained of its sediment at least twice a year, and more often in hard-water areas.

<http://home.howstuffworks.com/how-to-make-your-home-energy-efficient9.htm>

Insulating Pipes

What does pipe insulation do? It keeps heat inside the pipes where it belongs, rather than radiating out into the air. The result is that hot water reaches distant bathrooms faster than it would otherwise, reducing the volume of water that has to flow down the pipe for hot water to effectively arrive. And once hot water fills the pipe, it stays there for a long time. So if you use a hot water tap again shortly after the first usage, it's likely that the water will still be sufficiently hot.

In addition, pipe insulation helps reduce "standby" heat losses at the water heater. Standby heat losses occur while the water heater is just sitting there doing nothing at all. Over a period of time, heat radiating from the water heater's tank and the pipes entering and exiting the top of the unit reduce the temperature of the water inside the tank. Eventually, the thermostat is activated and the burner fires. The water heats up again, only to cool down gradually through the cooling effects of the tank and pipes. It's an endless cycle, exacerbated by the heat loss through the pipes at the top of the water heater. So, although the hot water pipes are the logical ones to insulate, insulating the first five feet or so of the cold water pipe at the water heater is a good idea, too. That helps reduce the loss of heat that migrates up the pipe from the water heater tank.

Although insulating the pipes at the water heater might eliminate only one burner firing or element activation a day that can add up to substantial savings over the course of a year.

Insulating water pipes used to involve a large roll of itchy fiberglass insulation, a lot of time, and a lot of cutting and fitting the wrapping around obstructions. And even after all that work, the insulation was so thin that it didn't do much good. Insulating the water pipes in your home these days is simpler, quicker, and more effective.

The closed cell foam pipe insulation available at plumbing supply houses and home centers not only insulates far better than the old fiberglass material, but it's also easy to install. Each piece is slit along its length, allowing the insulation to simply snap over the pipe. The foam is so soft that it can be cut with a kitchen knife or a pair of heavy scissors.

<http://home.howstuffworks.com/how-to-make-your-home-energy-efficient9.htm>

Other Energy Conservation Tips

- Set your water heater thermostat at 125°F. If it's not hot enough, inch it up 5 degrees at a time until you're satisfied. (Dishwashers now come with a booster that increases dishwasher water to 140°F or higher.) You can save more than 10% on water heating bills by turning down the thermostat by ten degrees (from 140 degrees to 130 degrees).
- Make sure your water pipes are insulated, especially at the inlet and outlet of the water heater.
- Install low-flow showerheads of 2 gallons per minute or less. This is your best hot water saving option. New showerheads are designed to properly disperse water at these flow rates, providing outstanding shower performance. You can reduce hot water usage by up to 50% without affecting shower pressure.
- Buy a front-loading (horizontal axis) clothes washer. They use half the water as a top-loading washer, and reduce both your water heating and your water costs accordingly.
- Buy an energy-efficient dishwasher.
- Use your clothes washer and dishwasher only when they have full loads.
- Repair any leaks in your fixtures. A leak that fills a coffee cup in 10 minutes wastes 3,200 gallons of water a year.
- Turn the water heater off when you leave on vacation when there is no risk of freezing.
- Set your clothes washer to rinse with cold instead of warm or hot water. It's a myth that hot water rinses better.
- Run full loads. Be sure that dishwashers, washing machines and clothes dryers are fully loaded before running.
- Always use cold water for the garbage disposal.

I. Rebate Design

Rebate Design:			
Natural Gas	Replacement of Electric with Gas	Replacement of Gas with Gas	Tankless
Water Heater	\$75	\$75	\$200

note: type of rebate will be certified by the customer on the Rebate Request form
(the customer will certify they have purchased and installed a specific hot water tank as well as indicate what type of tank was replaced)

note: the replacement hot water tank must have an Energy Factor (EF) rating of 0.62

II. Rebate Proforma

Expense Analysis (Proforma)

Cost of Goods Sold:			
Natural Gas	Replacement of Electric with Gas	Replacement of Gas with Gas	Tankless
Water Heater	\$75	\$75	\$200
Anticipated customers (annually)	200	6,384	200
Anticipated Expense (annually)	\$15,000	\$478,800	\$40,000

Administrative Expense:

1) Accounting (A / P) tasks to be completed:

- > Date stamping of rebate request
- > Processing of qualified requests
- > Completion of A/P voucher with appropriate accounting codes
- > Calculation of rebate amount
- > Data entry into A/P system
- > Data entry review and proofing
- > Second review and approval
- > Check generation
- > Mailing of check

Expense Calculation

\$8.33 per rebate processed (based on the estimated A/P expense)
includes fully loaded expense at \$50,000 per full time equivalent

\$16.01 / hour (hourly rate)
\$8.00 / hour (loadings)
.333 loading rate
\$24.01 / hour (fully loaded hourly rate)

2.88 transactions per hour
approximately 20 minutes per transaction

2) Other Administrative tasks and expenses:

- > Review of the rebate request form to ensure eligibility
- > Return of unqualified requests via form letter
- > Entry into a rebate ledger
- > Due diligence for program abuses and / or fraudulent claims

Expense Calculation

\$1.50 per rebate processed (estimated expense)
approximately 11 rebates per hour
approximately 5 minutes per rebate

3) Ongoing assessment costs:

Monthly tracking of program metrics 6 hours / per month
Monthly evaluation and communication of metrics 2 hours / per month

Expense Calculation

(management based)
\$34.00 / hour (hourly rate)
\$11.33 / hour (loadings)
.333 loading rate
\$45.33 / hour (fully loaded hourly rate)

\$45.33 X 8 = \$362.64 / month
\$362.64 X 12 = \$4,351.68 per year

Total Assessment Expense \$4,352 / year

4) Total Administrative Expense	\$9.83 / rebate
Anticipated customers (annually)	6,784
Subtotal	\$66,687
Ongoing Assessment Costs	\$4,352
Anticipated Administrative Expense (annually)	\$71,039

Advertising and Promotion Expense:	
Print / Radio / Direct Mail and other promotions	\$100,000
Total Advertising & Promotion	\$100,000

Summary of Anticipated Expenses:	
Cost of Goods Sold	\$533,800
Administrative Expense	\$71,039
Sales / Advertising Expense	\$100,000
Subtotal Rebate Related Expenses	\$704,839
Energy Education related	\$45,161
Total	\$750,000

Notes to proposed Residential Incentives:

Targeted at \$100 per gas hot water tank

Assumptions:

average life of 15 years for hot water tank
 approximately 7% of customers replace hot water tanks in the average year (gas to gas)
 approximately 15 customers per month switch electric to gas (electric to gas)
 19% program participation rate (gas to gas)
 480,000 residential customers

<u>Gas to Gas</u>	<u>Electric to Gas</u>
480,000 X .07 = 33,600 per year	200 X \$75 = \$15,000
33,600 X .19 = 6,384 rebates per year	
6,384 X \$75 = \$478,800	<u>Tankless</u>
	200 X \$200 = \$40,000

III. Program Eligibility

Rebates apply to single family residences (and landlords) only
 Rebates apply only to consumers (no builders, developers or commercial accounts)
 Original receipt must be provided with rebate request
 Rebate request must be completed in its entirety
 Rebate request must be signed and dated
 Receipt must be dated within 90 days of the rebate request
 No more than one rebate per residence
 MGE reserves the right to inspect the appliance

IV. Program Success Measurements

Program shall be deemed successful by the complete expenditure of all funds allocated to the program by the PSC. Success of this program will allow for energy conservation as well as environmental improvement.