| | |
|---|---|
| *Exhibit No.:* | |
| *Issue:* | *Energy Efficiency and Low-Income Weatherization* |
| *Witness:* | *Lesa A. Jenkins* |
| *Sponsoring Party:* | *MoPSC Staff* |
| *Type of Exhibit:* | *Direct Testimony* |
| *Case Nos.:* | *GR-2007-0208* |
| *Date Testimony Prepared:* | *May 4, 2007* |

# MISSOURI PUBLIC SERVICE COMMISSION

# UTILITY SERVICES DIVISION

# DIRECT TESTIMONY

# OF

# LESA A. JENKINS

## LACLEDE GAS COMPANY

## CASE NO. GR-2007-0208

*Jefferson City, Missouri*
*May 2007*

**BEFORE THE PUBLIC SERVICE COMMISSION**

**OF THE STATE OF MISSOURI**

| | | |
|---|---|---|
| In the Matter of Laclede Gas Company's Tariff to Revise Natural Gas Rate Schedules | ) ) | Case No. GR-2007-0208 |

AFFIDAVIT OF LESA A. JENKINS

STATE OF MISSOURI )
) ss.
COUNTY OF COLE )

Lesa A. Jenkins, of lawful age, on her oath states: that she has participated in the preparation of the foregoing Direct Testimony in question and answer form, consisting of 11 pages to be presented in the above case; that the answers in the foregoing Direct Testimony were given by her; that she has knowledge of the matters set forth in such answers; and that such matters are true and correct to the best of her knowledge and belief.

Lesa A. Jenkins

Lesa A. Jenkins

Subscribed and sworn to before me this 30th day of May 2007.

Notary Public

ASHLEY M. HARRISON
My Commission Expires
August 31, 2010
Cole County
Commission #06999978

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**DIRECT TESTIMONY**

**OF**

**LESA A. JENKINS**

**LACLEDE GAS COMPANY**

**CASE NO. GR-2007-0208**



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**DIRECT TESTIMONY**

**OF**

**LESA A. JENKINS**

**LACLEDE GAS COMPANY**

**CASE NO. GR-2007-0208**

Q. Please state your name and business address.

A. Lesa A. Jenkins, P.O. Box 360, Jefferson City, MO 65102.

Q. By whom are you employed and in what capacity?

A. I am a Regulatory Engineer in the Procurement Analysis Department with the Missouri Public Service Commission (Commission).

## EXECUTIVE SUMMARY

Q. Please summarize the issues addressed by your testimony.

A. My testimony provides support for changes to Laclede's energy efficiency programs, including funding for Low-Income Weatherization. Staff recommends that Laclede's funding in rates for the Low-Income Weatherization Program be increased from the current level of $500,000 per year to $991,000 per year. Staff recommends that a Collaborative evaluate options to enhance energy efficiency for residential and small commercial customers in its service area. Staff recommends that Laclede present the recommendations of the Collaborative for approval by the Commission, including revised tariff sheets detailing the specifics of each energy efficiency program, no later than six months after the issuance of the Commission Report and Order in this case. Staff recommends that program costs for energy efficiency measures, other than the recommended annual funding

for Low-Income Weatherization, be placed in a regulatory asset account and amortized over a ten-year period.

**GENERAL INFORMATION**

Q. Please describe your educational and professional background.

A. I received a Bachelor of Science degree, with honors, in Industrial Engineering (BSIE) from University of Missouri – Columbia. I received a Master of Business Administration (MBA) from William Woods University. Since March 1993, I have been registered as a professional engineer in the state of Missouri. I am currently a member of the *Society of Women Engineers*, *National Society of Professional Engineers* and the *Missouri Society of Professional Engineers*.

Q. Please describe your work background.

A. I began employment in my current position with the Commission in November 1999. Prior to joining the Commission, I was employed by the Missouri Department of Natural Resources (DNR). While employed with DNR I held various engineering and then management positions with the Division of Energy from February 1992 - October 1999. I was employed as an environmental engineer with the DNR, Division of Environmental Quality from January 1988 - January 1992. Prior to that I was employed by Procter & Gamble in various production and quality control/quality assurance team manager positions in Cape Girardeau, Missouri and then in Cincinnati, Ohio.

Q. Please describe your duties while employed by the Commission?

A. The nature of my duties at the Commission has been to investigate and review natural gas reliability/peak day plans of the Missouri natural gas local distribution companies.

More recently, I have also been asked to review energy efficiency programs of Missouri natural gas local distribution companies.

Q. Have you previously filed testimony before this Commission?

A. Yes, I have. See Schedule 1, attached to this testimony, for a list of prior cases and issues. Additionally, I have prepared fifty-four reliability reviews as part of the filed Staff Actual Cost Adjustment (ACA) recommendations since November 1999, as listed in Schedule 1.

Q. Did you make an analysis of the books and records of Laclede Gas Company (Laclede or Company) in regards to matters relevant to this case?

A. Yes. I have examined the Laclede records in the context of the issues I am addressing in this case. Additionally, I reviewed energy efficiency programs of other Missouri Local Distribution Companies (LDCs), and various regional and national reports regarding utility involvement in energy efficiency programs.

Q. What knowledge, skills, experience, training or education do you have in these matters?

A. Both my MBA and BSIE degrees provided formalized coursework that gave me knowledge and skills that I use in review of natural gas LDC plans. My twenty-four years of engineering/management work experience provide me with experience from project reviews and I have gained additional knowledge from training courses and review of technical information. Fifteen of these years of work experience relate specifically to energy issues. Eight of these years were with the DNR, Division of Energy where I worked on energy efficiency issues including management of programs/projects related to energy efficiency for

schools and local government (including a loan program), weatherization for low-income households, energy efficiency in state facilities, alternative fuels and renewable energy.

**PURPOSE OF TESTIMONY**

Q. What is the purpose of your Direct testimony?

A. The purpose of my testimony is to address the issues of energy efficiency and low-income weatherization as they are currently contained in Laclede's tariffs and the approved Stipulation and Agreement in Case No. GR-2005-0284, Laclede's prior rate proceeding, and recommend changes to those programs.

**ENERGY EFFICIENCY - GENERAL**

Q. What is energy efficiency?

A. Energy efficiency refers to using less energy to provide the same or improved level of service to the energy consumer in an economically efficient way. The term energy efficiency includes using less energy at any time, including at times of peak demand through demand response and peak shaving efforts.[1] Energy efficiency can be the implementation of one or more cost-effective projects such as adding insulation to one's attic or a comprehensive undertaking where all cost-effective energy efficiency measures are explored and installed in a home or business.

Q. Are energy efficiency and energy conservation the same?

A. In my experience, some people use the term energy efficiency and energy conservation interchangeably. Others refer to conservation as no-cost habit changes such as setting the thermostat at a lower temperature in the winter, shutting off or reducing the air

[1] "National Action Plan for Energy Efficiency," *U.S. Environmental Protection Agency,* July 2006, p. 1-1.

flow from vents in seldom used rooms, or closing the drapes at night to keep the room warmer. Energy efficiency is then referred to as specific physical changes to the home or business such as adding insulation, caulking around windows, or replacing old appliances with energy efficient appliances.

Q. What is low-income weatherization?

A. Low-income weatherization is an energy efficiency program targeted for low-income families. This program enables low-income families to permanently reduce their energy bills by making their homes more energy efficient. The United States Department of Energy provides funding for cost-effective energy efficiency measures through its Weatherization Assistance Program (WAP), also referred to as the Low-Income Weatherization Assistance program (LIWAP), in the homes of qualifying families. In Missouri, the DNR administers the LIWAP through sixteen regional Community Action Agencies, one city government and one not-for-profit organization. Information regarding LIWAP, including income eligibility guidelines, is included in Appendix C of the attached Staff Report, "Energy Efficiency Issues for Consideration in the Laclede Gas Company, Natural Gas Utility Rate Case", in Case No. GR-2007-0208 (attached as Schedule 2).

Q. Why is it important for an LDC to address energy efficiency and low-income weatherization?

A. The importance of utility sponsored energy efficiency programs, including low-income weatherization, is discussed in detail in the Staff Report, attached as Schedule 2. The Staff Report examines and presents information regarding increasing natural gas prices, why price signals are not enough to encourage individuals to invest in energy efficiency, the role of energy efficiency in reducing natural gas costs, funding for energy efficiency

programs, subsidy concerns, current Laclede programs and performance, and comparison of Laclede's funding for energy efficiency to that of other natural gas utilities in Missouri. Recommended revisions to Laclede's energy efficiency programs, including the Low-Income Weatherization program are provided at the end of this report.

**RECOMMENDED ENERGY EFFICIENCY PROGRAMS**

Q. Please describe your recommended changes to the Laclede energy efficiency programs.

A. Staff recommends that Laclede's funding in rates for the Low-Income Weatherization Program be increased from the current level of $500,000 per year to $991,000 per year to be more consistent with the funding levels of other Missouri LDCs and in recognition of the unique challenges of low-income customers, as documented in Staff's Report in this case.

Staff recommends that the Laclede funds collected from rates for the Low-Income Weatherization Program be administered through the DNR, consistent with the requirements of the DNR's existing Low-Income Weatherization Program. Additionally, Staff recommends that any funds not expended in a given year, roll-over to the subsequent year.

Q. How does Staff's recommended LIWAP funding in this rate case compare to other natural gas companies in the state?

A. Staff's proposed annual funding for LWAP is approximately $1.53/customer for Laclede, compared to Laclede's funding level in its existing tariff of approximately $0.77/customer, $1.28/customer for Atmos, $2.18/customer for AmerenUE, $2.10/customer for Empire District Gas, and $1.53/customer for Missouri Gas Energy. A comparison of Staff's recommended funding for this Laclede Rate Case to other Missouri natural gas utility

energy efficiency funding is shown in Appendix G of the attached Staff Report (attached as Schedule 2).

Q. Please describe any other recommended changes to the Laclede energy efficiency programs.

A. Staff recommends that Laclede, in a collaborative process with Staff, the Office of Public Counsel, the DNR, and community based organizations (Collaborative), evaluate options to enhance energy efficiency for residential and small commercial customers in its service area. Staff recommends that the Collaborative also consider low-income residential customers in the discussion and development of its recommendations to the Commission. Staff recommends that Laclede hire a consultant to advise the Collaborative in its discussions of successful energy efficiency programs, including a recommendation as to whether a third party should administer the energy efficiency program, excluding the Low-Income Weatherization Program, for Laclede.

Q. What do you believe are the components of a successful energy efficiency program?

A. A successful energy efficiency program will consider key findings and best practices information in recent reports such as those summarized in Staff's Report in Schedule 2. A successful program will consider partnering with electric utilities and with area vendors, contractors, and local community based agencies to improve deployment of cost-effective energy efficiency measures.

Q. What would be the reporting responsibilities for the Collaborative process?

A. Staff recommends that Laclede file a monthly report with the Commission, beginning sixty (60) days after the issuance of the Commission Report and Order in this case

regarding the status of the Collaborative efforts. Such monthly reports should be submitted to the Commission until Laclede files the energy efficiency recommendations of the Collaborative with the Commission.

Staff recommends that Laclede present the recommendations of the Collaborative for approval by the Commission, including revised tariff sheets detailing the specifics of each energy efficiency program, no later than six months after the issuance of the Commission Report and Order in this case. Thereafter, Staff recommends that Laclede provide quarterly presentations and written reports to the Collaborative and file biannual reports with the Commission. The quarterly presentations and reports to the Collaborative should evaluate the success or lack thereof of the energy efficiency programs. Based on these quarterly presentations and written reports and in consideration of any new technology, Laclede should obtain feedback from the Collaborative, including any recommended changes to the Laclede energy efficiency programs. The biannual reports filed with the Commission should report on the success or lack thereof of the energy efficiency programs, summarize Collaborative recommendations, and include any proposed changes to the energy efficiency programs, including any proposed tariff changes.

Q. How would Laclede fund the energy efficiency programs recommended by the Collaborative?

A. Staff recommends that program costs for energy efficiency measures, other than the recommended annual funding for Low-Income Weatherization, be placed in a regulatory asset account and amortized over a ten-year period. Staff recommends that the amounts accumulated in this regulatory asset account be allowed by the Commission to earn a return not greater than the Laclede AFUDC rate. The costs recovered in later rate cases

through this account should only be for those energy efficiency programs that are shown to be cost-effective. The criteria for determining whether an energy efficiency program is cost-effective should be included for Commission approval in Laclede's revised tariff sheets that detail the specifics of each energy efficiency program. Energy efficiency program costs would include costs of developing, implementing, and evaluating customer energy efficiency programs. The regulatory asset account methodology is the same cost recovery methodology recommended by Staff for energy efficiency programs in the AmerenUE gas rate case, in Case No. GR-2007-0003, and the AmerenUE electric rate case, in Case No. ER-2007-0002.

Staff is recommending a regulatory asset account at this time, rather than a specific funding level, because the programs would be recommended by a Collaborative and those programs are not yet defined, the programs could be modified over time to improve deployment, and finally, because experience with Laclede's existing rebate and loan programs shows that the funds agreed to in the existing Laclede rates are not being fully expended.

Q. If the Commission does not approve of a regulatory asset account, does Staff have an alternate proposal to fund the energy efficiency programs recommended by the Collaborative (not including the funding for Low-Income Weatherization)?

A. Yes. If a regulatory asset account for energy efficiency program costs is not approved by the Commission, Staff recommends annual funding in rates of $972,000. Additionally, Staff recommends that any funds not expended in a given year, roll-over to the subsequent year. If Laclede elects to fund additional energy efficiency programs beyond the $972,000 per year, through recommendation of the Collaborative, such as at the funding levels of 0.5% to 1% of natural gas utility revenue reported in the "National Action Plan for Energy Efficiency", Staff recommends that these additional costs be placed in a regulatory

asset account, amortized over a ten-year period, and allowed by the Commission to earn a return not greater than the Laclede AFUDC rate.

Q. How does Staff's recommended energy efficiency funding compare to other natural gas companies in the state?

A. Staff's proposed annual funding for Laclede energy efficiency programs (excluding low-income weatherization) is approximately $1.50/customer (using $972,000/year instead of the unknown value in a regulatory asset account), compared to $0.46/customer for Laclede's existing rebate programs, $1.43/customer for Atmos, $0.83/customer for AmerenUE, $0.15/customer for Empire District Gas, and $1.53/customer for Missouri Gas Energy.

Staff's total proposed annual funding for the Laclede energy efficiency programs (including Low-Income Weatherization) is approximately $3.03/customer (using $972,000/year instead of the unknown value in a regulatory asset account), compared to $2.71/customer for Atmos, $3.01/customer for AmerenUE, $2.26/customer for Empire District Gas, and $3.06/customer for Missouri Gas Energy.

A comparison of Staff's recommended funding in this Laclede Rate Case to other Missouri natural gas utility energy efficiency funding is shown in Appendix G of the attached Staff Report (attached as Schedule 2).

Q. Should the existing loan and rebate programs contained in Laclede's existing tariffs be continued?

A. Yes. Since Laclede has funds from prior rate cases for the energy efficiency rebate and loan programs (approximately $441,500 for the rebate program), Staff recommends that the existing tariffs for Laclede's energy efficiency loan and rebate programs

remain in place until alternate programs from the Collaborative are presented to the Commission for approval. Any funds not expended from the rebate programs should carryover to programs recommended by the Collaborative.

**TRACKING, REPORTING, AND EVALUATION OF ENERGY EFFICIENCY PROGRAMS**

Q. Do you have recommended reporting requirements for the Laclede sponsored energy efficiency programs?

A. Yes. Reporting requirement recommendations were discussed by Staff previously regarding the Collaborative process. Additionally, Staff recommends that Laclede collect, report, and evaluate at a minimum the information noted in the attached Staff Report, under the heading, "Tracking, Reporting, and Evaluation of Energy Efficiency Programs."

Q. Does this conclude your Direct testimony?

A. Yes, it does.

**SUMMARY OF TESTIMONY**

**LESA A. JENKINS**

| Company Name | Type Case | Case Number | Issues | Testimony Filed |
|---|---|---|---|---|
| Missouri Gas Energy | ACA | GR-2003-0330, GR-2002-348 Consolidated | Excess Transportation Capacity | Direct 11/23/05, Rebuttal 2/1/06, Surrebuttal 7/19/06 |
| Missouri Gas Energy | Rate | GR-2004-0209 | Gas Purchasing Practices | Surrebuttal 6/14/04 |
| Missouri Gas Energy | ACA | GR-2001-382, GR-2000-425, GR-99-304, GR-98-167 Consolidated | Purchasing Practices - Minimum Level of Hedging; Purchasing Practices - Storage; Reliability Analysis | Direct 1/15/03, Rebuttal 3/18/03, Surrebuttal 4/22/03, Supplemental Direct 10/3/03, Supplemental Rebuttal 11/13/03 |
| Aquila, Inc. d/b/a Aquila Networks – MPS | ACA | GR-2000-520 and GR-2001-461 Consolidated | Purchasing Practices-Eastern System; Purchasing Practices-Southern System; Reliability Analysis | Direct 10/24/02, Rebuttal 11/20/02 |
| Atmos Energy Corporation and United Cities Gas Company | ACA | GR-2001-396 and GR-2001-397 Consolidated | Atmos Energy Corporation: Purchasing Practices – General; Purchasing Practices – Southeast Missouri Integrated System; Reliability Analysis | Direct 12/23/02 & 1/31/03, Rebuttal 2/28/03 |
| | | | United Cities Gas Company: Purchasing Practices – General; Purchasing Practices – Neelyville District; Purchasing Practices – Consolidated District; Reliability Analysis | |

**ACA Recommendations Filed**
**Lesa A. Jenkins**

| Company Name | Case Number | Staff ACA Recommendation Filed |
|---|---|---|
| **2004/2005 ACA Reviews** | | |
| Southern Missouri Natural Gas | GR-2005-0279 | 4/13/2006 |
| Missouri Gas Utilities | GR-2006-0200 | 8/30/2006 |
| Aquila Networks - MPS (Southern System & Northern System) and L&P (old St. Joseph L&P) | GR-2005-0271 | 12/6/2006 |
| Laclede Gas Company | GR-2005-0203 | 12/28/2006 |
| Missouri Gas Energy (Kansas City, St. Joseph, Joplin) | GR-2005-0169 | 12/29/2006 |
| **2003/2004 ACA Reviews** | | |
| Laclede Gas Company | GR-2004-0273 | 12/29/2005 |
| Missouri Gas Energy | GR-2005-0104 | 12/29/2005 |
| Atmos - Areas B, K, & S (old ANG); Area G (Greeley); and Areas P&U (old United Cities) | GR-2004-0479 | 11/23/2005 |
| Aquila Networks - MPS | GR-2004-0539 | 11/21/2005 |
| Aquila L & P (old St. Joseph Light & Power) | GR-2004-0538 (Consolidated with GR-2004-0539) | |
| Ameren UE | GR-2005-0102 | 11/9/2005 |
| Southern Missouri Gas Company | GR-2005-0064 | 6/8/2005 |
| **2002/2003 ACA Reviews** | | |
| Laclede Gas Company | GR-2003-0224 | 12/30/2004 |
| Missouri Gas Energy | GR-2003-0330 | 12/29/2004 |
| Aquila L & P (old St. Joseph Light & Power) | GR-2003-0369 | 12/28/2004 |
| Atmos - Areas B, K, & S (old ANG); Area G (Greeley); and Areas P&U (old United Cities) | GR-2003-0219 | 12/22/2004 |
| Aquila Networks - MPS | GR-2003-0311 | 12/22/2004 |
| Southern Missouri Gas Company | GR-2004-0193 | 5/19/2004 |
| Fidelity Natural Gas, Inc | GR-2003-0323 | 2/26/2004 |
| **2001/2002 ACA Reviews** | | |
| Missouri Gas Energy | GR-2002-348 | 12/19/2003 |
| Atmos - Areas B, K, & S (old ANG)<br>Atmos - Area G (Greeley)<br>Atmos - Areas P&U (old United Cities) | GR-2003-0150 | 9/15/2003 |
| Aquila Networks - MPS | GR-2002-392 | 8/15/2003 |
| Aquila L & P (old St. Joseph Light & Power) | GR-2002-468 | 8/7/2003 |
| Southern Missouri Gas Company | GR-2002-440 | 5/22/2003 |
| Ameren UE | GR-2002-438 | 5/15/2003 |
| Fidelity Natural Gas, Inc | GR-2003-0148 | 3/26/2003 |
| **2000/2001 ACA Reviews** | | |
| Southern Missouri Gas Company | GR-2001-388 | 10/31/2002 |
| Atmos - Areas B, K, & S (old ANG) | GR-2001-396 | 9/30/2002 |
| Atmos - Areas P&U (old United Cities) | GR-2001-397 | 8/29/2002 |
| Aquila Networks - MPS | GR-2001-461 | 7/9/2002 |
| Laclede Gas Company | GR-2001-387 | 6/28/2002 |
| Fidelity Natural Gas, Inc | GR-2001-495 | 6/28/2002 |
| Missouri Gas Energy (MGE) | GR-2001-382 | 5/31/2002 |
| Ameren UE | GR-2001-488 | 2/7/2002 |
| Atmos - Area G (Greeley) | GR-2001-394 | 1/18/2002 |

**ACA Recommendations Filed**
**Lesa A. Jenkins**

| Company Name | Case Number | Staff ACA Recommendation Filed |
|---|---|---|
| **1999/2000 ACA Reviews** | | |
| United Cities Gas Company / Atmos | GR-2000-392 | 8/29/2002 |
| Missouri Public Service /UtiliCorp | GR-2000-520 | 7/9/2002 |
| Laclede Gas Company | GR-2000-622 | 3/15/2002 |
| Missouri Gas Energy (MGE) | GR-2000-425 | 11/27/2001 |
| Ameren UE | GR-2000-579 | 11/15/2001 |
| Associated Natural Gas (ANG)/ Atmos | GR-2000-573 | 11/1/2001 |
| St. Joseph Light & Power (SJLP) / UtiliCorp | GR-2000-574 | 8/28/2001 |
| Southern Missouri Gas Company | GR-2001-39 | 7/2/2001 |
| Fidelity Natural Gas, Inc | GR-2001-250 | 6/1/2001 |
| Greeley Gas Company /Atmos | GR-2001-36 | 5/1/2001 |
| **1998/1999 ACA Reviews** | | |
| United Cities Gas Company | GR-99-280 | 9/29/2000 |
| Missouri Public Service (MPS) | GR-99-435 | 9/1/2000 |
| Laclede Gas Company | GR-99-316 | 8/14/2000 |
| Missouri Gas Energy (MGE) | GR-99-304 | 8/1/2000 |
| Associated Natural Gas (ANG) | GR-99-392 | 8/1/2000 |
| Southern Missouri Gas Company | GR-2000-288 | 8/1/2000 |
| Ameren UE | GR-99-396 | 7/31/2000 |
| St. Joseph Light & Power (SJLP) | GR-99-394 | 6/30/2000 |
| Fidelity Natural Gas, Inc | GR-2000-285 | 6/30/2000 |
| Greeley Gas Company | GR-2000-319 | 5/1/2000 |

# STAFF REPORT

# ENERGY EFFICIENCY ISSUES FOR CONSIDERATION IN THE LACLEDE GAS COMPANY NATURAL GAS UTILITY RATE CASE NO. GR-2007-0208

**PREPARED BY THE**

**MISSOURI PUBLIC SERVICE COMMISSION**

**LESA A. JENKINS, PROCUREMENT ANALYSIS DEPARTMENT**

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**MAY 2007**

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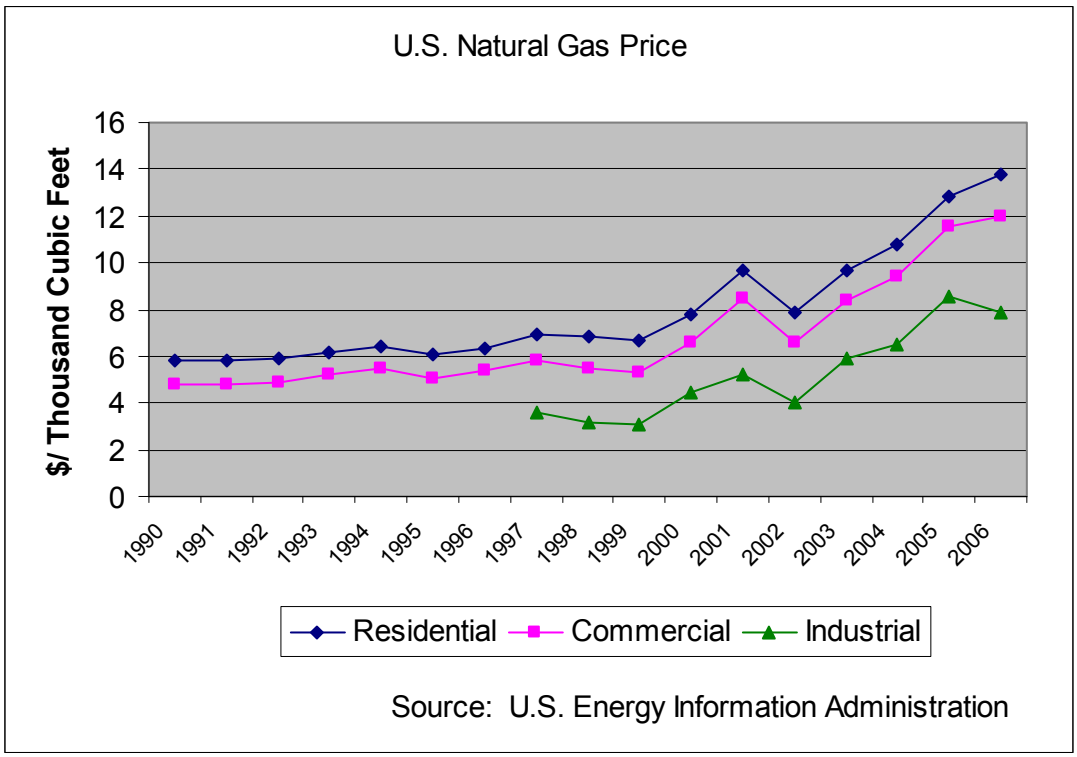
## LIST OF APPENDICES

## OBJECTIVE OF REPORT

A review of Laclede's energy efficiency programs and recommended changes to those programs is the focus of this Staff report. Energy efficiency has become a more frequent topic of discussion in recent natural gas rate cases because of rising gas prices. This report examines and presents information regarding increasing natural gas prices, why price signals are not enough to encourage individual to invest in energy efficiency, the role of energy efficiency in reducing natural gas costs, funding for energy efficiency programs, subsidy concerns, current Laclede programs and performance, and comparison of Laclede's funding for energy efficiency to that of other natural gas utilities in Missouri. Recommended revisions to Laclede's energy efficiency programs, including the Low-Income Weatherization program, are provided at the end of this report.

## INCREASING NATURAL GAS PRICES

Natural gas prices have increased substantially since the 1990s.



As shown in the table below, the citygate price of natural gas increased nationally by 52% from 2001 to 2005 and increased by 37% for Missouri.

| **Average Citygate Price of Natural Gas, 2001-2005** Dollars per Thousand Cubic Feet ($/mcf) | **2001** | **2002** | **2003** | **2004** | **2005** | % increase from 2001 to 2005 |
|---|---|---|---|---|---|---|
| United States | 5.72 | 4.15 | 5.85 | 6.65 | 8.67 | 51.6% |
| Missouri | 6.33 | 4.56 | 6.12 | 6.99 | 8.67 | 37.0% |

Source: Energy Information Administration (EIA), Natural Gas Annual 2005, Table 22

The citygate price of natural gas does not include the cost for the local distribution company (LDC) to deliver it to the customer. The delivered price in 2005 is shown in the table below.

| **Average Price of Natural Gas Delivered to Consumers, 2005** ($/ mcf) | Residential | Commercial |
|---|---|---|
| United States | 12.84 | 11.59 |
| Missouri | 12.67 | 11.62 |

Source: EIA, Natural Gas Annual 2005, Table 23

For residential and commercial customers, the citygate price is approximately 68% and 75% of the total natural gas bill.

| **Citygate Price as % of Average Price Delivered to Consumers, 2005** | Residential | Commercial |
|---|---|---|
| United States | 67.5% | 74.8% |
| Missouri | 68.4% | 74.6% |

Household income is not increasing at the same rate as the rise in natural gas costs. Although the following table does not compare the exact time periods as shown in a previous table for rising natural gas prices, it illustrates that there is minimal increase in household income during the same period of time that natural gas prices are rising by 37% in Missouri.

| **Missouri 3-year Average Median Household Income** | | % Increase | Comments |
|---|---|---|---|
| 2003-2005 | $ 44,324 | **0.8%** | Income in 2005 dollars |
| 2000-2002 | $ 43,955 | **-0.7%** | Income in 2002 dollars |
| 1998-2000 | $ 44,247 | | Income in 2000 dollars |

Source: U.S. Census Bureau

## ENERGY EFFICIENCY DEFINED[1]

Energy efficiency refers to using less energy to provide the same or improved level of service to the energy consumer in an economically efficient way. The term energy efficiency includes using less energy at any time, including at times of peak demand through demand response and peak shaving efforts. Energy efficiency can be the implementation of one or more cost-effective projects such as adding insulation to one's attic or a comprehensive undertaking where all cost-effective energy efficiency measures are explored and installed in a home or business.

In my experience, some people use the term energy efficiency and energy conservation interchangeably. Others refer to conservation as only no-cost habit changes such as setting the thermostat at a lower temperature in the winter, shutting off or reducing the air flow from vents in seldom used rooms, or closing the drapes at night to keep the room warmer. Energy efficiency is then referred to as specific physical changes to the home or business such as adding insulation, caulking around windows, or replacing old appliances with energy efficient appliances.

## PRICE SIGNALS ARE NOT ENOUGH TO ENCOURAGE INDIVIDUALS TO INVEST IN ENERGY EFFICIENCY

As indicated previously, the citygate price of natural gas increased by 37% for Missourians from 2001 to 2005. One would think that market prices alone would influence investment in energy efficiency. However, as noted in a February 2007 American Council for an Energy Efficient Economy (ACEEE) report, "While economists agree that markets in general respond efficiently to price signals, there is evidence that market failures can limit the effect of price signals. Where market failures exist, energy usage in these markets persists at levels higher than economic theory would otherwise suggest." "… if market failures isolate significant segments of energy use from price signals, policymakers may need to supplement market price signals with other policy measures."[2]

[1] "National Action Plan for Energy Efficiency," *U.S. Environmental Protection Agency,* July 2006, p. 1-1.
[2] "Quantifying the Effects of Market Failures in the End-Use of Energy," *American Council for an Energy-Efficient Economy (ACEEE),* Prepared for International Energy Agency, February 2007, pp. iii.

The ACEEE report identifies three types of market barriers.[3]

1. Principal-agent (PA) barriers. This barrier occurs when one party (the agent) makes decisions affecting end-use energy efficiency and a different party (the principal) bears the consequences of those decisions. Examples include: new home construction where the home builders make decisions that impact the energy use of the home; commercial building where builders and owners make efficiency technology decisions that affect tenant energy bills; and rental housing where owners make investments that impact energy costs of the tenants.
2. Information/transaction cost barriers. The end-user lacks the information or expertise to make a decision that maximizes both energy efficiency and economics.
3. Externality cost barriers. The market price does not reflect its full cost to society (e.g. environmental impacts, health impacts).

Other reasons for not pursuing energy efficiency include the following.[4]

1. Priority for investment capital is quality and appearance of the sales room, not energy efficiency.
2. Short-run cost reductions is necessary to compete, thus added costs for energy efficient technology is not a priority
3. In the U.S., incomes for the majority of households are high enough that moderate changes in prices may blunt the effect of price elasticity
4. Energy consumption for heating, lighting, and transportation are seen as relatively inelastic essentials and cross-elasticity, reduction in purchases of other goods, is used to offset the rising prices for energy
5. When consumers cannot predict future prices because of volatility, they are unwilling to make many investments that would be economically attractive across a range of future price points

The ACEEE report concludes that market failures are "significant and wide spread" and lists the following three policy implications.[5]

[3] Ibid., pp. iii - iv
[4] Ibid., pp. 3-7.
[5] Ibid., p. vii.

1. Prices are a major influence on markets, but barriers isolate large fractions of energy use from the intended effects of price signals.
2. The price elasticity effects of energy prices are muted in affluent economies.
3. Policymakers should consider policies and measures including rating and labeling, efficiency standards for appliances and other equipment, building energy codes, incentive programs, and technical assistance and consumer information.

## ROLE OF ENERGY EFFICIENCY IN REDUCING NATURAL GAS COSTS

There are many benefits of improving the energy efficiency of our homes and businesses. Using less energy saves money. Buying up-to-date technologies and practices can save 10% to 30% of many businesses', governments', and households' energy bills.[6] Energy efficiency helps the local economy through the expenditures on energy efficiency measures and through the increased discretionary income from reduced utility bills. Energy efficiency can improve comfort (e.g. Reduce the drafts that make you cold in the winter and hot in the summer). Energy efficiency is good for the environment.

This section summarizes key findings from three recent studies on energy efficiency.

- U.S. Environmental Protection Agency (EPA), "National Action Plan for Energy Efficiency," July 2006.
- Midwest Energy Efficiency Alliance (MEEA), "Midwest Residential Market Assessment and Demand Side Management (DSM) Potential," March 2006.
- American Council for an Energy-Efficient Economy (ACEEE) report, "Examining the Potential for Energy Efficiency to Help Address the Natural Gas Crisis in the Midwest," January 2005.

### EPA, "National Action Plan for Energy Efficiency"

The goal of the "National Action Plan for Energy Efficiency" is to create a sustainable, aggressive national commitment to energy efficiency through gas and electric utilities, utility regulators, and partner organizations. Participants of the National Action Plan identify key barriers limiting greater U.S. investment in energy efficiency and develop and document

[6] "National Action Plan for Energy Efficiency, Frequently Asked Questions," *U.S. Environmental Protection Agency,* July 2006. (www.epa.gov/cleanenergy/eeactionplan )

business practices for removing these barriers. Members of the National Action Plan include gas and electric utilities, state agencies, energy consumers, energy service providers, and environmental/energy efficiency organizations, as shown in Appendix A.

**National Action Plan Key Findings:**

The "National Action Plan for Energy Efficiency" reviewed many energy efficiency programs that have been operating successfully for a number of years. It provides an overview of best practices. A brief summary of the key findings from the National Action Plan is as follows.[7]

1. Energy efficiency resources are being acquired on average at about one-third of the cost of natural gas supply.
2. Funding for programs reviewed ranged from 0.5 to 1% of natural gas utility revenue.
3. Energy efficiency programs reviewed are delivered at a total program cost of $0.30 to $2.00 per lifetime million British thermal units (MMBtu).
4. Even low energy cost states have reason to invest in energy efficiency because it provides a low-cost reliable resource that reduces customer utility bills.
5. Well-designed programs provide opportunities for customers of all types to adopt energy savings measures and reduce their energy bills.
6. Research and development enables a continuing source of new technologies and methods for improving energy efficiency.
7. Energy efficiency resources are being acquired through a variety of mechanisms including system benefits charges (SBC), energy efficiency portfolio standards (EEPS), and resource planning (or cost of service) efforts.
8. Cost-effective energy efficiency programs can be targeted to reduce peak load.
9. Energy efficiency programs, projects, and policies benefit from established and stable regulations, clear goals, and comprehensive evaluation.
10. Energy efficiency programs benefit from committed administrators and oversight authorities and strong stakeholder support.

[7] "National Action Plan for Energy Efficiency," *U.S. EPA,* July 2006, pp. 6-5 to 6-6.

11. Most large-scale programs have improved productivity, enabling job growth in the commercial and industrial sectors.
12. Large scale energy efficiency programs can reduce wholesale market prices.

**National Action Plan Best Practices:**

A brief summary of the best practices from the National Action Plan is as follows[8]:

1. Leadership is needed from utility upper management, state agencies, regulatory commissions, local governments and associated legislative bodies, and consumer advocates.
2. Conduct a potential study prior to starting programs to inform and shape the program.
3. Solicit stakeholder input.
4. Review measures for all customer classes including hard-to-reach customers such as low income and very small business customers.
5. Leverage other programs (Energy Star) and manufacturer and retailer resources through cooperative promotions.
6. Consider building codes and appliance standards when designing programs.
7. Plan to incorporate new technologies.
8. Use cost-effectiveness tests that are consistent with long-term planning (costs and benefits to utility and to customer, environmental impacts, water savings).
9. Promote both energy and non-energy benefits (improved comfort, improved air quality.)
10. Keep participation simple.
11. Keep funding and other program characteristics as consistent as possible.
12. Start with successful program approaches from other utilities and program administrators and adapt them to local conditions to accelerate design and implementation.
13. Evolve to more comprehensive programs.

[8] Ibid., pp. 6-6 to 6-52.

14. Invest in educating and training the service industry to deliver increasingly sophisticated energy efficiency services.
15. Budget, plan and initiate evaluation from the onset. Formalize and document evaluation plans and processes.
16. Conduct evaluations to assure that mid- and long-term goals are met.
17. Communicate evaluation results to stakeholders. Include case studies to make success more tangible.

**MEEA, "Midwest Residential Market Assessment and DSM Potential"**

The study concludes that the total achievable potential for gas DSM varies among the Midwest states from about 23% to 27% of base case consumption.[9] (In this study, the Midwest is defined as the states of Illinois, Indiana, Iowa, Kentucky, Michigan, Minnesota, Missouri, Ohio, and Wisconsin.)

The study reports that single-family homes account for over 80% of total achievable residential gas DSM potential.[10] The following four residential natural gas measures account for about 83% of the DSM potential with a cost of conserved energy of $1/therm ($10/dekatherm) or less.[11]

1. **High efficiency gas furnaces**

   Implementation of this measure accounts for 5% of total residential base case natural gas consumption. The cost of conserved energy varies between housing types and whether a 92% or 96% efficient furnace is analyzed. The 96% efficient furnaces were found to have a lower total cost of conserved energy. The cost of conserved energy is estimated at $1/therm ($10/Dth), but is between $1.10 and $1.20/therm in the more southern states of the Midwest where the annual savings are lower.

2. **Insulating attics with no insulation**

   Implementation of this measure accounts for 2% of total residential base case natural gas consumption. The cost of conserved energy is estimated at $0.25/therm ($2.50/Dth) for single family homes.

[9] "Midwest Residential Market Assessment and DSM Potential Study," *Midwest Energy Efficiency Alliance (MEEA),* Sponsored by Excel Energy, March 2006, p. 4.
[10] Ibid., p. 5.
[11] Ibid., pp. 5-6, 75.

3. **Comprehensive shell air sealing and infiltration reduction**

   Implementation of this measure accounts for 1.4% of total residential base case natural gas consumption. The cost of conserved energy is estimated at $0.85/therm ($8.50/Dth)

4. **Energy Star programmable thermostats**

   Implementation of this measure accounts for 1% of total residential base case natural gas consumption. The cost of conserved energy is estimated at $0.17/therm ($1.70/Dth) for single family homes. Concerns exist about the actual in-the-field energy savings impacts. Energy Center of Wisconsin's Energy and Housing Study found that although homeowners with programmable thermostats had a 2.5% lower energy intensity than homes with manual thermostats, the statistical uncertainty associated with such savings was plus or minus 7%, or several times larger than the savings estimate. Additionally, few homeowners with manual thermostats that participated in detailed interviews were interested in programmable thermostats.

The MEEA report lists other energy efficiency measures with small energy saving impacts. These included low flow showerheads, hot water pipe insulation, faucet aerators, water heater thermostat setbacks, and multi-family wall insulation.

**ACEEE, "Examining the Potential for Energy Efficiency to Help Address the Natural Gas Crisis in the Midwest"**

The ACEEE study notes that due to the high natural gas heating load in the Midwest, average residential natural gas bills are nearly four times as much as the national average. Additionally, compared to other areas of the nation, the Midwest has a large concentration of heavy industries that are very reliant on natural gas, for both fuel and feedstock purposes. Thus, natural gas price increases have a disproportionate impact on the economy of this region.[12] (In this study, the Midwest is defined as the states of Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, and Wisconsin.)

In response to accelerating natural gas market prices in 2003, ACEEE launched a national study to attempt to understand the effects that reductions in natural gas demand from energy

[12] Martin Kushler, Ph.D., Dan York, Ph.D. and Patti Witte, M.A., "Examining the Potential for Energy Efficiency to Help Address the Natural Gas Crisis in the Midwest," *American Council for an Energy-Efficient Economy (ACEEE),* January 2005, p. iii.

efficiency and renewable energy could have on reducing natural gas market prices in the near- and mid-term time periods. ACEEE developed estimates of potential achievable percentage savings in end-use consumption of natural gas and electricity for each customer sector, residential, commercial, and industrial, for each state. The Missouri information is summarized in the tables below.[13] The report does not comment on the energy efficiency policies needed to achieve the projected savings, but does provide examples of energy efficiency programs and policies. (This ACEEE report was conducted prior to hurricane Katrina.)

| **Potential Natural Gas Percentage Savings for Missouri** | **2006** | **2010** | **2015** | **2020** |
|---|---|---|---|---|
| Residential | 1.4% | 2.9% | 4.7% | 6.5% |
| Commercial | 1.3% | 2.6% | 4.2% | 5.7% |
| Industrial | 1.1% | 2.7% | 4.8% | 6.8% |
| Combined Residential, Commercial, Industrial | 1.3% | 2.7% | 4.6% | 6.4% |

| **MO Projected Net Natural Gas Consumption Savings from Energy Efficiency** (MMcf) | **2006** | **2010** | **2015** | **2020** |
|---|---|---|---|---|
| Residential | 1,637 | 3,333 | 5,561 | 7,904 |
| Commercial | 763 | 1,575 | 2,685 | 3,854 |
| Industrial | 664 | 1,704 | 3,090 | 4,571 |
| Combined Residential, Commercial, Industrial | 3,064 | 6,612 | 11,336 | 16,328 |

The total dollar savings to Midwest customers from the energy efficiency policy impacts examined in this study are comprised of four components: (1) direct savings on natural gas bills from reductions in consumption; (2) direct savings in electricity bills from reductions in consumption; (3) savings in natural gas bills across all customers due to reductions in the wholesale market price of natural gas; and (4) savings to electricity customers due to the reduced cost of natural gas.[14]

| **Total Dollar Savings to Missouri Customers for Midwest Energy Efficiency Scenario** (Millions $) | **2006** | **2010** | **2015** | **2020** |
|---|---|---|---|---|
| Natural Gas Efficiency | $29 | $41 | $60 | $97 |
| Electricity Energy Efficiency | $57 | $126 | $225 | $339 |
| Reduction in Price | $26 | $66 | $109 | $102 |
| Reduction of Cost in Electric Generation | $76 | $129 | $526 | $309 |
| Total | $187 | $361 | $921 | $847 |
| *Total annual savings for that year and from all prior years for energy efficiency improvements produced by the policy* | | | | |

[13] Ibid., pp. 18-25.
[14] Ibid., pp. 28-30.

The costs required to achieve these energy efficiency savings are estimated for natural gas as follows:[15]

| **Cost per Mcf** to Achieve Natural Gas Savings | Technology Cost | Administrative Cost | Cost of Saved Energy |
|---|---|---|---|
| Residential | $1.920 | 25% | $2.57 |
| Commercial | $0.667 | 20% | $0.86 |
| Industrial | $0.600 | 15% | $0.74 |
| Weighted Overall Cost | | | $1.67 |

ACEEE anticipates that the energy efficiency savings modeled in this study would be best achieved through a combination of policy measures, including such things as utility and/or public benefits fund supported energy efficiency programs, building energy codes, equipment standards, informational and market transformation strategies. Some of these would require upfront funding and others would be accomplished through statutory, regulatory, or informational mechanisms.[16]

A brief summary of example best practices programs for natural gas energy efficiency are included in Appendix B of this Staff Report. These include programs in the states of Massachusetts, Oregon, Vermont, New York, California, and Minnesota.

## FUNDING FOR ENERGY EFFICIENCY PROGRAMS

The "National Action Plan for Energy Efficiency" reviewed many energy efficiency programs that have been operating successfully for a number of years. Best Practices are summarized in a prior section of this Staff report. Funding for energy efficiency programs reviewed in the National Action Plan ranged from 0.5% to 1% of natural gas utility revenue.[17]

If Laclede funded energy efficiency programs at this level, the required funding would be $3.4 to $6.9 million dollars for residential customers and $1.4 to $2.8 million for commercial and industrial customers, as shown in the following table.

[15] Ibid., p. 32.
[16] Ibid., p. 34
[17] "National Action Plan for Energy Efficiency," *U.S. EPA,* July 2006, p. 6-5.

| **Laclede Regulated Gas Distribution Operating Revenues** (Thousands) | | | |
|---|---|---|---|
| | 2006 | 1% of 2006 Operating Revenues | 0.5% of 2006 Operating Revenues |
| Residential | $689,347 | $6,893 | $3,447 |
| Commercial & Industrial | $284,174 | $2,842 | $1,421 |
| Source: Laclede Form 10-K, 2006, Fiscal Year ended September 30, 2006. (2006 numbers match the Laclede filing in this case) | | | |

To ensure funds are available for energy efficiency, the following mechanisms can be used to recover costs and provide funding for natural gas energy efficiency programs.[18]

| **Funding for Natural Gas Energy Efficiency Programs** | |
|---|---|
| Revenue Requirement (also called Procurement Funding) | Utility considers energy efficiency as a resource in their resource planning process and it plans to spend money to procure that resource as it would for other reasons. This spending would be part of the utility revenue requirement. States using this mechanism: Iowa, California (CA also uses a System Benefits Charge), Vermont |
| Capitalizing Energy Efficiency Costs | Amortization of program costs over a period of time. Used by Washington, Vermont, and Iowa in the 1980s to moderate rate effects; but ended this practice in the 1990s. Vermont is currently reconsidering this mechanism to moderate new rate effects through capitalizing costs. |
| Spending Budgets, Tariff Riders, and System Benefit Charges | The legislature or regulator can determine a budget level for energy efficiency spending, generally a percentage of net utility revenue or a charge per energy unit.<br>States using these mechanisms: Massachusetts (spending for natural gas energy efficiency is determined case by case), Minnesota (0.5% of net natural gas utility revenue), Wisconsin (system benefit charge – commission determines the appropriate level for each utility), New York (annual spending budget), Washington (tariff rider)<br>Additional points regarding these three mechanisms are listed below. |
| Spending Budgets | A spending budget allows the administrator, trade allies and consumers to count on a baseline level of effort (reduces the likelihood of spending disruptions that erode customer expectations and destroy hard-to-replace market infrastructure needed to deliver energy efficiency). Spending budgets are sometimes treated as a maximum spending level even if more cost-effective efficiency can be gained. Spending budgets can be treated as minimum if additional cost-effective investments are recovered as part of the utility revenue requirement. |
| Tariff Rider for Energy Efficiency | This mechanism allows for a periodic rate adjustment to account for the difference between planned costs included in rates and actual costs. |
| System Benefit Charges | This is a charge added to customer bills to collect funds for energy efficiency programs. It is designed to provide a stable stream of funds. If the funds enter the purview of state government, they can be vulnerable to decisions to use the funds for general government purposes. |

The "National Action Plan for Energy Efficiency" also addresses utility incentives. Some suggest that if energy efficiency is a cost-effective resource, utilities should invest in it for

[18] Ibid., pp. 2-7 to 2-9, 2-13, 2-14.

that reason, with no reason for added incentives. Others say that for effective results, incentives should be considered.[19] The following table provides a summary of incentives.

| **Incentives for Energy Efficiency** | |
|---|---|
| Minnesota | Performance incentive for electric and natural gas investor-owned utilities beginning at 90% of performance targets up to 150% of target levels. (1999) |
| Rhode Island | 5% of efficiency budget is for performance incentives. |
| Massachusetts | Utilities achieving performance targets earn 5% on money spent for efficiency (in addition to being able to expense efficiency costs). |
| Vermont | 3% of efficiency budget if performance objectives met. |

## SUBSIDY CONCERNS

A concern raised when funding energy efficiency programs is that all customers are required to contribute to energy efficiency programs, but not all customers will take advantage of the programs when available, raising the issue that non-participants subsidize the efficiency upgrades of participants.

EPA's 2006 Report, "National Action Plan for Energy Efficiency" states that although program participants receive the direct benefits that accrue from energy efficiency upgrades, all customer classes benefit from well-managed energy efficiency programs, regardless of whether or not they participate directly.[20] Energy efficiency programs can help contribute to an overall lower cost system for all customers over the longer term by helping avoid the need to purchase natural gas, or through reduction of capacity and the associated demand charges. Additionally, for programs that aim to accelerate market adoption of energy efficiency products or services, there is often program spillover to non-program participants due to program influences on design professionals and vendors.[21]

Despite evidence that both program participants and non-participants can benefit from energy efficiency programs, the "National Action Plan for Energy Efficiency" states that a best practice is to provide program opportunities for all customer classes and income levels.

[19] Ibid., pp. 2-9, 2-14.
[20] Ibid., p. 6-18.
[21] Ibid., p. 6-19.

Additionally, program administrators usually strive to align program funding with spending based on customer class contributions to funds.[22]

The "National Action Plan for Energy Efficiency" states it is not uncommon to have limited cross-subsidization for the following: (1) low-income, agricultural, and other hared-to-reach customers; (2) situations where budgets limit achievable potential and the most cost-effective energy efficiency savings are not aligned with customer class contributions to energy efficiency funding; and (3) situations where energy efficiency savings are targeted geographically based on system needs. For programs targeting low-income or other hard-to-reach customers, it is not uncommon for the programs to be implemented with a lower benefit-cost threshold, if the overall energy efficiency program portfolio for each customer class meets cost-effectiveness criteria.[23]

**Energy Efficiency Programs Targeted for Low-Income Customers**

Reasons for utility support of energy efficiency programs targeted to low-income customers are included in the following table.[24]

| **Reasons for Utility Support of Energy Efficiency Programs for Low-Income Customers** |
|---|
| Low-income customers are less likely to take advantage of rebate and other programs because they are less likely to be purchasing appliances or making home improvements. |
| The "energy burden" (percent of income spent on energy) is substantially higher for low-income customers, making it more difficult to pay bills. Programs that help reduce energy costs reduce the burden, making it easier to maintain regular payments. |
| Energy efficiency improvements often increase the comfort and safety of these homes. |
| Utilities have the opportunity to leverage federal programs such as LIHEAP and low-income weatherization to provide comprehensive services to customers. |
| Low-income customers often live in less efficient housing and have older, less efficient appliances. |
| Low-income customers often comprise a substantial percentage (up to 1/3) of utility residential customers and represent a large potential for efficiency and demand reduction. |
| Using efficiency education and incentives in conjunction with credit counseling can be very effective in this sector. |

[22] Ibid.
[23] Ibid., pp. 6-19 to 6-20.
[24] Ibid., p. 6-36.

A low-income household is one with a combined income that falls at or below 125 percent of the poverty level determined by the Office of Management and Budget's poverty income guidelines or the basis on which federal, state, or local cash assistance payments have been made. A state may also elect to make all homes eligible under the U.S. Department of Health and Human Services (HHS) Low-Income Home Energy Assistance Program (LIHEAP) eligible for weatherization assistance and may use either 150 percent of poverty or 60 percent of State median income.

Federal funds for Low-Income Weatherization (LIWAP or WAP) are provided from the U.S. Department of Energy. In Missouri, DNR administers the LIWAP through sixteen regional Community Action Agencies, one city government and one not-for-profit organization. Information regarding LIWAP, including income eligibility guidelines, is included in Appendix C.

## CURRENT LACLEDE PROGRAMS AND PERFORMANCE

### Rebate Programs

Laclede currently offers rebate programs for residential and commercial customers funded at $300,000 per year for high efficiency appliances and heating systems. (Tariff Sheets R-47, R-48, included in Appendix D) The rebates offered to residential customers are $450 per unit for combination space & water heater systems and $250 per unit for both high efficiency furnaces and high efficiency boilers. Rebates offered to commercial customers and for rental property are $750 per unit.

Of the $600,000 funding for the rebate programs, Laclede has expended $158,500 in rebates, as summarized in the following table. **There has been little success with the commercial rebates and the rental rebates.** Laclede provided no additional records of the success of the rebate program such as estimated savings from the high efficiency equipment, number of rebates for existing versus new homes, age of homes receiving rebates, age of equipment being replaced, or efficiency rating of new system. (Laclede response to Data Request No. 106 included in Appendix E)

| High Efficiency Appliance and Heating System Rebate Programs | Year 2006 Funding (Apr- Aug 2006) | Year 2006/2007 Funding (Sep 2006 – Aug 2007) | Total Funding | Funds Expended | Funds Remaining (DR 106) |
|---|---|---|---|---|---|
| Residential | $150,000 | $150,000 | $300,000 | $153,750 | $146,250 |
| Commercial | 100,000 | 100,000 | 200,000 | 1,500 | 198,500 |
| Rental | 50,000 | 50,000 | 100,000 | 3,250 | 96,750 |
| **Total** | $300,000 | $300,000 | $600,000 | $158,500 | $441,500 |

**Loan Programs**

Laclede has financing, up to $2,000 per residential customer, for insulation, with maximum outstanding loans of $2,000,000. The EnergyWise Dealer Program provides financing, up to $10,000 per heating system, for residential and commercial customers for high efficiency heating systems. (See Tariff Sheets R-27, R-28, R-37, R-38 included in Appendix D.) Eligibility Expansion for the EnergyWise Program provides no interest financing up to $10,000 per heating system for rental property for low-income customers for high efficiency heating systems funded at $50,000 annually; there is a limit of four systems per customer. (The current tariffs do not contain the Eligibility Expansion for the Energy Wise Program. See the Stipulation & Agreement, GR-2005-0284.)

Of the $2 million maximum for outstanding loans for insulation, Laclede reports a loan balance of $144,356 and 209 participants. For the EnergyWise Program, Laclede reports a loan balance of $787,389 and 320 participants; it also reports a total of 2,938 loans and a total amount of $12,303,813, which appear to be since its inception in September, 1995. Laclede reports no loans for the low-income Eligibility Expansion for the Energy Wise Program. (See Laclede response to Data Request No. 106 and Attachment to February 1, 2007 email from Rick Zucker, Laclede, to Lera Shemwell and Anne Ross, included in Appendix E and F.)

Laclede provided no additional records of the success of the loan program such as estimated savings from the high efficiency equipment, number of loans for new homes, age of homes receiving rebates, age of equipment being replaced, or efficiency rating of new system.

**Low-Income Weatherization**

Laclede provides $500,000 per year funding for low-income residential customers for weatherization including energy education. (Tariff Sheets R-44 through R-46, included in

Appendix D). Information regarding the performance of the Department of Energy, Low-Income Weatherization Program is included in Appendix C.)

## COMPARISON OF NATURAL GAS UTILITY ENERGY EFFICIENCY FUNDING IN MISSOURI

Dollars invested in energy efficiency is shown in the following table for many of the Missouri local distribution companies. As shown in the following table, Laclede's funding for the Low-Income Weatherization Program is below that of AmerenUE, Atmos Energy Corporation, Empire District Gas, and Missouri Gas Energy (MGE) when considered on a per customer basis. Funding for energy efficiency programs, excluding Low-Income Weatherization and the loan programs, is below that of AmerenUE, Atmos Energy Corporation, and MGE when considered on a per customer basis.

| Energy Efficiency Programs - MO Local Distribution Companies | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Funding Per Customer | | |
| LDC | Case Number | Non-LIWAP EE Funding Total | LIWAP | Total Annual Funding (excludes financing) | Comments | No. of Customers | Non- LIWAP EE | LIWAP | Total |
| Atmos | GR-2006-0387 | $87,000 | $78,000 | $165,000 | Annual Funding is 1% of annual gross revenues, includes LIWAP. The dollar amount for annual funding shown here is for the first year. $78,000 noted for LIWAP have not been decided- it was proposed in testimony. | 60,800 | $ 1.43 | $ 1.28 | $ 2.71 |
| AmerenUE | GR-2007-0003 | $100,000 | $263,000 | $363,000 | Annual contribution of $100,000 to fund programs to promote customer use of energy-efficient gas equipment. May also have DSM programs with funding in a regulatory asset account. $263,000/year LIWAP | 120,700 | $ 0.83 | $ 2.18 | $ 3.01 |
| | | $0 | $90,319 | $90,319 | Funds remaining from the experimental programs developed for Stoddard and Scott Counties in GR-2003-0517, $270,958. If spread this over a three year period, annual amount is $90,319. Discussions regarding use for LIWAP, but not decided. | | $ - | $ 0.75 | |
| Empire District Gas | GR-2004-0072 | $7,500 | $102,500 | $110,000 | $78,500 annually LIWAP plus $24,000 annually in the Sedalia area; $7,500 annually for experimental commercial energy audits | 48,700 | $ 0.15 | $ 2.10 | $ 2.26 |
| MGE | GR-2006-0422 | $750,000 | $750,000 | $1,500,000 | Water heater rebate program $705,000/year; $45,000/year for education. $750,000/year LIWAP. | 490,900 | $ 1.53 | $ 1.53 | $ 3.06 |
| Laclede - current tariffs | | $300,000<br>Not including financing | $500,000 | $800,000 | Appliance and HVAC Rebate Program: Funding $300,000 annually; Residential Rebate Program $150,000; Commercial Rebate Program $100,000, Rental Rebate Program $50,000 (Rebate 50% of cost up to: Residential: $450/unit for combination space & water heater systems and $250/unit for both high efficiency furnaces and high efficiency boilers; Commercial: $750/unit; Rental Property: $750/unit). Financing Programs: Insulation Financing - max outstanding loans of $2,000,000 (max loan of $2,000 per customer, interest rate 3%/annum, up to 5-yr term for loans ≤ $875 and 7 1/2 yrs for loans > $875); Energy Wise Dealer Program for HVAC financing (max loan $10,000/heating system; limit of 4 systems per customer; up to 5-yr term); Eligibility Expansion for EnergyWise Program to include rental property, 8 units or less, with household income ranging from 0 to 200% of federal poverty guidelines (no interest loans, $50,000 annually; source - Stipulation & Agreement, GR-2005-0284) ; LIWAP: $500,000 annually; includes energy education. | 648,000 | $ 0.46 | $ 0.77 | $ 1.23 |

## STAFF RECOMMENDATION

Staff recommends that Laclede's currently approved energy efficiency programs be revised. A comparison of Staff's recommended funding for this Laclede Rate Case to other Missouri natural gas utility energy efficiency funding is shown in Appendix G.

### Low-Income Weatherization

Staff recommends that Laclede's funding for the Low-Income Weatherization Program be increased from the current level of $500,000 per year to $991,000 per year to be more consistent with other Missouri LDCs and in recognition of the unique challenges of low-income customers, as documented in Staff's report in this case.

Staff recommends that the Laclede funds for the Low-Income Weatherization Program be administered through DNR, consistent with the requirements of Department of Natural Resources (DNR) existing Low-Income Weatherization Program. Additionally, Staff recommends that any funds not expended in a given year, roll-over to the subsequent year.

### Collaborative Process

Staff recommends that Laclede in a collaborative process with Staff, Office of Public Counsel, DNR, and community based organizations (Collaborative), evaluate options to enhance energy efficiency for residential and small commercial customers in its service area. Staff recommends that the Collaborative also consider low-income residential customers in the discussion and development of its recommendations to the Commission. Staff recommends that Laclede hire a consultant to advise the collaborative in its discussions of successful energy efficiency programs, including a recommendation as to whether a third party should administer the energy efficiency program for Laclede, excluding the Low-Income Weatherization Program.

In its discussion of successful energy efficiency programs, the Collaborative should consider key findings and best practices information in recent reports such as the following:

- "National Action Plan for Energy Efficiency," *U.S. Environmental Protection Agency,* July 2006.
- Martin Kushler, Ph.D., Dan York, Ph.D. and Patti Witte, M.A., "Examining the Potential for Energy Efficiency to Help Address the Natural Gas Crisis in the

Midwest," American Council for an Energy-Efficient Economy (ACEEE), January 2005.

- "Midwest Residential Market Assessment and DSM Potential Study", Midwest Energy Efficiency Alliance (MEEA), Sponsored by Excel Energy, March 2006.

In its discussion of successful energy efficiency programs, the Collaborative should also consider partnering with electric utilities and with area vendors, contractors, and local community based agencies to improve deployment of cost effective energy efficiency measures.

Staff recommends that Laclede file a monthly report with the Commission, beginning sixty (60) days after the issuance of the Commission Report and Order in this case regarding the status of the Collaborative efforts. Such monthly reports should be submitted to the Commission until Laclede files the energy efficiency recommendation of the Collaborative with the Commission.

Staff recommends that Laclede present the recommendations of the Collaborative for approval by the Commission, including revised tariff sheets detailing the specifics of each energy efficiency program, no later than six months after the issuance of the Commission Report and Order in this case. Thereafter, Staff recommends that Laclede provide quarterly presentations and written reports to the Collaborative and file biannual reports with the Commission. The quarterly presentations and reports to the Collaborative should evaluate the success or lack thereof of the energy efficiency programs. Based on these quarterly presentations and written reports and in consideration of any new technology, Laclede should obtain feedback from the Collaborative, including any recommended changes to the Laclede energy efficiency programs. The biannual reports filed with the Commission should report on the success or lack thereof of the energy efficiency programs, summarize Collaborative recommendations, and include any proposed changes to the energy efficiency programs, including any proposed tariff changes.

**Funding For Other Energy Efficiency Programs Recommended by Collaborative**

Staff recommends that program costs for energy efficiency measures, other than the recommended annual funding for Low-Income Weatherization, be placed in a regulatory asset

account and amortized over a ten-year period. Staff recommends that the amounts accumulated in this regulatory asset account be allowed by the Commission to earn a return not greater than the Laclede AFUDC rate. The costs recovered in later rate cases through this account should only be for those energy efficiency programs that are shown to be cost-effective. The criteria for determining whether an energy efficiency program is cost-effective should be included for Commission approval in Laclede's revised tariff sheets that detail the specifics of each energy efficiency program. Energy efficiency program costs would include costs of developing, implementing, and evaluating customer energy efficiency programs.

The regulatory asset account methodology is the same cost recovery methodology recommended by Staff for energy efficiency programs in the AmerenUE gas rate case, Case No. GR-2007-0003, and the AmerenUE electric rate case, Case No. ER-2007-0002.

Staff is recommending a regulatory asset account at this time, rather than a specific funding level, because the programs would be recommended by a Collaborative and those programs are not yet defined, the programs could be modified over time to improve deployment, and finally, because experience with Laclede's existing rebate and loan programs shows that the funds agreed to in the existing Laclede rates are not being fully expended.

If a regulatory asset account for energy efficiency program costs is not approved by the Commission, Staff recommends annual funding by Laclede of $972,000. Additionally, Staff recommends that any funds not expended in a given year, roll-over to the subsequent year. If Laclede elects to fund additional energy efficiency programs beyond the $972,000 per year, through recommendation of the Collaborative, such as at the funding levels of 0.5% to 1% of natural gas utility revenue reported in the "National Action Plan for Energy Efficiency", Staff recommends that these additional costs be placed in a regulatory asset account, amortized over a ten-year period, and allowed by the Commission to earn a return not greater than the Laclede AFUDC rate.

**Continuance of Existing Loan and Rebate Programs**

Since Laclede has funds from prior rate cases for the energy efficiency rebate and loan programs (approximately $441,500 for the rebate program), Staff recommends that the existing tariffs for Laclede's energy efficiency loan and rebate programs remain in place until alternate programs from the Collaborative are presented by Laclede to the Commission for

approval. Any funds not expended from the rebate programs should carryover to programs recommended by the Collaborative.

**Tracking, Reporting, and Evaluation of Energy Efficiency Programs**

Staff recommends that Laclede collect, report, and evaluate at a minimum the following information for the energy efficiency programs:

1. For each energy efficiency program (e.g. for each loan program, rebate program, education program, low-income weatherization), the number of loans, rebates, or other energy efficiency measure implemented, reported by county and customer type (e.g. residential or small commercial). Report the number of measures implemented in each calendar quarter, cumulatively for the fiscal year or program year, and cumulatively over the life of the program.
2. For any loan or rebate programs, collect and report the following each calendar quarter, cumulatively for the fiscal year or program year, and cumulatively over the life of the program:
    a. Approximate age of home/commercial building. (This data could be reported in groups/bins such as: new home, 1-15 years, 16-30 years, 31-45 years, 46 plus years.)
    b. Approximate age of equipment being replaced. (This data could be reported in groups/bins.)
    c. Owner-occupied or rental unit.
    d. The number of homes/businesses that received more than one incentive (e.g. If a rebate is offered for insulation and a high efficiency heating system and a loan program is offered for one or both, report the number of rebates and loans received by each recipient). Additionally report the percentage of homes/businesses that participated in more than one program.
    e. Vendor/Contractor name (so that it can be determined if a particular vendor/contractor is more successful at marketing a program).
    f. Rating or other information about any installed measures (e.g. AFUE rating of new furnace).

g. Calculate normalized usage before and after the upgrade on a sampling of the homes/businesses receiving a rebate or loan. The frequency of such reporting should be provided on a fiscal year basis, or other frequency recommended by the Collaborative.

h. Age and income level of person requesting rebate or loan. (This would be optional information by the person requesting the rebate or loan. It would provide some information on whether the rebates or loans are of interest to varying age groups and income levels. This data could be reported in groups/bins.)

i. For each loan program, the average dollars financed per loan.

# MEMBERS OF THE NATIONAL ACTION PLAN FOR ENERGY EFFICIENCY

## Table 1-2. Members of the National Action Plan for Energy Efficiency

| | | |
|---|---|---|
| **Co-Chairs** | | |
| Diane Munns | Member<br>President | Iowa Utilities Board<br>National Association of Regulatory Utility Commissioners |
| Jim Rogers | President and Chief Executive Officer | Duke Energy |
| **Leadership Group** | | |
| Barry Abramson | Senior Vice President | Servidyne Systems, LLC |
| Angela S. Beehler | Director of Energy Regulation | Wal-Mart Stores, Inc. |
| Bruce Braine | Vice President, Strategic Policy Analysis | American Electric Power |
| Jeff Burks | Director of Environmental Sustainability | PNM Resources |
| Kateri Callahan | President | Alliance to Save Energy |
| Glenn Cannon | General Manager | Waverly Light and Power |
| Jorge Carrasco | Superintendent | Seattle City Light |
| Lonnie Carter | President and Chief Executive Officer | Santee Cooper |
| Mark Case | Vice President for Business Performance | Baltimore Gas and Electric |
| Gary Connett | Manager of Resource Planning and Member Services | Great River Energy |
| Larry Downes | Chairman and Chief Executive Officer | New Jersey Natural Gas (New Jersey Resources Corporation) |
| Roger Duncan | Deputy General Manager, Distributed Energy Services | Austin Energy |
| Angelo Esposito | Senior Vice President, Energy Services and Technology | New York Power Authority |
| William Flynn | Chairman | New York State Public Service Commission |
| Jeanne Fox | President | New Jersey Board of Public Utilities |
| Anne George | Commissioner | Connecticut Department of Public Utility Control |
| Dian Grueneich | Commissioner | California Public Utilities Commission |
| Blair Hamilton | Policy Director | Vermont Energy Investment Corporation |
| Leonard Haynes | Executive Vice President, Supply Technologies, Renewables, and Demand Side Planning | Southern Company |
| Mary Healey | Consumer Counsel for the State of Connecticut | Connecticut Consumer Counsel |
| Helen Howes | Vice President, Environment, Health and Safety | Exelon |
| Chris James | Air Director | Connecticut Department of Environmental Protection |
| Ruth Kinzey | Director of Corporate Communications | Food Lion |
| Peter Lendrum | Vice President, Sales and Marketing | Entergy Corporation |
| Rick Leuthauser | Manager of Energy Efficiency | MidAmerican Energy Company |
| Mark McGahey | Manager | Tristate Generation and Transmission Association, Inc. |
| Janine Migden-Ostrander | Consumers' Counsel | Office of the Ohio Consumers' Counsel |
| Richard Morgan | Commissioner | District of Columbia Public Service Commission |
| Brock Nicholson | Deputy Director, Division of Air Quality | North Carolina Air Office |
| Pat Oshie | Commissioner | Washington Utilities and Transportation Commission |
| Douglas Petitt | Vice President, Government Affairs | Vectren Corporation |

| | | |
|---|---|---|
| Bill Prindle | Deputy Director | American Council for an Energy-Efficient Economy |
| Phyllis Reha | Commissioner | Minnesota Public Utilities Commission |
| Roland Risser | Director, Customer Energy Efficiency | Pacific Gas and Electric |
| Gene Rodrigues | Director, Energy Efficiency | Southern California Edison |
| Art Rosenfeld | Commissioner | California Energy Commission |
| Jan Schori | General Manager | Sacramento Municipal Utility District |
| Larry Shirley | Division Director | North Carolina Energy Office |
| Michael Shore | Senior Air Policy Analyst | Environmental Defense |
| Gordon Slack | Energy Business Director | The Dow Chemical Company |
| Deb Sundin | Director, Business Product Marketing | Xcel Energy |
| Dub Taylor | Director | Texas State Energy Conservation Office |
| Paul von Paumgartten | Director, Energy and Environmental Affairs | Johnson Controls |
| Brenna Walraven | Executive Director, National Property Management | USAA Realty Company |
| Devra Wang | Director, California Energy Program | Natural Resources Defense Council |
| Steve Ward | Public Advocate | State of Maine |
| Mike Weedall | Vice President, Energy Efficiency | Bonneville Power Administration |
| Tom Welch | Vice President, External Affairs | PJM Interconnection |
| Jim West | Manager of *energy right* & Green Power Switch | Tennessee Valley Authority |
| Henry Yoshimura | Manager, Demand Response | ISO New England Inc. |

**Observers**

| | | |
|---|---|---|
| James W. (Jay) Brew | Counsel | Steel Manufacturers Association |
| Roger Cooper | Executive Vice President, Policy and Planning | American Gas Association |
| Dan Delurey | Executive Director | Demand Response Coordinating Committee |
| Roger Fragua | Deputy Director | Council of Energy Resource Tribes |
| Jeff Genzer | General Counsel | National Association of State Energy Officials |
| Donald Gilligan | President | National Association of Energy Service Companies |
| Chuck Gray | Executive Director | National Association of Regulatory Utility Commissioners |
| John Holt | Senior Manager of Generation and Fuel | National Rural Electric Cooperative Association |
| Joseph Mattingly | Vice President, Secretary and General Counsel | Gas Appliance Manufacturers Association |
| Kenneth Mentzer | President and Chief Executive Officer | North American Insulation Manufacturers Association |
| Christina Mudd | Executive Director | National Council on Electricity Policy |
| Ellen Petrill | Director, Public/Private Partnerships | Electric Power Research Institute |
| Alan Richardson | President and Chief Executive Officer | American Public Power Association |
| Steve Rosenstock | Manager, Energy Solutions | Edison Electric Institute |
| Diane Shea | Executive Director | National Association of State Energy Officials |
| Rick Tempchin | Director, Retail Distribution Policy | Edison Electric Institute |
| Mark Wolfe | Executive Director | Energy Programs Consortium |

# STAFF SUMMARY OF BEST PRACTICES FOR NATURAL GAS ENERGY EFFICIENCY PROGRAMS, ACEEE MIDWEST STUDY

## STAFF SUMMARY OF BEST PRACTICES FOR NATURAL GAS ENERGY EFFICIENCY PROGRAMS, ACEEE MIDWEAT STUDY [25]

1. **Massachusetts**: Targeted Customers: residential and small commercial. GasNetworks, a consortium of gas utilities, partnered with the state's investor-owned electric utilities and Cape Light Compact to offer a $400 mail-in rebate for installation of high efficiency gas furnaces equipped with high efficiency air handlers. These include both electronic commutated motors (ECM) and other furnace fan systems (based on measured performance). These furnaces save natural gas and the electricity required to power the motor. The furnace must meet or exceed 92% annual fuel utilization efficiency (AFUE) and be equipped with an ECM, or equivalent fan system. The natural gas member companies fund $200 and the electric utility funds $200, but it is a joint rebate. The program began in May 2003. GasNetworks also has a separate $200 rebate for natural gas furnaces that meet or exceed 90% AFUE.
2. **Oregon**: Targeted Customers: residential homeowners/ builders, natural gas. Northwest Natural (NWN) began a $200 rebate for its high efficiency furnace program (90% AFUE or better, full-condensing gas furnace, with a programmable thermostat) in October 1995. Participation was "flat" for 1996-2000. In the fall of 2001, the program was repackaged with a newly available Oregon Residential Energy Tax Credit, along with coordinated complementary offers from HVAC distributors. In one year, NWN sponsors three promotional campaigns, two that focus on high efficiency furnaces and one featuring air conditioning. In each campaign, partners contribute value-added components such as cash rebates, discounted or deferred financing, and extended warrantees. In 2002, the first full year of the enhanced program, there were 8,089 adoptions – nearly triple those captured in the early years of the program. Participation Rate: Oregon: 1.7% annually; 5.7% over seven-year life (for eligible population). Washington: 0.8% annually.

[25] Martin Kushler, Ph.D., Dan York, Ph.D. and Patti Witte, M.A., "Examining the Potential for Energy Efficiency to Help Address the Natural Gas Crisis in the Midwest," *American Council for an Energy-Efficient Economy (ACEEE),* January 2005, Appendix C.

3. **Vermont**: Targeted Customers: residential homeowners, natural gas. Beginning in 1993, Vermont Gas Systems (VGS) has offered a HomeBase Equipment Replacement Program. The rebate schedule is as follows:

| **Eligible Equipment** (must be purchased new) | **Required Efficiency** (as listed in GAMA) | **Minimum Usage Criterion** (normalized heating usage) | **Rebate** |
|---|---|---|---|
| Hot Air Furnace | 90%+ AFUE | None | $300 |
| Hot Water Boiler | 87%+ AFUE | 1,000 Ccf/yr | $450 |
| Steam Boiler | 82%+ AFUE | 700 Ccf/yr | $150 |
| Setback Thermostat (1 rebate per household) | n/a | None | $25 |
| Water Heater 40/50 gallon | .61+ Energy Factor or greater | None | $100 |
| Indirect-Fired Storage Tank | Heated by an 80%+ AFUE boiler | | $100 |

Another customer option is rental of water heaters for residential and commercial customers. No rebates are provided for high-efficiency rental water heaters, as standard-efficiency water heaters are only offered where installation restrictions prevent the use of high-efficiency units.

Program results through December 2002 include 4,591 installations, total cost of $1.05 million, annualized savings of 39,441 Mcf, peak day savings of 321 Mcf, and average annual incremental savings of 8.6 Mcf/customer. (Eligible population: 30,000; participation rate is about 15% total.) VGS includes a survey along with each rebate check to obtain customer satisfaction data.

4. **New York**: Targeted Customers: owner-occupied, one-to-four-family residential buildings in the New York Energy Smart Program service area (natural gas and electric). Program Name: Home Performance with ENERGY STAR, a New York Energy $mart Program. The goal is to expand contractors' knowledge base and practical application of a systems approach for performance-based testing techniques and treatments for comprehensive energy efficiency including insulation, air sealing, duct sealing, high-efficiency heating and cooling equipment, thermostat controls, high-performance windows, and high-efficiency appliances. Building Performance Institute (BPI) accreditation and certification are required for contractors who wish to participate in the program. The cost of

contractor training, certification, and accreditation is incentivized by New York State Energy Research and Development Authority (NYSERDA).

NYSERDA launched a marketing campaign in February 2001 to recruit and educate contractors to affect change in home improvement services by using a whole house approach to diagnose energy efficiency needs of homes and to increase customer awareness of and demand for the service offered by participating Home Performance with Energy Star contractors. The spokesperson for the campaign is a television renovation and design expert, Steve Thomas. Subsidies are provided to income-eligible households who may not qualify for weatherization assistance. One of the services offered through the NYSERDA's Home Performance with Energy Star Program is Wisconsin Energy Conservation Corporation (WECC) reduced rate financing of home efficiency improvements (offered since 1995).

The total estimated number of eligible residential buildings is 3.5 million. The number of households jobs completed as of October 2003 is 3,398, with 1,528 in progress. There are 300 certified technicians as of October 2003. As of August 2003, electricity savings are estimated as 1,366,330 kwh; Kwh saved per household are 473; natural gas savings are 100.48 BBtu; natural gas savings per household are 34.79 MMBtu.

5. **Massachusetts**: Targeted Customers: residential homeowners, especially natural gas. Keyspan's qualifying measures for its Residential Weatherization Program include: attic and wall insulation, basement or crawl space insulation, rim joist insulation, heating system duct insulation, attic ventilation insulation, ductwork leakage testing and sealing, air infiltration testing and sealing. A 20% rebate, up to $750 is offered. To be eligible for a rebate, a contractor, pre-qualified by KeySpan Energy Delivery, must complete all installed measures. The contractor completes the rebate applications. KeySpan market research shows the following drivers for participation: contractors 33%, direct mail 23%, bill inserts 22%, KeySpan sales rep/employee 11%, other 11%. The program started in Oct 2001. Participants

through August 2003 1,325 (eligible population 600,000 – only homes built prior to 1995; participation rate 1.5%). The average normalized savings per customer is 9 Dth/year and the average rebate is $329.

6. **Vermont**: Targeted Customers: residential homeowners, natural gas. Beginning in 1993, Vermont Gas Systems (VGS) has offered a HomeBase Retrofit Program for homeowners using 1,400 ccf/year or more for normalized usage, but on a case-by-case basis may approve other homes if usage is high for size of home, or if renovation projects are planned with the opportunity for energy efficiency, or for homes whose occupants qualify for low-income assistance.

   An energy audit is performed at no cost to the building owner. The incentives are 33% of the installed measure cost if the building owner pays the heating bill and 50% if tenants pay the gas bill. Where the building owner's income is at or below 150% of federally established poverty levels, the incentive is 100% of the project cost. The 100% incentive also applies to buildings that are owned by non-for-profit organizations and are at least two-thirds occupied by low-income tenants. VGS offers reduced interest financing for the balance of the installed measure cost through the Vermont Development Credit Union (VDCU); VGS pre-pays VDCU to buy-down the loan interest rate.

   At the end of 2002, up to $5000 was added to the reduced rate loan program for installation of a high-efficiency heating system to replace an existing low-efficiency furnace or boiler. Customers have the choice of obtaining competitive ids or having VGS assign a pre-screened contractor.

   The program is not limited to any specific type of measure, and the incentives and financing are not capped for any individual customer. All potentially cost-efficient and technically feasible natural gas savings measures are evaluated. Typical measures include dense-pack cellulose, blower door-directed air sealing, duct sealing and insulation, and heating system replacement. VGS assesses potential

negative impacts of retrofit work and works with customers to address these issues prior to retrofit work being carried out.

Program results through December 2002 include 1,923 completed audits; 1011 customers with installations; total utility cost of $2.66 million; annualized savings of 52,233 Mcf, peak day savings of 686 Mcf, and average annual savings of 51 Mcf/customer. VGS includes a survey along with each rebate check to obtain customer satisfaction data. (Eligible population: 4600 customers with annual gas use greater than 1,400 ccf; participation rate 42% for the energy audits and 22% with installed measures). The average total project cost in 2002 was approximately $2,900 with the customer's average cost being 2/3 of the project cost. All VGS programs are funded through rates. Program expenses are deferred until reviewed; upon approval, expenses are amortized in rates over a three-year period.

7. **California**: Targeted Customers: small and medium sized business, both natural gas and electric. Beginning in 1983, Pacific Gas and Electric Company (PG&E) has offered the Express Efficiency Program. Details of the program change from year to year, such as measures qualifying for incentives and the incentive levels. The 2002 Express Efficiency program focused on small and medium-sized business customers for the installation of selected lighting, refrigeration, air conditioning, agricultural, food service, and gas technologies proven to increase a business' energy efficiency. Express Efficiency works with PG&E's Energy Audit Program. The 2002 program offered enhanced rebate levels during special promotions; these promotions were directed at customers who were considered hard-to-reach based upon various criteria including their need of greater financial assistance in order to participate.

   The 2002 program paid incentives to about 4,000 applicants. Funding- CA Public Purpose Program for electric; gas surcharge for natural gas.
8. **Minnesota**: Targeted Customers: commercial and small business, natural gas. Minnesota passed legislation in 1991 requiring investor-owned natural gas utilizes

to spend 0.5% of their revenue to promote energy efficiency; the costs of the programs are recoverable from the ratepayers. In 2000, Xcel Energy (formerly Northern States Power Co.) combined its gas and electric conservation programs to provide a solid and consistent conservation message to its customers, find efficiencies and best practices among the programs, and leverage a larger electric conservation and efficiency sales forces. The Boiler Efficiency Program offers rebates for commercial and industrial and small business customers for natural gas or dual-fuel boilers for heating or process loads to promote installation of high-efficiency boilers and boiler system auxiliaries that improve combustion and seasonal efficiency. Eligible technologies include: new boiler systems and replacement, hot water, and steam; high efficiency burner controls; turbulators; steam trap replacement and repair; boiler tune up; $O_2$ trim controls; outdoor air reset controls; stack dampers; blowdown heat recovery; stack economizers; energy recovery ventilators; piping insulation. The Boiler Efficiency Program budget for 2003 was $595,000. Incentives are designed to provide $2 per mcf saved in the first year, with incentive caps for very large projects. Xcel uses a sliding scale incentive program to influence and reward customers who choose higher efficiency boilers – the higher the efficiency, the higher the rebates. It also promotes the use of EPA's Energy Star program where Energy Star ratings exist for type and size of boiler. Rebate guidelines are as follows:

| **Thermal Efficiency Requirements** | | | |
|---|---|---|---|
| **Size** (Btu/hr input) | Hot Water* | Low Pressure | High Pressure |
| <= 300,000 | 85% AFUE | 83% AFUE | 81.5 % AFUE |
| > 300,000 | 83% AFUE | 83% AFUE | 81.5% AFUE |
| * Less than/equal 300,000 Btu/hr hot water boilers must be Energy Star compliant | | | |

| **Size** (Btu/hr input) | **Maximum Rebate Amount** |
|---|---|
| <= 300,000 | Up to $750 per boiler |
| > 300,000 and 1 million | Up to $2,500 per boiler |
| >= 1 million and < 10 million | Up to $5,000 per boiler |
| >= 10 million | Up to $7,500 per boiler |
| The program has formulae to determine the exact amount of rebates | |

For 2002 there were 90 participants, with program costs of $358,377 and annual energy savings of 164,480 mcf.

9. **Minnesota**: Targeted Customers: industrial customers, natural gas. CenterPoint Energy Minnegasco offers a customized Process Rebate for industrial customers that use energy for process loads as an incentive to upgrade existing equipment to higher-efficiency equipment. Sine the rebate program is customized, it provides CenterPoint Energy Minnegasco the flexibility to offer rebates for unique energy-efficient industrial applications. Each rebate is handled on a case-by-case basis and the rebate is given for the increased efficiency of the equipment compared to standard equipment available. The custom process rebate was developed in 1994 to address the potential energy savings in the niche market segment of large commercial and industrial customers, which represents approximately 15% of CenterPoint Energy Minnegasco's throughput.

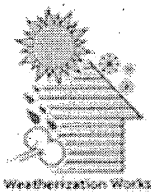
   The maximum rebate is the lesser of the following or the amount necessary to persuade the customer to install higher-efficiency equipment: $0.70 per therm saved; buy-down to a 2-year payback; 50% of incremental equipment cost; 25% of total equipment cost. Up to $2,500 of engineering consulting fees for the design and installation of qualifying energy-efficient process technologies may also be reimbursed, not to exceed 50% of anticipated fees.

   Program participants: 57 customers for 2001 program; 52 customers for 2002 program; 290 customers for 1994 – 2002 (Eligible Population: approximately 3000 large commercial and industrial customers. Participation Rate: approx. 10% of eligible customers have received rebates.) Energy savings achieved: 456,900 Dth for 2002 program; 2,353,696 Dth for 1994- 2002 programs. CenterPoint Energy Minnegasco's conservation programs are funded through ratepayers.

# LOW-INCOME WEATHERIZATION ASSISTANCE PROGRAM, GENERAL INFORMATION

**U.S. Department of Energy - Energy Efficiency and Renewable Energy**

## Weatherization Assistance Program



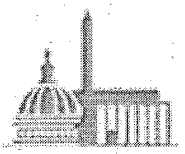

The Weatherization Assistance Program enables low-income families to permanently reduce their energy bills by making their homes more energy efficient. It is this country's longest running, and perhaps most successful energy efficiency program. During the last 30 years, the U.S. Department of Energy 's (DOE) Weatherization Assistance Program has provided weatherization services to more than 5.5 million low-income families.

By reducing the energy bills of low-income families instead of offering aid, weatherization reduces dependency and liberates these funds for spending on more pressing family issues. On average, weatherization reduces heating bills by 31% and overall energy bills by $358 per year at current prices. This spending, in turn, spurs low-income communities toward job growth and economic development.

Oak Ridge National Laboratory gives techical support and evaluations.

UT-BATTELLE
Oak Ridge National Laboratory

The Weatherization Assistance Program Technical Assistance Center provides guidance for program operations and fosters community partnerships to advance weatherization.



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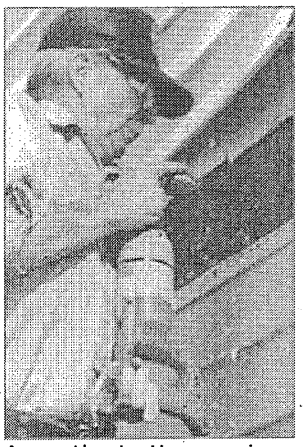
U.S. Department of Energy
Content Last Updated: July 6, 2006

**U.S. Department of Energy - Energy Efficiency and Renewable Energy**
Weatherization Assistance Program

# What Are Weatherization Services?

In the Weatherization Assistance Program, weatherization services are cost-effective energy efficiency measures for existing residential and multifamily housing with low-income residents. Under this definition, it includes a wide variety of energy efficiency measures that encompass the building envelope, its heating and cooling systems, its electrical system, and electricity consuming appliances. In other words, the full range of energy efficiency measures in buildings that apply to all homes and apartment buildings is included in weatherization technologies.



A weatherization service provider in Frederick, Maryland, cuts into siding as he prepared to blow in loose-fill insulation into the walls. DOE has discovered that adding insulation into walls and attics is one of the most cost-effective ways to increase the energy efficiency of older houses that weatherization commonly services. (Credit: Frederick Community Action Agency)

On the other hand, the Weatherization Assistance Program serves low-income families free of charge and limits according to federal rules the amount of money that can be spent on any single residence. (The average expenditure is $2,744.) As a result, only the most cost-effective measures are included in the upgrade of a particular home. This constant pressure for low-cost energy savings has become the trademark of weatherization and distinguishes it from the larger home retrofit industry.

Another distinguishing feature of weatherization is attention to all-around safety check. Many buildings receiving attention are old and in need of repair. Weatherization service providers check major energy systems to ensure occupant safety.

Increasingly, weatherization service providers look at the house as a system under the concept of "whole-house weatherization." In recent years, weatherization providers in many states have begun to combine resources from other programs to address other needs of their clients. These activities grow from the recognition that weatherization serves many vital roles in low-income communities and is called Weatherization Plus.

In sum, weatherization for low-income families differs in many ways from what is commonly called "weatherizing your home." The latter involves low-cost improvements like adding weatherstripping to doors and windows to save energy. These measures made up the services provided by weatherization it its early years, and are likely responsible for the program's name.

Weatherization today comprises a comprehensive series of energy efficiency measures that are based on sophisticated analyses of individual homes. These analyses take the whole-house approach, which maximizes energy and dollar savings. Because of this rigorous approach and analyses backing it up, weatherization has become a leader in advancing home energy science and in helping spawn a new industry providing home energy efficiency services to the wider public.

- Improving Safety and Saving Lives
- Mitigating the Effects of Natural Disasters

**U.S. Department of Energy - Energy Efficiency and Renewable Energy**
Weatherization Assistance Program

# About the Weatherization Assistance Program

It's a fact: weatherization works! In the 3 decades since its founding in 1976, U.S. Department of Energy's (DOE) Weatherization Assistance Program has provided weatherization services to more than 5.5 million low-income families. It is a record of service to some of society's neediest citizens that also benefits our nation by reducing our energy dependency, improving the environment, and stimulating economic development in low-income communities.

Weatherization provides a lasting solution to high energy bills by addressing the cause through energy efficiency.

Through this program, weatherization service providers install energy efficiency measures in the homes of qualifying homeowners free of charge. These are not expensive upgrades—the average expenditure limit is $2,826 per home—but they are effective, and energy savings pay for the upgrades within a few years. DOE documents the savings and compares them against costs, so that over the years it can determine the efficacy of these measures.

Weatherization has helped spawn an energy efficiency industry for residential housing. This industry today employs 8,000 people who work in low-income weatherization alone, and many times that number work in companies that help homeowners increase their energy efficiency through low-cost measures. Many of the techniques that are today standard procedure in this industry were first developed and tested by the Weatherization Program. And through weatherization, DOE continues to develop and test in the field new advances in home energy science.

DOE provides funding and technical guidance to the states, but the states run their own programs and set rules for issues such as eligibility. They also select service providers, which are usually nonprofit agencies that serve families in their communities, and review their performance for quality. Together, this group of more than 900 agencies makes up a nationwide weatherization network.

For a complete list of program benefits, see the fact sheet published by DOE's Office of Energy Efficiency and Renewable Energy (EERE) titled *Weatherization Works!* (PDF 329 KB). Download Acrobat Reader.

- 30 Years of Service
- What Is Weatherization?
- How Is the Weatherization Assistance Program Organized?
- Weatherization Program Goals and Metrics
- Weatherization Program Evaluations

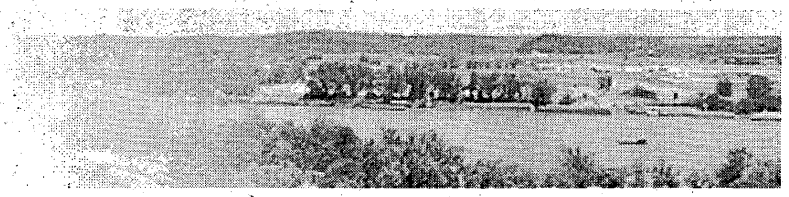
**U.S. Department of Energy - Energy Efficiency and Renewable Energy**
Weatherization Assistance Program

# Weatherization Assistance Program Evaluations

The U.S. Department of Energy (DOE) regularly conducts evaluations of the Weatherization Assistance Program in order to verify energy savings and maximize service to weatherization clients. These evaluations are conducted by DOE's Oak Ridge National Laboratory (ORNL).

The evaluations have been critical to establishing the efficacy of energy efficiency measures for establishing cost-benefit ratios for the program as a whole. In terms of energy savings, weatherization clients save $1.83 for every dollar of DOE investment. And the ratio of quantifiable benefits of the program to costs is 1.48. For additional benefits, see *Non-Energy Benefits of Weatherization*.

Missouri Department of
Natural Resources



# Low-Income Weatherization Assistance Program

Home heating is a high-cost basic necessity. For people with low incomes, the decision to pay the utility bill may mean deciding between being warm in the winter or having well-balanced meals. Other low-income people live in older homes that may not have insulation or efficient heating systems. Weatherization is a long-term response to these problems.

A home that has been weatherized can reduce average annual fuel savings per dwelling by up to 13.5 percent, with electricity at 12.2 percent and natural gas at 23.4 percent, making it a cost-effective means to help low-income families with their energy bills. Lasting energy-efficient improvements are installed in the home, resulting in lower utility bills year after year. This reduces the amount of assistance needed to pay higher utility bills in low-income households.

## LIWAP History

In 1977, the Missouri Department of Natural Resources responded to the energy crisis of the early 1970s, establishing the Low-Income Weatherization Program (LIWAP) in the Energy Center. The program provided Missouri's low-income households, especially targeting the physically disadvantaged, elderly, children and others hit hardest by the energy crisis. The program aims to lower utility bills and improve comfort while ensuring health and safety.

In the early years, LIWAP used volunteer labor and temporary measures. However, changes in federal regulations, technology, and the needs of Missourians have changed the program. Today, professional trained staff install permanent, cost-effective energy efficient weatherization improvements.

## LIWAP Program

The Missouri Department of Natural Resources' Energy Center administers federal funds to 16 regional Community Action Agencies one city government and one not-for-profit organization. Allocations to these agencies are based on the percentage of the state's total low-income households within each service area.

The agencies provide weatherization services to eligible clients, as well as training and guidance. Newspaper, radio, television, utility bill stuffers and other advertising methods are used to publicize the services.

**Since 1977, more than 147,000 Missouri homes have been weatherized, with more than 2,000 homes to be weatherized this year.**

The program saves clients dollars and stimulates the state and local economy. The agencies use their own crews or contract the work to area businesses. Most products are purchased from state and regional manufacturers. Indirectly, through an economic multiplier effect, weatherization funds are used and reused, stimulating the state's businesses, economy and creating jobs.

## How to Apply for Assistance

To apply for assistance, clients should contact their local weatherization agency. The agency will ask the clients to complete the appropriate forms, including income documentation to verify eligibility. Once the client is verified as eligible, an auditor from the agency will conduct a pre-inspection of the home to determine what steps will produce the greatest energy savings. The next step is for the agency crew or contractor to install the energy efficient measures on the home. After the weatherization of the home is complete, a quality control inspector will examine the home to ensure the quality of work and completeness. The Energy Center monitors the work of the agencies to ensure state and federal guidelines are followed.

## Missouri Weatherization Program Operational Manual

- Table of Contents DOC
- State Plan
  - U.S. DOE 2006 Annual File Worksheet PDF
  - U.S. DOE 2006 Master File Worksheet PDF
- Section 1: Subgrantee Selection DOC 26.7 MB
- Section 2: Client Services DOC
  - Program Notice - 2006 Poverty Income DOC
- Section 3: Technical Standards DOC
- Section 4: Reports and Record Keeping DOC
- Section 5: Financial Management DOC
- Section 6: Procurement DOC

## Weatherization Network Training

- Training Schedule Coming Soon!

## Weatherization Field Guide for Missouri

- Weatherization Field Guide for Missouri PDF 7.6 MB

## Weatherization Factsheets

- Low-Income Weatherization Assistance Program Fact Sheet PDF
- Missouri Closeup Fact Sheet PDF 1.5 MB

DOE Federal Regulations, Program Guidance and Legislative Updates



Department of Natural Resources
P.O. Box 176, Jefferson City, MO 65102

1-800-361-4827 / (573) 751-3443
E-mail: energy@dnr.mo.gov
Revised on Tuesday April 10 2007

**Income Eligibility Guidelines and Definitions**
**In Missouri Under the**
**Department of Energy**
**Weatherization Program**

2006 Poverty Income Guidelines

| Size of Family | Threshold | Poverty Guideline at 150% |
|---|---|---|
| 1 | 9,800 | 14,700 |
| 2 | 13,200 | 19,800 |
| 3 | 16,600 | 24,900 |
| 4 | 20,000 | 30,000 |
| 5 | 23,400 | 35,100 |
| 6 | 26,800 | 40,200 |
| 7 | 30,200 | 45,300 |
| 8 | 33,600 | 50,400 |
| Each Additional Person | 3,400 | 5,100 |

Revised: January 24, 2006
Effective: January 24, 2006

**INCOME DEFINITION**

The income definition is found on page two of Weatherization Program Notice 06-5, which is included in this attachment.

# LACLEDE TARIFFS FOR EXISTING ENERGY EFFICIENCY PROGRAMS

Laclede Gas Company (Name of Issuing Corporation or Municipality) For Refer to Sheet No. R-1 (Community, Town or City)



RULES AND REGULATIONS



24. Insulation Financing Program

The Insulation Financing Program is a program whereby Laclede, subject to certain restrictions, will grant loans to eligible residential customers for the purpose of making certain home energy conservation improvements, some of which must entail, where feasible, a specified increase in the customer's ceiling insulation. The major provisions of the program are as follows:

(A) The maximum loan per dwelling unit is $2,000.

A customer can make a loan for attic, floor, wall and duct insulation; attic ventilation; caulking and weatherstripping; storm doors and storm windows; provided the amount of insulation in the customer's attic when the customer applies for a loan is less than R-38 and part of the loan funds are used to increase the insulation level to at least an R-38 level. A minimum of R-38 ceiling insulation shall be required before other measures will be financed unless it is demonstrated that such R-38 level is not feasible.

In all cases where the total amount of the contract including the financing cost is $500 or more, a Uniform Commercial Code Financing Statement (UCC-1) must be prepared and submitted with the appropriate sales contract. The UCC-1 will be filed for a lien on the property until the loan is repaid in full.

(B) A residential customer must meet the following requirements to be eligible:

1) The applicant must be a residential customer of Laclede Gas Company or Missouri Natural Gas Company.

2) The applicant must own or be purchasing the residence for which the loan is requested and the installation is to be made, and the applicant must reside in that building. The residence cannot contain more than four (4) dwelling units; that is, be larger than a four-family building.

3) Gas service at the residence must be in the applicant's name.



DATE OF ISSUE July 8, 2002 (Month Day Year) DATE EFFECTIVE August 8, 2002 (Month Day Year)

ISSUED BY K.J. Neises, (Name of Officer) Executive Vice President, (Title) 720 Olive St., St. Louis, MO 63101 (Address)

P.S.C. MO. No. 5 Consolidated, Original Sheet No. R-28

CANCELLING All Previous Schedules

Laclede Gas Company (Name of Issuing Corporation or Municipality) For Refer to Sheet No. R-1 (Community, Town or City)

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OCT 7 1994
MISSOURI
Public Service Commission

RULES AND REGULATIONS

24. Insulation Financing Program (Continued)

4) The applicant must meet the following credit requirements:

a) The applicant's gas account must have no more than 30 days arrears.

b) Within the past 12 months the applicant must not have:

1) had service disconnected for non-payment; or
2) submitted an unhonored check; or
3) received more than four (4) delinquent notices.

c) If the applicant has been a customer for less than 12 months, a commercial credit report must show open credit and the timely meeting of payments in order to be considered as having a satisfactory credit rating.

(C) The interest rate on loans made on and after October 31, 1994 is 3% per annum.

(D) The repayment period is 5 years for loans of $875 and less and 7 1/2 years for loans over $875. The customer is billed for the loan on his or her monthly gas bill.

(E) The maximum amount of loans to be outstanding at any one time, regardless of applicable interest rate, is $2,000,000.

Laclede does not assume any responsibility for the prices bid or the prices charged by contractors participating in this program. Nor will Laclede in any way warrant, guarantee or imply any energy savings as a result of participation in this residential insulation financing program.

Loan applications must be submitted to Laclede by an authorized contractor and must be accompanied by a sales agreement form specifying work to be done. (Applications are not accepted directly from customers.) Applications are processed on a first-come, first-served basis as funds are available. Customers should direct any questions regarding the status of their loan application to their contractor.

FILED
OCT 31 1994
94-220
MO. PUBLIC SERVICE COMM.

DATE OF ISSUE October 7, 1994 (month day year) DATE EFFECTIVE October 31, 1994 (month day year)

ISSUED BY Gerald T. McNeive, Jr., Vice President, 720 Olive St. Louis, MO 63101 (name of officer, title, address)

P.S.C. MO. No. 5 Consolidated, Third Revised Sheet No. R-37

CANCELLING P.S.C. MO. No. 5 Consolidated, Second Revised Sheet No. R-37

Laclede Gas Company (Name of Issuing Corporation or Municipality) For Refer to Sheet No. R-1 (Community, Town or City)

RULES AND REGULATIONS

RECEIVED
MAY 14 1997
MISSOURI
Public Service Commission

28. Promotional Practices

A. EnergyWise Dealer Program

1. General Description and Purpose

The EnergyWise Dealer Program is a program by which the Company will make financing available to credit-qualified, current and future, residential and commercial customers of the Company, who own a building served by the Company in the customer's name, for the purchase and installation of high efficiency natural gas heating equipment and, if desired by the customer, a gas air conditioner or certain other energy-efficient appliances and related equipment. The purpose of the program is to encourage the use of such energy efficient or environmentally friendly appliances. Purchases can be made from and installation can be performed by any Company-authorized heating and cooling contractor doing business in the Company's service area and participating in the program.

2. Available Options

Financing, at terms and interest rates not exceeding interest rates allowed by Missouri law, nor less than interest rates generally prevailing in the applicable retail markets for such items and services, is available for the purchase and installation of the following equipment:

(1) A high efficiency natural gas heating system with an Annual Fuel Utilization Efficiency ("AFUE") of 90% or greater and a gas air conditioner or a high efficiency electric air conditioner with a Seasonal Energy Efficiency Ratio ("SEER") of 12 or more.

FILED
MAY 31 1997
95-320
MO. PUBLIC SERVICE COMM.

DATE OF ISSUE May 14, 1997 (month day year) DATE EFFECTIVE May 31, 1997 (month day year)

ISSUED BY K.J. Neises, Senior Vice President, 720 Olive Street, St. Louis, MO 63101 (name of officer, title, address)

P.S.C. MO. No. 5 Consolidated, First Revised Sheet No. R-38

CANCELLING P.S.C. MO. No. 5 Consolidated, Original Sheet No. R-38

Laclede Gas Company (Name of Issuing Corporation or Municipality) For Refer to Sheet No. R-1 (Community, Town or City)

RULES AND REGULATIONS

RECEIVED
MAY 14 1997
MISSOURI
Public Service Commission

28. Promotional Practices (continued)

2. Available Options (continued)

(2) A high efficiency natural gas heating system with an AFUE of 90% or greater and an additional energy-efficient natural gas appliance.

(3) A high efficiency natural gas heating system with an AFUE of 90% or greater.

Rates, which may be changed by the Company from time to time, consistent with the above criteria, will vary depending on the equipment being financed. The lowest rate shall apply to Option 1, and the rates for Option 2 and Option 3 will be greater than Option 1 by one-half percentage point and one percentage point, respectively.

Customers will be billed monthly on their regular gas bill for up to a five year term.

3. Other Terms and Conditions

The credit limit is $10,000 per heating system with a limit of four systems per customer.

Loans will be made on a first-come, first-served basis.

4. Description of Advertising or Publicity

The Company expects to publicize the EnergyWise Dealer Program through cooperative advertising, its own public information advertising campaigns, and personal contact and general meetings with heating and cooling contractors.

FILED
MAY 31 1997
95-320
MO. PUBLIC SERVICE COMM.

DATE OF ISSUE May 14, 1997 (month day year) DATE EFFECTIVE May 31, 1997 (month day year)

ISSUED BY K.J. Neisses (name of officer) Senior Vice President (title) 720 Olive Street, St. Louis, MO 63101 (address)

RULES AND REGULATIONS

34. Weatherization Program

Description and Availability: In accord with this tariff, and pursuant to the terms and conditions of stipulations and agreements filed and approved in Rate Case Nos. GR-2001-629 and GR-2005-0284, the Company will provide $500,000 annually (the program funds) for a residential weatherization program, including energy education, for lower income customers. The program will allocate the entirety of this annual amount to social service agencies (the "Agencies") serving the St. Louis City and one or more of the surrounding Counties of St. Louis, St. Charles, Crawford, Jefferson, Franklin, Iron, Ste. Genevieve, St. Francois, Madison and Butler in Eastern Missouri which comprise the Company's service territory, in accordance with an allocation method agreed upon by the Company, Staff and Public Counsel. Payments to the Agencies of at least one fourth of this amount will commence within thirty days of the date this tariff becomes effective with equivalent payment amounts being made at the end of each three month period thereafter. The program will be administered pursuant to written contract between Laclede and the Agencies.

Purpose: This program is intended to assist eligible customers through conservation, education and weatherization in reducing their use of energy and thereby lessen the level of arrearages experienced by such customers and potentially the level of uncollectibles experienced by the Company.

Terms and Conditions:

1. The program will offer grants for weatherization services to customers eligible under low-income guidelines. Grant assistance will be primarily directed to lower income customers with high usage and/or large arrearages. The Company will assist the Agencies in identifying such customers by providing information, on a confidential basis, specifying customers who have high usage and arrearage levels.

2. The total amount of grants offered to a customer through the program will be determined by the cost-effective improvements that can be made to a customer's residence, which shall not exceed $3,000, and is expected to average $2,000, exclusive of administrative costs.

3. Program funds cannot be used for administrative costs except those incurred by the Agencies that are directly related to qualifying and assisting customers under this program. The amount of reimbursable administrative costs per participating household shall not exceed $300 for each participating household.

Laclede Gas Company (Name of Issuing Corporation or Municipality) For Refer to Sheet No. R-1 (Community, Town or City)



RULES AND REGULATIONS



34. Weatherization Program (continued)



4. As a term of its contract with the Agencies, the Company agrees that it and the Agencies will consult with Staff, Public Counsel and the Department of Natural Resources (and any other party agreeable to Company, Staff and Public Counsel) during the term of the program.

5. The program will continue until the effective date of an order of the Commission approving rates in the Company's next general rate case filed after the effective date of this tariff, unless otherwise ordered by the Commission. With the assistance of the Agencies, the Company shall submit reports on the program to the Staff, Public Counsel, and the Department of Natural Resources on a quarterly basis reflecting the information provided to the Company by the Agencies in their quarterly reports. Within thirty days of receiving the most recent quarterly report from the Agencies following the end of each year of the program, the Company shall also submit an annual report. Each annual report will address the progress of the program, and provide an accounting of the funds received and spent on the program during the preceding program year. The report will include the following information with breakdowns for each of the participating Agencies.

a. Program funds provided by Laclede.
b. Amount of program funds, if any, rolled over from previous program year.
c. Amount of administrative funds retained by the Agency.
d. Number of weatherization jobs completed and total cost (excluding administrative funds) of jobs completed.
e. Number of weatherization jobs "in progress" at the end of the program year.
f. To the extent available, information detailing efficacy and impact of weatherization measures on attaining the goals of the program. To that end, the contract with the Agencies shall require that the NEAT audit printout and itemization of the costs for each measure installed and each administrative cost incurred for each job be provided to the Company.

The report shall be subject to audit by the Commission Staff and Public Counsel.



DATE OF ISSUE February 28, 2002 (Month Day Year) DATE EFFECTIVE March 31, 2002 (Month Day Year)

ISSUED BY K.J. Neises, (Name of Officer) Executive Vice President, (Title) 720 Olive St., St. Louis, MO 63101 (Address)

Laclede Gas Company
Name of Issuing Corporation or Municipality

For Refer to Sheet No. R-1
Community, Town or City



RULES AND REGULATIONS





34. Weatherization Program (continued)

Each Agency may carry-over for use in a subsequent year up to 10% of any unspent funds allocated to the Agency during any program year. Any unspent funds in excess of the 10% level shall be transmitted to Laclede for reallocation to other Agencies. If an Agency has unspent funds at the time the program terminates, then such funds shall be transmitted to Laclede. Laclede thereafter shall credit the amount of the unspent funds, plus any unspent funds retained by Laclede, to its purchased gas cost refund account and flow such amounts back to ratepayers under the Company's Purchased Gas Adjustment clause.

6. Laclede Agency Agreement: Staff, Public Counsel, and Laclede agree that its Agency Agreement will provide that any controversy, complaint, claim or dispute arising out of or relating to the agreement between the Agencies and Laclede shall be settled by compulsory arbitration before the Commission. Staff, Public Counsel, the Agency or Laclede may file a request for such arbitration in accord with Commission rules or an agreed upon procedure. If no procedure is provided in the rules or agreed to within 30 days of the request, then the same shall be governed by the rules of the American Arbitration Association. Pending the outcome of the arbitration, and unless otherwise ordered by the Commission, Laclede may withhold from the Agency so much of the program fund installment(s) owed under the agreement that are relevant to the dispute, or otherwise so much of the program funds that will protect Laclede's interests.



DATE OF ISSUE February 28, 2002 (Month Day Year)

DATE EFFECTIVE March 31, 2002 (Month Day Year)

ISSUED BY K.J. Neises, Executive Vice President, 720 Olive St., St. Louis, MO 63101
(Name of Officer, Title, Address)

Laclede Gas Company (Name of Issuing Corporation or Municipality) For Refer to Sheet No. R-1 (Community, Town or City)

RULES AND REGULATIONS

35. Appliance and HVAC Rebate Program

Description: In accord with this tariff, and pursuant to the terms and conditions of the stipulation and agreement (Agreement) filed and approved in the company's rate case, Case No. GR-2005-0284, Laclede will set aside and expend $300,000 annually to fund a residential and commercial natural gas rebate program to be generally modeled on similar programs previously approved by the Commission. Annual set aside and expenditure for this initiative shall continue until terminated by valid action by the Commission. The funding shall be divided in the manner set forth below.

A. Residential Rebates:

Of the program's $300,000, Laclede will set aside and expend $150,000 annually to fund an Appliance and HVAC Rebate Program for Laclede's residential customers. The program contemplates that Laclede will work with representatives of the Department of Natural Resources Energy Center and all other interested signatories to the Agreement to set up a rebate program that would identify eligible customers who purchase and install high efficiency gas furnaces and boilers (including innovative combination furnace/water heater systems) rated by the Gas Appliance Manufacturers Association as meeting or exceeding the 90% efficiency level and that have received the ENERGY STAR rating from the ENERGY STAR program sponsored by the United States Department of Energy and the United States Environmental Protection Agency. The program will rebate 50% of the cost of such equipment, up to and including a maximum of (i) $450 per unit for combination space and water heater systems; and (ii) $250 per unit for both high efficiency furnaces and high efficiency boilers.

B. Commercial Rebates:

Of the program's $300,000, Laclede will set aside and expend $100,000 annually to fund a Commercial Natural Gas Utilization Equipment Rebate Program for Laclede's commercial customers. The program contemplates that Laclede will work with representatives of the Department of Natural Resources Energy Center and all other interested signatories to the Agreement to set up a rebate program that would identify eligible customers who purchase and install high efficiency natural gas utilization equipment rated by the Gas Appliance Manufacturers Association as meeting or exceeding the 90% efficiency level and that have received the ENERGY STAR rating from the ENERGY STAR program sponsored by the United States Department of Energy and the United States Environmental Protection Agency. The program will rebate 50% of the cost of such equipment, up to and including a maximum of $750 per unit, for up to 200 commercial customers.

DATE OF ISSUE February 28, 2006 (Month Day Year) DATE EFFECTIVE March 31, 2006 (Month Day Year)

ISSUED BY K.J. Neises, (Name of Officer) Executive Vice President, (Title) 720 Olive St., St. Louis, MO 63101 (Address)

Filed
Missouri Public
Service Commission

GR-2005-0284

RULES AND REGULATIONS

35. Appliance and HVAC Rebate Program (continued)

C. Rental Property Rebates:

Of the program's $300,000, Laclede will set aside and expend $50,000 annually to fund a Rental Property Natural Gas Utilization Equipment Rebate Program for rental properties of eight units or less all contained within single buildings. The program contemplates that Laclede will work with representatives of the Department of Natural Resources Energy Center and all other interested signatories to the Agreement to set up a rebate program that would identify eligible customers who purchase and install high efficiency natural gas utilization equipment rated by the Gas Appliance Manufacturers Association as meeting or exceeding the 90% efficiency level and that have received the ENERGY STAR rating from the ENERGY STAR program sponsored by the United States Department of Energy and the United States Environmental Protection Agency. The program will rebate 50% of the cost of such equipment, up to and including a maximum of $750 per unit, for up to 200 rental properties. If the landlord rebate sum is not fully exhausted within a given year, the remaining amount will rollover to augment the commercial rebate program described in the preceding paragraph.

D. Rebate Initiative Design, Implementation and Monitoring:

Laclede will administer the rebate program described above pursuant to the additional terms contained in this paragraph. The program is voluntary and available to Laclede customers for equipment that will be installed in their Missouri property. The rebates must be redeemed through Laclede. Laclede will make available the names of participating retailers and participation forms pursuant to procedures agreed upon by the interested signatories to the Agreement.

# LACLEDE RESPONSE
# TO
# DATA REQUEST NO. 106,
# REGARDING PARTICIPATION AND EFFECTIVENESS OF EXISTING CONSERVATION AND ENERGY EFFICIENCY PROGRAMS

## Jenkins, Lesa*

**From:** adewitte@lacledegas.com
**Sent:** Tuesday, March 06, 2007 4:34 PM
**To:** Jenkins, Lesa*
**Cc:** Bolin, Kim
**Subject:** Case No. GR-2007-0208 - Data Request No. 0106
**Attachments:** 200736163424630.html; dr 106.doc; dr 106 ifew.xls; dr 106

# Missouri Public Service Commission

**Respond Data Request**

| | |
|---|---|
| **Data Request No.** | 0106 |
| **Company Name** | Laclede Gas Company-Investor(Gas) |
| **Case/Tracking No.** | GR-2007-0208 |
| **Date Requested** | 2/14/2007 |
| **Issue** | Other - Other |
| **Requested From** | Amy DeWitte |
| **Requested By** | Lesa Jenkins |
| **Brief Description** | Participation and Effectiveness of Existing Laclede Conservation and Energy Efficiency Programs |
| **Description** | Please provide any reports, data, analysis, summaries and other documentation of the effectiveness, participation, dollars financed, dollars rebated, and customer savings (dollars and therms) in each of the existing Laclede programs for conservation and energy efficiency including Energywise Dealer Program, Appliance and HVAC Rebate Program, and Insulation Financing Program. |
| **Response** | Please see attached. |
| **Objections** | NA |

The attached information provided to **Missouri Public Service Commission** Staff in response to the above data information request is accurate and complete, and contains no material misrepresentations or omissions, based upon present facts of which the undersigned has knowledge, information or belief. The undersigned agrees to immediately inform the **Missouri Public Service Commission** if, during the pendency of Case No. **GR-2007-0208** before the Commission, any matters are discovered which would materially affect the accuracy or completeness of the attached information. If these data are voluminous, please (1) identify the relevant documents and their location (2) make arrangements with requestor to have documents available for inspection in the **Laclede Gas Company-Investor(Gas)** office, or other location mutually agreeable. Where identification of a document is requested, briefly describe the document (e.g. book, letter, memorandum, report) and state the following information as applicable for the particular document: name, title number, author, date of publication and publisher, addresses, date written, and the name and address of the person(s) having possession of the document. As used in this data request the term "document(s)" includes publication of any format, workpapers, letters, memoranda, notes, reports, analyses, computer analyses, test results, studies or data, recordings, transcriptions and printed, typed or written materials of every kind in your possession, custody or control or within your knowledge. The pronoun "you" or "your" refers to **Laclede Gas Company-Investor(Gas)** and its employees, contractors, agents or others employed by or acting in its behalf.

3/7/2007

**Security :** Public
**Rationale :** NA

**With Proprietary and Highly Confidential Data Requests a Protective Order must be on file.**

**LACLEDE GAS COMPANY**
**Case No. GR-2007-0208**

**Response to Data Request No. 106**

See attached.

Attachment to response to DR 106

LOAN STATUS OF INSULATION FINANCING AND ENERGY WISE PROGRAMS

| | No. of Customers | Loan Balance* |
|---|---|---|
| Insulation Financing Program | 209 | $144,356.18 |
| Energy Wise | 320 | $787,389.34 |

* prior to January 2007 loan repayments from customers

Attachment to response to DR 106

## REBATE PROGRAM

**Residential Rebate Program Yr 2006**

| | $ Reserved | $ Disbursed |
|---|---|---|
| April | $7,500 | $750 |
| May | $15,750 | $10,250 |
| June | $12,750 | $14,250 |
| July | $13,000 | $10,000 |
| August | $21,500 | $8,500 |
| | $70,500 | $43,750 |
| Funds Remaining | | $106,250 |
| new program year beginning 9/1/06. (150,100,50) | | $256,250 |

**Commercial Rebate Program Yr 2006**

| | $ Reserved | $ Disbursed |
|---|---|---|
| April | $4,500 | $0 |
| May | $1,500 | $0 |
| June | $0 | $750 |
| July | $1,500 | $0 |
| August | $750 | $0 |
| | $8,250 | $750 |
| | | $99,250 |
| | | $199,250 |

**Rental Rebate Program Yr 2006**

| | $ Reserved | $ Disbursed |
|---|---|---|
| April | $250 | $0 |
| May | $250 | $250 |
| June | $500 | $500 |
| July | $500 | $250 |
| August | $0 | $0 |
| | $1,500 | $1,000 |
| | | $49,000 |
| | | $99,000 |

**Residential Rebate Program Yr 2006/2007**

| | $ Reserved | $ Disbursed |
|---|---|---|
| September | $20,000 | $16,750 |
| October | $30,000 | $20,000 |
| November | $47,500 | $34,750 |
| December | $31,250 | $17,000 |
| January | $20,500 | $21,500 |
| February | | |
| March | | |
| April | | |
| May | | |
| June | | |
| July | | |
| August | | |
| | $149,250 | $110,000 |
| **Funds Remaining** | | **$146,250** |

**Commercial Rebate Program Yr 2006/2007**

| | $ Reserved | $ Disbursed |
|---|---|---|
| September | $0 | $0 |
| October | $0 | $0 |
| November | $750 | $750 |
| December | $1,500 | $0 |
| January | $0 | $0 |
| February | | |
| March | | |
| April | | |
| May | | |
| June | | |
| July | | |
| August | | |
| | $2,250 | $750 |
| **Funds Remaining** | | **$198,500** |

**Rental Rebate Program Yr 2006/2007**

| | $ Reserved | $ Disbursed |
|---|---|---|
| September | $250 | $500 |
| October | $1,500 | $0 |
| November | $750 | $1,500 |
| December | $500 | $250 |
| January | $750 | $0 |
| February | | |
| March | | |
| April | | |
| May | | |
| June | | |
| July | | |
| August | | |
| | $3,750 | $2,250 |
| **Funds Remaining** | | **$96,750** |

Reported Dec Mthly as $34,000. Oct numbers changed to $30,000 for Jan Mthly ($4,000 voids)
Reported Nov Mthly as $48,000. Two Denied. Nov numbers changed to $47,500 for Dec Mthly

**Reservations Void after 90 days**

| | | Residential | Commercial | Rental | Denied Applications |
|---|---|---|---|---|---|
| Funds added to mth of: | **April '06 (7/06)** | $1,750 | $2,250 | $0 | $500 |
| Funds added to mth of: | **May '06 (8/06)** | $1,750 | $750 | $0 | $250 |
| Funds added to mth of: | **June '06 (9/06)** | $4,250 | $0 | $0 | $0 |
| Funds added to mth of: | **July '06 (10/06)** | $1,000 | $1,500 | $0 | $0 |
| Funds added to mth of: | **Aug '06 (11/06)** | $3,250 | $2,250 | $0 | $250 |
| Funds added to mth of: | **Sep '06 (12/06)** | $3,250 | $0 | $750 | $0 |
| Funds added to mth of: | **Oct '06 (1/07)** | $4,000 | $0 | $0 | $250 |
| Funds added to mth of: | **Nov '06 (2/07)** | | | | $500 |
| Funds added to mth of: | **Dec '06 (3/07)** | | | | $500 |

# LACLEDE REPORT OF LOAN PROGRAM PERFORMANCE

## RESIDENTIAL SALES REPORT
## MONTH OF SEPTEMBER 2006

### ENERGYWISE LOAN PROGRAM

The following statistics details the activity to the EnergyWise Program:

| Sep-06 | | | FYTD 2006 | | | 10/1/95 to 9/30/06 | | |
|---|---|---|---|---|---|---|---|---|
| # Loans | Rate | Amount | # Loans | Rate | Amount | # Loans | Rate | Amount |
| 5 | 7.5% | $25,517.00 | 41 | 7.5% | $218,441.00 | 1989 | 7.5% | $9,756,579.00 |
| 0 | 8.0% | $0.00 | 3 | 8.0% | $12,919.00 | 97 | 8.0% | $374,996.00 |
| 1 | 8.5% | $2,155.00 | 21 | 8.5% | $65,779.00 | 844 | 8.5% | $2,132,276.00 |
| **6** | | **$27,672.00** | **65** | | **$297,139.00** | **2930** | | **$12,263,851.00** |

### EnergyWise Eligibility Expansion Program

**FY2006**

Number of Loans - 0
Funds Available - $50,000

## RESIDENTIAL SALES REPORT
## MONTH OF DECEMBER 2006

### ENERGYWISE LOAN PROGRAM

The following statistics details the activity to the EnergyWise Program:

| Dec-06 | | | FYTD 2006 | | | 10/1/95 to 12/31/06 | | |
|---|---|---|---|---|---|---|---|---|
| # Loans | Rate | Amount | # Loans | Rate | Amount | # Loans | Rate | Amount |
| 0 | 7.5% | | 5 | 7.5% | $23,579.00 | 1994 | 7.5% | $9,780,158.00 |
| 0 | 8.0% | $0.00 | 0 | 8.0% | $0.00 | 97 | 8.0% | $374,996.00 |
| 1 | 8.5% | $3,183.00 | 3 | 8.5% | $16,383.00 | 847 | 8.5% | $2,148,659.00 |
| **1** | | **$3,183.00** | **8** | | **$39,962.00** | **2938** | | **$12,303,813.00** |

Conversions as a result of the program - 214 customers
Number of customers being billed - 334
Accounts Receivable balance as of December 31, 2006 - $807,942.80

### EnergyWise Eligibility Expansion Program

**FYTD 2007**

Number of Loans - 0
Funds Available for Entire Year - $50,000

# COMPARISON OF NATURAL GAS UTILITY ENERGY EFFICIENCY FUNDING IN MISSOURI AND STAFF'S PROPOSAL FOR THIS LACLEDE RATE CASE

**Appendix G**
**Comparison of Natural Gas Utility Energy Efficiency Funding in Missouri and Staff's Proposal for this Laclede Rate Case**

| Energy Efficiency Programs - MO Local Distribution Companies | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Funding Per Customer | | |
| LDC | Case Number | Non-LIWAP EE Funding Total | LIWAP | Total Annual Funding (excludes financing) | Comments | No. of Customers | Non-LIWAP EE | LIWAP | Total |
| Atmos | GR-2006-0387 | $87,000 | $78,000 | $165,000 | Annual Funding is 1% of annual gross revenues, includes LIWAP. The dollar amount for annual funding shown here is for the first year. $78,000 noted for LIWAP have not been decided- it was proposed in testimony. | 60,800 | $1.43 | $1.28 | $2.71 |
| AmerenUE | GR-2007-0003 | $100,000 | $263,000 | $363,000 | Annual contribution of $100,000 to fund programs to promote customer use of energy-efficient gas equipment. May also have DSM programs with funding in a regulatory asset account. $263,000/Yr LIWAP | 120,700 | $0.83 | $2.18 | $3.01 |
| | | $0 | $90,319 | $90,319 | Funds remaining from the experimental programs developed for Stoddard and Scott Counties in GR-2003-0517. ($270,958 If spread over a 3-yr period, annual amount is $90,319. How it will be used not yet decided. | | | $0.75 | |
| Empire District Gas | GR-2004-0072 | $7,500 | $102,500 | $110,000 | $78,500 annually LIWAP plus $24,000 annually in the Sedalia area; $7,500 annually for experimental commercial energy audits | 48,700 | $0.15 | $2.10 | $2.26 |
| MGE | GR-2006-0422 | $750,000 | $750,000 | $1,500,000 | Water heater rebate program $705,000/year; $45,000/year for education. $750,000/yr LIWAP. | 490,900 | $1.53 | $1.53 | $3.06 |
| Laclede - current tariffs | | $300,000 | $500,000 | $800,000 | Appliance and HVAC Rebate Program, funding $300,000 annually. Financing Programs: Insulation Financing; Energy Wise Dealer Program for HVAC financing; Eligibility Expansion for EnergyWise Program to include rental property for low-income households. LIWAP: $500,000 annually; includes energy education. | 648,000 | $0.46 | $0.77 | $1.23 |
| Laclede - Staff Proposal | GR-2007-0208 | $972,000<br>If no regulatory asset account | $991,000 | $1,963,000 | Recommend that funds for other energy efficiency measures be placed in a regulatory asset account and amortized over a ten-year period, or alternatively a dollar amount of $972,000 annually with any additional funds for DSM programs to be placed in a regulatory asset account; measures to be recommended by a Collaborative. LIWAP $991,000. | 648,000 | $1.50 | $1.53 | $3.03 |
| | | $147,167 | $0 | $147,167 | Carry over rebate and loan funds remaining from the existing tariffed energy efficiency rebate and loan programs until Collaborative recommends other energy efficiency measures. (approximately $441,500; $147,167 if spread over 3-yrs) | | $ 0.23 | | |