

- c. Provide a proposed billing format for retail gas customers who choose to receive a single bill from the natural gas distribution company for supply and distribution services; and

**RESPONSE:**

Following this page is a draft of the proposed format for single bill option customers (identified as "Proposed Bill Format").

Columbia's existing Choice bill provides for a separation of the delivery and gas supply charges. Additionally, most of the information required to comply with the Commission's regulations (as they appeared on July 7, 1999 in draft form from the Customer Information Working Group) is either on the bill or can be added to comply with the intent of the regulation.

The Existing Choice bill format provides for a separation of NGDC and NGS charges. The customer charge, the delivery charge (cost per Ccf and total), and the gas supply costs (cost per Ccf and total) are separate line items for those customers with an unbundled rate. Bundled rate customers have the delivery and supply costs shown as a total cost per Ccf.

The "Proposed Bill Format" will further separate the charges on the bill. The NGDC and NGS charges will each appear in the section designated for that entity. The basic charges will reflect individual pricing units and totals. The Columbia charges will appear first, the NGS charges next. Any payments, additional charges, fees, adjustments, etc., will be individually identified and placed in the appropriate section.

CPA CUSTOMER  
123 MAIN ST  
ANYTOWN PA 12345-1234

1

3

Please Pay By  
Jun 22, 1999

2

5DG A \*\* PRESORT FIRST CLASS  
CPA CUSTOMER  
123 MAIN ST  
ANYTOWN PA 12345-1234



Account Number  
1234 5678 999 000 7  
21-13 2225

DEPT:0016  
PITTSBURGH, PA 15270-0016



4

Amount Due  
\$ 57.00

5

Amount Paid  
\$

1234567899900070000000570032321

Please return this portion with your payment payable to **COLUMBIA GAS**.  
If paying in person, please bring entire bill with you.

Columbia Gas  
of Pennsylvania

6

Your Account Number  
12345678 999 000 7

21-13 2225

7

Billing Summary For : CPA CUSTOMER  
123 MAIN ST  
ANYTOWN PA 12345-1234

8

Account balance on last bill		\$00.00
Columbia Gas of PA	\$00.00	
Marketer A	\$00.00	

9

Payments and Adjustments as of xx-xx-xxxx		\$00.00	
	Payments	Adjustments	Other
Columbia Gas of PA	\$00.00	\$00.00	\$00.00
Marketer A	\$00.00	\$00.00	\$00.00

10

Balance at Billing		\$00.00
Columbia Gas of PA	\$00.00	
Marketer A	\$00.00	

11

Current Charges		\$00.00
Columbia Gas of PA	\$00.00	
Marketer A	\$00.00	

12

Please Pay Total Amount Due by xx-xx-xxxx		\$00.00
Columbia Gas of PA	\$00.00	
Marketer A	\$00.00	

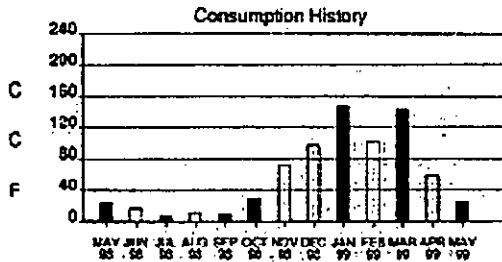
13

Meter Information 14 Next Meter Reading Date : July 28, 1999

Motor Number	Billing Period		Days	Meter Readings		Gas Used
	To	From		To	From	
D1193611	05/27/1999	04/28/1999	20	750 Actual	722 Estimated	28 CCF

15

Your Gas Use:



During the billing period, the average temperature was 60.5° F. During the same period last year, the average temperature was 63.1° F.

□ ESTIMATED READING  
■ ACTUAL READING

Your total annual usage is 500 ccf  
Your average monthly usage is 120 ccf

16

**General Information:**

Columbia Gas  
of Pennsylvania  
P.O. Box 910  
Smithfield, PA 15478

**Marketer A**  
**Address**  
**Phone**

Call Center Telephone Hours  
Mon – Fri 7:30 a.m. to 7:30 p.m.  
Toll free 1-888-450-4332  
TDD 1-800-460-4332

- Commodity prices and charges are set by the natural gas supplier you have chosen.
- The Public Utility Commission regulates delivery prices and services from Columbia of Pennsylvania.
- For questions regarding your bill, please call before your due date.
- Information about rate schedules is available upon request.

**Columbia Gas of Pennsylvania**

17

**Current Charges for Residential Service**

Monthly Customer Charge	\$00.00	
Gas Delivery Costs	\$00.00	
<b>Total Basic Charges</b>		<b>\$00.00</b>
Non-Basic Charges	\$00.00	
<b>Total Non-Basic Charges</b>		<b>\$00.00</b>
<b>Total Billing this month</b>		<b>\$00.00</b>

**Marketer A**

**Current Charges for Residential Service**

18

Gas Supply Costs	\$00.00	
<b>Total Basic Marketer Charges</b>		<b>\$00.00</b>
Non-Basic Charges	\$00.00	
<b>Total Non-Basic Charges</b>		<b>\$00.00</b>
<b>Total Billing this month</b>		<b>\$00.00</b>

**For Your Information:**

19

Our current message section here

## Explanation of Proposed Supplier Choice Bill format

1. **Bill stub:** The top portion of the bill is torn off and returned with the payment.
2. **Mailing Address:** Name and mailing address of person responsible for payment.
3. **Please Pay by:** Payment of the gas bill is due by this date.
4. **Amount Due:** Includes current charges and any unpaid balances.
5. **Amount Paid:** Write in the amount being paid here.
6. **Your Account Number:** The Columbia Gas of Pennsylvania account number. If this is a CHOICE account and Columbia does the billing, all charges will be identified with this account number.
7. **Billing Summary for:** Lists the name and address for which the gas service is billed.
8. **Account Balance on Last Bill:** An itemized record of the charges appearing on the last month's bill.
9. **Payments and Adjustments:** An itemized record of any payments or adjustments applied since your last bill.
10. **Balance at Billing:** Total amount remaining from last bill after all payments and adjustments have been applied.
11. **Current Charges:** A summary of the total amount due for this month's billing.
12. **Due Date/Amount:** Total amount due and the due date. The amount includes the current month's bill plus or minus any amount not paid at the time of billing.

## Explanation of Proposed Supplier Choice Bill format

13. **Meter Information:** Identifies the dates covered by this particular bill, along with the meter readings on each of those dates. The difference between the meter readings is the amount of gas you used during the number of "service days" indicated. Your gas usage is shown in CCF (1 CCF=100 cubic feet of gas).
14. **Next Reading:** This is the date of your next meter reading.
15. **Your Gas Use:** A 13-month usage graph. Estimated and actual readings are noted. Average temperature comparisons for the current and the same period last year are provided. Total annual and average monthly usage appear below the graph.
16. **General Information:** Contains Columbia Gas of Pennsylvania's address and telephone number, the Choice gas supplier's address and telephone number (if participating in the Choice program), and customer information messages. (Note: The Chapter 54 messages pertaining to who sets rates for suppliers and LDCs will appear here.)
17. **Columbia Gas of Pennsylvania Current Charges:** An itemized breakdown of current charges for delivery service that are listed as basic charges. Any non-basic charges will appear separately. Total billing this month represents the total Columbia Gas of Pennsylvania current charges.
18. **Marketer A Current Charges:** An itemized breakdown of current charges for commodity costs that are listed as basic charges. Any non-basic charges will appear separately. Total billing this month represents the total *Marketer A* current charges.
19. **For Your Information:** Space for messages to explain charges, taxes, adjustments, and other items of interest or concern.

- d. Provide a proposed billing format for retail gas customers who choose to be billed separately by the natural gas distribution company (distribution services) and their natural gas supplier (supply).

**RESPONSE:**

**Following this page is a sample bill which represents Columbia's proposed format for customers who are billed separately by Columbia and their natural gas supplier.**

CPA CUSTOMER  
123 MAIN ST  
ANYTOWN PA 12345-1234

1

1

3

Please Pay By  
Jun 22, 1999

2

SDG'A \*\* PRESORT FIRST CLASS  
CPA CUSTOMER  
123 MAIN ST  
ANYTOWN PA 12345-1234



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21-13 2225

DEPT.0016  
PITTSBURGH PA 15270-0016



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21-13 2225

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Account balance on last bill \$00.00  
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Payments and Adjustments as of xx-xx-xxxx \$00.00  
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Balance at Billing \$00.00  
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Columbia Gas of PA \$00.00

12

Please Pay Total Amount Due by xx-xx-xxxx \$00.00  
Columbia Gas of PA \$00.00

13

Meter Information

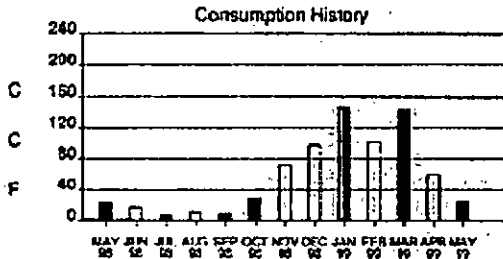
14

Next Meter Reading Date : July 28, 1999

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15

Your Gas Use:



During the billing period, the average temperature was 60.5° F. During the same period last year, the average temperature was 63.1° F.

□ ESTIMATED READING  
■ ACTUAL READING

Your total annual usage is 500 ccf  
Your average monthly usage is 120 ccf

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**Columbia Gas of Pennsylvania**

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**Current Charges for Residential Service**

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Non-Basic Charges	\$00.00	
<b>Total Non-Basic Charges</b>		<b>\$00.00</b>
<b>Total Billing this month</b>		<b>\$00.00</b>

19

**For Your Information:**

Our current message section here

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11. **Current Charges:** A summary of the total amount due for this month's billing.
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## Explanation of Proposed Supplier Choice Bill format

- ⑬ **Meter Information:** Identifies the dates covered by this particular bill, along with the meter readings on each of those dates. The difference between the meter readings is the amount of gas you used during the number of "service days" indicated. Your gas usage is shown in CCF (1 CCF=100 cubic feet of gas).
- ⑭ **Next Reading:** This is the date of your next meter reading.
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- ⑯ **General Information:** Contains Columbia Gas of Pennsylvania's address and telephone number, the Choice gas supplier's address and telephone number (if participating in the Choice program), and customer information messages. (Note: The Chapter 54 messages pertaining to who sets rates for suppliers and LDCs will appear here.)
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- ⑲ **For Your Information:** Space for messages to explain charges, taxes, adjustments, and other items of interest or concern.

2. Set forth the natural gas distribution company's proposal to comply with its supplier of last resort obligations under Section 2207.

**RESPONSE:**

**Columbia Gas of Pennsylvania is committed to retaining sufficient pipeline capacity; storage and gas supply contracts to serve as the Supplier of Last Resort for residential, small commercial, small industrial and essential human needs customers, and any other customer who has not chosen an alternative natural gas supplier, choose to be served by the supplier of last resort, refused supply service from natural gas suppliers or whose natural gas supplier has failed to deliver its requirements.**

3. Set forth the procedures the natural gas distribution company intends to follow to:
  - a. resolve customer billing complaints; and

**RESPONSE:**

**Columbia will continue to handle and resolve all customer billing complaints in accordance with Chapter 56 standards.**

**The initial customer contact will continue to be handled by Columbia. Our experience has shown that the majority of billing complaints relate to issues to which the NGDC is best able to respond.**

**Consumer complaints pertaining to the NGS rates, contracts, and separate NGS bills are referred directly to the NGS.**

- b. handle customer complaints regarding natural gas suppliers.

**RESPONSE:**

**Columbia refers all complaints relating to NGS to the appropriate NGS. However, Columbia recognizes that most customers still look to their NGDC company for resolution of complaints related to customer service. Because of this, Columbia logs incoming customer complaints regarding NGSs through the "remarks" function in its customer data base (DIS) system and follows up on complaint trends with the affected NGS.**

**In addition, Columbia has been able to address other, less urgent, customer service issues through normal NGS business contacts and a mutual interest in providing good customer service to Columbia's customer base. Columbia will continue to monitor complaint trends and work with NGSs to resolve customer service issues where appropriate.**

**In cases where a customer complaint pertains to NGS rates or contracts, Columbia refers customers to the appropriate NGS and logs the complaint in the "remarks" function of the customer data base (DIS) system. If the customer is unable to resolve their complaint with the NGS and re-contacts Columbia, Columbia's phone representatives will offer to transfer the customer to the Pittsburgh Better Business Bureau or to provide the phone number of the Office of the Attorney General. Columbia has conducted training with the Pittsburgh Better Business Bureau in order to enable BBB phone representatives to address consumer issues relating to natural gas suppliers.**

**To expedite complaint processing, Columbia proposes that when complaints are filed at the Commission concerning issues which are solely related to NGSs, the Bureau of Consumer Services should send the complaint directly to the appropriate NGS for investigation, rather than to Columbia. The BCS could send Columbia an informational copy of the complaint, but the burden to investigate the complaint would be on the NGS rather than upon Columbia. Columbia proposes this methodology because in its Choice program, Columbia has received a significant number of informal complaints which could only be addressed by NGSs, and Columbia spent considerable time and money processing these complaints. Columbia therefore requests that this process be modified to provide that if a complaint is based solely on a NGS issue, the complaint is directly routed to the responsible NGS, with only an informational copy being provided to the NGDC.**

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NOV 10 1999

C. SYSTEM OPERATIONS, RELIABILITY STANDARDS AND CAPACITY  
MANAGEMENT

1. Demonstrate that the restructuring plan will maintain the standards and procedures for safety and reliability presently in effect as required by Section 2203(3).

RESPONSE:

Columbia Gas of Pennsylvania has instituted a program design that requires NGSs to deliver to Columbia's city gate an equal amount of gas everyday of the year to satisfy their customers' annual gas requirements. Columbia will continue to retain and manage its storage under contracts with storage service providers and use such storage to balance the difference between customer usage and supplier deliveries on a daily basis. Columbia will continue to determine the peak day, seasonal and annual requirements of all its customers. Columbia's program also provides for substantial penalties and for the recovery from natural gas suppliers of all gas costs incurred by Columbia resulting from the supplier's failure to deliver gas volumes to Columbia's city gate as required. The combination of monitoring daily deliveries, determining customer demand requirements and maintaining storage balances will maintain existing reliability.

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2. Set forth the natural gas distribution company's proposed procedures for:
  - a. Requiring all natural gas suppliers to supply the natural gas distribution company with natural gas at locations, volumes, qualities and pressures that are adequate to meet the natural gas supplier's supply and reliability obligations as well as those of the natural gas distribution company (Section 2205(a)(2));

**RESPONSE:**

Columbia requires the NGS to have or acquire an adequate supply of natural gas of a quality acceptable to Columbia, including allowances for any retention required by the applicable upstream transporters and for delivery service lost and unaccounted-for gas to be retained by Columbia. Columbia requires NGSs to make arrangements by which such gas supply will be transported *on a firm basis* directly to the Company's system in the "local market area" in which the customer is located, as that term is defined in Columbia's tariff in Section 20.7. In the event a natural gas supplier elects to provide their own firm transportation capacity, such capacity shall not require the pipeline to deliver supplies at a pressure less than that required by its contracts with the pipeline. Should Columbia agree to deliveries from a natural gas supplier(s) at a point(s) of interconnection with an interstate pipeline at which it has no contract, Columbia shall notify the NGS of its pressure requirements at such point and the NGS shall agree to provide supplies to Columbia at such pressure at a minimum. The NGS will be required to sign an agreement certifying that they will acquire the necessary firm supply to serve the aggregate Customer Group for the months of November through March.

The NGS will be required to deliver the level of volumes equal to the firm delivery requirement established for such NGS to Columbia's City Gate each day of the year unless directed otherwise through an Operational Flow Order (OFO) or an Operational Matching Order (OMO). Columbia may issue an OFO or OMO to either increase or decrease a natural gas suppliers delivery volumes on days when projected demand exceeds available supplies or when available supplies exceeds the markets ability to absorb such supplies including injection into storage. Failure to abide by the OFO/OMO will subject the natural gas supplier to a charge of seventy-five dollars (\$75.00) per MCF on the difference between the established volumes and the actual daily scheduled deliveries, plus the payment of all other charges incurred by Columbia on the date that results from the NGS's failure to deliver as required. Such other charges shall include, but not be limited to, a proportionate share of any pipeline penalties incurred by Columbia. In addition, the NGS may be required to deliver additional supplies via interruptible Transportation Capacity (ITC) in the summer months defined as April through October.

- b. Assigning capacity to natural gas suppliers;

**RESPONSE:**

**The Customer or the Customer's NGS will have the following capacity assignment options:**

- 1) execute a Capacity Assignment Agreement for Columbia to provide the NGS Firm Transportation Contract Quantity for a period of twelve months; or**
- 2) obtain firm pipeline capacity for delivery of gas supply to Columbia's city gate throughout the year equal to the Firm Transportation Capacity that otherwise would be assigned under the CAPACITY OPTIONS section of RIDER PCA.**

**Should the NGS select option 2) above for any of the capacity it utilizes to serve its customers, it will be required to sign an agreement certifying that they will acquire the firm capacity necessary to serve the aggregate customer group.**

c. Nominations;

**RESPONSE:**

**Columbia's program design requires the NGS to deliver each day to Columbia's city gate(s), utilizing Firm Transportation Capacity (FTC), volumes equal to the aggregate Customer estimated annual normalized usage divided by 365, converted to DTH basis using Columbia's' annual average Btu content.**

- d. Obtaining new and renewed capacity contracts (Section 2204(e));

**RESPONSE:**

**Columbia has addressed the issue of new and renewed capacity contracts in its “Acquisition Process for New and Renewed Contracts” found in the testimony of Michael D. Anderson at Exhibit MDA-1.**

- e. Capacity contract mitigation parameters; (Section 2203(3), 2204(d)); and

**RESPONSE:**

**Columbia has addressed the issue of contract mitigation in its “Acquisition Process for New and Renewed Contracts” procedure found in the testimony of Michael D. Anderson at Exhibit MDA-1.**

- f. Notice requirement and procedures for natural gas suppliers to exit system. Section 2207(i), (j), (k).

**RESPONSE:**

**Should any NGS elect to discontinue providing service on Columbia's system, it must notify Columbia in accordance with the provisions of the Act and Columbia's tariff. The NGS shall**

- 1) reassign any capacity originally assigned to it by Columbia back to Columbia or assign to Columbia any new, replacement and/or alternate capacity they acquired; or**
- 2) assign the capacity identified in a) to another natural gas supplier that has accepted assignment of the first natural gas supplier's customers.**

**Any capacity acquired by a natural gas supplier hereunder must be assignable to Columbia or another NGS and available for Columbia's use or assignment to another NGS. The capacity must also have terms and conditions that permit the contract term to be extended under the interstate pipeline's tariff and under FERC rules and regulations. At the request of the party assigning new, replacement and/or alternate capacity to Columbia hereunder, Columbia shall use its best efforts to obtain operationally and economically equivalent capacity to that assigned to it. Upon Columbia's obtaining such equivalent capacity and the Commission's approval, Columbia shall reassign the capacity back to the requesting party. Any capacity so returned or assigned to Columbia and/or any replacement capacity acquired by Columbia shall qualify for assignment and/or full cost recovery by Columbia under the Act. Licensed NGSs taking assignment or providing new or replacement capacity, will be able to use supplies delivered through this capacity to satisfy the needs of all their customers, subject to the operational requirements and limitations of Columbia's distribution network.**

**In accordance with Columbia's Natural Gas Supplier Agreement. If a NGS elects, or is forced to terminate its participation on Columbia's system, the NGS shall continue its obligation to maintain its financial security instrument until they have satisfied all of their outstanding claims of the Company.**

3. Provide a full explanation of how balancing service is to be provided on the natural gas distribution company's system. Explain any limitations associated with receiving customer gas supplies at any receipt point and explain how the company proposes to address any such limitations.

**RESPONSE:**

Columbia will provide balancing services on its system through the retention of its no-notice storage service provided by Columbia Gas Transmission (TCO), the directing of deliveries from pipelines other than TCO between Columbia's city gate interconnections with such pipelines and deliveries to TCO and the use of operational balancing agreements with several pipelines. Columbia's distribution network is comprised of a large number of geographically dispersed, isolated distribution systems. Most of these isolated systems are not interconnected and when interconnected do not provide much opportunity to displace supply requirements between pipeline interconnections. A direct result of this network is that Columbia has a very large number of interstate pipeline interconnections. Columbia does not have a transmission network that ties these isolated systems together. With one exception, all of Columbia's local market areas are interconnected with Columbia Gas Transmission (TCO). In some local market areas TCO is the sole provider while in others it provides only a portion of the capacity utilized to serve customer requirements. Because Columbia does not have a transmission network that ties these isolated systems together, Columbia must utilize the TCO no-notice storage service to balance system requirements. By retaining the TCO no-notice storage service Columbia is able to offer natural gas suppliers the flexibility of providing supplies to the local market area in which the customer resides rather than at the individual delivery point that serves its customers. This also provides Columbia the ability to avoid the pro-rationing of FTS capacity in those markets served by more than one interstate pipeline company.

Columbia has limitations for receiving gas at each delivery point from interstate pipelines, some are physical delivery limitations while others are market absorption limitations. Columbia's program design allows it the flexibility to accommodate deliveries from natural gas suppliers through the conjunctive billing mechanism of TCO's no-notice storage tariff. Through retaining the no-notice storage on TCO Columbia is able to avoid requiring NGSs to deliver supplies directly to the city gate delivery point which physically serves their customers as long as deliveries are made into the local market area in which the customer resides. This provides significant flexibility in determining the capacity natural gas suppliers can utilize to serve their customers. Columbia's program design allows natural gas suppliers the ability to utilize third party delivery points that exist for deliveries directly to Columbia. Deliveries through these points are subject to the market absorption ability of markets served by these third party pipelines. Columbia will develop a forecast of the market absorption capacity in these markets for supplies from non-TCO pipelines on a daily basis and notify the NGSs delivering supplies through these points of their respective daily delivery level. The difference between the actual market requirements and the level of supplies nominated for delivery by the NGSs will be balanced out through Columbia's

**operational balancing agreement with each third party pipeline when Columbia does not have a no-notice service with such a pipeline. For several of its operational balancing agreements to function properly Columbia requires the no-notice storage capacity provided by TCO to facilitate this balancing.**

4. Set forth the natural gas distribution company's plan for post-July 1, 2002, assignment of gas supply contracts with Pennsylvania producers. (This item is optional since natural gas distribution companies may file after restructuring.) Section 2204(d)(7).

**RESPONSE:**

**Columbia presently purchases less than one percent of its annual gas supply from Pennsylvania producers. Columbia does not plan to renew the local purchase contracts and this will allow the local producers the opportunity to enter into gas purchase agreements with NGSS.**

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NOV 10 1999

D. NATURAL GAS SUPPLIERS

1. Set forth any penalties to be imposed upon natural gas suppliers for failure to deliver natural gas as required or for other violations of the natural gas distribution company's tariffs, if applicable. Section 2203(12).

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RESPONSE:

Following is a summary of the penalties imposed upon NGSs for failure to deliver natural gas as required by the provisions of the tariff. The penalties are in Columbia's current tariff and Columbia does not propose to change these penalties as part of this restructuring filing.

Under Columbia's current tariff, Rider PCA, the agent is required to deliver volumes equal to the FT capacity established for the agent to Columbia's city gate each day of the year, unless directed otherwise through an Operational Flow Order (OFO) or an Operational Matching Order (OMO). Failure to deliver the volume will subject the agent to a charge of seventy-five dollars (\$75.00) per Mcf on the difference between the established volumes and the actual daily scheduled deliveries. Columbia will also bill the agent for payment of all other charges incurred by Columbia on the date that results from the customer's failure to deliver as required plus a proportionate share of any pipeline penalties incurred by Columbia. The agent is also subject to OFO or OMO penalties for failure to comply with the OFO/OMO when issued.

An Operational Flow Order is applicable to all customers without daily measuring devices. When a difference between the daily OFO volume and the actual daily scheduled deliveries exist, Columbia will assess a charge of thirty dollars (\$30.00) per Mcf on the difference. In addition, Columbia will assess all other charges incurred by Columbia on the date of the OFO, including a proportionate share of any pipeline penalties.

An Operational Matching Order is applicable to customers with daily measuring devices. Failure to comply with an OMO will result in the billing of thirty dollars (\$30.00) per Mcf on the actual daily usage in excess of daily flowing volumes.

The natural gas supplier agreement contains an anti-slamming provision that operates by assessing a \$50.00 fee to any NGS who is unable to provide Columbia with documentary proof that a customer's enrollment into Customer Choice was proper.

2. Explain in detail all tariffs and/or procedures for operation of the natural gas distribution company's system in coordination with licensed natural gas suppliers. Section 2205(a).

**RESPONSE:**

**Natural Gas Supplier Agreement.** Each NGS shall enter into a Natural Gas Supplier Agreement as a prerequisite to serving customers on the Columbia distribution system.

**Aggregation Service.** For nominations, scheduling and system control purposes, Columbia's aggregation service aggregates customers according to their geographical location. Customer aggregation groups are based upon the geographical service territory of Columbia served by individual TCO Market Areas. NGSs shall schedule and deliver firm supplies separately for each customer aggregation group.

**Standards.** As defined in Rule 20.10 of the Rules and Regulations in Columbia Gas of Pennsylvania's tariff, Columbia has established creditworthiness standards for participation in its Customer Choice Program. NGSs must provide upon request, on a confidential basis, balance sheet and other financial statements, along with appropriate trade and banking references. NGSs agree to allow the Company to conduct a credit investigation as to the NGS's credit worthiness. Further, if Columbia determines that it is necessary, NGSs agree to maintain a cash deposit, a surety bond, an irrevocable letter of credit at a Columbia-approved bank of the NGS's choosing, or such other financial instrument, as Columbia may require while the NGS provides service to customers on Columbia's distribution system. NGS agrees that, in the event that it defaults on its obligations, Columbia shall have the right to use such cash deposits or proceeds from such bond, irrevocable letter of credit, or other financial instrument to satisfy NGS's obligations.

**Standards of Conduct - NGS.** As defined in the Natural Gas Supplier Agreement, Columbia has established standards of conduct for NGSs providing service on its distribution system. NGSs acknowledge that in their capacity as NGSs under the Act they have a continuing responsibility to conduct their business in a legal and ethical manner. If, as a result of customers' complaints, and/or from its own investigation, Columbia determines, in its sole judgement, that a NGS is not operating under these Standards of Conduct in an ethical and/or legal manner, then Columbia shall have the unilateral right to exclude the NGS from providing service on its distribution system.

**Standards of Conduct - Columbia.** As defined in Rider PCA, Columbia has established Standards of Conduct which have been adhered to by Columbia in the operation of its Customer Choice Program. Columbia proposes to adopt these Standards of Conduct for use under Customer Choice. As part of these Standards of Conduct, Columbia has established a complaint procedure for issues concerning Columbia's adherence to the Standards of Conduct.

**Character of Services to be Rendered.** NGS deliveries under Customer Choice must be of a firm nature. NGSs shall be responsible for obtaining the entire gas supply for their customers. Volumes delivered by NGSs to Columbia shall be equal to the aggregate normalized annual usage of their customers divided by 365. In general, NGSs shall deliver an equal volume for each day of a calendar month unless otherwise directed by Columbia through an Operational Flow Order (OFO) or an Operational Matching Order (OMO). Columbia may issue an OFO or OMO to either increase or decrease a NGS's delivery volumes on days when projected demand exceeds available supplies or when available supplies exceeds the markets ability to absorb such supplies including injection into storage. NGSs shall deliver such volumes to Columbia's system in the "local market area" in which the customer is located, as that term is defined in Columbia's tariff in Section 20.7. Each NGS will be required to sign an agreement certifying that it will acquire the necessary firm supply to serve its aggregate customer group for the months of November through March.

**Firm Capacity Requirement.** NGSs shall utilize firm capacity in the provision of services to their customers, in an amount directed by Columbia pursuant to its transportation tariffs. Such firm capacity shall have primary delivery point rights at Columbia city gates in the "local market areas" in which the natural gas suppliers' customers are located.

**FTS Capacity Assignment.** NGSs shall obtain interstate firm transportation capacity either from Columbia, or as provided in Rider PCA, from another source to ensure that their customers receive firm service in accordance with the provisions of Columbia's transportation rates schedules and Rider PCA.

**Balancing.** Columbia will continue to balance the difference between customer usage and supplier deliveries on a daily basis through the retention and management of its' pipeline storage assets under contracts with storage service providers. Additionally, Columbia shall manage deliveries from interstate pipelines other than Columbia Gas Transmission (TCO), on which Columbia does not have a no-notice balancing service, through the use of operational balancing agreements.

**EBB.** NGSs agree to utilize Columbia's EBB for scheduling nominations and acknowledge that such use is a requirement for participation in Customer Choice. Columbia shall confirm such nominations with upstream delivering pipelines. In instances where the NGS utilizes TCO as its upstream transporting pipeline, nominations shall be made to the TCO Market Area in which the NGS's customers are located. In instances where the NGS utilizes an upstream transporting pipeline other than TCO to deliver supplies to Columbia, such deliveries shall be made at a city gate interconnection between such upstream pipeline and Columbia within the "local market area" in which the NGS's customers are located. Nominations on Columbia's EBB shall be confirmed when the NGS's upstream transporting pipeline confirms scheduled nominations at the point or points of delivery to Columbia specified above.

**Points of Delivery.** At the time a NGS notifies Columbia of customer enrollment, the NGS shall notify Columbia of its decision whether to take assignment of firm transportation capacity from Columbia or to acquire such capacity from another source. When electing to take capacity assignment from Columbia the NGS shall also notify Columbia of the upstream transporting pipeline it desires to utilize. Columbia shall assign sufficient firm transportation capacity at delivery points in the TCO Market Area in which the NGS's customers reside. For instances when the NGS desires to utilize firm capacity acquired from another source, the NGS shall make a request to Columbia of the delivery points it desires to utilize. Columbia shall review such requests from all NGS participating in Customer Choice and notify the NGS of the delivery points acceptable to Columbia. The following criteria shall be applied by Columbia in determining whether such requests are acceptable:

- 1) When requesting utilization of TCO as its upstream transporting pipeline, the requested delivery points shall be located in the TCO Market Area in which the NGS's customers are located.
- 2) When requesting utilization of a pipeline other than TCO as its upstream transporting pipeline, the requested delivery points shall be located in the "local market area" (as defined in Rule 20.7 of the Company's tariffs) in which the NGS's customers are located; provided, however, that Columbia will accept a firm delivery point(s) located in a "local market area" other than the one in which the NGS's customers are located, subject to the following conditions:
  - a) the use of such delivery point is within the TCO Market Area in which the customers reside and both "local market areas" are served by TCO;
  - b) the use of such delivery point shall in no way impair, interfere or economically harm Columbia's deliveries of system supplies to retail customers at such delivery point(s); and
  - c) there is sufficient market absorption capability in the "local market area" to accommodate the volumes to be delivered by the NGS, taking into account prior agreements to receive gas from other NGSs into that "local market area".

In any instance when multiple NGSs request to utilize the same firm delivery point and Columbia determines that insufficient capacity exists to accommodate all such requests, Columbia shall give priority to those NGSs who serve customers in the same "local market area" served by the delivery point. If a NGS believes that Columbia's determination related to the selection of delivery points is unreasonable or inconsistent, the NGS may file a complaint with the Commission.

**Insufficient Supplies.** In the event insufficient supplies are delivered to Columbia, Columbia shall have the right to require NGSs to demonstrate, and the NGSs shall have the obligation to either demonstrate or provide Columbia the right to verify with the NGS's upstream transporting pipeline that:

- 1) NGS has under contract sufficient firm transportation capacity with firm delivery point rights at the city gate interconnections approved by Columbia; and
- 2) that the NGS utilized such capacity to schedule sufficient supplies at these delivery points to satisfy the needs of its customers and that such scheduled supply nomination was accepted by the pipeline.

Failure to demonstrate that sufficient supplies were delivered to Columbia, at the points of delivery approved by Columbia, or upstream interstate pipeline interconnection shall subject the natural gas supplier to bear its respective share of any and all costs incurred by Columbia as a result of the NGS's failure. Should such a failure occur on a date in which Columbia has issued an Operational Flow Order, the NGS shall be subject to the penalty provision described in Rule 20.8 of Columbia's tariffs. On any and all days in which the NGS's delivery of gas to Columbia does not match the requirements of the NGS's individual aggregation group, the NGS shall pay Columbia the fees set forth in Rider PCA.

3. Set forth the criteria used to establish the amount and type of bond or other security to be required of licensed natural gas suppliers. Section 2208(c)(1)(i).

**RESPONSE:**

Newly-enacted Section 2208(C)(1)(I) of the Public Utility Code provides that "...in order to ensure the safety and reliability of the natural gas supply service in this Commonwealth, no natural gas supplier license shall be issued or remain in force unless the applicant or holder, as the case may be,...furnishes a bond or other security in a form and amount to ensure the financial responsibility of the natural gas supplier. The criteria each natural gas distribution company shall use to determine the amount and form of such bond or other security shall be set forth in the natural gas distribution company's restructuring filing."

Columbia will continue to determine both the creditworthiness and credit exposure of a NGS supplying the natural gas commodity to Columbia's residential and small volume commercial customers. The company's credit policy with respect to NGSs supplying natural gas to Columbia Customer Choice customers is as follows:

The Pennsylvania Public Utility Commission ("PUC") currently requires Pennsylvania local distribution companies to provide the "supplier of last resort" service for all small volume transportation customers. In addition, Rider PCA—Pilot Capacity Assignment of the Columbia Tariff, assigns Columbia the obligation to determine the creditworthiness of a participating natural gas supplier based upon prescribed criteria and under the standards of creditworthiness as provided under Section 20.10 of the Columbia Tariff Rules and Regulations. As the supplier of last resort, Columbia would be obligated to contract for and deliver natural gas to small volume transportation customers whose natural gas supplier fails to deliver appropriate supply into the pipeline system.

The Columbia credit policy with respect to natural gas suppliers supplying natural gas to small volume residential and commercial customers includes the following:

1. All natural gas suppliers supplying natural gas to small volume residential and commercial customers will be reviewed annually for creditworthiness.
2. The amount of credit exposure for each natural gas supplier will be equal to an appropriate amount per customer as determined by Columbia Finance Department personnel and in accordance with the Columbia Tariff.

3. Credit limits for each natural gas supplier will be approved by Columbia Finance Department personnel and supported by the credit scoring procedures utilized and performed by Shared Service Center personnel.
4. To the extent that the natural gas supplier's credit exposure exceeds the natural gas supplier's credit limit, Columbia will request the natural gas supplier to provide financial security in the form of either an irrevocable letter of credit from a financially secure banking institution, a cash deposit, a parent or third party company guarantee or other appropriate financial security to cover any difference. In cases where the natural gas supplier furnishes a parent or third party company guarantee, Columbia will also conduct a creditworthiness analysis of the parent or third-party company."

Secondly, in accordance with the above Credit Policy, Columbia will determine a credit exposure for each natural gas supplier based on the number of Columbia customers the natural gas supplier has contracted times a to be determined credit exposure per customer. This credit exposure per customer will be based on the following information:

- Credit Reports,
- Bank References,
- Audited Financial Statements, Annual Report, 10K or 10Q prepared in the last 12 months,
- Confirmation that the Agent is not operating under any bankruptcy or insolvency law,
- Confirmation of no significant lawsuits or judgments outstanding,
- Confirmation that the Agent is not aware of any adverse condition which could cause a material change in financial condition,
- A list of parent company and other affiliates,
- Names, addresses and telephone numbers of three trade references,
- Names, addresses and telephone numbers or three trade references, and/or,
- Additional financial related information as determined by the Company.

The credit worthiness evaluation will be based on standard credit factors such as previous history, Dun & Bradstreet financial and credit ratings, trade references, unused lines of credit, and financial information. The Company shall have sole discretion to determine creditworthiness of an Agent but will not deny creditworthiness without reasonable cause.

A non-refundable fee of \$100.00 will be charged for each evaluation to offset the cost of determining the Agent's creditworthiness.

The Agent must enter into and sign an agreement(s), as prepared by the Company, and provide written notification to the Company of the identity of the customers in the aggregation group on whose behalf the Agent is acting.

4. Provide a proposed supplier tariff or a tariff addressing the interaction between the natural gas distribution company and licensed natural gas suppliers.

**RESPONSE:**

**In its Choice Program, Columbia successfully used a Natural Gas Supplier Agreement to address the interaction between Columbia and natural gas suppliers providing service to customers on the Columbia distribution system. Columbia proposes to use the "Natural Gas Supplier Contract" (a copy of which follows this section) to address the interaction between Columbia and NGS under Customer Choice.**

**Columbia Gas of Pennsylvania, Inc.**  
**Customer Choice**  
**Natural Gas Supplier Agreement**

This Agreement made this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, (“Agreement”) by and between \_\_\_\_\_, providing services in Columbia Gas Transmission (“TCO”) Market Area \_\_\_\_\_ (“NGS”), and Columbia Gas of Pennsylvania, Inc. (“Company” or “CPA”).

WHEREAS, the Commonwealth of Pennsylvania enacted The Natural Gas Choice and Competition Act, 66 Pa. C.S. §2201 et seq. (the “Act”) which provides that all retail natural gas customers of natural gas distribution companies shall have the opportunity to purchase natural gas supply services from a natural gas supplier or their natural gas distribution company to the extent it offers such services;

WHEREAS, the Pennsylvania Public Utility Commission (“Commission”) issued an Order in Docket No. M-00991249 in which it set forth the filing requirements for Natural Gas Distribution Companies to follow in making their filings before the Commission;

WHEREAS, Customer Choice contemplates that the Company’s customers will secure their gas supplies competitively, through one of the various gas NGSs that has been licensed by the Commission to provide services (“Natural Gas Supplier” or “NGS”), and that the Company’s customers will continue to use the Company to transport the gas supplies;

WHEREAS, in the role being assumed by the NGS under Customer Choice, the NGS shall be assuming responsibilities which have heretofore been obligations of the Company;

WHEREAS, said responsibilities to be assumed by NGS include and relate to sensitive residential and human needs customers and include but are not limited to such responsibilities as: ensuring adequate firm transportation capacity on upstream pipelines to serve customers, ensuring the availability of adequate gas supplies to serve customers, and ensuring that customers are provided with Firm Service;

WHEREAS, the NGS desires to participate under Customer Choice, and the Company and the NGS both desire to ensure that the Company’s customers continue to receive adequate and reliable service both in terms of gas supplies as well as transportation;

NOW THEREFORE in consideration of the mutual promises and covenants contained in this Agreement, the NGS and the Company agree to the following terms and conditions:

## Article I - Definitions

As used in this Agreement, the following terms shall have the meanings indicated below:

A. The term "Aggregation Service" shall mean the service provided by the Company that allows NGSs to deliver to the Company, on an aggregated basis, those natural gas supplies that are needed to satisfy the requirements of the transportation customers which have an aggregate annual demand of at least 5,000 MCF, or a minimum of 50 customers and are in compliance with the aggregation provisions in Sec. 20.10 of the Company's tariffs, all in accordance with the rules that the Company has established regarding delivery requirements, banking, billing and payments, NGS performance requirements, and other similar requirements for participation as a "NGS" in the Company's tariffs.

B. The term "Aggregation" shall mean all customer groups that NGS establishes under this Agreement.

C. The term "Billing Cycle" shall mean the regularly occurring period, of approximately 31 days, in which a Customer is billed for gas service. A Billing Cycle need not coincide with calendar month.

D. The term "Commission" shall mean the Pennsylvania Public Utility Commission.

E. The term "Customer" shall mean the ultimate end-user of the gas being supplied by the NGS and transported by the Company.

F. The term "Customer Choice" shall mean Columbia's implementation of The Natural Gas Choice and Competition Act, 66 Pa. C.S. §2201 et seq.

G. The term "Delivery Point" shall mean the location at which the Company shall first receive the gas supply from the NGS as shown in Appendix A of this Agreement, which is hereby incorporated by reference and made part of this Agreement.

H. The term "EBB" shall mean Columbia's Electronic Bulletin Board system, use of which is required for participation under Customer Choice.

I. The term "Firm Service" shall mean the quality of service provided to the Customer in which gas shall be available at all times during the period covered by this Agreement, even under adverse conditions.

J. The term "gas" shall mean the gas commodity which is provided by the NGS to the Company for transportation.

K. The term "month" shall mean calendar month.

L. The term "Mcf" shall mean one thousand (1,000) cubic feet of gas with the unit of volume utilized for measurement purposes being based upon one (1) cubic foot of gas at a pressure of fourteen and six-tenths (14.6) pounds per square inch absolute with corrections for super compressibility and at a temperature of sixty (60) degrees Fahrenheit.

M. The term "Redelivery Point" shall mean the location where gas is metered at the Customer's premises for billing purposes.

N. The term "Transportation Tariff" shall mean either Rate SCT or Rate RTS, and Rider CC and Rider PCA as applicable for the particular customer being served, as well as the Company's standard Rules and Regulations.

## Article II - Term

A. Term. The term of this Agreement shall commence upon the date of the execution of this Agreement, and shall continue until one year thereafter ("Initial Term"). In recognition of the fact that capacity under this Agreement is to be assigned to the NGS in one year blocks, the NGS shall be permitted to continue serving customers beyond the Initial Term, and for up to one year after the date of the capacity assignment, without an extension to this Agreement, provided that those customers are being served with capacity that was assigned to the NGS during the Initial Term of this agreement ("Extended Term"). This Agreement shall continue to apply during the Extended Term in all respects, with the exception that the NGS cannot enroll more customers.

## Article III - Requirements for Customer Choice Participation

A. Standards. The standards for an NGS to be eligible to provide services under Customer Choice shall be the creditworthiness standards specified in Rule 20.10 of the Rules and Regulations in the Company's tariff. Accordingly, in order to participate as a NGS under Customer Choice, NGS shall upon request provide the Company, on a confidential basis, with balance sheet and other financial statements, and with appropriate trade and banking references. The NGS also agrees to allow the Company to conduct a credit investigation as to NGS's credit worthiness. Further, if the Company determines that it is necessary, NGS agrees to maintain a cash deposit, a surety bond, an irrevocable letter of credit at a Company-approved bank of the NGS's choosing, or such other financial instrument, as the Company may require during the term of this Agreement in order to assure NGS's performance of its obligations under this Agreement. In order to assure that the value of such financial security instruments remains proportional to NGS's potential liability under this Agreement, the required dollar amounts of such instruments

shall be adjusted at the sole discretion of the Company, as Customers are added to, or deleted from, NGS's pool. NGS agrees that, in the event it defaults on its obligations under this Agreement, Company shall have the right to use such cash deposits or the proceeds from such bond, irrevocable letter of credit, or other financial instrument to satisfy NGS's obligations under this Agreement. Such proceeds shall be used to secure additional gas supplies including payment of the costs of the gas supplies themselves, the costs of transportation, storage, gathering and other related costs incurred in bringing those gas supplies into the Company's system. The proceeds from such instruments shall also be used to satisfy any outstanding claims that the Company may have against NGS, including imbalance charges, cash-out charges, pipeline penalty charge, and other amounts owed to the Company, and arising from, NGS's participation under Customer Choice.

B. Termination of Participation. In the event NGS elects, or is forced, to terminate its participation under Customer Choice in accordance with the provisions of this Agreement, it shall continue its obligation to maintain its financial security instrument until it has satisfied all of its outstanding claims of the Company.

C. Standards of Conduct. In addition to the above financial requirements, the Company may impose reasonable standards of conduct for NGSs, as a prerequisite for their participation under Customer Choice. NGS acknowledges that in its capacity as a NGS in this program, it has a continuing responsibility to conduct its business in a legal and ethical manner. If, as a result of Customers' complaints, and/or from its own investigation, the Company determines, in its sole judgment, that NGS is not operating under this Agreement in an ethical and/or legal manner, then the Company shall have the unilateral right to cancel this Agreement and deny NGS's further participation under Customer Choice in accordance with the procedures described in Article IX of this Agreement.

D. NGS List. Company will maintain a list of NGSs who have met the program's financial and performance requirements. This list will be made available to Customers upon request.

#### **Article IV - Service Provided under this Agreement**

A. Character of Services to be Rendered. The NGS shall be responsible for obtaining the entire gas supply for the Customer. The NGS shall obtain interstate pipeline primary Firm Transportation capacity either from the Company or if permitted under this Agreement, from another source to ensure that the Customer receives Firm Service in accordance with the provisions of the Transportation Tariff, and the NGS shall obtain adequate gas supplies to ensure that the Customer receives Firm Service in accordance with the provisions of the Transportation Tariff. The Company shall remain responsible for transporting the gas pursuant to the Company's obligations under its Transportation Tariffs.

B. EBB. The NGS agrees to use the Company's EBB for posting nominations, and the NGS acknowledges that such use is a requirement for Customers to participate under Customer Choice.

C. Fees. The Company shall perform the services required of it in this Agreement and under the Transportation Tariffs for the fees and charges specified in its Transportation Tariffs, as may be amended from time to time with the approval of the Commission.

D. Full Requirements Service. In exchange for the opportunity to participate under Customer Choice, NGS agrees to deliver gas supplies into Company's designated city gate receipt point on a daily basis in accordance with the requirements of the Company's Transportation Tariffs.

## Article V - Billing

### A. Commodity Billing Services.

(i) The NGS may choose to bill the Customer directly for the gas (Option 1 below), or the NGS may choose to have the Company bill the Customer for gas (Option 2 below). Regardless of which option is chosen by the NGS, the NGS assumes full responsibility for non-payment of the NGS's portion of the Customer's bill, unless the Company has purchased the NGS's accounts receivable.

(ii) If the NGS discontinues participation under Customer Choice for any reason, the Company reserves the right to adjust the NGS's accounts to correct any prior errors for a period of twelve (12) months after the NGS has ceased providing services to customers under Customer Choice. If the Customer discontinues service under Customer Choice for any reason, or if the Customer discontinues the NGS's service, the Company reserves the right to adjust the NGS's accounts to correct any prior errors for a period of twelve (12) months after the Customer has discontinued service.

(iv) NGS must select one (by initialing in the space provided below):

\_\_\_\_\_ Billing Option 1: NGS Billing Service. The NGS shall bill the Customers for the gas. The NGS shall not bill the Customer for any services provided by the Company under its Transportation Tariffs and the NGS agrees not to request its customers to list the NGS's address as the address for transportation billings. The Company shall provide the NGS with meter reading information and other reports in the Company's standard printed and electronic format on a monthly basis corresponding to the Company's Billing

Cycle. The Company shall provide the NGS with said meter reading information no later than ten (10) days after the last day of each Billing Cycle.

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Billing Option 2: Company Billing Service.

- (a) The NGS elects to have the Company bill the Customers for the gas. The NGS understands that the Company shall provide billing services pursuant to the requirements of its Transportation Tariffs.
- (b) The Company shall provide the NGS with meter reading information and other reports in the Company's standard printed and electronic format on a monthly basis corresponding to the Company's Billing Cycle. The NGS shall provide the Company with all required billing determinants as indicated on the Company's "NGS Rate Statement" and other information that may be necessary for Customer billing as determined by the Company. The NGS shall provide said billing determinants in the standard printed and electronic format shown in Appendix B, which is hereby incorporated by reference and made part of this Agreement. The NGS shall provide the Company with said billing determinants no later than the 20<sup>th</sup> of the month prior to the Billing Cycle.
- (c) The NGS agrees that all payments received by the Company shall be first applied to amounts due the Company, including installment payments of amounts due the Company under an existing payment plan. The NGS agrees that Customers with arrearages that do not have a valid payment plan with the Company shall be required to execute a payment plan with the Company prior to participation under Customer Choice.
- (d) If the Customer is a budget billing customer of the Company, the Company shall determine the amount of the monthly budget payment to credit to the NGS's and the Company's account based on the Customer's normalized annual consumption. If a budget payment customer falls behind in its budget payments, any payments received shall be first applied to the Company's account for the Customer, until the Company's account for the Customer is made current.

(e) If the Company provides billing service for the NGS, the Company, at its sole discretion, may offer to purchase the NGS's accounts receivable at a discounted rate.

B. Transportation Billing Services.

(i) The Company shall bill all Customers for transportation services regardless of whether the NGS or the Company provides Commodity Billing Services. The Company shall provide NGSs with individual aggregation customers' usage data for the customer's most recent Billing Cycle as customers are billed by the Company.

(ii) NGS's transportation quantities shall be determined from the Company's "Monthly Summary Billing Report." The "Monthly Summary Billing Report" reflects Customer's billed transport volumes as reported to NGS, as generated within the Company's revenue reporting system.

(iii) The billings and charges related to the volume banking and balancing services provided by the Company and OFOs and OMOs, are as specified in Paragraphs 20.4, 20.5, 20.6 and 20.8, respectively, or rates RTS, SCT or Rider PCA of the Rules and Regulations in the Company's tariff.

## Article VI - Capacity

A. Firm Capacity Requirement. The NGS shall utilize firm capacity in its provision of services to the Customers, in an amount directed by the Company pursuant to the Transportation Tariffs.

B. FTS Capacity Assignment. The NGS must choose whether it wants to accept or reject the assignment or release of the Company's FTS capacity; provided however, that the Company reserves the right to require the assignment of FTS capacity as provided by its Transportation Tariffs. If the NGS enrolls customers under Customer Choice at the time of the execution of this Agreement, then the NGS must also execute a copy of the form shown in Appendix C for the capacity related to those initial customers. Thereafter, each time that the NGS enrolls customers to Customer Choice, the NGS shall execute a copy of the form shown in Appendix C for the capacity related to those additional customers. The NGS shall provide such executed Appendix C to the Company, via facsimile and U.S. Mail, no later than the 15<sup>th</sup> day of the month prior to the month in which the Customers are to be enrolled under Customer Choice. Each Appendix C shall be incorporated by reference and made a part of this Agreement upon execution by the NGS and acceptance by Company.

## Article VII - Enrollment Procedures

A. Rolling Enrollment. Customers shall be permitted to enroll into Customer Choice on a monthly basis; provided that the Customer's NGS notifies the Company by the 15<sup>th</sup> day of the prior month.

B. Enrollment Procedure. Enrollment may be performed either telephonically or in writing in accordance with the following requirements:

(i) Telephonic Enrollment. Only Columbia's customer of record may enroll his/her account under Customer Choice using Telephonic Enrollment. The NGS agrees to tape record and date-stamp the "Enrollment Conversation" (as defined in this sub-paragraph) of each Customer. The Enrollment Conversation is defined to include, at a minimum, the NGS stating its legal name and that it is not calling on behalf of Columbia Gas of Pennsylvania; the Customer stating: his/her name, his/her twelve (12) digit Company account number, his/her service address, his/her mailing address, and his/her intent to be a customer of the NGS; and a statement by the NGS that they will provide the natural gas to the Customer and that Columbia Gas of Pennsylvania will continue to provide distribution services to the Customer. After the Company is notified that the Customer desires to enroll under Customer Choice, the Company shall send a letter to the Customer seeking verification of the Customer's intent to enroll under Customer Choice. The Customer shall have ten (10) days from the date that the letter is mailed to inform the Company that the Customer does not desire to participate under Customer Choice. Upon such notification, the Company shall ensure that the Customer is not enrolled under Customer Choice. The NGS agrees to keep a copy of the tape recording of the Enrollment Conversation for so long as that person remains a customer of the NGS. The NGS agrees to provide a copy of the tape recording of the Enrollment Conversation to the Company upon request of the Company. Failure to supply a copy of the tape recording of the Enrollment Conversation within five (5) days of the Company's request shall cause the customer to be returned to the Company's sales service rate, and a \$50.00 fee shall be paid by the NGS.

(ii) Written Enrollment. Only Columbia's customer of record may enroll his/her account under Customer Choice using Written Enrollment. The NGS agrees to maintain written confirmation of the enrollment of each Customer for so long as that person remains a customer of the NGS. The confirmation shall include, at a minimum: identification of the NGS's legal name, the Customer's name, the twelve (12) digit Columbia account number, service address, mailing address, the Customer's signature, and an indication of the Customer's intent to enroll with that particular NGS under Customer Choice. After the Company is notified that the Customer desires to enroll under Customer Choice, the Company shall send a letter to the Customer seeking verification of the Customer's intent to enroll under Customer Choice. If the Customer informs the Company that the

Customer does not desire to participate under Customer Choice, the Company shall refer the Customer to the NGS to resolve the conflict as per the terms of the NGS's contract with the Customer. The NGS agrees to provide a copy of the written confirmation to the Company within five (5) days following a request by the Company. Failure to supply a copy of the Customer's written confirmation within five (5) days of the Company's request, shall cause the Customer to return to the Company's sales service, and a \$50.00 fee shall be paid by the NGS.

(iii) Internet Enrollment. Only Columbia's customer of record may enroll his/her account under Customer Choice using Internet Enrollment. If an NGS desires to use internet enrollment, the NGS agrees to maintain a webpage to provide for internet enrollment, which webpage clearly identifies the legal name of the NGS. The NGS agrees to maintain a printed or electronic copy of information provided on the webpage and received through the webpage at the time when the Customer requested to be provided service by the NGS ("Enrollment Record"). The Enrollment Record is defined to include, at a minimum, the NGS's legal name, a copy of the contract between the NGS and the customer as it appeared at the time Customer requested service from NGS, the Customer's name, twelve (12) digit Company account number, service address, mailing address, an indication of the Customer's intent to be a customer of that particular NGS, an indication by the customer that the Customer understands that the NGS will provide natural gas to the Customer while Columbia Gas of Pennsylvania will continue to provide distribution services to the Customer. After the Company is notified that the Customer desires to enroll under Customer Choice, the Company shall send a letter to the Customer seeking verification of the Customer's intent to enroll under Customer Choice. The Customer shall have ten (10) days from the date that the letter is mailed to inform the Company that the Customer does not desire to participate under Customer Choice. Upon such notification, the Company shall ensure that the Customer is not enrolled under Customer Choice. The NGS agrees to keep a printed or electronic copy of the Enrollment Record for so long as that person remains a customer of the NGS. The NGS agrees to provide a copy of the Enrollment Record to the Company upon request of the Company. Failure to supply a copy of the Enrollment Record within five (5) days of the Company's request shall cause the customer to be returned to the Company's sales service rate, and a \$50.00 fee shall be paid by the NGS.

### **Article VIII - Gas Supply Obligations**

A. Firm Contracts. The NGS agrees that it shall enter into firm supply contracts for deliveries to customers during the months of November through March as required under the Company's Transportation Tariffs.

B. Delivery Obligations. The NGS agrees to deliver the quantity and quality of gas required by the customer in accordance with the provisions of the Transportation Tariffs.

C. Commencement of Service. The NGS is obligated to begin flowing gas on the first of the month during which service commences. The Company shall begin providing transportation services to the Customer commencing upon the beginning of the Customer's next billing cycle after the first of the month. During the interim period, the Company shall provide the Customer with gas service pursuant to the terms of the Customer's existing tariff.

D. Delivery Requirements. NGSs must make firm deliveries to the Company on any and all days which shall meet the requirements of the NGS's individual aggregation groups. If the NGS is using a pipeline other than Columbia Gas Transmission for its upstream supplier, then at the time of Customer enrollment, that NGS shall request the delivery points it desires to be included in the form attached as Appendix A. The Company shall review such requests from the NGS and notify the NGS of the delivery points acceptable to the Company. The criteria to be applied by the Company in determining such delivery point(s) are set forth in Article VIII(E). If the NGS is using Columbia Gas Transmission as its upstream supplier, the NGS does not have to submit Appendix A.

E. Selection of Delivery Points. The Company shall employ the following criteria in determining whether to accept NGS's request to use a specified firm delivery point:

(1) In instances where the NGS desires to utilize TCO as its upstream transporting pipeline, the NGS shall make firm deliveries to the Company by making deliveries using a transportation contract with a primary delivery point anywhere in the TCO Market Area in which the Customer is located.

(2) In instances where NGS desires to utilize a pipeline other than TCO as its upstream transporting pipeline, the firm delivery points to the Company shall be located in the Local Market Area (as defined by Rule 20.7 of the Company's tariffs) in which the Customer is located; provided, however, that the Company will accept a firm delivery point(s) located in a Company Local Market Area other than the one in which the Customer is located, subject to the following conditions: (a) the use of such delivery point shall in no way impair, interfere or economically harm the Company's delivery of system supplies for retail customers at such delivery point(s), (b) there is sufficient market absorption capability in the Local Market Area to accommodate the volumes to be delivered by the NGS, taking into account prior agreements to receive gas from other NGSs into that Local Market Area, (c) both the Local Market Area into which deliveries are to be made and the Local Market Area in which the Customer is located are also served by TCO in the same TCO Market Area.

In any instance in which multiple NGSs request to utilize the same firm delivery point and the Company has determined that insufficient capacity exists to accommodate all such requests, the Company shall give priority to those NGSs who serve customers located in the same Local Market Area served by the delivery point.

F. Insufficient Supplies. In the event insufficient supplies are delivered to the Company as provided in Paragraph D above, the Company shall have the right to require the NGS to demonstrate, and the NGS shall have the obligation to either demonstrate or provide the Company the right to verify with the NGS's upstream transporting pipeline that: (a) NGS has under contract sufficient firm capacity as specified in Paragraph D above; AND (b) the NGS utilized such capacity to schedule sufficient supplies at the delivery points specified in Appendix A to meet the needs of Customers served under this Agreement, and the pipeline accepted such schedule to said delivery points. Failure to demonstrate sufficient deliveries were made to any market or interstate pipeline interconnection shall subject the NGS to bear its respective share of any and all costs incurred by the Company as a result of the NGS's failure. Should such a failure occur on a date in which the Company has issued an Operational Flow Order, the NGS shall be subject to the penalty provision described in Rule 20.8 of the Company's tariffs. On any and all days in which the NGS's delivery of gas does not match the requirements of the NGS's individual aggregation group, the NGS shall pay the Company the fees set forth in Rider PCA.

G. Complaint Procedure. If NGS believes that the Company determination related to selection of delivery points under Article VIII(E) is unreasonable or inconsistent with the terms of this Agreement, NGS may file a complaint with the Commission.

#### **Article IX - Default**

A. Default. In addition to other rights to terminate or cancel that appear elsewhere in this Agreement, if Company or NGS fails to perform, to a material extent, any of the obligation imposed upon either under this Agreement, then the other party may, at its option, terminate or cancel this Agreement by causing written notice thereof to be served on the party in default, stating specifically the cause for terminating or canceling this Agreement and declaring it to be the intention of the party giving the notice to terminate or cancel the same. In the event the NGS receives notice of termination or cancellation made pursuant to Article IX and based upon a breach of the NGS's obligations under Article VI or VIII of this Agreement, the NGS shall have five (5) days after the service of the aforesaid notice in which to remedy or remove the cause or causes stated in the notice for terminating or canceling this Agreement. In the event a party receives notice of termination or cancellation made pursuant to Article IX of this Agreement, the party in default shall have thirty (30) days after the service of the aforesaid notice in which to remedy or remove the cause or causes stated in the notice for terminating or canceling this Agreement. If, within said Cure Period, the party in default does so remedy or remove said causes, then such notice shall be deemed to have been withdrawn and this Agreement shall continue in full force and effect. If the party in

default does not so remedy or remove the cause or causes within said Cure Period, then, at the option of the party giving notice, this Agreement shall terminate or cancel as of the expiration of said Cure Period. Any termination or cancellation of this Agreement, pursuant to this Article IX shall be without waiver of any remedy, whether at law or in equity, to which the party not in default otherwise may be entitled for breach of this Agreement. Any termination of this Agreement as a result of default of either party shall result in a recall of any capacity assigned or released by the Company to the NGS.

B. Default by NGS. The NGS recognizes that if the NGS breaches any obligation it owes to the Company under this Agreement, and fails to cure said breach within the Cure Period specified in sub-paragraph (A) of this Article, the Customer shall return to the Company's sales tariff under which the Customer was served immediately prior to the Customer's enrollment under Customer Choice. The Customer shall return to the Company's sales tariff should the NGS breach any obligation it owes to the Company under this Agreement with the Company. The Company reserves its right to pursue any and all damages it may incur as a result of a breach by NGS.

C. Sole and Exclusive Remedies. The termination rights, cancellation rights, and interest payments and other remedies outlined in this Agreement and in the Company's tariffs for non-performance herein shall be Company and NGS's respective sole and exclusive remedies for such non-performance. In no event shall either party be liable for special, incidental, exemplary, punitive, indirect or consequential damages, including, but not limited to, loss of profit or revenue, cost of capital, cost of substitute products, downtime costs, or claims for damages by third parties upon Company or NGS. This applies whether claims are based upon contract, warranty, tort, (including negligence and strict liability), or other theories of liability.

#### **Article X - General Terms and Conditions.**

A. Jurisdictional Issues. This Agreement is subject to all Federal, Commonwealth of Pennsylvania and local laws and to the orders, rules and regulations of any Federal, State, or local agencies having jurisdiction thereof.

B. Force Majeure. Other than the NGS's obligation to make payments of amounts due hereunder and under the Transportation Tariffs and the NGS's duty to deliver adequate supplies of gas, in the event that either party hereto is rendered unable, wholly or in part, by force majeure, to carry out its obligations under this Agreement, it is agreed that upon notice of such force majeure in writing or by telephone to the other party as soon as reasonably possible after the occurrence of the cause relied on, the obligation of the party giving such notice, insofar as they are affected by such force majeure, shall be suspended during the continuation of any inability so caused, but for no longer period, and such cause shall be remedied by such party with all reasonable dispatch. Telephone notices given under the provisions of this paragraph shall be confirmed in writing as soon as reasonably possible, and all notices hereunder shall specifically state the time and date when the force majeure became effective. This Agreement shall not be terminated by

reason of any such force majeure, but shall remain in full force and effect for the entire term specified herein. The term "force majeure" as used herein shall mean any natural catastrophe, fire, explosion, accident or other casualty, change in circumstances, law or governmental regulation or order (including, without limitation, any such law, regulation or order which curtails or interrupts, directly or indirectly, Customer's right to receive the gas supplied hereunder), strike or other labor dispute and any consequences thereof and other causes beyond the reasonable control of either of the parties hereto, and shall also include any change in any order of the Commission which alters or affects the Customer's right to take or retain the gas supplied hereunder.

C. Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the Commonwealth of Pennsylvania. The interpretation, construction, and performance of this Agreement shall be in accordance with the laws of the Commonwealth of Pennsylvania, without recourse to the law regarding the conflicts of law, and the parties to this Agreement hereby submit and consent to the jurisdiction of the courts of the Commonwealth of Pennsylvania (including, without limitation, the federal courts located within the Commonwealth of Pennsylvania) in any action brought to enforce (or otherwise relating to) this Agreement.

D. Commission Approval. Both this Agreement and all related tariffs are subject to the jurisdiction of the Pennsylvania Public Utility Commission. The effectiveness of this Agreement shall be conditioned upon receipt of approval by the Commission and this Agreement may be terminated prior to the end of the term of the Agreement specified in Article II, as a result of Commission action or action of the General Assembly, which action substantially affects the terms and conditions of this Agreement. The Company shall be responsible for preparing and making any filing necessary to secure such approval and the NGS shall provide such assistance as may be reasonably required to prepare and make such filings.

E. Entire Agreement. This Agreement constitutes the entire agreement between the parties hereto with respect to the matters set forth herein. This Agreement operates to supersede any prior agreements between the parties governing the sale, transportation or redelivery of natural gas. This Agreement may not be modified other than through a written agreement signed by both the NGS and the Company.

F. Notice. Except as otherwise provided herein, any notice, request, demand, statement or bill provided for in this Agreement, or any notice which either party may desire to give to the other, shall be in writing and shall be duly delivered when mailed, by either registered or ordinary mail, to the post office address of either of the parties hereto, as the case may be, as follows:

NGS:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

ATTN: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Fax: \_\_\_\_\_

Company: Columbia Gas of Pennsylvania  
650 Washington Road  
Pittsburgh, PA 15228  
ATTN: Coordinator of Gas Transportation  
Phone: 412.572.7117  
Fax: 412.572.7161

G. Planning Issues. In view of Customer obtaining its own supply of natural gas, by direct or indirect means, the NGS understands that the Company may no longer consider Customer's gas requirements in arranging for the system gas supply which Company purchases.

H. Late Payment Charge. The Company shall bill the NGS on a monthly basis and all bills shall be due and payable within fifteen (15) days of the date the bill is postmarked. Any bill not paid by the due date shall be increased by one and one-quarter percent (1-1/4%) of the amount not timely paid each month.

I. No Waiver. No waiver by either party of one or more defaults by the other in the performance of any provisions of this Agreement shall operate or be construed as a waiver of any other or further default or defaults, whether of a like or of a different character.

J. Indemnity. The NGS shall indemnify, save harmless and at Company's option, defend Company from and against any and all losses, claims, demands, damages, costs (including, without limitation, reasonable attorney's fees), expenses, liabilities, proceedings, suits, actions, restrictions, injunctions, fines, judgments, penalties and assessments which Company may suffer for, on account of, by reason of or in connection with service provided under this Agreement, and in connection with any bodily injury, including death to any person or persons (including, without limitation, NGS's employees) or any damage to or destruction of any property, including without limitation, loss of use thereof, arising out of, in any manner connected with or resulting from the gas or services furnished by the NGS with respect to this Agreement. The provisions of this paragraph shall survive the termination or expiration of this Agreement.

K. Incorporation. This Agreement constitutes the entire understanding and agreement between the NGS and the Company, and it supersedes and replaces any and all prior agreements, communications and understandings, and the terms and conditions of this Agreement may not be changed without the mutual written consent of both the NGS and the Company.

L. Construction with the Company's Tariffs. Service under this Agreement is in accordance with the Company's tariffs, including any changes to those tariffs which are approved by the Commission. If there is any inconsistency between this Agreement and the Company's tariffs, either as presently in effect or as amended, then the provisions of the Company's tariffs shall apply. In addition to agreeing to abide by all of the terms and conditions of this Agreement, the NGS agrees to abide by all of the provisions of the Company's tariffs, including any changes to those tariffs which are approved by the Commission.

M. Severability. If any provision of this Agreement is determined to be invalid or unenforceable or contrary to Commission rules or law, the provision shall be deemed to be void as of the date of this Agreement and shall not be part of this Agreement and shall otherwise be severable from the remainder of this Agreement and shall not cause the invalidity or unenforceability of the remainder of this Agreement. If any provision of this Agreement does not comply with any law, ordinance or regulation of any governmental or quasi-governmental authority, now existing or hereinafter enacted, such provision shall to the extent possible be interpreted in such a manner so as to comply with such law, ordinance or regulation, or if such interpretation is not possible, it shall be deemed amended to satisfy the requirements thereof.

N. Marketing Practices. The NGS shall: 1) not directly contact any customer prior to the approval of the Customer Choice filing made by Columbia on August 2, 1999; and 2) comply with all NGS Performance Standards as shown on Appendix D of this Agreement which is hereby incorporated by reference and made part of this Agreement.

O. Credit Worthiness. NGSs must meet the standards of credit worthiness as provided under Section 20.10 of the Rules and Regulations of the Company's tariffs. The Company reserves the right to verify the credit worthiness of the NGS on a periodic basis both in evaluating whether to enter into this Agreement and during the term of this Agreement. The Company may request, and the NGS shall provide upon such request the following information: credit reports; bank references; audited financial statements; annual reports; 10K or 10Q from the last 12 months; confirmation that the NGS is not operating under any bankruptcy or insolvency law; confirmation that the NGS is not aware of any adverse condition which could cause a material change in financial condition; confirmation that no significant lawsuits or judgments are outstanding; a list of parent company and other affiliates; names, addresses and telephone numbers of three trade references.

P. Title to Gas. NGS warrants that it will have good title to all natural gas delivered to the Company hereunder, and that such gas will be free and clear of all liens, encumbrances, and claims whatsoever, and that it will indemnify the Company, and save it harmless from all suits, actions, debts, accounts, damages, costs, losses and expenses arising from or out of a breach of such warranty.

Q. Limitation of Third Party Rights. This Agreement is entered into solely for the benefit of the Company and the NGS and is not intended and should not be deemed to vest any rights privileges or interests of any kind or nature to any third party, including, but not limited to the customer groups that NGS established under this Agreement.

R. Succession and Assignment. This Agreement shall be binding upon and inure to the benefit of the successors and assigns of the respective parties hereto. However, assignment of this Agreement, in whole or in part, shall not be made without the prior written approval of the non-assignee party. The written consent to assignment shall not be unreasonably withheld.

IN WITNESS WHEREOF, each party has caused this Agreement to be signed by its duly authorized representative:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**COLUMBIA GAS OF  
PENNSYLVANIA, INC.**  
650 Washington Road  
Pittsburgh, PA 15228

By: \_\_\_\_\_

By: \_\_\_\_\_

Its: \_\_\_\_\_

Its: \_\_\_\_\_

**Columbia Gas of Pennsylvania, Inc.**  
**Customer Choice**  
**Non-TCO Capacity**  
**Delivery Point Request**

**Point of Delivery**

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The NGS is request to deliver to the points specified above as of the date written below.

Signed By: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

-- For Internal Company Use Only --

Accepted By: \_\_\_\_\_

Date: \_\_\_\_\_

**COLUMBIA GAS OF PENNSYLVANIA  
NATURAL GAS SUPPLIER RATE STATEMENT**

Marketer \_\_\_\_\_

Marketer Rate Code \_\_\_\_\_

Billing Cycle - From \_\_\_\_\_ / \_\_\_\_\_ To \_\_\_\_\_ / \_\_\_\_\_ (mm/yy)

*Billing Options – Choose One*

Rate per CCF _____	Before Tax
	After Tax

Percentage Discount* _____ %	Before Tax
	After Tax

Fixed Discount* _____	Before Tax
	After Tax

Authorized Signature \_\_\_\_\_ Date \_\_\_\_\_

Phone Number \_\_\_\_\_ Fax \_\_\_\_\_

**DUE BY 20TH OF THE MONTH PRIOR TO BILLING CYCLE**

*Send Fax to: Gas Transportation Coordinator - 412-572-7161*

Notes:  Discount off of total calculated on tariff bill	For CPA Rate Department Use
	Only
	PGA
	UPC

07/27/98

**Columbia Gas of Pennsylvania, Inc.**  
**Customer Choice**  
**NGS's Capacity Assignment Selection**

Name of NGS: \_\_\_\_\_

TCO Market Area: \_\_\_\_\_ (Market Area Number)

Date of NGS Agreement: \_\_\_\_\_

For New Customers to be Enrolled as of: \_\_\_\_\_

NGS **must** select one (by initialing in the space provided below):

\_\_\_\_\_ Capacity Option 1. The NGS accepts the assignment or release on a recallable basis at maximum rates of the Company's FTS capacity. The Company reserves the right to adjust capacity assignments on an as-needed basis as new customers are added to Customer Choice; however, all capacity shall be assigned or released for one year periods. The Company shall provide written notification to the NGS in advance of such capacity adjustment. The NGS agrees to make daily deliveries through the assigned capacity without regard to the loss of Customers. If the NGS selects Capacity Option 1, the NGS **must** select one of the following by initialing in the space provided below. The NGS accepts the assignment or release of:

\_\_\_\_\_ Columbia Gas Transmission capacity and Columbia Gulf capacity;

\_\_\_\_\_ Columbia Gas Transmission capacity only.

\_\_\_\_\_ Capacity Option 2. The NGS requests that it not be required to accept the assignment or release of the Company's FTS capacity for a period of one year. The NGS recognizes that the Company must provide written acceptance of the NGS's request of this Capacity Option 2, and the Company may reject the election of this option, and require the NGS to accept Capacity Option 1, pursuant to the provisions of the Company's Transportation Tariff. If the Company approves NGS's request of this option, then the NGS agrees that it will hold firm capacity equal to the Customer's daily delivery obligation provided in the Transportation Tariffs.

Capacity Option 3. The NGS requests that it be permitted to accept assignment or release of the Company's FTS capacity for a period of one year, in conjunction with the NGS obtaining and holding firm capacity of its own for a period of one year. The NGS recognizes that the Company must provide written acceptance of the NGS's request of this Capacity Option 3, and the Company may reject the selection of this option, and require the NGS to accept Capacity Option 1, pursuant to the provisions of the Company's Transportation Tariff. If the Company approves NGS's request of this option, then the NGS agrees that it will accept assignment or release of the Company's capacity in conjunction with the NGS's own firm capacity in a combined amount that equals or exceeds the Company's daily delivery obligation to the Customer as provided in the Company's Transportation Tariffs. If the NGS selects Capacity Option 3, then the NGS **must** specify the total amount of the capacity associated with the Customers being enrolled into Customer Choice, and the amount of firm capacity held by the NGS:

NGS's Firm Capacity	_____ Dth
Balance (to be Assigned by Company)	_____ Dth
Total:	_____ Dth

The NGS has made the above selection of its Capacity Option on the date written below.

Signed By: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

-- For Internal Company Use Only --

Accepted By (Options 2 and 3 Only): \_\_\_\_\_

Date: \_\_\_\_\_

**NGS Performance Standards**

Each NGS providing services on Columbia's distribution system under Customer Choice shall:

1. maintain a 24-hour answering service or answering machine which directs all callers to their gas utility for odor of gas emergencies;
2. have customer contact personnel available during normal business hours to answer questions from Customer Choice customers;
3. conduct no telemarketing pertaining to the Customer Choice between the hours of 9:00 pm and 8:00 am;
4. not engage in communications or practices with Customer Choice customers which are fraudulent deceptive or misleading;
5. provide the Company with notice (using the Company's electronic registration procedure) when the NGS intends to discontinue service to a Customer Choice Customer for any reason, understanding that such Customer shall be removed from that NGS's aggregation pool at the completion of the current billing cycle;
6. to the maximum extent possible, attempt to resolve disputes between the NGS and residential Customers participating under Customer Choice;
7. include the following in the NGS-Customer contract:
  - the NGS's customer service address and telephone number;
  - a statement describing the NGS's resolution procedure for Customer billing issues;
  - a statement that Columbia Gas of Pennsylvania, Inc., shall not terminate or interrupt the delivery of gas to the customer as a result of any dispute between the NGS and the Customer;
  - a statement that the NGS must provide the Customer with at least 30 days notice prior to the end of their customer contract term or of the NGS's intent to discontinue service to that customer;

- a statement of contract length, pricing and payment terms that is clear and understandable; if offers are made on a cost per unit of gas basis, it is recommended the offer be made in dollars per ccf;
  - a statement that customer shall return to Columbia Gas of Pennsylvania, Inc.'s sales tariffs if the NGS breaches its agreement with Columbia;
8. use Columbia's electronic registration procedure to submit customer (12-digit) account numbers and aggregation codes.

If a NGS fails to comply with the above performance standards, Columbia shall have the discretion to suspend temporarily or terminate the NGS's participation under Customer Choice. Customers affected by a NGS's suspension or expulsion from the Customer Choice shall revert to the appropriate Columbia Gas of Pennsylvania, Inc. sales service tariff.

If a NGS fails to comply with the above performance standards, Columbia shall first notify this NGS of the alleged violations which merit suspension or termination in writing at least ten (10) business days prior to the suspension or expulsion.

DOCKETED  
NOV 10 1999

E. MARKETING STANDARDS

Set forth the proposed standards of conduct for natural gas distribution company marketing activities. Section 2209(h).

RESPONSE:

DOCUMENT  
FOLDER

Section 2209(h) of the Act provides that "As part of each natural gas distribution company's restructuring proceeding, the commission may, in its discretion, develop and apply different standards of conduct to the natural gas distribution company's marketing activities related to natural gas supply services. No such standards shall apply to the natural gas distribution company's marketing division or operations until the commission issues an order in the context of that natural gas distribution company's restructuring proceeding."

In accordance with the spirit of the Act, Columbia proposes to adopt the "Standards of Conduct" that it adhered to during its Customer Choice Pilot Program. Columbia negotiated these Standards of Conduct with interested stakeholders when it designed its Customer Choice program. The Standards of Conduct provide for fair and consistent, non-discriminatory treatment by the distribution company for all natural gas supplier activities, including those of its marketing affiliate and internal marketing affiliates.

STANDARDS OF CONDUCT

The Company will adhere to the following Standards of Conduct:

- (1) For purposes of these Standards of Conduct, the term "Marketer" shall include Columbia Gas of Pennsylvania's marketing affiliates and any internal merchant operations of Columbia Gas of Pennsylvania offering gas for sale on an unbundled basis.
- (2) Columbia must apply any tariff provisions relating to transportation services in the same manner to the same or similarly situated persons if there is discretion in the application of the provision.
- (3) Columbia must strictly enforce a tariff provision for which there is no discretion in the application of the provision.
- (4) Columbia may not, through a tariff provision or otherwise, give any Marketer or any Marketer's customers preference in matters, rates, information, or charges relating to transportation service including, but not limited to, scheduling, balancing, metering, storage, standby service or

**curtailment policy. For purposes of Columbia's Rider PCA, any ancillary service provided by Columbia, e.g. billing and envelope service, that is not tariffed will be priced uniformly for all Marketers and available to all equally.**

- (5) Columbia must process all similar requests for transportation in the same manner and within the same approximate period of time.**
- (6) Columbia shall not disclose to anyone other than a Columbia Gas of Pennsylvania employee any information regarding an existing or proposed gas transportation arrangement, which Columbia receives from: (i) a customer or Marketer, (ii) a potential customer or Marketer, (iii) any agent of such customer or potential customer, or (iv) a Marketer or other entity seeking to supply gas to a customer or potential customer, unless such customer, agent, or Marketer authorizes disclosure of such information.**
- (7) Columbia may engage in joint advertising, sales calls and promotional efforts with a particular Marketer, if it offers such opportunities to other Marketers on a non-discriminatory basis under the same terms and conditions.**
- (8) If a customer requests information about Marketers, Columbia should provide a list of all Marketers operating on its system, but shall not endorse any Marketer nor indicate that any Marketer will receive preference.**
- (9) Before making customer lists available to any Marketer, Columbia will use electronic mail to provide notice to all Marketers of its intent to make such a customer list available. The notice shall describe the date the customer list will be made available, and the method and terms under which the customer list will be made available to all Marketers.**
- (10) If Columbia makes available customer data and/or utility data to a Marketer, it must make available such data to all Marketers on a non-discriminatory basis. This section does not authorize Columbia to disclose customer data where such disclosure is restricted or prohibited by law.**
- (11) To the maximum extent practicable, Columbia's operating employees and the operating employees of its marketing affiliate must function independently of each other. This includes complete separation of the gas or natural gas Company's procurement activities from the affiliated marketing company's procurement activities.**
- (12) Columbia shall not condition or tie its agreements for gas supply or for the release of interstate pipeline capacity to any agreement by a gas supplier, customer or other third party in which its marketing affiliate is involved.**

- (13) Columbia and its marketing affiliate shall keep separate books of accounts and records.**
- (14) Neither Columbia nor its marketing affiliate personnel shall communicate to any customer, Marketer or third party the idea that any advantage might accrue for such customer, Marketer or third party in the use of Columbia's service as a result of that customer's, Marketer's or third party's dealing with its marketing affiliate.**
- (15) Columbia shall establish a complaint procedure for issues concerning compliance with these standards of conduct. All complaints, whether written or verbal, shall be referred to the General Counsel of Columbia. The General Counsel shall orally acknowledge the complaint within five (5) working days of receipt. The General Counsel shall prepare a written statement of the complaint, including all relevant dates, companies involved, employees involved, and specific claim. The General Counsel shall communicate the results of the preliminary investigation to the complainant in writing within thirty (30) days after the complaint was received including a description of any course of action which was taken. The General Counsel shall keep a file with all such complaint statements for a period of not less than three years.**

DOCKETED

NOV 10 1999

F. UNIVERSAL SERVICE AND ENERGY CONSERVATION PROGRAMS

1. Set forth and fully describe an initial comprehensive proposal and how an appropriate funding level should be determined to meet the natural gas distribution company's universal service and energy conservation obligations. Identify and explain any proposed changes to any and all current universal service and energy conservation programs. Section 2203(9). The proposal must address the following:
  - a. Needs assessment of the market for and acceptance of universal service programming in the territory. The needs assessment should include the number of identified low-income customers and an estimate of low-income customers, the number of identified payment troubled, low-income customers and an estimate of payment troubled, low-income customers, the number of customers who still need LIURP services and the cost to serve that number, and the enrollment size of CAP to serve all eligible customers.

DOCUMENT  
FOLDED

RESPONSE:

Columbia reviewed two data sources in its needs assessment.

- 1) 1990 Census Data quoted percentage of families (households not individuals) at or below 150% of poverty.
- 2) Columbia's customer information system reported those customers who were identified as having income at or below 150% of poverty.

See *Needs Assessment Attachments*.

Universal Services Needs Assessment

<b>County*</b>	<b>Percentage of Families at or Below 150% of Poverty</b> (1990 Census Data)	<b>Number of Total CPA Residential Accounts</b>	<b>Number of Customers at or Below 150% of Poverty</b> (Total Residential Accounts Multiplied by % of Family Poverty)	<b>Number of Customers at or Below 150% of Poverty</b> (Columbia's Customer Information System Report)**
Adams	4.5	10,016	451	456
Allegheny	8.7	95,541	8,312	8,470
Armstrong	10.3	969	100	96
Beaver	10.8	34,099	3,683	3,964
Bedford	10.4	11	1	1
Butler	7.1	6,699	476	270
Centre	6.2	6,051	375	108
Clarion	12.1	3,844	465	402
Crawford	11.7	1	0	0
Elk	7.7	38	3	0
Fayette	17.6	22,805	4,014	3,465
Franklin	5.7	3,281	187	101
Fulton	9.5	9	1	2
Greene	17.2	2,784	479	303
Indiana	12.4	561	70	81
Jefferson	10.9	414	45	50
Lawrence	10.9	19,477	2,123	3,014
McKean	11.5	3,433	395	368
Mercer	10.1	30	3	0
Somerset	11.2	4,219	473	278
Venango	12.1	707	86	78
Warren	6.6	2,658	175	233
Washington	9.7	38,135	3,699	3,652
Westmoreland	8.6	19,917	1,713	1,974
York	4.3	71,552	3,077	4,674
<b>TOTALS</b>			<b>30,406</b>	<b>32,040</b>

In 1998, 150% of Poverty equaled \$12,072/year for a single person and \$24,672/year for a family of four.

\* Only counties served by Columbia Gas.

\*\* As of 3/3/98 customers level 1 & 2 on any pay plan

**Needs Assessment**

Target Groups	Derivation	Number of Customers	
Identified Low-income	Customer Information System (DIS) 3/98 <sup>1</sup>	36,539	
Estimate Low-income	1990 Census Data <sup>2</sup>	30,406	
Identified Payment-troubled – Low-income	Customer Information system DIS <sup>3</sup> Budget Plus 7/98	22,436	
Estimate of Payment-troubled Low-income	Customer Information System <sup>4</sup> Level 1 & 2 on ANY pay plan	32,040	
Potential LIURP Enrollment Size	Customer Information System (DIS) 3/98 <sup>1</sup> 3,879 average cost per home	36,539 - 3,175 Completed 33,364	<i>Cost to Serve</i> 33,364 X 3,874 <hr/> \$129,252,136
Potential Enrollment Size CAP	Projected number of Customers on Budget Plus Payment Plan Level 1 & 2 <sup>5</sup>	22,436	

<sup>1</sup>Financial summaries with income below 150% of poverty or receipt of LIHEAP/Fuel Funds (included customers **not** on pay plan).

<sup>2</sup>1990 Census 150% poverty (income only) **households**.

<sup>3</sup>All Budget Plus customers (not limited to low income).

<sup>4</sup>Customers at or below 150% of poverty who are on ANY pay plan including those customers on a 12-month weather levelized payment plan.

<sup>5</sup>Potential number of customers (**who may be**) low income on Budget Plus.

- b. Set forth the natural gas distribution company's current policies and programs on universal service and energy conservation. Section 2203(7).

**RESPONSE:**

**Columbia's Universal Programs include Customer Assistance Referral Evaluation Services (CARES), Customer Assistance Program (CAP), Low Income Usage Reduction Program (LIURP) and Hardship Funds. The current design along with the proposed changes is contained below. Columbia considers any customer who is low income and payment troubled a candidate for any Universal Service program.**

**1) CARES**

**CURRENT PROGRAM:**

**The CARES program has been offered to Columbia Gas customers since 1986. Since inception, 15,000 customers have received the assistance of four staff social workers through resource referrals, community outreach, consumer education, Low Income Home Energy Assistance Program (LIHEAP) outreach and affordable payment plans tailored to the customers' ability to pay. CARES is designed to be a short-term program for first time, payment-troubled customers on Columbia Gas tariff sales or CHOICE customers with discounts being applied to distribution charges only. There are also a significant number of vulnerable customers such as those elderly and emotionally challenged who require additional resources. (Currently 200 customers are actually on payment plans in CARES.)**

**PROPOSED CHANGES:**

- **The Universal Service Agents will identify a segment of CAP customers and accept referrals from other sources who could benefit from special services to include additional resource referrals, counseling and special handling to guarantee program compliance. Included in this segment would be customers over age 60 with special needs and arrears.**
- **Offer a menu of CARES services to natural gas suppliers for a fee, to provide specialized services to ensure compliance of short-term payment troubled customers on natural gas supplier agreement.**

LIHEAP grants would be proportionately split between the natural gas supplier and the utility on an annual basis.

- Shift home visit assessments from Universal Service Agents to community-based organizations (CBOs).

2) LIURP

**CURRENT PROGRAM**

The Low Income Usage Reduction Program has been offered to low-income CPA customers since 1988. Since then 3,175 homes have been weatherized. Consumption savings average 26%. Average spending per home is \$3,800.

In 1995 through a rate case, Columbia was advised to increase its spending level from 2/10<sup>th</sup> to 4/10ths of one percent of annual gross revenues. However, each year with intense outreach and solicitation, Columbia has difficulty spending this required amount.

Currently, LIURP is offered to customers within 13 counties. These counties were identified as having a high proportion of low income customers.

**PROPOSED CHANGES:**

- Expand weatherization solicitation and implementation statewide over five years.
- Allocate a portion of the funding towards conservation measures targeted residential community projects (i.e., larger housing developments, environmental initiatives, economic development projects) which may impact economic development as well as individual consumption reduction and affordability.

3) CAP

**CURRENT PROGRAM:**

Columbia Gas of Pennsylvania's CAP program is currently a pilot with participation at a ceiling of 1,000 customers. CAP is an alternative collection method for chronic, low-income and payment-troubled customers. Columbia acknowledges that these customers

cannot afford their total tariff bill. The customer's affordability is matched with a menu of payment options. The intent is for the customer to pay more regularly over time than they would have without the CAP payment options. Arrearages accrued prior to the program are written off as bad debt, ¼ of the total balance each year of active participation. The difference between the customer's tariff bill and what they are asked to pay (shortfall) is recovered through our rates. Currently, there are 850 active customers in CAP. Applications are taken by CBOs with oversight from the Dollar Energy Fund.

**PROPOSED CHANGES:**

**Columbia Gas intends to continue its Customer Assistance Program at its current design with some modifications.**

- **Increase enrollment after the rate cap expiration of 2002 by 1,000 every year.**
- **Establish a telephone call group at the Customer Satisfaction Center (CSC) to handle all incoming and outgoing calls. The CPA internal call group would handle:**
  - **Universal Service programs information and referrals**
  - **prescreening for all program eligibility**
  - **LIHEAP outreach**
  - **CAP payment plan options**
  - **Post enrollment tracking and compliance (i.e., re-verification of income, payment monitoring)**
- **The Dollar Energy Fund continues to oversee CBO intake process.**
- **Shift administration of Customer Service from the Dollar Energy Fund to CSC call group, eliminating redundancy of phone calls.**

**4) HARDSHIP FUNDS**

**Columbia has two Hardship Funds:**

- **Matching Funds Program**
- **Citizen's Energy Fund Program.**

**CURRENT PROGRAM:**

- **Columbia partners with the Dollar Energy Fund to administer its Matching Funds program. Corporate contributions of \$150,000 are matched with customer contributions \$1 for \$1.**

- **Columbia also partners with the Citizen's Energy Corporation (CEC), a non-profit organization which serves low income housing and energy needs. Through a gas purchasing agreement, an additional \$375,000 is allocated from Columbia to CEC who contracts with the Dollar Energy Fund and Salvation Army to provide payment assistance to payment troubled, low-income customers.**

**PROPOSED CHANGES:**

**None.**

- (i) For each current component of universal service, state budgeted and actual funding during 1997 and 1998 by the company, along with funding or contribution by any third party source. To the extent the company included such costs in rates, please identify the amounts included in the most recent rate proceeding. State the total amount of LIHEAP revenue.

**RESPONSE:**

**Schedule 1**

**CARES**

1997		1998	
Budgeted O&M	280,000	Budgeted O&M	289,275
Actual O&M	243,701	Actual O&M	294,366
Participation	1,890	Participation	2,040

\* CPA's last rate case was filed in 1995. CARE's costs were included in Columbia's total credit and collection costs and, therefore, a specific amount is not available.

Schedule 2

LIURP

1997		1998	
Budgeted O&M	\$1,500,000.00	Budgeted O&M	\$1,635,000.00
Actual O&M <sup>1</sup>	\$1,206,201.00	Actual O&M <sup>1</sup>	\$1,215,142.30
Participants	298	Participants	255
Rates	.4 of 1% gross annual revenues		

<sup>1</sup>Includes contract services and Columbia labor.

Schedule 3

CAP

1997			1998		
Budgeted O&M	\$100,000		Budgeted O&M	\$183,831	
Actual O&M	87,938		Actual O&M	125,663	
Arrearages	51,086		Arrearages	66,921	
Shortfall	293,613		Shortfall	368,155	
Total Expense	\$432,637		Total Expense	\$560,739	
Rate of Recovery	.0131/Mcf = 452,039.31		Rate of Recovery	.0131/Mcf = 367,129.98	
Participation	752 Actives <sup>1</sup>		Participation	896 Actives <sup>2</sup>	

<sup>1</sup>Active enrollment as of December 31, 1997.

<sup>2</sup>Active enrollment as of December 31, 1998

Schedule 4

**Hardship Funds**

1997		1998	
Administration & O&M	\$ 52,000	Administration	\$ 57,000
Shareholder Contribution	\$109,823	Shareholder Contribution	\$117,786
Customer Contributions	\$109,823	Customer Contributions	\$117,786
Citizen's Energy Gas Purchase Allocation	375,000	Citizen's Energy Gas Purchase Allocation	375,000
Participants	2,125	Participants	2,240

Schedule 5

LIHEAP

1997		1998	
Regular Dollars	\$3,515,376	Regular Dollars	\$2,764,214
Crisis	\$ 175,060	Crisis	\$ 203,364
Total Dollars	\$3,690,436	Total Dollars	\$2,967,578
O&M <sup>1</sup>	\$ 83,984	O&M <sup>2</sup>	\$ 117,503

<sup>1</sup>Includes advertising, labor, postage and office supplies, meeting expenses and other allocated expenses.

<sup>2</sup>Includes advertising, labor, postage and office supplies, staffing of a LIHEAP hotline, meeting expenses and other allocated expense

- (ii) For each program, state the participation level.

**RESPONSE:**

**See Schedules 1, 2, 3, 4, and 5 provided in response to Filing Requirement F(1)(b)(i).**

- (iii) For 1998, state the total estimated or actual collection operational costs associated with handling low-income customer accounts that are not included in the response to sections 1(a) or (c), or elsewhere in this section (b). These costs include in part, expenses associated with negotiating payment arrangements as well as physical termination and reconnection services.

**RESPONSE:**

**The company's total collection operation costs for collection of all delinquent accounts in 1998 was approximately \$3,348,00.**

**The company does not track the operational costs associated with collection of low income accounts.**

- (iv) Identify how the plan reflects savings of traditional collection costs as a source of funding universal service and energy conservation activities. If the company does not propose collection savings as a source of universal service funding, explain why not.

**RESPONSE:**

**Columbia does not propose to include collection costs savings as a source of its Customers Assistance Program funding (CAP). Columbia's proposal is consistent with prior methodologies for its CAP and energy conservation programs approved by the Commission. Columbia is unable to identify at this time an incremental amount of savings from decreased collection activity. In fact, since our last rate case Columbia's collection costs, in the aggregate, have increased.**

- c. For 1998, state the dollar amount of the company's gross residential write-offs related to low-income customers or an estimate of the portion related to low-income customers. For 1998, state the company's definition of a residential account in arrears, the total number of residential accounts in arrears, the number of those accounts that are low-income, dollars in arrears owed by identified low-income customers and total number of dollars in arrears (identified and estimated). For 1998, state the estimated or actual dollar amount of cash working capital associated with low-income arrearages.

**RESPONSE:**

- **The company's gross residential write-off for 1998 was \$10,890,811. Of this amount, \$66,921 relates to write-offs pertaining to Customer Assistance Program (CAP) customers. Columbia Gas of Pennsylvania, Inc., (Company) has no information available on the percentage of its remaining gross write-off which is attributable to low income customers, other than CAP.**
- **The company's definition of a residential account in arrears is any account for a single meter, single family dwelling where charges have not been paid in full by the current bill due date, unless said the arrearage is covered by a repayment plan or equal payment plan (budget payment plan) wherein the customer is current on their installment payments.**
- **The total number of low-income residential accounts in arrears is not known. The Company does not aggregate data regarding the income status of residential accounts in arrears.**
- **The dollars in arrears for identified low-income customers is not known. The Company does not aggregate data regarding the income status of residential accounts in arrears.**
- **The estimated total dollars outstanding for residential accounts in arrears as of December 31, 1998, is \$15,241,000.**

- d. Set forth how the natural gas distribution company intends to administer its universal service and energy conservation programs. Include details of any plans to use community-based organizations in the administration of universal service and energy conservation programs. Identify the current organizational structure which provided these services, including in-house and contract staff.

**RESPONSE:**

Since 1986, degreed social workers have formed the nucleus of the company's social service and outreach programs. Historically, Columbia has been diligent to include CBOs and Bureau of Consumer Services (BCS) collaboratives in the design and delivery of these programs.

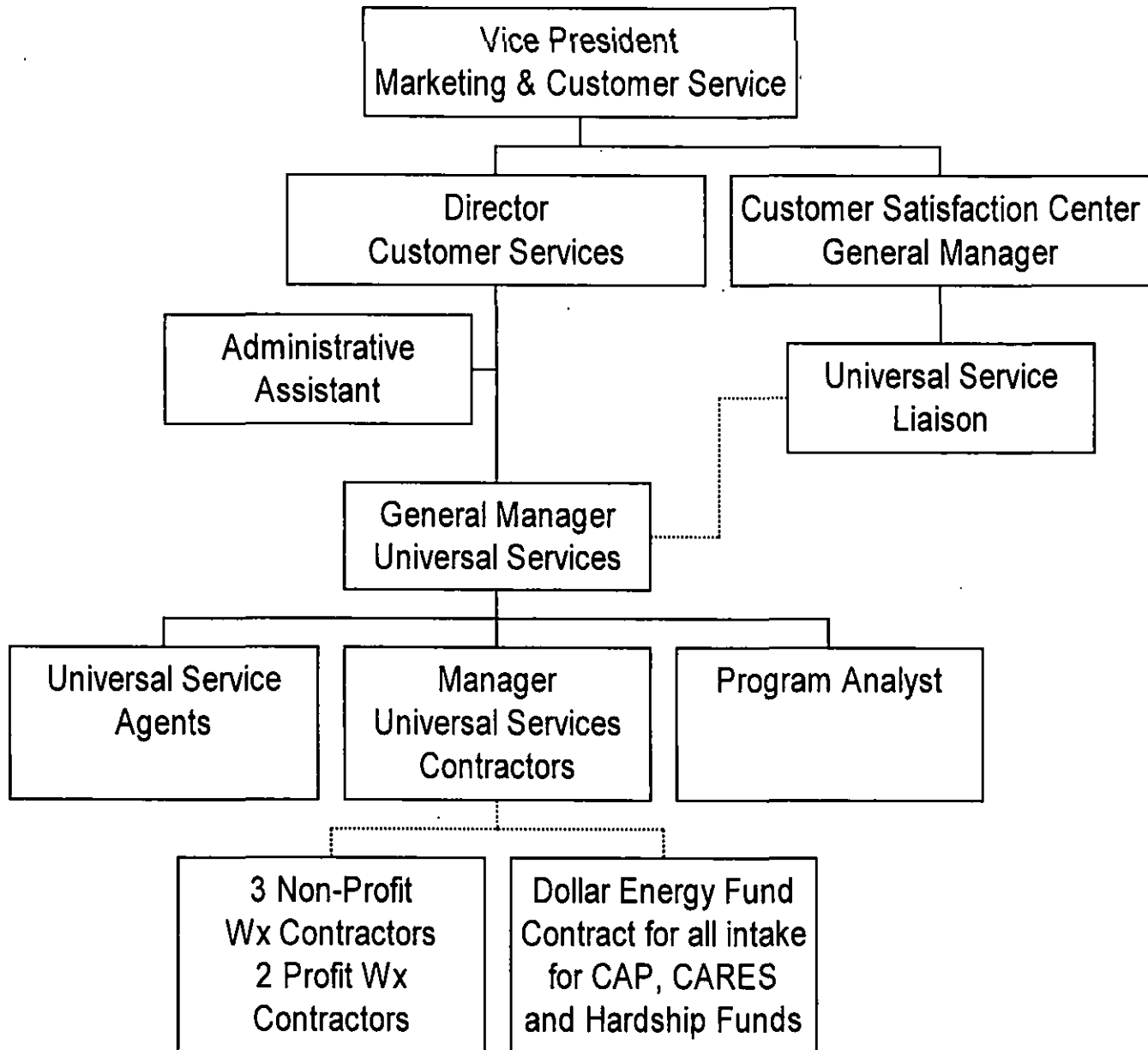
It is our intent to continue to implement and administer all of Columbia's Universal Service programs.

Universal Service administration will include, but is not limited to, the following:

- Training of CSC employees in Universal Service program information and referral. This will feature sensitivity towards special needs, low-income customers who require a customized approach to customer service.
- Administering customer care. Acting as a "one stop shop," the CSC will identify and prescreen customers for appropriate Universal Service programs.
- Referring the customer to the appropriate CBO for application and income verification. Columbia intends to contract with the Dollar Energy Fund to oversee the entire intake process with designated CBOs.
- Continuing the partnership with CBOs with LIURP implementation. Conservation Consultants Inc., provides education services. Lancaster County Energy Conservation Center and Pure Energy provide auditing and education services. The three aforementioned agencies are non-profit CBOs. Additionally, Kinetechs, Inc., and Mincin Insulation Service (private industry) provide weatherization services. With the statewide expansion of LIURP, additional CBOs and private contractors will be solicited.
- Managing Universal Service implementation. Columbia employees will continue to manage all aspects of the Universal Service program. (See attached Universal Service Organization Chart.)

## Universal Service Organization Chart

**Proposed**



- e. Indicate whether the natural gas distribution company plans to establish a universal service program advisory panel to provide consultation and advice to the utility regarding the scope, design and administration of its universal service programs.

**RESPONSE:**

**Columbia Gas values the expertise of its community partners. Since 1992, Columbia has established teams within each of its programs. These teams consist of internal company employees, along with all external contract partners. Each month a team meeting is held to discuss program implementation issues, future progress and design. These team meetings have been critical to each program's success.**

**Columbia prefers to continue this team concept with each of its universal service programs individually and does not deem an advisory panel necessary at this time.**

**Columbia has utilized numerous focus groups in preparation of program design, evaluation of program results and customer feedback.**

**These focus groups assist Columbia in monitoring customer expectations and satisfaction of all its Universal Service programs.**

**Columbia additionally endorses the use of issue panels for specific design purposes. An issue panel has the following benefits:**

- **Issue panels are created on an as needed basis and therefore does not need the ongoing administrative support of an advisory panel.**
- **Issue panel members change routinely depending upon the subject. This provides more flexibility and diversity of opinions.**

- f. Indicate how the company will fund its universal service and energy conservation activities, how it intends to determine funding levels for each program, whether it commits to fully expend such funds by program or by priority of program, and how it will determine the effectiveness of any program.

**RESPONSE:**

**The Company's Customer Assistance Program shall be funded by base rates at the \$0.0131/mcf level established and approved by the Commission in the Company's last base rate case. Funding levels for the program shall be determined by the amount the Company recovers in base rates based upon tariff sales. The Company commits to fully expending the level so determined. The Company has recently conducted process and impact evaluations for its Customer Assistance Program. These evaluations have been provided in response to Section F(1)(b) above. Columbia plans to continue conducting such evaluations as necessary.**

**Columbia Gas of Pennsylvania, Inc.**  
**Docket No. R-00994781**

- g. Indicate whether the natural gas distribution company will allow retail gas customers to contribute via their bill to hardship funds which benefit low-income residential retail gas customers.

**RESPONSE:**

**Columbia Gas of Pennsylvania will continue to solicit customer contributions for fuel funds at least two times per year using bill inserts. Customers can contribute to the fuel fund monthly at the customer's request as an additional line item on their bill.**

2. Provide any prior evaluations of any existing universal service and energy conservation activities.

**RESPONSE:**

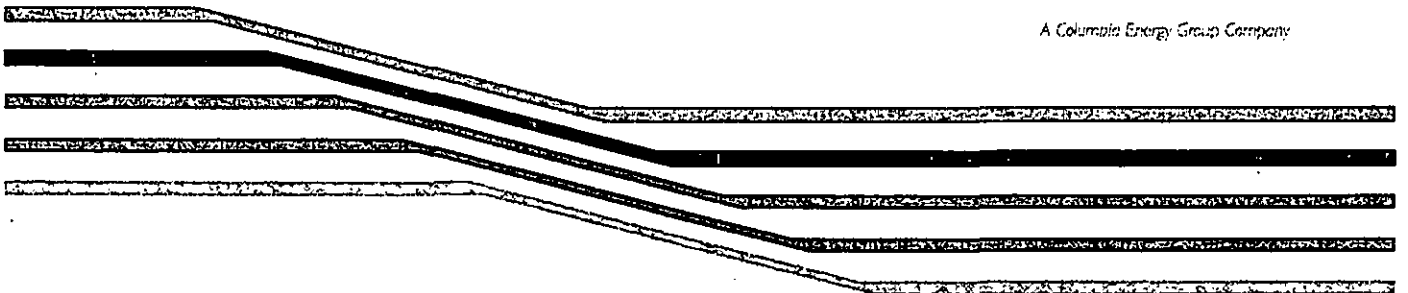
- **Please see “Customer Programs 1998 Statistical Report” which follows this section. This report is submitted annually to the Commission.**
- **Please see “An Assessment of the Columbia Gas 1995 Low-Income Usage Reduction Program” which follows this section.**
- **Please see “Customer Assistance Program – Pilot Extension”, October 20, 1998 which follows this section.**
- **Please see “Impact Assessment of the One-Year Extension of the Columbia Gas CAP Pilot”, “Process Evaluation of Columbia Gas of Pennsylvania’s Customer Assistance Program”, and “Process Evaluation of the Customer Assistance Program Pilot Extension” which follow this section.**

# CUSTOMER PROGRAMS

# 1998 STATISTICAL REPORT

Columbia Gas<sup>®</sup>  
of Pennsylvania

*A Columbia Energy Group Company*



**CUSTOMER PROGRAMS**

**1998  
STATISTICAL  
REPORT**

**EXECUTIVE SUMMARY**

**CARES TRACKING SYSTEM**

**STATISTICAL REPORT**

**STATISTICAL CHARTS**

**DEFINITIONS**

**BCS INCOME LEVEL  
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**COMMUNITY ACTIVITY  
LISTING**

**TRAINING**

**SPECIAL PROJECTS**

**CASE SCENARIO**

**Columbia Gas  
of Pennsylvania**

*A Columbia Energy Group Company*

# 1998 CUSTOMER PROGRAMS ANNUAL ACTIVITY REPORT

## EXECUTIVE SUMMARY

During the calendar year 1998, the Customer Programs Department at Columbia Gas of Pennsylvania had an increase in the number of referrals to the *Customer Programs Consultants*. In fact, over the past three years the number has increased by 35%. The explanation for this increase can be attributed to the following reasons:

1. The staff of the Customer Satisfaction Center is able to make a referral from the Columbia's customer information system with the touch of one key. The *Customer Programs Consultant* then has the ability to address the customer's needs quickly.
2. Training was extended in 1998 to Columbia's third party credit and collection agency on the CARES, LIHEAP and Dollar Energy programs and other community resources. Frequent training on customer programs was given to the Customer Satisfaction Center staff and area service and plant departments.
3. *Customer Programs Consultants* rotate at the Customer Satisfaction Center on a daily basis. This on-site person assists with emergency situations, individual and group training and serves to increase awareness of customer programs.
4. The staff of the Energy Assistance Hotline, with training from the Customer Programs Department, was better equipped to handle the calls and assist with LIHEAP applications. In fact, the hotline received over 7,519 calls during the heating season.

The *Customer Programs Consultants* had an increase in the number of customers receiving intervention. The vast majority included payment-troubled customers. The numbers have been steadily growing with "quick fix" figures at 1,403 in 1998. This is a 75% increase over 1996 when quick fix customers totaled 800.

A new customer status has been added – "removed due to CHOICE." Currently, customers who choose to participate in CHOICE are removed from CARES. Columbia does not have the authority at this time to offer a reduced payment on the supply side of a CHOICE bill. The Customer Programs Department's assistance in CARES can only serve to reduce the transportation portion of a CHOICE bill.

Three active statuses are now included: 1) active in the program at year's end, 2) active at one time during 1998 and 3) made active during 1998. The addition of the latter two categories gives a better picture of the activity involving CARES customers.

Also new to the report is a section on profiles. The "Profile" attempts to portray the customers' overall concerns or special needs. The major problem area focuses on the reason for the current intervention. Major problem areas are distinguished between long and short-term problems.

## SIGNIFICANT INCREASES AND DECREASES

Listed below are areas where our statistics show a marked increase or decrease in comparison with previous years:

*Direct Dollars* shows a slight decrease in total dollars on customers' accounts the main reason being a reduction in Energy Assistance grants. The *Customer Programs Consultants* reported less grants that can be attributed to their efforts even though the company's receivables to these programs did not decrease. This may be a reflection of the Customer Satisfaction Specialist referring customers needing assistance from the program to the LIHEAP hotline instead of to the *Customer Programs Consultants*. As evidenced by the training section, the *Customer Programs Consultants* place a great emphasis on training personnel on these programs. We believe they have a greater impact by training all company personnel to refer to the hotline rather than handling the calls themselves.

In addition, due to the decrease in the CARES caseload there is a decrease in customers with the added motivation to get Energy Assistance (a requirement of the program is applying for Energy Assistance). Some customers just do not apply but would if it was directly linked to participation in a payment reduction program.

The Emergency Repair Fund program almost doubled. In 1997, the figure was \$99,961.23 and in 1998, the figure was \$203,991.43. A partial explanation for this is that CRISIS funds were limited to \$250.00 without the ability to "marry" with county weatherization funds in some areas.

There is a jump in the Referrals to Job Training, Employment Services. This could be a reflection of the number of people exiting Cash Assistance in welfare programs. This also shows a growing knowledge of community-sponsored programs and classes to assist those in need.

## CUSTOMER FOCUSED -- SPECIAL NEEDS OF THE CUSTOMER

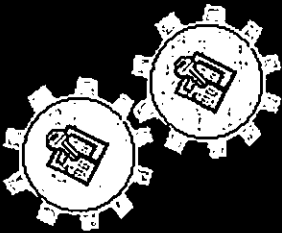
While most of the energies are focused on customers who need the intervention of CARES or the intervention of a Quick Fix, the customer focus of the department is evidenced in the intervention with customers that have special needs. These customers may include a household that has no problem with their gas bill but have a limited income. Furnace cleaning and safety checks of the heating equipment are considered luxuries. Customers over age 60 with incomes under the 150% poverty level, can qualify for clean and tune programs such as Heat's On and ACCA through partnerships between Columbia Gas, Allegheny Department of Aging, heating contractors and steamfitters unions. Seventy households benefited from these programs last year.

Also, customers with physical limitations and outside meters may qualify for a remote/meter change with the fees associated with this process waived. These customers have not had their meters read on a regular basis. The number of customers getting remote/meter changes was 196.

Customers that own their own homes and who have failed heating equipment or condemned service and/or house lines may receive assistance from Columbia Gas' Emergency Repair Fund. These funds may be combined with customer contributions and/or CRISIS funds. These homeowners must be at or below 150% poverty level. The Customer Programs Department administers all three programs described above. The department contributes to the customer's well being and quality of life. Equally important is the partnership between Columbia Gas and the community agencies. For these three programs the Total Indirect Dollars is \$206,449.84. All are examples of value added to the community.

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*Customer  
Assistance,  
Referral, and  
Evaluation  
Services Program*



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### CARES TRACKING SYSTEM

In March of 1998, the CARES TRACKING SYSTEM was put into place in the Customer Programs Department. The program's accessibility, the ease of making referrals for employees, and enhanced data collection were significant improvements over previous tracking systems. Prior to this time, much of the demographic documentation had to be entered manually. Now the system transfers much of the information from the Columbia's customer information system. Reports are designed for the individual *Customer Programs Consultant* to check periodically on their CARES customers or any other customer with whom they had intervention.

In addition, the department now has a detailed knowledge of the customers we serve. The interventions, resources generated and ad hoc reports are easily accomplished. This will help to improve efficiencies of referrals as well as gain a greater understanding of the needs of our customers. The following is a comprehensive look at our active CARES customers, totaling 221 customers throughout the year.

### ***Snapshot of Typical CARES Customers***

- **87%** of their total household income is spent on shelter costs. (Our definition of shelter costs includes rent or mortgage, property taxes, electric, gas, telephone, water, sewage and food.)
- **53%** have incomes from Social Security, SSI or a pension.
- **22%** live alone and are over 70 years old.
- **50%** are renters and **50%** own their own homes.
- **6%** are minorities.
- **31%** are married, **27%** are widowed and **29%** are single.
- **50%** graduated from high school
- **16%** went on to get post-secondary education.
- **27%** were reported as Fixed Income, long term. Debt to Income ratio, short term and Low fixed Income, short term rounded out the top three with **13%** and **12%** respectively.
- **44%** were listed as having a long-term problem; mostly fixed income.
- **37%** are Elderly, **19%** are Physically Disabled and **18%** are Medical.

### **Billing and Payment Information**

The average CARES payment plan was \$46.00 and their average bill was \$70.00. Generally, customers paid 56% of their bill. The average balance a customer owed when joining CARES was \$719.00. These customers brought an average of \$738.32 toward the bill in dollars or energy grants. Of these customers, 51% received at least one grant from energy assistance.

### **CARES Graduated Customers 1998**

The CARES tracking system can also be used to profile our successful CARES customers, those that graduated this year.

- **33%** have income from Social Security, SSI or a pension.
- **81%** of their income is spent on food and shelter.
- **22%** are minorities
- **45%** are married while **35%** live alone.
- **57%** graduated from high school
- **18%** went on to some post-secondary education.
- **31%** have the profile Medical.
- **19%** have long term problem areas
- **21%** have Short term Debt to Income Ration problem area
- **13%** have Short term Life Crisis Event
- **56%** maintain a good credit rating after graduating from CARES
- **2.3** people in the average household.

### **Billing and Payment Information**

The "graduated" customers were in the CARES program for an average of 2.2 years and during that time they increased their balances owed by \$425.89. Their average CARES payment was \$49.00 and their average bill was \$73.00. In 1998, 33% received energy assistance.

**Columbia Gas of Pennsylvania, Inc.  
Customer Programs 1998 Statistical Report**

January 1, 1998 through December 31, 1998

**REFERRAL SOURCES:**

Office	807
Service	79
Columbia Gas/Other Depts.	116
Dormant Accounts	520
Agency	76
PUC Compliance	8
Legislative	4
Self Referral	51
Other:	
Credit & Collection Contractor	212
Other Utility	5
Marketing	3

**TOTAL REFERRALS**      1,881

**REFERRALS TO:**

LIHEAP	540
CRISIS	534
Dollar Energy	1,006
ACCA/Heat's On	76
Warm Choice	124
Emergency Repair Fund	194
CAP Program	34
CAA	136
Employment Services/Job Training	62
Community Action Agency	127
Service For A Lifetime	46
Remotes	196
Other:	
Dept. of Aging, State	271
Weatherization, Service Plus,	
Mortgage Assistance	

**TOTAL REFERRALS**      3,173

**CUSTOMER STATUS:**

Pending Investigation	5
Denied	391
Monitored	8
Removed Due to CHOICE	2
Active in CARES Program as of 12/98	125
Active at one time during the year	221
Once Active, Now Regular	51
Defaulted from CR Program	16
Moved	16
Deceased	5
Quick Fixed	1,403
Once CARES, Now CAP	8
Total customers Processed	2,040
Customers Made Active	43
During Process Year	

<b><u>MAJOR PROBLEM AREAS:</u></b>	Short	Long
	<u>Term</u>	<u>Term</u>
Debt to Income Ratio	97	65
Expenditures Choices	16	15
Financial Dependence	37	21
General Health Conditions	149	69
Health Care Costs	35	57
Housing	14	5
Legal	8	2
Life Crisis Event	44	11
Low Fixed Income	219	342
Low Wages	25	73
Unemployed	48	9
Zero Income	7	13
Unsatisfied Customer	6	

**Columbia Gas of Pennsylvania, Inc.  
Customer Programs 1998 Statistical Report**

<b>PROFILES</b>	<b>TOTAL CUSTOMERS PROCESSED</b>	<b>Totals 689 649 ACTIVE IN CUSTOMER RELATIONS PROGRAM</b>
Elderly	733	83
Medical	48	39
Mentally Disabled	41	12
Part-Time Employment	13	1
Physically Disabled	154	43
Public Assistance	38	3
Single, Head of Household	65	5
Student	5	4
Underemployed	111	14
Unemployed	80	12
Unsatisfied Customer	2	0

<b>YEAR OF BIRTH TOTALS:</b>	<b>TOTAL CUSTOMERS PROCESSED</b>	<b>ACTIVE IN CUSTOMER RELATIONS PROGRAM</b>
1900-1909	42	9
1910-1919	217	23
1920-1929	257	35
1930-1939	276	41
1940-1949	143	44
1950-1959	155	42
1960-1969	139	23
1970-1979	39	4
1980-1989	1	0
1990-1999	8	0

<b>INCOME LEVEL TOTALS:</b>	<b>TOTAL CUSTOMERS PROCESSED</b>	<b>ACTIVE IN CUSTOMER RELATIONS PROGRAM</b>
Level 1	254	121
Level 2	68	21
Level 3	21	11
Level 4	6	3

**AVERAGE  
HOUSEHOLD SIZE**

	<b>TOTAL CUSTOMERS PROCESSED</b>	<b>ACTIVE IN CARES PROGRAM</b>
1 Person	579	110
2 People	353	48
3 People	239	32
4 People	155	20
5 People	102	5
6 People	38	4
7 People	18	2
8 People	4	0
9 People	1	0
10 People	1	0

**SOURCES OF  
HOUSEHOLD INCOME**

	<b>TOTAL CUSTOMERS PROCESSED</b>	<b>ACTIVE IN CARES PROGRAM</b>
Earned Income	78	51
SSI	46	24
Social Security	168	85
Public Assistance	25	18
Unemployment	14	7
Disability	32	25
Pension	48	30
Child Support	16	11
None	5	4
Rental Property	4	4

**AVERAGE  
HOUSEHOLD INCOME**

	<b>TOTAL CUSTOMERS PROCESSED</b>	<b>ACTIVE IN CARES PROGRAM</b>
\$10,000 and Below	425	268
\$10,000 - \$20,000	15	15
\$20,000 - \$30,000	4	4
\$30,000 - \$40,000	0	0
\$40,000 - \$50,000	0	0
\$60,000 and Above	0	0

**DIRECT \$\$ TO CUSTOMER ACCOUNT:**

CR Special Budget	\$182,057.10
LIHEAP	49,939.99
CRISIS	9,053.00
Dollar Energy	45,603.00
Local Agencies	935.00
<b>TOTAL \$\$s</b>	<b>\$287,588.09</b>

**INDIRECT \$\$ TO CUSTOMERS' INCOME:**

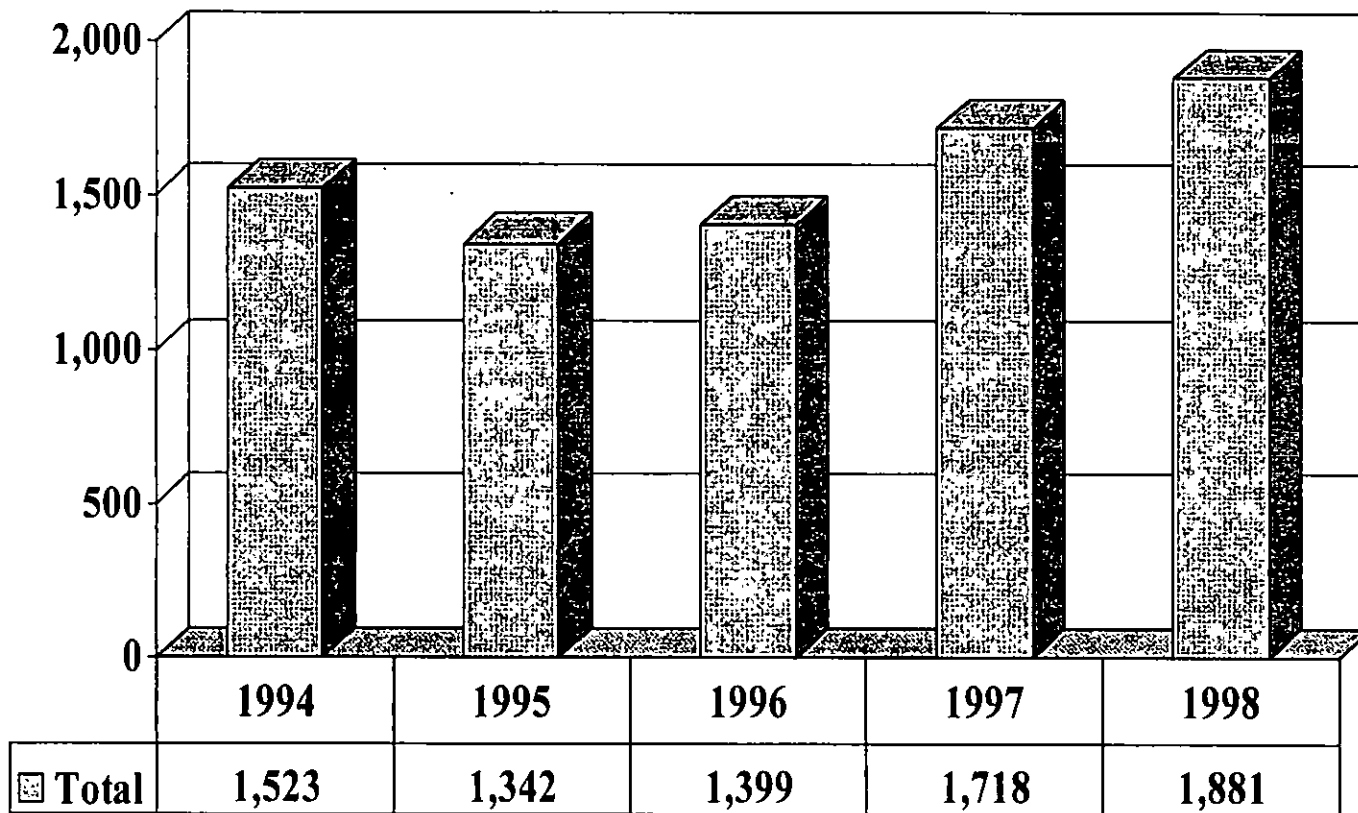
Emergency Repair Fund (ERF)	\$203,991.43
ERF Customer Contributions	8,010.41
Warm Choice Weatherization	64,932.70
Electric Bill	330.00
Employee Collection	150.00
Service Plus	241.50
Rehab on house	2,230.00
Other:	
Remotes/Meter Moveout	6,000.00
ACCA Heat's On	4,098.00
Food Bank	390.00
<b>TOTAL \$\$s</b>	<b>\$282,213.63</b>

# Customer Programs Statistical Report

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## Referral Totals

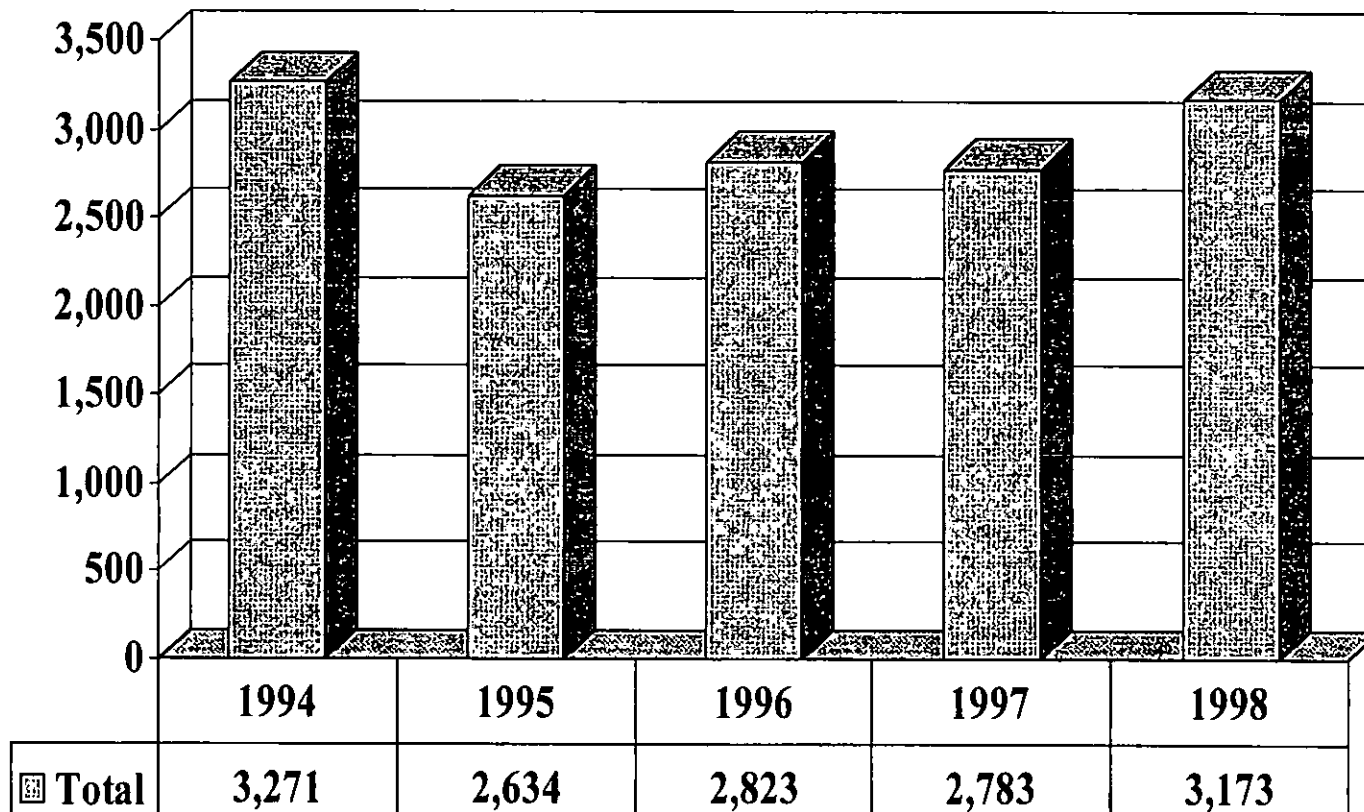


# Customer Programs Statistical Report

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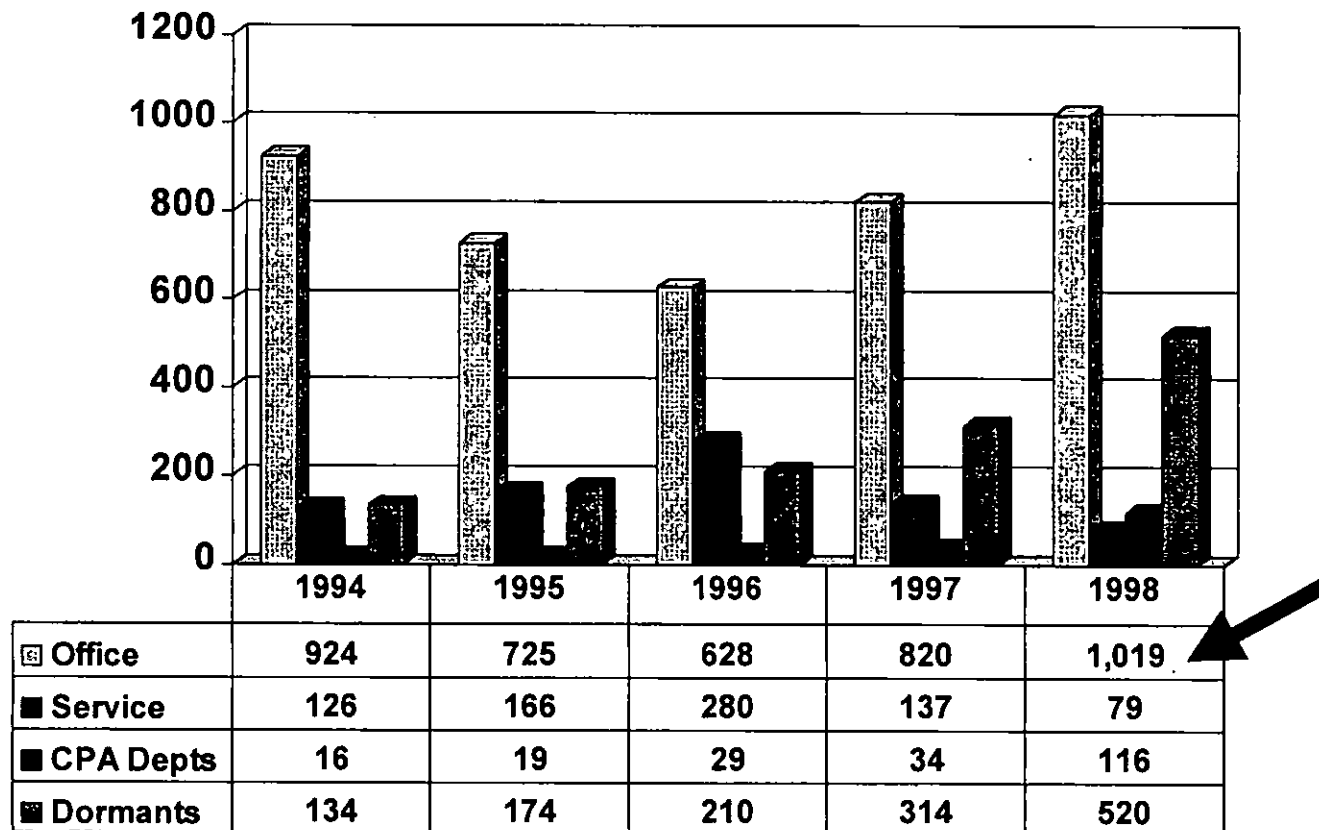
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## "Referrals To" Totals



# Customer Programs Statistical Report

## Internal Referral Sources

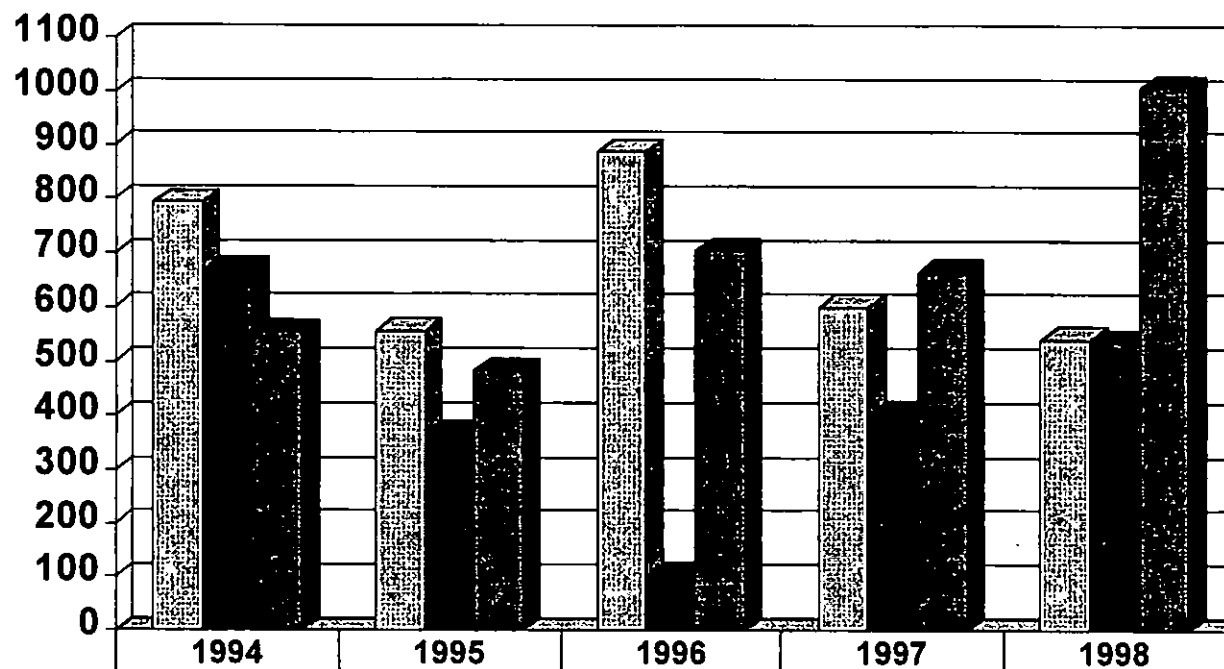


7/15/99

← Includes referrals from 3rd party credit & collection agency.

# Customer Programs Statistical Report

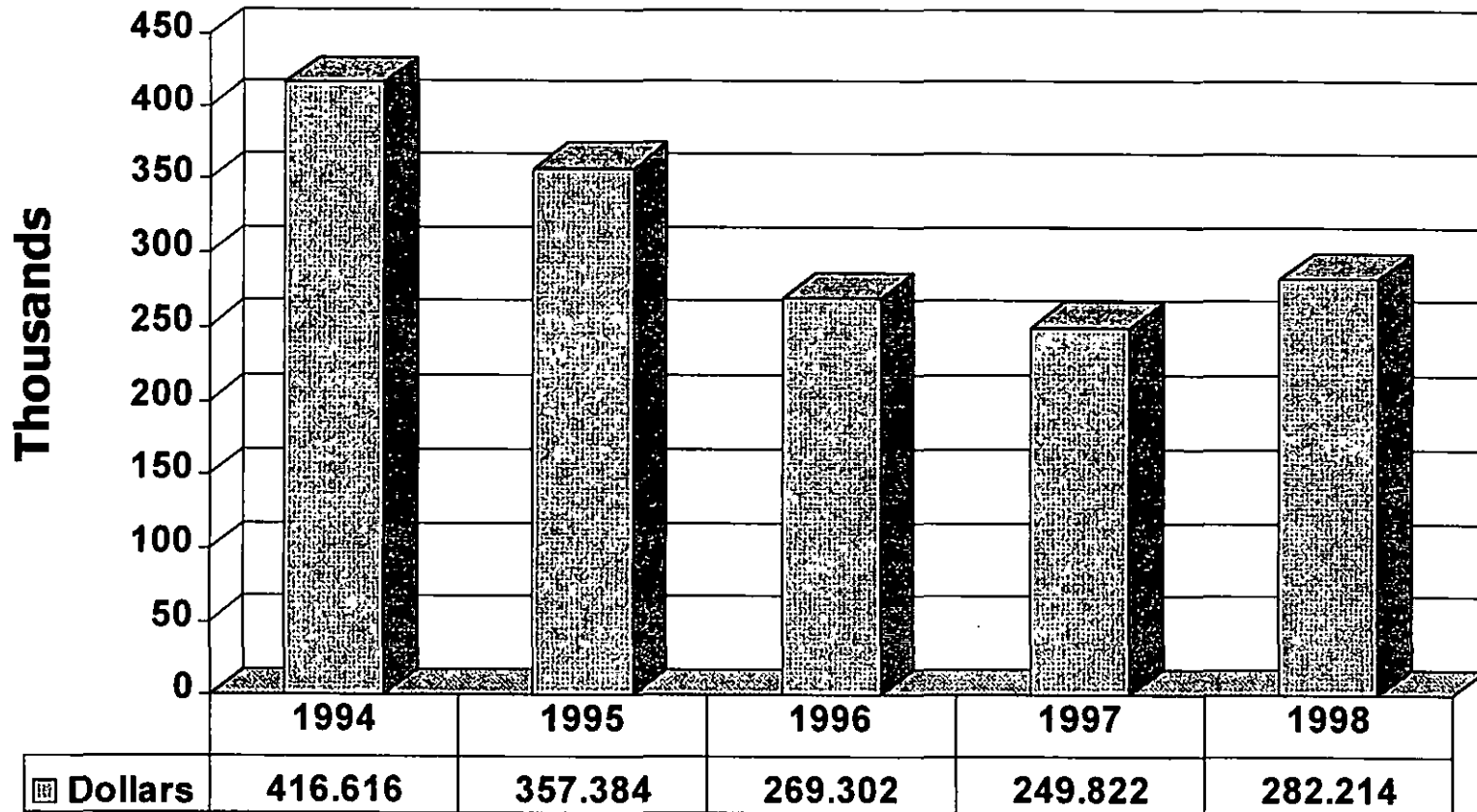
## "Referrals To" Totals



LIHEAP I	794	556	886	600	540
CRISIS	668	366	103	402	534
Fuel Funds	554	483	703	664	1006

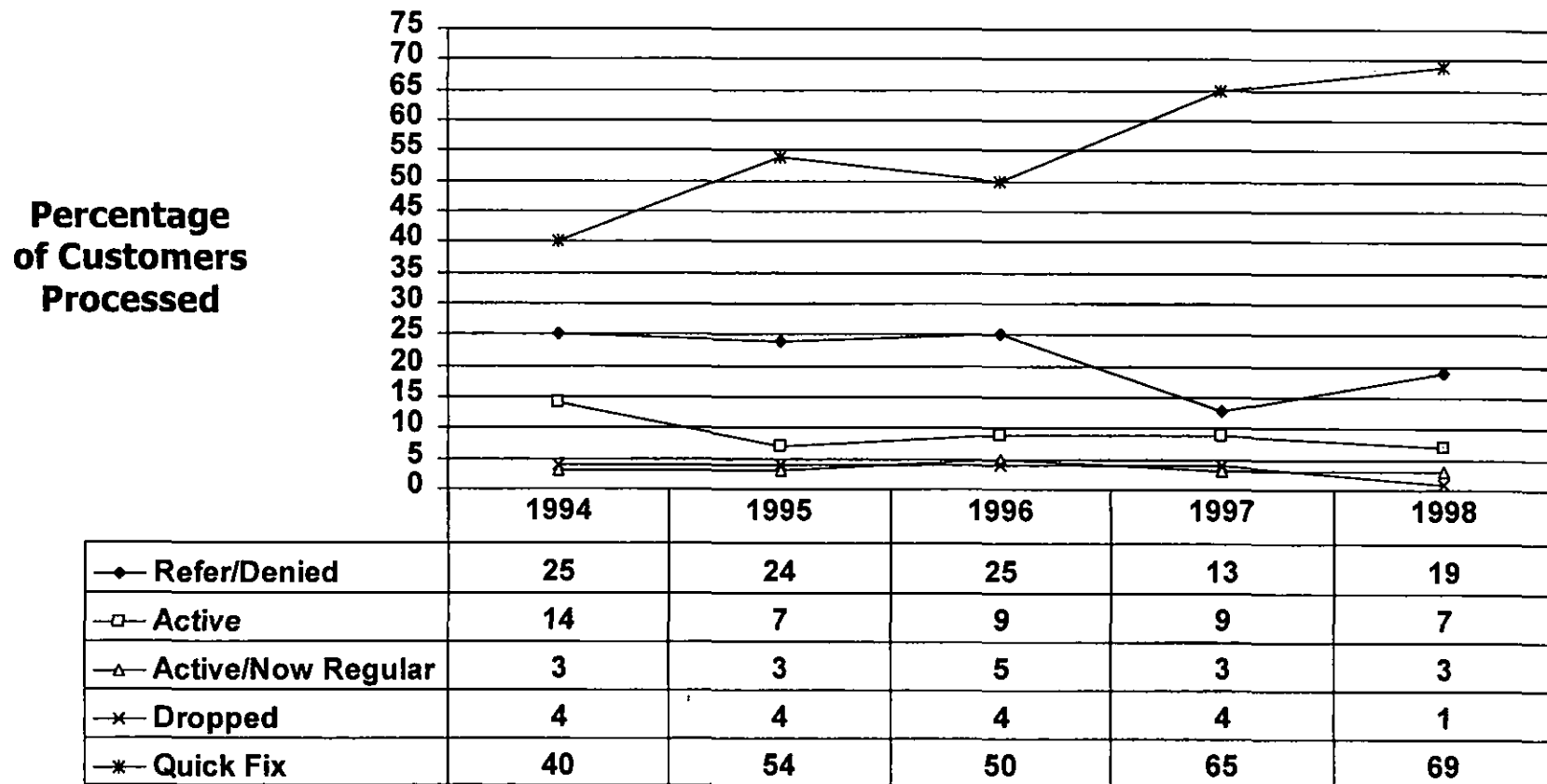
# Customer Programs Statistical Report

## Total Indirect Monies to Customers



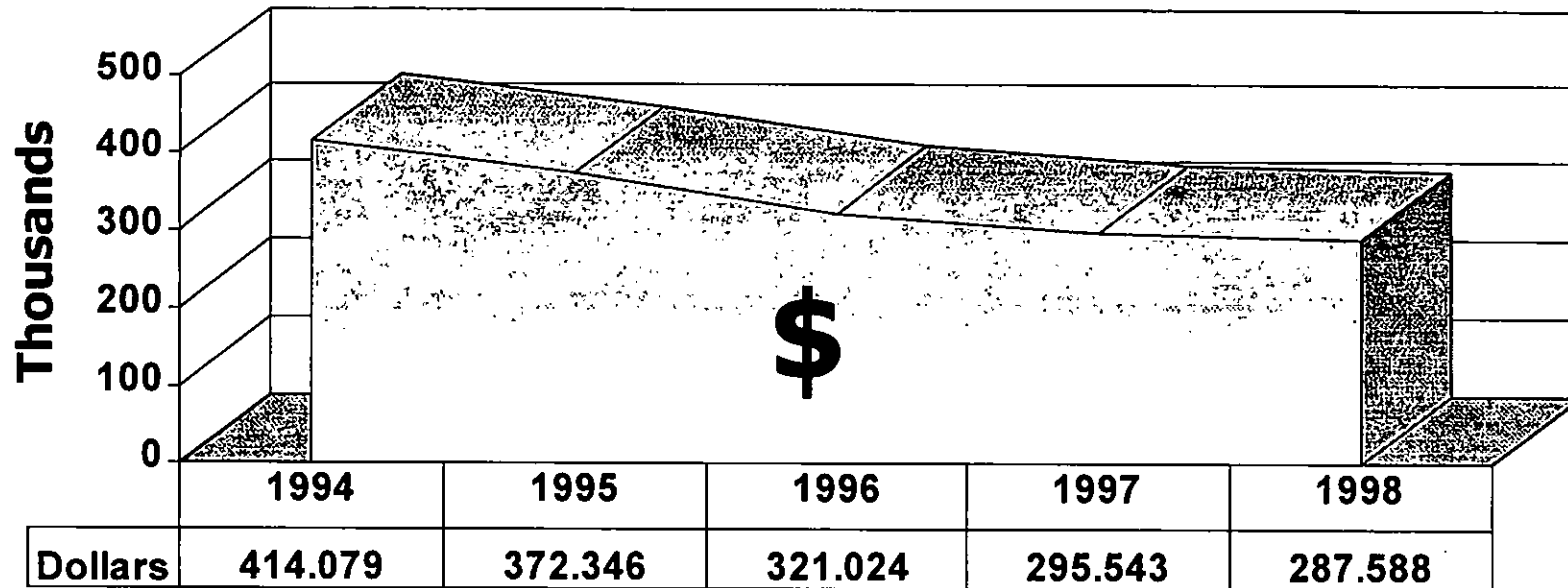
# Customer Programs Statistical Report

## Customer Status



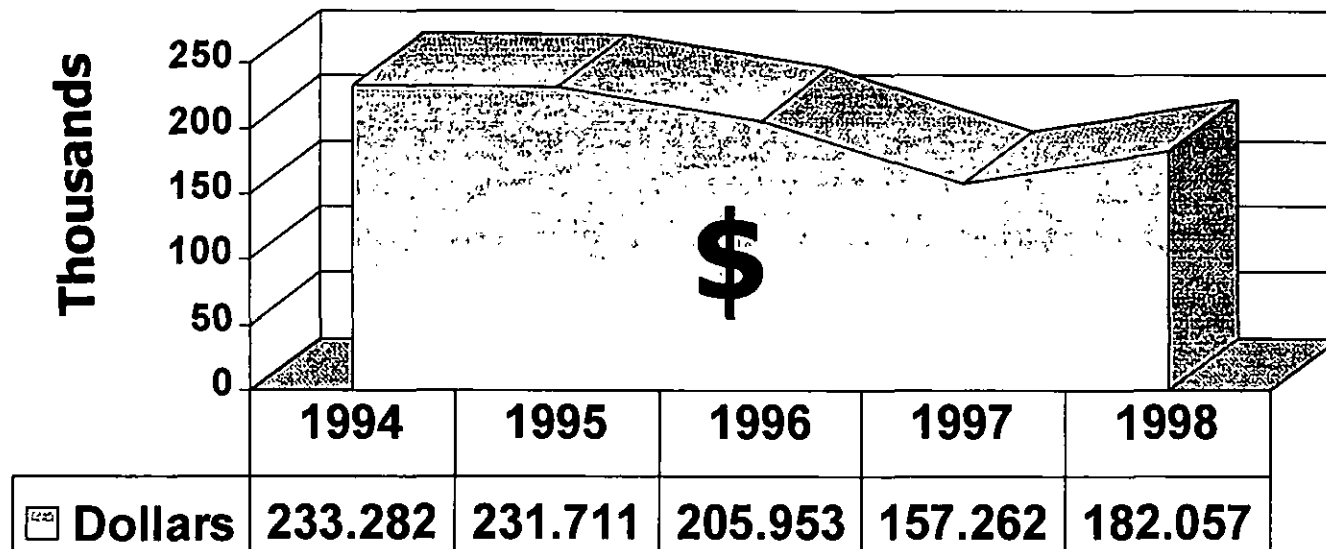
# Customer Programs Statistical Report

## Direct Dollars to Customer Accounts



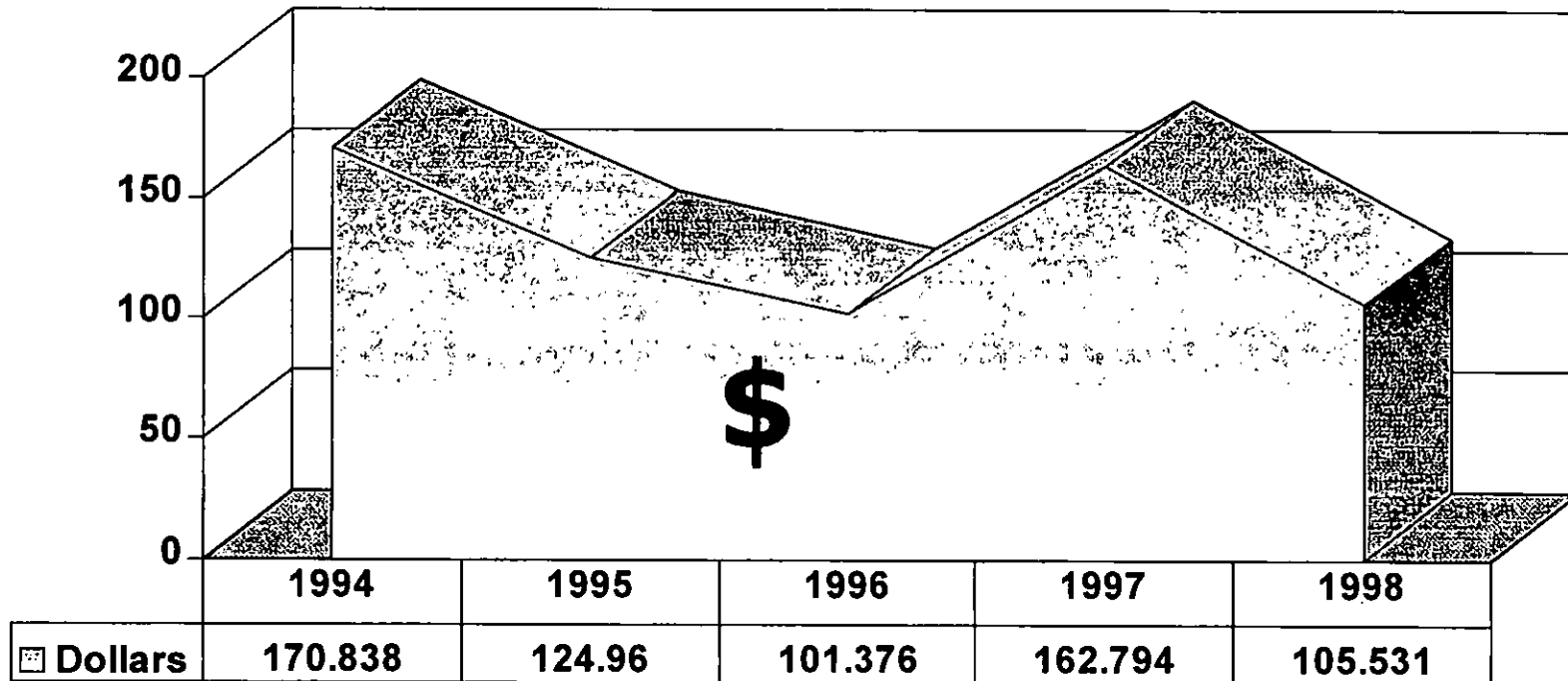
# Customer Programs Statistical Report

## Customer Payments



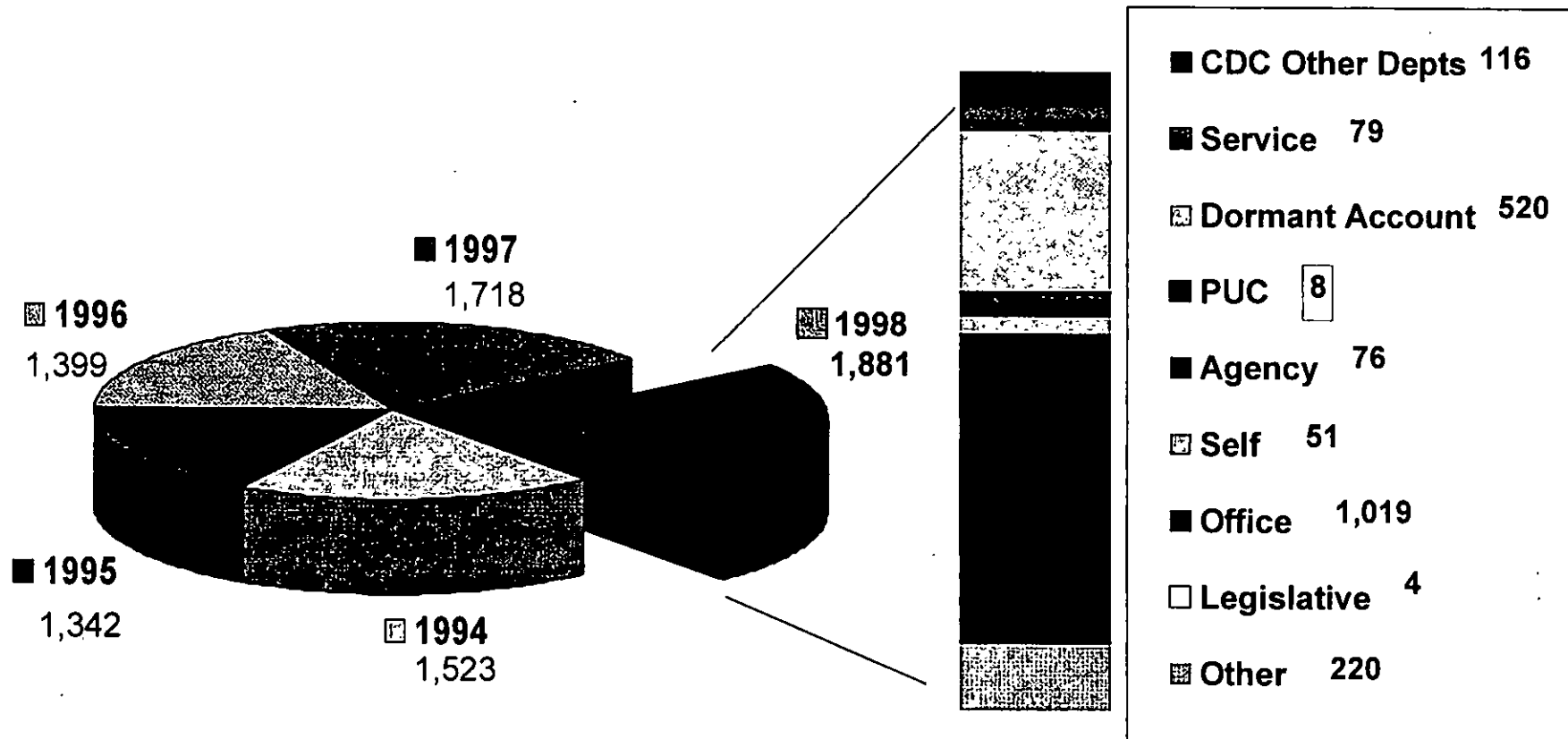
# Customer Programs Statistical Report

**Energy Assistance Payments -- LIHEAP I, CRISIS and Fuel Funds  
(Fuel Funds = Dollar Energy Fund and HeatShare)**



# Customer Programs Statistical Report

## Referral Totals



## DEFINITIONS

<b>Referral Sources</b>	
<b>Office</b>	Accounting and Credit departments' employee referrals from Columbia Gas Customer Satisfaction Center and area offices.
<b>Service</b>	Meter Reading, Service, and Plant departments' employee referrals.
<b>Columbia Gas Other Departments</b>	Marketing, Human Resources, Community Relations, and any other department employee referral not listed in Office or Service.
<b>Dormant Accounts</b>	Those referrals received from the local office after their completion of required attempts to restore service to customers without gas service.
<b>Agency</b>	Human service, community, or social service agency referrals.
<b>PUC -- Complaints -- Mediation -- ALJ Decisions</b>	Referrals received by the Compliance Department as a result of a customer complaint or mediation to the PUC.
<b>Legislative</b>	Referral from a legislator, aide, or staff assistant to obtain assistance with a constituent problem.
<b>Self-Referral</b>	Customer referring themselves to the Customer Programs Department.

<b>Referral Sources</b>	
<b>CRISIS</b>	Federal Energy Assistance Program. Monies to be accounted for include those received as a result of a first time customer intervention along with monies received in following years, as a result of program follow-up, i.e., reminder letters and phone calls to customers.
<b>Customer Assistance Program (CAP)</b>	CPA's pilot Customer Assistance program.
<b>Department of Aging</b>	State funded services for the elderly.
<b>Dollar Energy</b>	Fuel Fund Program. Customer contributions matched by shareholder dollars.
<b>LIHEAP</b>	Federal Energy Assistance Program. Monies to be accounted for include those received as a result of a first time customer intervention along with monies received in following years, as a result of program follow-up, i.e., reminder letters and phone calls to customers.
<b>Job Services</b>	Agencies who specialize in job training and assistance in locating available jobs.
<b>MH MR</b>	Mental Health/Mental Retardation which offers family counseling, Alcoholics Anonymous, marital counseling, etc.
<b>Service For A Lifetime (SFAL)</b>	CPA's older adult identification and special services program.
<b>SS SSI</b>	Social Security and Supplemental Security Income.
<b>State Weatherization</b>	Free county, Department of Community Affairs, weatherization programs.
<b>Warm Choice</b>	CPA's Low Income Usage Reduction Program (weatherization).

<b>Customer Status</b>	
<b><i>Customers Made Active In Program Year</i></b>	Number of customers made active during statistical reporting year.
<b><i>Referred Pending Investigation</i></b>	Referral pending status until all eligibility information is obtained and verified.
<b><i>Referred Denied</i></b>	Referral denied due to over income, lack of customer motivation to cooperate with program guidelines, or long term nature of customer problems.
<b><i>Monitored</i></b>	Customers monitored for payment regularity and consumption use by the Customer Programs Consultant. Red-flagged by the office or service department for potential Customer Programs intervention. Credit activity temporarily suspended.
<b><i>Once Monitored Now Returned</i></b>	Customers who are no longer protected from credit activity due to their "monitored" status. Returned by the Customer Programs Consultant to the office as a regular customer.
<b><i>Active In Customer Relations Program</i></b>	Those customers entered into the CARES program and protected from termination.
<b><i>In Active, Now Monitored</i></b>	Once active in CARES program, returned to regular office status, but continues to be monitored. Also includes customers who continue to pay on final bill.
<b><i>Once Active, Now Regular</i></b>	Customers who have graduated from the CARES program and have returned to regular office status, or who have paid their account in full when moving from Columbia's service area.
<b><i>Defaulted</i></b>	Customers who once entered into the CARES program but were removed due to their failure to comply with program guidelines.
<b><i>Moved</i></b>	Customers who were once entered into the CARES program but moved off CPA lines without making payment arrangements on the final bill or paying its entirety.
<b><i>Deceased</i></b>	Customers who were once entered into the CARES program and died prior to removal or program completion.
<b><i>Quick Fixed</i></b>	Customers who are not eligible for the CARES program, but who are referred to internal or external programs for financial, family or individual assistance.

## CUSTOMER PROFILE

### The Problem Area Which Caused The Crisis Prompting Customer Programs Department Intervention

<b><i>Underemployed Unemployed</i></b>	Customers who are not working, collecting unemployment and/or who are working at minimum wages.
<b><i>Elderly</i></b>	Customers who are 60+ years.
<b><i>Medical</i></b>	Transitional health problems.
<b><i>Mentally Disabled</i></b>	Customer problems related to family strife, including drugs, alcohol and mental illness.
<b><i>Physically Disabled</i></b>	Permanent health problems.
<b><i>Public Assistance</i></b>	Customers, individuals or families whose main source of income is Cash Assistance through the Department of Public Welfare.
<b><i>Single, Head of Household</i></b>	Customers who have only one adult in the family household.
<b><i>Student</i></b>	College, vo-tech, training, high school or GED classes.
<b><i>Unsatisfied</i></b>	Not happy with past contact/activity with Columbia Gas.

## Problem Area Classifications

*Debt to Income Ratio* – accrued monthly household debt exceeds monthly income

*Expenditure Choices* – irresponsible spending habits

*Financial Dependence* – (non-DPA) breadwinner is no longer providing for needs

*General Health Conditions* – customer's health is creating the need for services

*Health Care Costs* – prescriptions, travel, special equipment, uncovered treatment, etc.

*Housing* – consumption, sanitation, affordability and code enforcement issues

*Legal* – domestic relations, fines, legal fees and landlord vs. tenant issues

*Life Crisis Event* – catastrophic events, birth of child, death of a significant other, etc.

*Low Fixed Income* – SSA, SSI, SPA, TANF or pension, etc.

*Low Wages* – income from employment is not sufficient to meet basic household needs

*Unemployed* – no gainful employment for one year or less

(NOTE: More than a year is indicative of another problem area.)

*Unsatisfied Customer* – issues that require special handling and sensitivity to bring positive closure

## Major Problem Areas

### Anticipated Duration of Customers Problems

<b>Long Term</b>	Customers who have long term financial hardships, not remedied by short term protection and assistance offered through the CARES Program or any other social services.
<b>Short Term</b>	Customers who have circumstances which necessitate the protection of the CARES program for up to two (2) years. These customers are able to actively assist in their progress toward financial recovery.

**Direct \$\$\$ to Customer Accounts**

Actual dollars applied to the customer's account as a result of the Customer Programs Consultant's direct intervention.

**Indirect \$\$\$ to Customers' Income**

Money which has been added directly to the customer's income or monetary amounts associated with in-kind benefits which have increased the customer's income as a result of direct intervention from the Customer Programs Consultant.

The total of indirect dollars received for entitlement programs is calculated to include the months the benefit was received until the end of the calendar year.

**BCS INCOME LEVEL GUIDELINES**  
**Bureau of Consumer Services**  
**Effective 4/1/98**

	Gross Monthly Income	Family Size							
		1	2	3	4	5	6	7	8
Level 1* 0 to 110%	Minimum Income								
	Maximum Income	\$738	\$995	\$1,251	\$1,508	\$1,765	\$2,021	\$2,278	\$2,535
Level 2* 111% to 150%	Minimum Income	\$739	\$996	\$1,252	\$1,509	\$1,766	\$2,022	\$2,279	\$2,536
	Maximum Income	\$1,006	\$1,356	\$1,706	\$2,056	\$2,406	\$2,756	\$3,106	\$3,456
Level 3	Minimum Income	\$1,007	\$1,357	\$1,707	\$2,057	\$2,407	\$2,757	\$3,107	\$3,457
	Maximum Income	\$2,440	\$2,440	\$3,072	\$3,072	\$3,705	\$3,705	\$3,705	\$3,705
Level 4	Minimum Income	\$2,441	\$2,441	\$3,073	\$3,073	\$3,706	\$3,706	\$3,706	\$3,706
	Maximum Income								

**\*Based on federal poverty guidelines.**

For families with more than eight members add:  
 \$257 for each additional member at Level 1,  
 \$250 for each additional member at Level 2,  
 \$0 for each additional member at Levels 3&4

**1998**  
**Customer Programs Consultants**  
**Community Activities, Training**  
**and Special Projects**

In addition to case management and customer programs coordination, the Customer Programs Consultants focus their energy, skills and talents in other arenas; community activities, internal & external training and special projects. Social service backgrounds and individual expertise help to create opportunities that reach beyond traditional corporate roles. The Customer Programs Consultants help Columbia Gas of Pennsylvania connect to their service communities in a variety of ways: membership in organizations, board participation, volunteering, facilitating, and coordinating.

The following pages are attached to highlight the dedication and versatility of our Customer Programs Consultants through the additional activities they embraced during 1998. We believe these activities add value by touching communities and our industry in purposeful and positive ways.

## Customer Programs Consultants COMMUNITY INVOLVEMENT ACTIVITIES

Listed are positions held by the Customer Programs Consultants *on various Task Force Committees and Boards* within the communities they serve.

POSITION	TASK FORCE, COMMITTEE OR BOARD	AREA
Council Member	Fayette County Human Service Council	Fayette County
ECHO Board Member	ECHO Child Development Board	Multi-counties
Committee Member	Older Workers Job Fair Planning Committee	Southwestern PA Area
Committee Member	Concerned Parents	Brownsville Area
Association Member	Black Women's Leadership Conference Committee	Southwestern PA Chapter, National Association
Association Member	NAACP	Fayette County Chapter
Council Member	Coordinated Child Care Advisory Council	Multi-counties
Member Volunteer	East End Community Center	East End Area, Fayette County
Community Member	Fayette County Community Action Development Committee	Fayette County
Member	BPW Business/Professional Women's Club	Fayette County
Board Member	Human Services Forum of Beaver County	Beaver County
Ad Hoc Scholarship Committee Member	Beaver County Prevention Project Joint DUI Advisory Task Force	Beaver County
Participant	Health & Welfare Council	Westmoreland County
Participant	Utilities & Aging Consortium	State of Pennsylvania
Participant	Senior Expo Fair	Warren County
Advisory Board Member	Beaver County Prevention Project Joint DUI Advisory Task Force/Committee	Beaver County
Task Force Member	Beaver County Gerontology Task Force	Beaver County
Chairpersons and Members	CARES Network	Multi-counties
Members	National Association of Social Workers (NASW)	Pittsburgh Chapter, National Association
Member	Make A Wish Foundation	York County
Members	LIHEAP Outreach Committee	Multi-counties

**COMMUNITY INVOLVEMENT ACTIVITIES (Continued)**

(Listed are positions held by the Customer Programs Consultants *on various Task Force Committees and Boards* within the communities they serve.)

<b>POSITION</b>	<b>TASK FORCE, COMMITTEE OR BOARD</b>	<b>AREA</b>
Sponsor/Committee Members	Be Winter Wise Committee	Multi-counties
Sponsor/Committee Members	Utility Fair Committee	Allegheny County
Board Member	Council of Government Fair Housing Board	Beaver County
Board Members	Older Adult Services Information Systems (OASIS) Advisory Board	Allegheny County
Committee Members	Greater Pittsburgh Area Food Bank Board of Directors	Multi-counties
Officer--President	Society of Consumer Affairs Professionals (SOCAP)	Pittsburgh Chapter
Board Member	Salvation Army Advisory Board	Allegheny County
Council Member	Health and Welfare Council	Washington County
Committee Member	Washington Health & Welfare Council	Washington County
Committee Members	PUC Energy Fair Planning Committee	Multi-counties
Members	Columbia Gas Speakers Bureau	Multi-counties
Speakers Bureau Coordinator	Columbia Gas Speakers Bureau	Uniontown District
Board of Directors	Better Business Bureau of Western Pennsylvania	Pittsburgh
Member	Council of Community Services	Lawrence County

April 9, 1999

**Columbia Gas of Pennsylvania, Inc.  
Customer Programs 1998 Statistical Report**

Listed are *community activities organized and participated in* by the Customer Programs Consultants.

<b>POSITION</b>	<b>COMMUNITY ACTIVITY</b>	<b>AREA</b>
Participant	Energy Advisory Council	York County
Participant	Human Services Coalition	Adams County
Participant	Social Services Agencies Meeting	Centre County
Company Coordinator	United Way	Multi-counties
Participant	Spring Fling -- Senior Fair	Adams County
Participant	Senior Festival	Allegheny County
Participants	PUC Energy Fairs	Multi-counties
Sponsor/Coordinators	Columbia Gas' Be Winter Wise Senior Seminar	Washington, Allegheny, Fayette and Greene Counties
Volunteers	United Way Day of Caring	Multi-counties
Participants	Rain Day Festival	Waynesburg, PA
Coordinators	Special Needs Christmas Projects	Multi-counties
Participant	Air Conditioning Contractors of America (ACCA) Community Project	Allegheny and Washington Counties
Participant	Heat's On Service Project with Allegheny Department of Aging/Steamfitters Union/ 3-Gas Companies	Allegheny County
Co-Coordinator	Professional Development -- For Human Service Forum	Beaver County and Region
Member	Greene County Human Service Council	Greene County
Member	United Way Board, South Fayette	Fayette County
Volunteer Participant	Senior Information Fair	Fayette County
Member	MH/MR Advisory Board	Fayette County
Member	BPW	Uniontown Chapter
Participant	Legislators' Senior Fairs, Midway and Mt. Lebanon, PA	Washington & Allegheny Counties

April 9, 1999

## 1998 TRAININGS CONDUCTED BY Customer Programs Consultants

### Internal

Training	Length	Audience	Size (Approx.)	Objective
CPA/CMD Customer Programs	6 Hrs.	New Employees - Customer Service Center	21	To inform and empower workforce to satisfy customer inquiries and market programs/services.
CPA/CMD Customer Programs Update	½ Hr.	CSC Existing Employees	90	
Energy Assistance	1 Hr.	Service and Plant Department Employees	250	To update employees on LIHEAP, CRISIS and Fuel Funds to enable employees to assist customers in obtaining funds for managing their energy costs.
CARES Tracking System (CPC Orientation)	5 Hrs.	Customer Program Consultants	3	To accurately reflect statistical data.
CHOICE	1 Hr.	Employees	66	Disseminate information on customer CHOICE pilot to employees.
Senior Sensitivity	3 Hrs.	New Employees	21	Interpersonal skills development.
CSP/CES	1 Hr.	New Employees	21	Orientation to CEG affiliates.
History of Columbia	2½ Hrs.	New Employees	21	Orientation to gas industry.
Team Building	3 Hrs.	New Employees	21	Interpersonal skills development.
Telephone Courtesy	6 Hrs.	New Employees	21	Critical skills and interpersonal skills development.

## 1998 TRAININGS CONDUCTED BY Customer Programs Consultants

### External

Training	Length	Audience	Size (Approx.)	Objective
Columbia Customer Programs/Energy Assistance	1 Hr.	Community-based organizations.	320	To disseminate information to the community and our customers.
CHOICE Senior Education	1 Hr.	Senior Citizens	440	To tailor information about CHOICE for "Hard to Reach" senior citizens.
CHOICE (General Community)	1½ Hrs.	Community Members	40	To educate consumers about choosing a supplier.
Team Building	2 Hrs.	CARESNET Professional Organization	15	To enhance interpersonal skills.
Third Party Credit & Collections Agency	2 Hrs.	Phone staff	12	Educate about customer programs and Energy Assistance.

**1998**  
**Customer Programs Consultants**  
**Special Projects**

**Internal**

***Participated in:***

F. Y. I. - Speakers' bureau; volunteers who give industry related presentation to community, civic, educational and professional groups.

Focus Group - for employee benefits; sponsored by Human Resources Dept.

Holiday projects - project and activity organization: gift purchasing/distribution, Choral group, food drive

***Conducted:***

CHOICE - education session for employees; exempt and non-exempt

United Way Campaign - for Central Pennsylvania

***Developed:***

PC tracking system: ongoing growth and refinement

Intranet and Internet: language and format for the department's internal and public sites

Customer Programs Brochure for Pennsylvania

Articles for CSC newsletter, VISIONS

Fund Raising; truck promotion for Dollar Energy Fund

**1998  
Customer Programs Consultants  
Special Projects**

**External**

***Wrote:***

Public Service article on CHOICE for Office on Aging senior newsletter

***Facilitated:***

Conference planning - planning committee for Human Services Forum's annual professional develop conference

Education and awareness meeting for 3<sup>rd</sup> party LIURP contractors - focus was on unsafe situations observe in customer's homes related to children, older adults and sanitary conditions

Alzheimer's Awareness Month meeting - hosted community focus group meeting for the Alzheimer's Association

Name the Award Contest - initiated and managed a contest to re-name the HSF Annual Recognition Award

Chaired the awards committee for the 1998 Spirit of Caring award for the HSF

***Participated:***

Light Up Night: fundraising activities for Dollar Energy Fund; 2 events

Scholarship programs - judged and selected finalists for 2 scholarship programs; Aliquippa Alliance for Unity & Development and, Prevention Project of Beaver County

LIHEAP Outreach Committee

## CASE SCENARIO

*Submitted by Rita Randal*

Mrs. P. is a retired 78 year-old black lady who had just been released from a nursing facility when she was referred to a customer programs consultant in May of 1997. She had been recuperating from knee replacement surgery and was behind on her bills as a result of her hospitalization. She felt overwhelmed. The appointment was made for a home visit and the customer programs consultant found a very frustrated lady with an income of \$835.50. The customer had taken pride in always being a responsible citizen and paid her bills on time.

The first suggestion from the customer programs consultant to the customer was to talk to her landlord about lowering the rent. She was not just a tenant but a friend of the landlord. This was done and the rent was lowered by \$25.00. Her ill health required many more prescriptions and the customer was trying to pay the pharmacy bill by herself. With Social Security and a small pension, she could not maintain these expenses so an application to PACE was filled out that day. This would mean that the prescriptions would be \$6.00 each and would reduce her out-of-pocket expenses to approximately \$40.00/month instead of \$200.00.

A CARES payment was set at \$50.00 and a referral was made to the Warm Choice program at Columbia Gas. Within a few months, the Warm Choice program made contact and the work was scheduled on the apartment (which was estimated to be 75-80 years old). Also, the customer was introduced to the Dollar Energy Fund and an application was taken at the time of intake.

When the customer was moved to the CAP program in December, 1997, her arrearages on the account were down from \$447.00 to \$235.00. Her new CAP payment is \$65.00 of which she faithfully pays. She depends on the customer programs consultant to do her application to the Dollar Energy Fund each year and she is extremely delighted that her financial obligations are more manageable. The biggest surprise to the customer is that she is more comfortable in the apartment. The cold air drafts are gone and her bill is \$350.00 less than a year ago. This is truly an example of a win/win situation for the customer and for Columbia Gas of Pennsylvania.

**An Assessment of the  
Columbia Gas  
1995 Low-Income Usage  
Reduction Program**



Home Weatherization Service

**COLUMBIA GAS**

**An Assessment of the  
Columbia Gas  
1995 Low-Income Usage  
Reduction Program**

*Prepared For:*  
**Columbia Gas of Pennsylvania**

*Prepared By:*  
**A&C Enercom Inc.**

**April, 1997**



May 4, 1997

Ms. Memi Spencer  
Columbia Gas of Pennsylvania  
Mt. Lebanon, PA

Dear Ms. Spencer:

The assessment of the 1995 LIURP program has been completed and is submitted for your review. This year, the LIURP program has again achieved excellent levels of overall participant energy savings.

The study includes five basic sections; Understanding Pre-Weatherization Energy Use; Application of Weatherization Measures; Weatherization Measure Impact; Non-Energy Impacts of Weatherization; and Understanding the Cost of Savings.

Within each section, we have separated the impact of LIURP according to the CAP enrollment status. We have also tested for the interaction of CARES participation on LIURP impacts.

This study was developed by A&C Enercom, Inc. with the coordinated efforts of Columbia Gas of Pennsylvania. To the many Columbia Gas employees who supported this study, A&C Enercom extends our appreciation.

If you have any comments or concerns that you would like to address, please contact me at (614) 221-9163. We thank you for providing us the opportunity to work with you on this ongoing project.

Sincerely,

Jack E. Brown  
Evaluation Project Manager

cc. Melanie Popovich  
Columbia Gas

# **An Assessment of the Columbia Gas 1995 Low-Income Usage Reduction Program**

## **ABSTRACT**

Columbia Gas of Pennsylvania has continued to develop a comprehensive weatherization program that provides benefits to both the utility and its customers. This program, LIURP, has provided both energy conservation and financial benefits to its low income customers.

The 1995 LIURP program has reduced normal energy consumption among participants by an estimated 49.3 MCF per customer. In 1995, Columbia Gas of Pennsylvania has reduced consumption by 26.6% per participant household. A control population slightly increased their consumption this year and the control adjusted savings are therefore increased to 52.4 MCF and 28.3%. Because the number of total completions increased substantially from 1994 to 1995, total LIURP energy savings have increased from 13,539 MCF in 1994 (288 completes \* 48.7) to 18,602 MCF in 1995 (355 completes \* 52.4). This represents an increase of 37% over the prior year.

LIURP weatherization measure expenditures totaled \$1,123,207 for the 1995 program year. Over three quarters of these resources were devoted to just three classes of measures. Wall Insulation accounted for 34.6%, Attic insulation for an additional 27.3% and Air Infiltration measures added 15.4% to this total. Individual contractors utilized quite different patterns of weatherization measures, but at similar overall cost levels.

At the individual house level, the cost of completing a job was proportional to the size of the heated living space and its condition (as measured by the level of Air Infiltration)

Each MCF of natural gas saved cost \$60. The value of each MCF was about \$5.41 for LIURP participants in 1996, yielding a simple payback period of 11.2 years.

The cost of these savings varied by contractor, intensity of pre-program energy use per square foot, and amount of infiltration reduction that was achieved.

Several recommendations for obtaining greater consistency among contractors and reducing the cost per MCF are discussed.

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# An Assessment of the Columbia Gas 1995 Low-Income Usage Reduction Program

## INTRODUCTION

### Background

Columbia Gas of Pennsylvania (CPA) contracted the services of A&C Enercom to assess the impacts of the 1995 Pennsylvania Low-Income Usage Reduction Program (LIURP). The results of this assessment were done in compliance with the Commission's regulations at §69.165(a)(1-3) on Program Evaluation to serve as input for the Annual Conservation Report to the Pennsylvania Utilities Commission (PUC) and as feedback to program administrators and service providers.

### The Evaluation Team

To accomplish this task, an evaluation team was formulated to coordinate research activities. This team consisted of employees from Columbia Gas of Pennsylvania (CPA) and A&C Enercom (A&CE).

**Memi Spencer** of CPA served as the *Evaluation Consumer*, coordinating activities between program administrators, service providers, information systems, and external agencies, establishing research objectives, and ensuring the overall completion of the analysis.

**Jack Brown** of A&CE served as the *Evaluation Consultant*, addressing issues of research design, developing methods to meet research objectives, coordinating data analysis, and drawing conclusions from the analyses.

**Tom Zimmer** of A&CE served as an *Evaluation Analyst*, verifying data integrity, performing the statistical analysis of program data and discussing program impacts.

**Everett Oliver** of A&CE served as an *Evaluation Analyst*, developing analysis routines and data screening methods.

**Sue Dombrosky** of the Mt. Lebanon CPA office, provided data extracts from the LIURP client data base as well as invaluable assistance in linking client/contractor files and computer records of LIURP participants.

## The Research Questions

The evaluation team developed several research questions based on issues and concerns expressed by program administrators as well as trends noted in previous LIURP research reports.

The following list of research questions were addressed in this study of the 1995 LIURP program. Where appropriate, each question implies that participant changes are compared to a control sample of non-participants:

*What factors account for the observed levels of pre-weatherization energy use among LIURP participants?*

*What weatherization measures were applied by LIURP contractors?*

*What factors account for the application of different weatherization measures?*

*What factors account for differences in the cost of weatherization measures?*

*What factors account for the size and variation in the levels of energy savings among LIURP participants?*

*What factors account for differences in the cost of the energy savings achieved through the LIURP program?*

*Are customer bills reduced following the delivery of LIURP services?*

*Are customer payments more timely and complete following the delivery of LIURP services?*

*Are the levels of customer arrearages reduced following the delivery of LIURP services?*

*Are LIURP participants subject to less frequent collection actions?*

*Are LIURP participants less likely to request utility services than other customer group?*

## Chosen Analyses

To address these questions, A&CE performed five analyses;

- *understanding pre-weatherization energy use,*
- *application of weatherization measures,*
- *weatherization measure impact,*
- *non energy impacts of weatherization,*
- *understanding the cost of savings.*

## Summary of Results

To fully understand the link between operations and results of a weatherization program it may be useful to follow several links that would be expected to occur in an "ideal" weatherization program.

In general, we expect certain housing characteristics, such as large size, and poor condition to be associated with higher consumption. One would also expect larger houses, in poorer condition, to receive higher average expenditures than other houses.

In a similar fashion, the amount spent should be linked to measurably improved housing condition and then to reduced energy consumption. Only when each of these links produce reliable results, will it be possible to maximize the ratio of program benefits to program costs. The LIURP program currently measures the size of the house, obtains air infiltration measurements from pre and post blower door inspections, and records the details of specific measures that are retro-fitted to the house.

Discussion:

*What factors account for the observed levels of pre-weatherization energy use among LIURP participants?*

The area of the heated living space accounted for 19% of the variation in pre-weatherization energy use. The level of air infiltration accounts for 23% of pre-weatherization energy use.

*What factors account for the application of different weatherization measures?*

The main factor is which contractor completes the house. For Mincin, 99% of their completions received wall insulation compared to only 47% for the Lancaster Energy Center (LEC) jobs. Caulking as an air infiltration measure was only utilized by the Lancaster Energy Center.

*What factors account for differences in the cost of weatherization measures?*

Contractors had similar costs per completion even though the measures utilized for different contractors were quite different.

The cost of weatherization is only moderately related to housing condition, with Pre-CFM and house area accounting for 14% and 17% of the variation in total measure expenditures respectively for Mincin. Pre weatherization energy use is not related to the cost of weatherization measures applied.

*What factors account for different levels of energy savings among LIURP participants?*

Overall, the LIURP program reduced participant energy consumption by 26.6% of pre program levels (49.3 MCF). Because the control sample actually increased their energy use slightly during the study period, the control adjusted LIURP savings increase to 28.3% and 52.4 MCF.

The single largest factor accounting for variations in energy savings was the contractor effect with Mincin and Kinetechs achieving savings of 29.9% and 28.4% respectively (not significantly different), but Lancaster Energy Center only achieved savings of 14.3%. Lancaster Energy Center utilizes a completely different mix of weatherization measures, with an unusual emphasis on the application of caulking as an air infiltration reduction measure.

Several factors also accounted for significant differences in energy savings among cases completed by a contractor. For the group of participants completed by Mincin and Kinetechs, 37% of the total variation in savings is accounted for by the combined effects of pre weatherization energy use, the dollars spent on wall insulation, the pre weatherization energy per square foot, and the percent of air infiltration reduction achieved.

*Are customer bills reduced following the delivery of LIURP services?*

Yes, Revenue Bills are reduced by \$253 per year for LIURP participants following the delivery of LIURP weatherization services.

*Are customer payments more timely and complete following the delivery of LIURP services?*

Yes, the number of full and on time payments increased by 22% during the year following weatherization (compared to the control sample).

*Are the levels of customer arrearages reduced following the delivery of LIURP services?*

Yes, participants, avoided arrearage growth of \$124 in the year following weatherization while the control populations arrearage was increasing at a rate of \$134 during the same period. The control adjusted avoided arrearage is \$258. LIURP participants that were not involved in the CAP program also achieved a substantial reduction in avoided arrearage at a control adjusted \$271. It thus appears that savings in revenue bills have been applied to reducing participant arrears.

*Are LIURP participants subject to less frequent collection actions?*

Collection and customer service transactions were lower for participants than for controls in comparable situations. Termination notices were reduced by 18% per year.

*Are LIURP participants less likely to request utility services than other customer group.*

Yes, requests for extended payment agreements among participants were reduced by a control adjusted 31%. Canceled payment plans, were reduced by 29% per year, and financial service calls were reduced by a control adjusted 25% per year.) Transactions extending new extended payment plans were also reduced by xx% compared to the control group.

General customer calls not related to credit and collections issues were not as sharply reduced among LIURP participants.

*What factors account for differences in the cost of the energy savings achieved through the LIURP program.*

The control adjusted cost per MCF saved is \$60 per MCF. With 1995 average measure costs of \$3,164 and 52.4 MCF saved (at an average value of \$5.41 per MCF) worth \$283, a simple payback ratio of 11.2 years has been achieved, exclusive of non-energy impacts.

Variations in the cost of savings among individual participants is not well explained once the effects of contractor differences are removed.

Examining participants completed by Mincin and Kinetechs, we find that only air infiltration reduction and the pre-program energy consumption per square foot contribute to explaining cost per MCF variations. These two variables only account for 6% of the observed differences in cost per MCF.

**Comparison to Previous LIURP Programs**

**Figure 1 LIURP Trends - 1989 through 1995**

LIURP Participants	1989	1990	1991	1992	1993	1994	1995
<b>Consumption</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>
Mean savings	23.7	23.4	26.1	26.6	24.0	28.0	26.6
Median savings	26.1	24.9	26.3	27.1	25.4	26.6	27.0
<b>Payment Type</b>	<b>#</b>	<b>#</b>	<b>#</b>	<b>#</b>	<b>#</b>	<b>#</b>	<b>#</b>
Pre Full	7.9	6.6	5.4	6.0	3.1	3.4	4.49
Post Full	8.0	6.6	3.3	6.0	4.8	4.9	5.01
Pre Partial	0.9	0.7	0.7	1.5	4.8	4.2	3.18
Post Partial	1.1	0.6	2.3	1.5	3.7	2.6	2.84
Pre Missed	3.2	1.0	2.8	3.7	4.1	4.2	3.55
Post Missed	2.9	4.0	1.7	3.2	3.6	3.8	3.56
<b>Arrearage</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>
12 Months Pre	418	608	762	528	748	680	639
1 Month Pre	471	760	859	606	820	804	698
1 Month Post	464	718	909	625	807	833	715
12 Months Post	490	676	826	638	746	758	650

While savings have leveled off during the past several years, it is important to note that if Lancaster Energy Center achieved the combined 29.1% savings level of the other two contractors, total savings would have reached an their highest level this year.

## Recommendations to Columbia Gas

The WarmChoice program is a well established program that has emphasized the technical application of a specific set of weatherization measures designed to maximize the total energy saved in each house treated under the program.

Both the costs per unit and the amount of energy savings achieved have been relatively stable over the past few years and further rapid gains in energy savings, *outside of the one contractor discussed below, are unlikely.* Should program managers choose to further decrease the cost of each MCF saved (and thus to increase the benefit/cost ratio), the following recommendations may prove useful.

To reduce the cost of each MCF saved there are only a limited number of available alternatives. Several of these alternatives have been previously emphasized by Columbia during previous program years. It is important to note that an aggressive pursuit of cost effectiveness may tend to limit the overall savings level and thus, customer benefits. However, benefits to rate payers and to the utility may be maximized if one or more of these recommendation are adopted.

There are six basic paths to greater cost effectiveness that could be emphasized:

1. Target houses with high potential savings levels. Prior Columbia LIURP programs have successfully pursued this recommendation. However, the result of this targeting is high average cost of weatherization due to the large size of targeted houses. One option is to emphasize services to houses with higher energy use per square foot, which would cost less to provide the basic attic and wall insulation measures.

2. Increase the application rate of effective measures. Prior Columbia LIURP programs have adapted this strategy in emphasizing the application of Wall and Attic insulation.

3. Eliminate ineffective measures. Adopting this recommendation would tend to limit expenditures for caulking as well as floor insulation over other than unheated crawl spaces.

4. Limit the application of effective measures that are not **also** cost effective. Since the expected savings values for specific combinations of measures are known, expenditures may need to be limited where the pre-consumption levels are lower than average and the job cost estimates are higher than average. *Utilize projected savings information to limit investments in specific situations.* Consider cost effectiveness targets and or limits. Develop a set of management reports comparing contractor invoices with measure selection, cost and projected savings standards.

5. Improve the effectiveness of measures that are applied. The high and consistent savings achieved by two out of the three program contractors indicates that excellent performance levels are feasible.

6. Reduce the unit costs of effective measures. If ways can be found to reduce the material and labor cost applied per square foot of wall and ceiling area for wall and attic insulation, the overall program can be made more cost effective. Consider developing cost standards or limits for measures. Comparing "typical" houses across different program provides some insight as to how costs can be minimized on a unit basis. Detailed case study comparisons are introduced in latter sections to provide a starting point for this discussion.

## Understanding Pre-Weatherization Energy Use

In order to understand the effects of weatherization measures, it is often useful to seek an explanation of the differences in energy use among participant houses. In general the 1995 LIURP participants have a high average level of energy use in the year prior to weatherization because of the targeting criteria employed to qualify potential participants. However, as illustrated in **Figure 2**, there are substantial differences in energy use.

We evaluated several areas that have an impact on the various operational aspects of the LIURP program. These include housing type and condition, number of occupants, and the size of the house.

These features, if they impact pre-weatherization energy use, may have a bearing on how predictable the cost and benefits of the LIURP program will be in specific instances.

The basic hypothesis that underlies weatherization work is that larger homes that are in poorer condition will use more energy than smaller homes that are in better condition. Closely linked to the above, we will also test the hypothesis that the size and condition of homes is related to the cost of applying weatherization measures to these homes. And finally, to close the loop opened by asking what accounts for differences in pre-weatherization differences, we ask if differences in the application rates and costs of weatherization measures have a predictable effect on the amount of energy saved and the cost of achieving such savings.

### *What is the distribution of consumption among LIURP completions?*

The average LIURP participant house uses 185 MCF per year prior to weatherization. Usage varies between a minimum of 84 MCF and a maximum of 420 MCF per year.

### *Why does pre weatherization energy consumption vary among houses?*

Overall pre-weatherization energy consumption is most strongly related to the level of air infiltration into the house as measured by the blower door method in cubic feet of air per minute at 50 pascals pressure (CFM). This relationship accounts for 19% of the total variation in energy use among participants for the pre-LIURP period. The area of the heated living space accounted for 14% of this variation in pre-program energy use.

Because each of the three contractors utilized by Columbia Gas to apply weatherization measures operates in different regions of Pennsylvania, have somewhat different housing stock, and in at least one case used a different definition for "heated living space", we have provided separate analysis for each contractor where appropriate.

**Figure 3** graphically describes the relationship between house condition and energy use for each of the three contractors on the same scale. Air infiltration has the greatest effect for houses in the Lancaster Energy Center service area, explaining 26% of the variance in pre-program energy use. Houses in those counties served by Kinetechs showed the smallest explained variance at 16% ( $R^2$  in **Figure 3**)

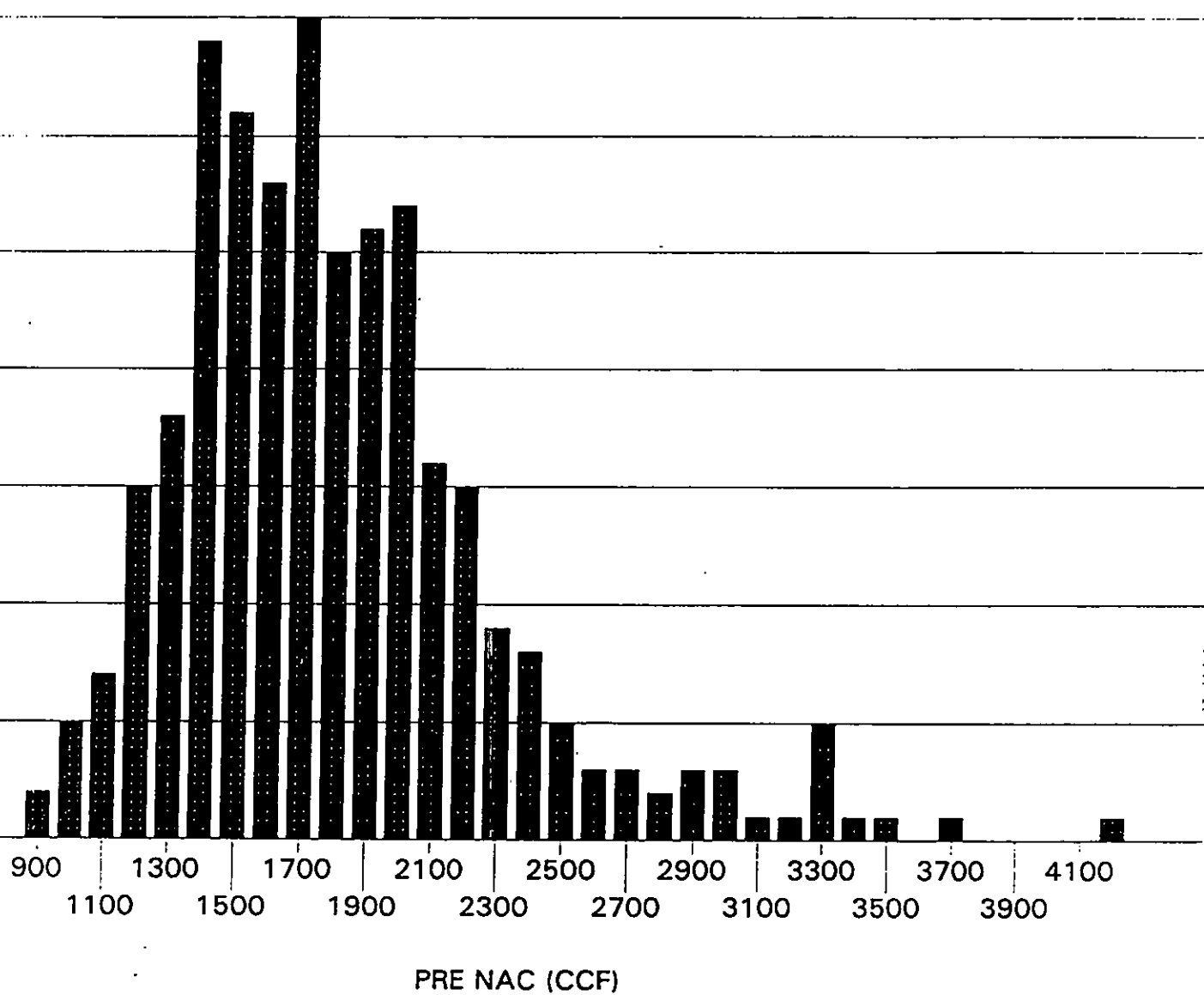
These values are fairly consistent and tend to support the validity of the basic inspection/blower door reading. These graphs do illustrate a few "outliers" of the extremely high preCFM readings for each contractor. After reviewing the files of several "outlier" cases, they do not appear to be the result of typographical errors, but may be due to specific building type or blower door set up issues.

The number of occupants was found to be only modestly related to energy use during the pre-weatherization period. One and two person households showed a slightly smaller average consumption than did houses with three or more occupants (186 MCF for the smaller vs about 196 MCF for the larger households).

**Conclusion:** While air infiltration is clearly related to energy use, standards may need to be set for appropriate reduction levels as well as the means for achieving these results. An effective way to test such standards would be to conduct a "mini-pilot" where specific air infiltration measures are applied in an experimentally selected sample of houses. This would allow the separation of the effects of measure selection from measure efficiency.

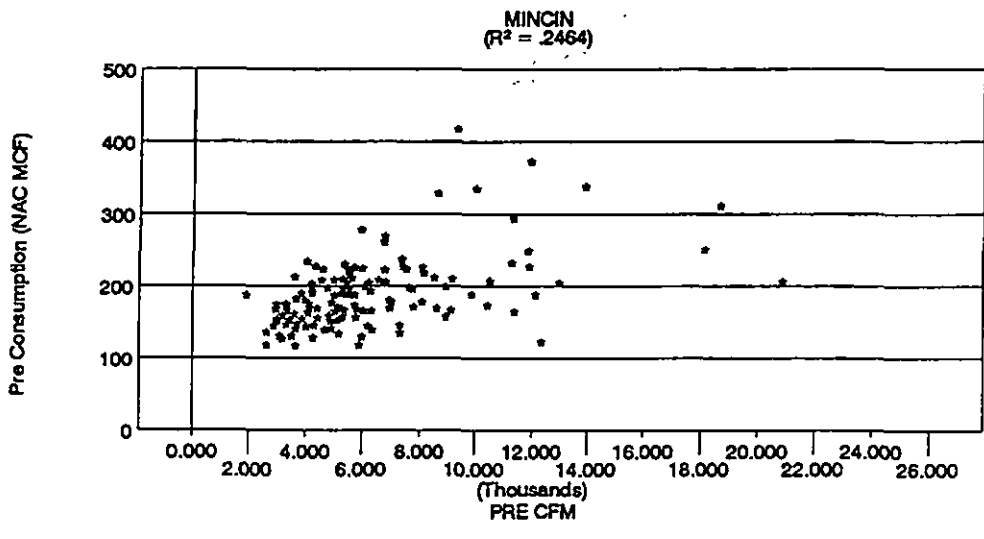
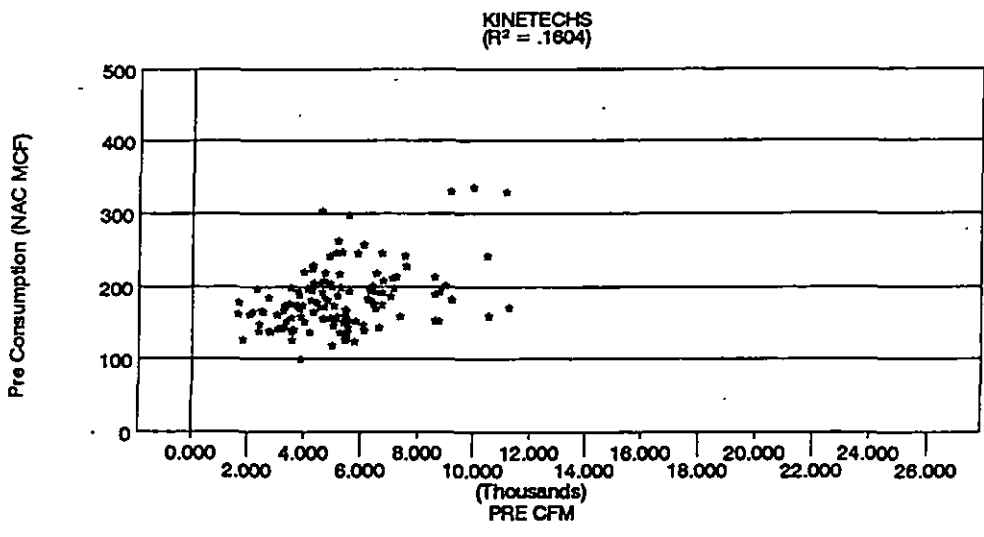
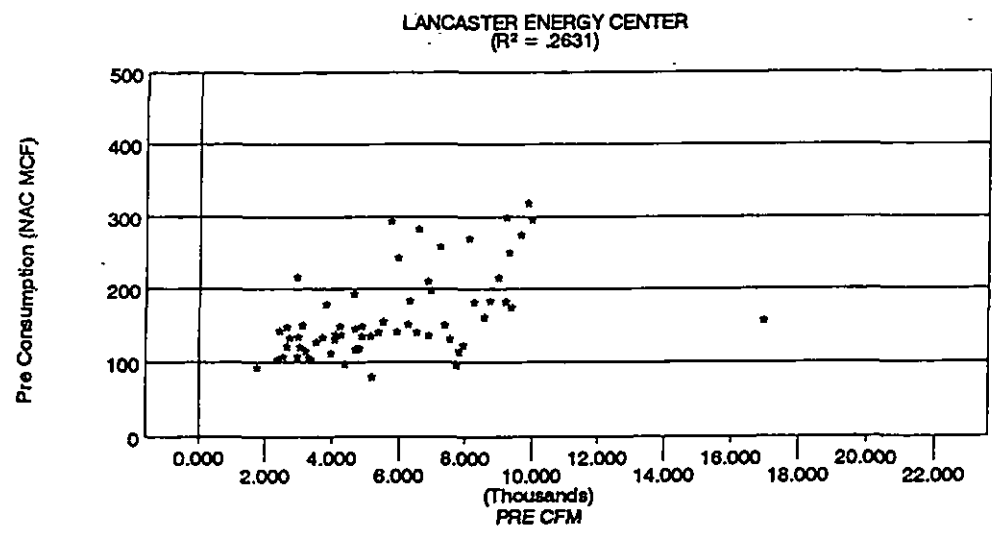
Figure 2 LIURP Participants - Pre Weatherization Energy Usage

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Figure 3 Pre CFM vs Pre Weatherization Consumption by Contractor



## Application of Weatherization Measures

Three questions will be addressed in this section:

*What weatherization measures were applied?*

*What factors account for the application of different weatherization measures?*

*What factors account for differences in the cost of weatherization measures?*

**Figure 4** describes 61 separate weatherization measures that were applied to LIURP houses in 1995. Three groups of measures, Wall, Attic, and Air Infiltration account for 77% of the total expenditures. Materials made up 33.2% of total expenditures overall, with materials for wall insulation accounting for only 27.7% of the total expenditure for this category. Materials costs reached 50.7% for the installation of R-38 attic insulation.

**Figure 5** groups the 61 measures into six categories (Infiltration, Attic, Wall, Duct/Furnace, Floor, and All Other) and presents the average application rate, average cost, and % of contractors' total by contractor. Highlights of this table include Lancaster Energy Center spending 30% of their total for Infiltration measures, but only 7% for wall insulation. The Lancaster Energy Center also spent significantly more than average for Duct and Furnace measures. Another interesting difference is the larger amount of total expenditures (17%) that Mincin spent for infiltration when compared with the 7% spent by Kinetechs.

Mincin spends significantly lower proportions of its efforts on Duct and Furnace work than the other two contractors (31% vs 74% and 69%)

These spending patterns are graphically illustrated in **Figure 6**.

**Figure 7** presents a case study approach to evaluating one specific measure, caulking within the Lancaster Energy Center. The cases are ordered from the highest expenditure for caulking to the lowest, ranging from \$1,527 to \$74. Especially noteworthy is the case in the sixth row from the top. This case involved expenditures of \$5,622 overall, and \$1,055 for caulk, \$1,802 for attic insulation, and \$1,435 for wall insulation, \$339 for "other infiltration" measures. Although pre consumption was very high, savings of only 21.4% were obtained.

**Figure 8** presents the relation between house area and total expenditures for each house. This relationship is similar for all three contractors, ranging from 14% for the Lancaster Energy Center to 10% for Mincin. Given the significant material costs for insulation identified above, and the relation of wall and attic square footage to overall house size, one would expect a higher relationship between house size and measure costs. One possible explanation is the number of weatherization measures that have costs not driven by house size. One way to clarify this relationship is to obtain down the area of the attic and wall in which insulation was actually installed. The current LIURP codebook does not require this information, but A&C Enercom staff could obtain the appropriate information from invoice files,

**Figure 9** presents the relation between the house condition (as measured by Pre CFM readings) and the subsequent expenditures designed to reduce air infiltration. We find a substantial relationship only for the Lancaster Energy Center. This may be due to the fact that they utilize far higher infiltration measures than the other contractors and hence there is more variation of the dependent factor available. It also suggests several questions as to what guides the application of air infiltration measures for Kinetechs and Mincin. One hypothesis is that some costs associated with preparing the house for wall insulation are coded to the air infiltration category rather than the wall category.

**Figure 10** contrasts a set of LIURP completions from both Mincin and Kinetechs that have been matched on the size of the house. The data set has been also limited to only those cases where at least \$400 has been spent on the attic insulation. The objective is to determine if the average cost per square foot is less for one contractor or another for roughly comparable circumstances. For this subset of 36 matched cases we found that Mincin's cost was \$0.47/per square foot vs \$0.67/per square foot for Kinetechs. Because there may be variations in housing type not recorded, this comparison is only a guide as to the types of follow up questions that can be asked if a more detailed review of these cases were to be undertaken.

**Figure 11** also utilizes a matched case approach to contrast Kinetechs with COAD, an agency in Southeastern Ohio that performs a combination of Columbia Ohio WarmChoice and Stat HWAP work. The purpose is simply to add another point of comparison to validate the Kinetechs vs Mincin Contrast introduced above. We have also added the specific information available from COAD on attic area and the number of floors to allow a more precise comparison. Results are similar to the previous analysis above.

**Figure 12** presents the cost per square foot of wall insulation contrast between Mincin and COAD. While the attic costs were not significantly different between COAD and Mincin, we find a sharp contrast in overall distribution in costs of wall insulation, with Mincin being about \$0.30 more expensive than COAD. Overall savings levels are comparable between these two contractors.

**Figure 4 Distribution and Cost of Weatherization Measures**

	Material Expenditures	Labor Expenditures	Total Expenditure	Share of Total Expenditures	Portion of Measure for Materials
ALL	373,418	750,781	1,124,199	100.0%	33.2%
Education	0	28,083	28,083	2.5%	0.0%
Faucet-Bath	916	569	1,485	0.1%	61.7%
Faucet-Kitchen	213	255	468	0.0%	45.5%
Low Flow Shower	863	1,167	2,030	0.2%	42.5%
Water Heater Jacket R-11	4,349	3,320	7,669	0.7%	56.7%
Pipe Insulation	2,277	2,124	4,401	0.4%	51.7%
Water Heater Jacket R-8	28	42	70	0.0%	40.0%
Infiltration wk (11)	0	25,110	25,110	2.2%	0.0%
Infiltration wk (12)	3,638	8,111	11,749	1.0%	31.0%
Caulking	19,632	24,977	44,609	4.0%	44.0%
Sweep (ext Door)	3,298	6,218	9,516	0.8%	34.7%
Weatherstrip ext Door)	9,100	12,689	21,789	1.9%	41.8%
Fix Lock	601	694	1,295	0.1%	46.4%
Replace Lock	569	697	1,266	0.1%	44.9%
Repair	1,636	7,232	8,868	0.8%	18.4%
Replace	816	898	1,714	0.2%	47.6%
Construct	2,143	2,596	4,739	0.4%	45.2%
Weatherstrip	15	21	36	0.0%	41.7%
Replace Lock	40	60	100	0.0%	40.0%
Construct	2,819	2,316	5,135	0.5%	54.9%
Insulate Rigid Bd	4,048	3,406	7,454	0.7%	54.3%
Replace Crkd Glass	3,962	6,203	10,165	0.9%	39.0%
Reglaze	400	1,317	1,718	0.2%	23.3%
Repair Sash	2,243	3,813	6,055	0.5%	37.0%
Replace Window	1,408	2,097	3,504	0.3%	40.2%
Interior Storms	3,498	4,124	7,622	0.7%	45.9%
Ext Storm Repair	3,785	7,428	11,212	1.0%	33.8%
Attic R-8	1,060	2,144	3,204	0.3%	33.1%
Attic R-10	1,552	2,773	4,325	0.4%	35.9%
Attic R-9	7,322	8,940	16,262	1.4%	45.0%
Attic R-20	2,774	6,516	9,289	0.8%	29.9%
Attic R-25	19,606	20,515	40,121	3.6%	48.9%
Attic R-27	362	593	955	0.1%	37.9%
Attic R-30	22,251	26,381	48,632	4.3%	45.8%
Attic R-38	69,641	67,828	137,468	12.2%	50.7%
Hatch Boxing	898	2,368	3,265	0.3%	27.5%
Attic Acc/No Stair	1,671	3,505	5,176	0.5%	32.3%
Attic Acc/Fold Stair	11	39	50	0.0%	22.0%
Add Roof Vent	9,445	16,954	26,399	2.3%	35.8%
Add Soffit Vent	24	28	52	0.0%	46.2%
Soffit Chutes	24	39	63	0.0%	38.1%
Door R-11 (16")	552	710	1,262	0.1%	43.7%
Door R-19 (16")	1,526	919	2,445	0.2%	62.4%
Door R-19 (24")	3,642	3,513	7,155	0.6%	50.9%
Door R-11 (16")uncond	2,104	2,386	4,490	0.4%	46.9%
Vapor Barrier	1,791	1,517	3,308	0.3%	54.1%
Mail Box R-11	3,020	2,475	5,495	0.5%	55.0%
Thermax Board Garage	1,040	1,040	2,079	0.2%	50.0%
Urgl Bat R-19 Garage	117	567	684	0.1%	17.1%
Disc Repair - Chimney	5,388	14,739	20,127	1.8%	26.8%
Wall Insulation	107,721	281,388	389,110	34.6%	27.7%
Pre-Audit/inc Blood Dr.	0	50,110	50,110	4.5%	0.0%
Heating System Repair	4,451	3,400	7,850	0.7%	56.7%
Duct Repair	7,091	17,050	24,141	2.1%	29.4%
Duct Insulation	11,213	8,222	19,435	1.7%	57.7%
Furnace Maintenance	150	194	344	0.0%	43.6%
Roof Repair	1,927	10,643	12,570	1.1%	15.3%
Interior Repair	9,662	31,275	40,938	3.6%	23.6%
Exhaust Vents	45	160	205	0.0%	22.0%
Cracks Repairs	1,492	3,175	4,667	0.4%	32.0%
Door Repair	1,549	3,108	4,658	0.4%	33.3%

Figure 5 Weatherization Measures by Contractor

CONTRACTOR	INFILT	REC'D N	TOTAL N	MEANS\$	RECEIVED MEASURE	% TOTAL \$
LEC	\$62,313	74	75	\$842	99%	30%
KINETECHS	\$30,410	131	140	\$232	94%	7%
MINCIN	\$79,737	140	140	\$570	100%	17%
TOTAL	\$172,460	345	355	\$500	97%	15%

CONTRACTOR	ATTIC	REC'D N	TOTAL N	MEANS\$	RECEIVED MEASURE	% TOTAL \$
LEC	\$75,930	70	75	\$1,085	93%	36%
KINETECHS	\$123,988	138	140	\$898	99%	28%
MINCIN	\$106,557	140	140	\$761	100%	23%
TOTAL	\$306,474	348	355	\$881	98%	27%

CONTRACTOR	WALL	REC'D N	TOTAL N	MEANS\$	RECEIVED MEASURE	% TOTAL \$
LEC	\$14,488	35	75	\$414	47%	7%
KINETECHS	\$177,853	118	140	\$1,507	84%	40%
MINCIN	\$196,769	139	140	\$1,416	99%	42%
TOTAL	\$389,110	292	355	\$1,333	82%	35%

CONTRACTOR	DUCTFURN	REC'D N	TOTAL N	MEANS\$	RECEIVED MEASURE	% TOTAL \$
LEC	\$25,086	52	75	\$482	69%	12%
KINETECHS	\$21,110	103	140	\$205	74%	5%
MINCIN	\$5,582	44	140	\$127	31%	1%
TOTAL	\$51,778	199	355	\$260	56%	5%

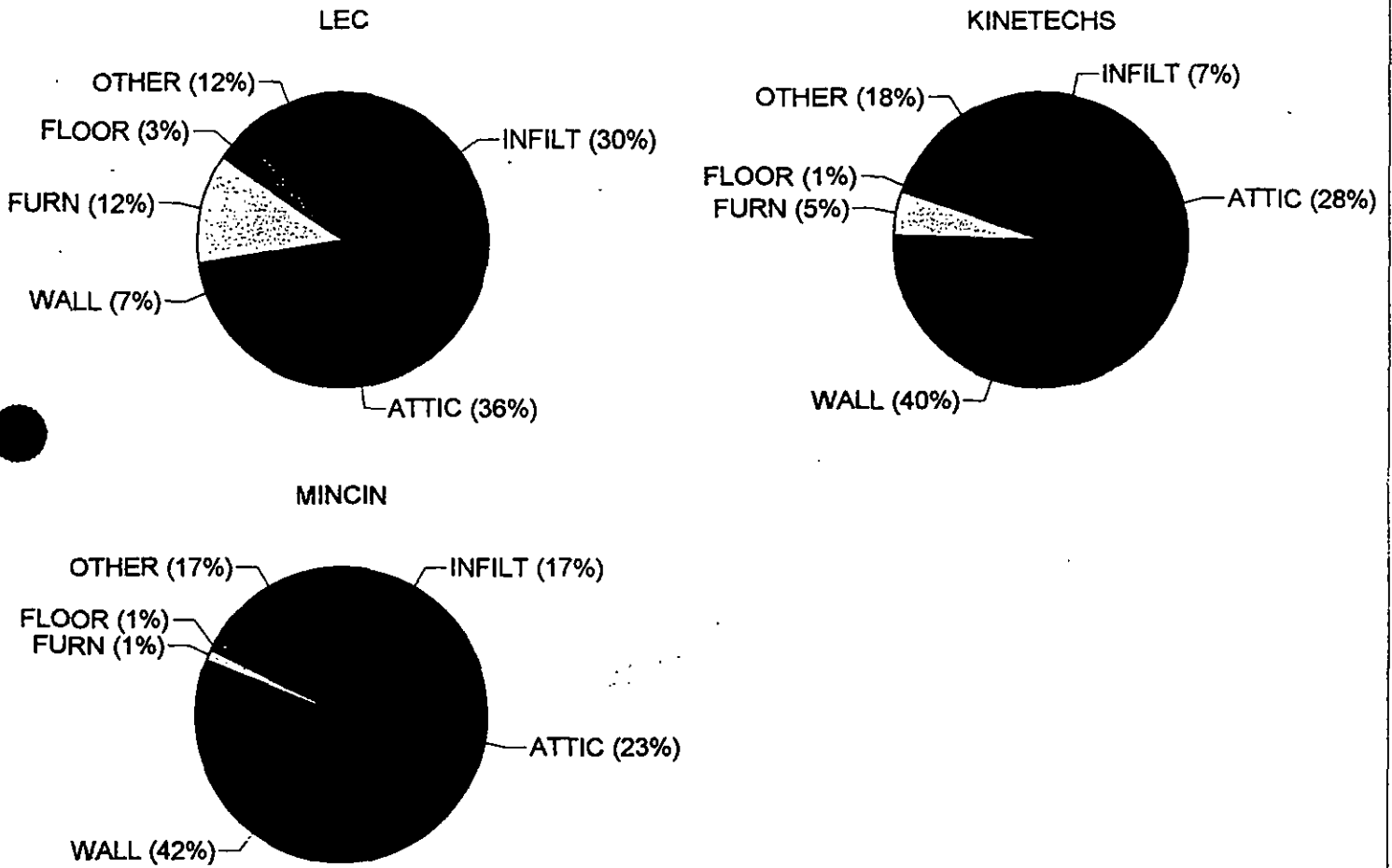
CONTRACTOR	FLOOR	REC'D	TOTAL N	MEANS\$	RECEIVED MEASURE	% TOTAL \$
LEC	\$6,860	26	75	\$264	35%	3%
KINETECHS	\$6,157	42	140	\$147	30%	1%
MINCIN	\$5,651	63	140	\$90	45%	1%
TOTAL	\$18,668	131	355	\$143	37%	2%

CONTRACTOR	ALL OTHER	REC'D	TOTAL N	MEANS\$	RECEIVED MEASURE	% TOTAL \$
LEC	\$25,995	NA	75	\$347	NA	12%
KINETECHS	\$80,153	NA	140	\$573	NA	18%
MINCIN	\$78,569	NA	140	\$561	NA	17%
TOTAL	\$184,717	NA	355	\$520	NA	16%

CONTRACTOR	TOTAL \$	REC'D	TOTAL N	MEANS\$	RECEIVED MEASURE	% TOTAL \$
LEC	\$210,672	NA	75	\$2,809	NA	100%
KINETECHS	\$439,670	NA	140	\$3,141	NA	100%
MINCIN	\$472,865	NA	140	\$3,378	NA	100%
TOTAL	\$1,123,207	NA	355	\$3,164	NA	100%

Figure 6

Measures Spending by Contractor  
LIURP 1995



**Figure 6a Air Infiltration Expenditures by Contractor**

<b>Contractor</b>	<b>Material</b>	<b>Labor</b>
<b>LEC</b>	43%	57%
<b>KINETECHS</b>	30%	70%
<b>MINCIN</b>	30%	70%
<b>TOTAL</b>	35%	65%

**Figure 6a Attic Insulation Expenditures by Contractor**

<b>Contractor</b>	<b>Material</b>	<b>Labor</b>
<b>LEC</b>	27%	73%
<b>KINETECHS</b>	52%	48%
<b>MINCIN</b>	53%	47%
<b>TOTAL</b>	46%	54%

**Figure 6a Wall Insulation Expenditures by Contractor**

<b>Contractor</b>	<b>Material</b>	<b>Labor</b>
<b>LEC</b>	23%	77%
<b>KINETECHS</b>	23%	77%
<b>MINCIN</b>	32%	68%
<b>TOTAL</b>	28%	72%

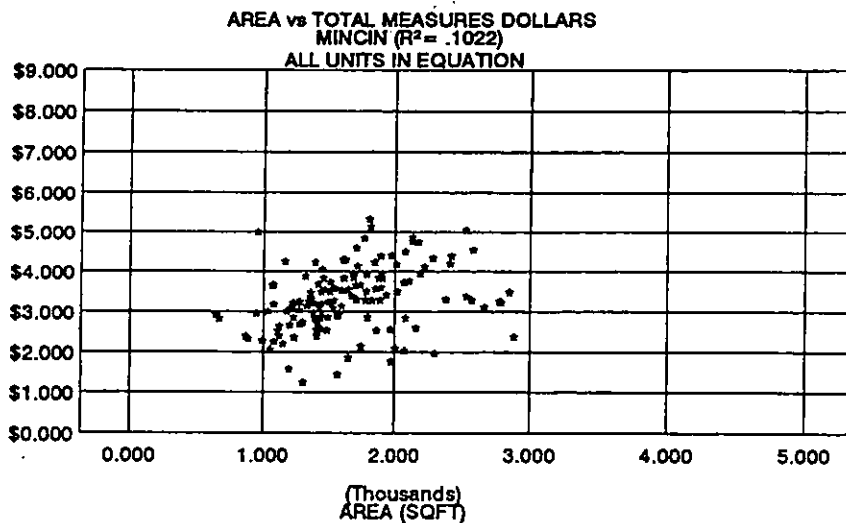
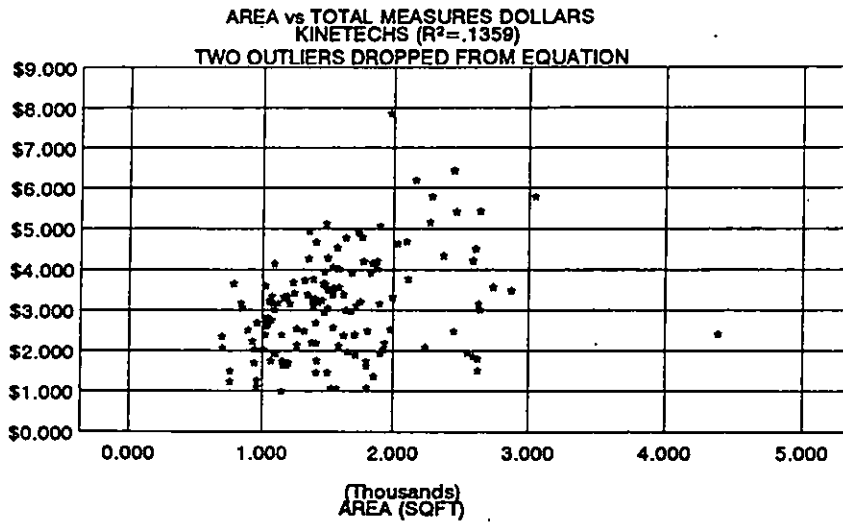
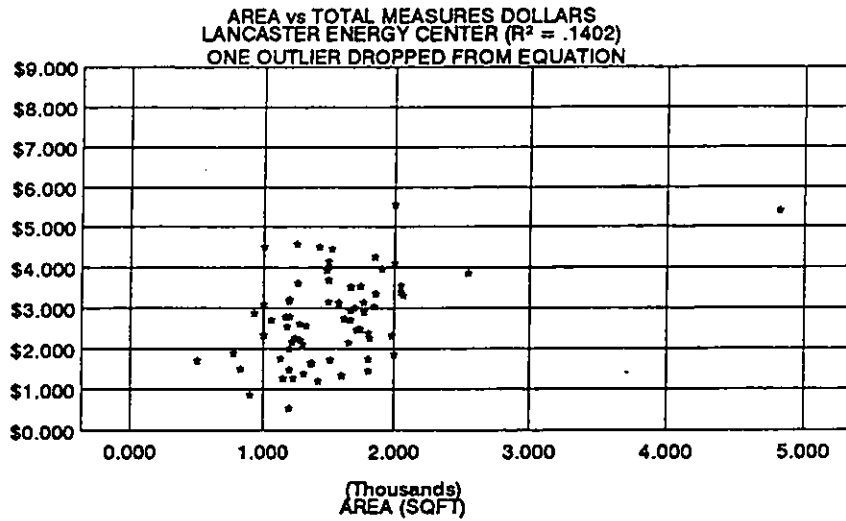
Figure 6a above describes some striking variations in the ratio of labor to material costs between LIURP contractors. The Lancaster Energy Center has significantly higher material costs for air infiltration expenses (43%), and greater labor costs for attic insulation than either of the other two contractors.

Major uncertainties exist in two areas: Why are selected measures applied in specific houses; Why do the costs of such measures vary between contractor.

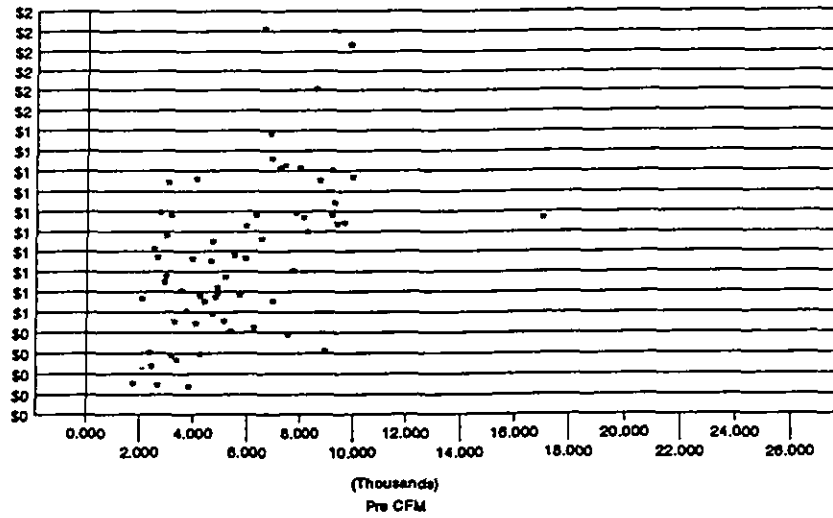
Figure 7 - Caulking Data - Case Studies - LEC

PCID	DWELL TYPE	AREA	NAC1	SAVE	%SAVE	DUCTFURN	ATTIC	WALL	OTHER INFILT	CAULK	TOT \$	CAULK/ TOTAL \$
03357196002	1-1/2 2 or more	1495	185	22	11.7%	\$919	\$1,114	\$33	\$193	\$1,527	\$4,205	36.3%
03381602001	Row house (insi	4817	286	20	6.8%	\$0	\$2,419	\$303	\$457	\$1,464	\$5,452	26.9%
03387544001	Row house (insi	1196	164	30	18.2%	\$450	\$743	\$230	\$244	\$1,372	\$3,227	42.5%
03374906002	1-1/2 2 or more	1500	322	58	17.9%	\$0	\$1,276	\$288	\$604	\$1,242	\$4,081	30.4%
03416931002	1-1/2 2 or more		139	6	4.0%	\$8	\$510	\$632	\$204	\$1,067	\$2,815	37.9%
03400070001	1-1/2 2 or more	2000	214	46	21.4%	\$0	\$1,802	\$1,435	\$339	\$1,055	\$5,622	18.8%
03248680001	1-1/2 2 or more	1854	176	44	24.9%	\$134	\$1,146	\$272	\$215	\$1,014	\$3,415	29.7%
03356630001	1-1/2 2 or more	1768	202	40	19.9%	\$741	\$50	\$0	\$526	\$995	\$2,967	33.5%
03396025001		2540	262	-1	-0.6%	\$0	\$2,072	\$230	\$230	\$993	\$3,916	25.4%
03374915001	Row house (end	1060	126	8	6.3%	\$0	\$1,163	\$0	\$332	\$893	\$2,779	32.1%
02353950001	1-1/2 2 or more	1666	117	-2	-1.3%	\$144	\$1,252	\$0	\$153	\$850	\$2,776	30.6%
03380671001	1-1/2 2 or more	1278	143	-22	-15.2%	\$156	\$1,351	\$0	\$37	\$835	\$2,671	31.3%
03270095001	1-1/2 2 or more	1300	120	-7	-5.6%	\$81	\$880	\$0	\$74	\$786	\$2,172	36.2%
033854376001	1-1/2 2 or more	2044	187	33	17.4%	\$71	\$1,159	\$387	\$412	\$753	\$3,619	20.8%
03356184002	1-1/2 2 or more	1575	254	23	8.9%	\$523	\$1,035	\$237	\$309	\$742	\$3,194	23.2%
0403739002	1-1/2 2 or more	1665	153	26	16.7%	\$982	\$721	\$162	\$509	\$727	\$3,582	20.3%
03725919001	Row house (insi	2068	303	34	11.3%	\$0	\$1,610	\$0	\$487	\$727	\$3,375	21.5%
03761255001	Duplex or condo	1360	136	13	9.3%	\$0	\$539	\$0	\$283	\$721	\$1,700	42.4%
0376139001	Row house (insi	2048	152	-19	-12.3%	\$0	\$1,649	\$238	\$314	\$692	\$3,459	20.0%
03353164004	1-1/2 2 or more	1712	278	87	31.4%	\$115	\$566	\$375	\$270	\$685	\$2,528	27.1%
033834535001	1-1/2 2 or more	1738	154	15	9.9%	\$250	\$1,252	\$196	\$314	\$674	\$3,593	18.8%
03380485001	1-1/2 2 or more	1764	186	-6	-3.0%	\$179	\$1,630	\$0	\$358	\$633	\$3,194	19.8%
03379700001	Row house (insi	826	110	7	6.1%	\$568	\$0	\$0	\$222	\$602	\$1,552	38.8%
03411189001	Ranch single le	1850	197	38	19.4%	\$108	\$1,564	\$1,040	\$185	\$578	\$4,326	13.4%
03490001	Ranch single le		157	31	19.8%	\$132	\$935	\$0	\$603	\$550	\$2,953	18.6%
03400047001	Duplex or condo	930	111	17	14.9%	\$378	\$963	\$0	\$359	\$528	\$2,926	18.0%
03356424001	1-1/2 2 or more	1200	131	39	29.8%	\$639	\$1,040	\$306	\$89	\$527	\$3,271	16.1%
03767398001	Row house (insi	500	84	30	35.6%	\$343	\$195	\$231	\$175	\$510	\$1,766	28.9%
0400785001		1520	220	85	38.4%	\$474	\$1,536	\$60	\$157	\$503	\$4,528	11.1%
0335326001	Duplex or condo	1283	115	5	4.0%	\$472	\$499	\$0	\$275	\$501	\$2,282	22.0%
03356147002		1000	247	39	15.9%	\$1,307	\$1,759	\$0	\$287	\$489	\$4,569	10.7%
03421727001	Duplex or condo	1200	137	19	13.6%	\$0	\$598	\$0	\$198	\$489	\$1,540	31.8%
03424335001	1-1/2 2 or more	1600	137	36	26.5%	\$20	\$679	\$0	\$46	\$470	\$1,400	33.6%
03714410001	1-1/2 2 or more	1500	99	12	11.9%	\$656	\$1,697	\$306	\$263	\$453	\$3,764	12.0%
03654860001	Row house (insi	1200	114	29	25.8%	\$427	\$1,171	\$469	\$45	\$445	\$2,856	15.6%
0403279001	1-1/2 2 or more		122	22	17.7%	\$543	\$1,120	\$0	\$184	\$399	\$2,463	16.2%
03158873002	1-1/2 2 or more	1000	144	5	3.8%	\$0	\$906	\$245	\$78	\$337	\$2,403	14.0%
04049714001	1-1/2 2 or more	1800	297	75	25.3%	\$0	\$1,087	\$0	\$264	\$332	\$1,797	18.5%
03037165002	1-1/2 2 or more	1800	152	-2	-1.5%	\$50	\$710	\$0	\$272	\$320	\$1,502	21.3%
03355903001	1-1/2 2 or more	1221	109	17	15.5%	\$611	\$887	\$0	\$148	\$318	\$2,216	14.4%
03364713001	1-1/2 2 or more	1220	101	24	24.0%	\$1,309	\$0	\$0	\$285	\$278	\$2,236	12.4%
02937671001		1900	140	71	50.8%	\$1,729	\$1,805	\$0	\$37	\$270	\$4,037	6.7%
03306948001	1-1/2 2 or more	900	107	-6	-5.7%	\$534	\$0	\$0	\$37	\$242	\$925	26.2%
03398231002	Row house (insi	1130	141	-10	-7.0%	\$0	\$1,124	\$0	\$225	\$230	\$1,815	12.7%
03234388001	Row house (insi	1150	134	57	42.5%	\$358	\$406	\$0	\$190	\$211	\$1,323	15.9%
03418588001		1330	118	20	17.3%	\$606	\$1,184	\$0	\$119	\$177	\$2,627	6.7%
0348730001	1-1/2 2 or more	1230	124	15	11.7%	\$424	\$603	\$0	\$0	\$156	\$1,323	11.8%
0373557001	1-1/2 2 or more	2000	155	19	12.5%	\$0	\$181	\$819	\$278	\$153	\$1,920	8.0%
0354336001	Ranch single le	1666	106	9	8.9%	\$130	\$1,585	\$0	\$173	\$144	\$3,006	4.8%
0355026003		1260	182	43	23.3%	\$0	\$869	\$1,890	\$74	\$74	\$3,688	2.0%

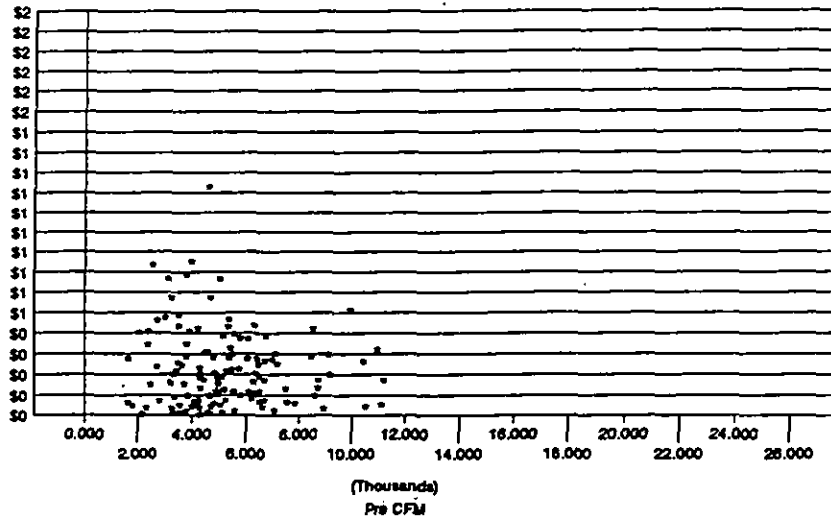
Figure 8 - House Size vs Total Weatherization Expenditures



LANCASTER ENERGY CENTER  
(RP = .2517)



KINETECHS  
(RP = .0069)



MINCIN  
(RP = .0282)

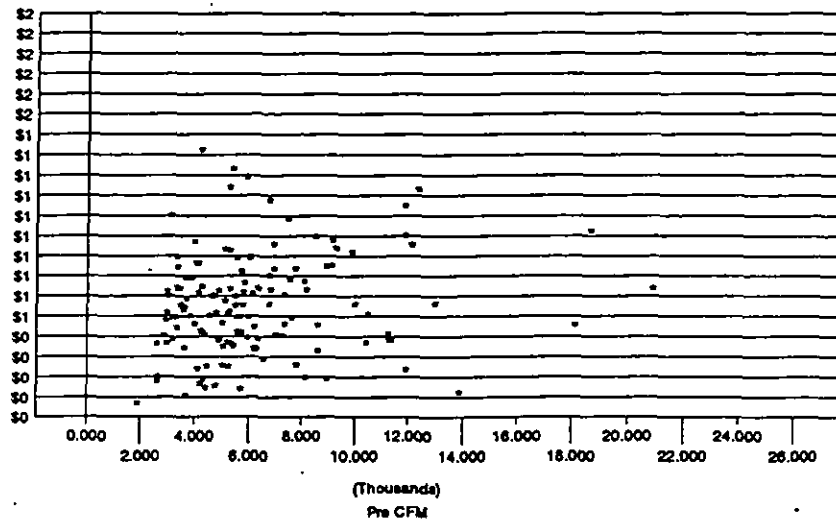


Figure 10 - Matched Cases - Kinetechs vs Mincin: Attic Expenditures/sq ft

KINETECHS					MINCIN					DIFF	
AREA	ATTIC	R30+	R30+ + ATTIC	ATTIC + AREA	AREA	ATTIC	R30+	R30+ + ATTIC	ATTIC + AREA		
936	\$1,107	\$1,067	96%	\$1.18	944	\$660	\$316	48%	\$0.70	(\$0.48)	
1,064	\$1,195	\$1,132	95%	\$1.12	1,064	\$735	\$599	81%	\$0.69	(\$0.43)	
1,070	\$622	\$277	45%	\$0.58	1,073	\$596	\$354	59%	\$0.56	(\$0.03)	
1,152	\$674	\$615	91%	\$0.58	1,144	\$579	\$234	40%	\$0.51	(\$0.08)	
1,188	\$667	\$632	95%	\$0.56	1,196	\$485	\$371	77%	\$0.41	(\$0.16)	
1,200	\$1,111	\$563	51%	\$0.93	1,202	\$480	\$234	49%	\$0.40	(\$0.53)	
1,260	\$1,214	\$96	8%	\$0.96	1,257	\$574	\$438	76%	\$0.46	(\$0.51)	
1,350	\$624	\$89	14%	\$0.46	1,346	\$580	\$444	76%	\$0.43	(\$0.03)	
1,377	\$677	\$580	86%	\$0.49	1,386	\$749	\$277	37%	\$0.54	\$0.05	
1,380	\$1,070	\$801	75%	\$0.78	1,391	\$663	\$345	52%	\$0.48	(\$0.30)	
1,400	\$1,800	\$387	22%	\$1.29	1,400	\$665	\$443	67%	\$0.48	(\$0.81)	
1,408	\$1,167	\$715	61%	\$0.83	1,404	\$423	\$378	89%	\$0.30	(\$0.53)	
1,411	\$505	\$326	65%	\$0.36	1,408	\$546	\$271	50%	\$0.39	\$0.03	
1,424	\$1,062	\$301	28%	\$0.75	1,421	\$632	\$230	36%	\$0.44	(\$0.30)	
1,456	\$882	\$692	78%	\$0.61	1,443	\$784	\$498	64%	\$0.54	(\$0.06)	
1,466	\$1,200	\$539	45%	\$0.82	1,466	\$739	\$267	36%	\$0.50	(\$0.31)	
1,484	\$846	\$789	93%	\$0.57	1,487	\$627	\$235	37%	\$0.42	(\$0.15)	
1,496	\$806	\$806	100%	\$0.54	1,491	\$710	\$303	43%	\$0.48	(\$0.06)	
1,500	\$977	\$855	88%	\$0.65	1,506	\$826	\$385	47%	\$0.55	(\$0.10)	
1,568	\$1,035	\$756	73%	\$0.66	1,564	\$529	\$391	74%	\$0.34	(\$0.32)	
1,580	\$1,010	\$817	81%	\$0.64	1,573	\$672	\$472	70%	\$0.43	(\$0.21)	
1,620	\$513	\$249	49%	\$0.32	1,616	\$1,082	\$238	22%	\$0.67	\$0.35	
1,705	\$1,069	\$497	46%	\$0.63	1,706	\$432	\$294	68%	\$0.25	(\$0.37)	
1,728	\$1,170	\$685	59%	\$0.68	1,736	\$762	\$282	37%	\$0.44	(\$0.24)	
1,751	\$999	\$126	13%	\$0.57	1,744	\$862	\$610	71%	\$0.49	(\$0.08)	
1,768	\$796	\$659	83%	\$0.45	1,764	\$1,125	\$581	52%	\$0.64	\$0.19	
1,800	\$1,560	\$863	55%	\$0.87	1,810	\$849	\$597	70%	\$0.47	(\$0.40)	
1,848	\$954	\$919	96%	\$0.52	1,844	\$894	\$435	49%	\$0.48	(\$0.03)	
1,873	\$1,407	\$396	28%	\$0.75	1,872	\$898	\$343	38%	\$0.48	(\$0.27)	
1,892	\$1,381	\$1,155	84%	\$0.73	1,890	\$499	\$257	52%	\$0.26	(\$0.47)	
1,968	\$1,176	\$318	27%	\$0.60	1,968	\$972	\$684	70%	\$0.49	(\$0.10)	
2,029	\$1,207	\$1,207	100%	\$0.59	2,017	\$959	\$402	42%	\$0.48	(\$0.12)	
2,095	\$1,337	\$674	50%	\$0.64	2,082	\$1,040	\$191	18%	\$0.50	(\$0.14)	
2,240	\$988	\$953	96%	\$0.44	2,219	\$974	\$396	41%	\$0.44	(\$0.00)	
2,368	\$1,451	\$1,207	83%	\$0.61	2,381	\$1,061	\$735	69%	\$0.45	(\$0.17)	
2,584	\$1,295	\$86	7%	\$0.50	2,576	\$1,072	\$595	56%	\$0.42	(\$0.09)	
1,596	\$1,043	\$546	52%	\$0.67	1,594	\$743	\$372	50%	\$0.47	(\$0.20)	
										STD DEV	\$0.22
										N	36
										t	2.04
										95% CI	\$0.08

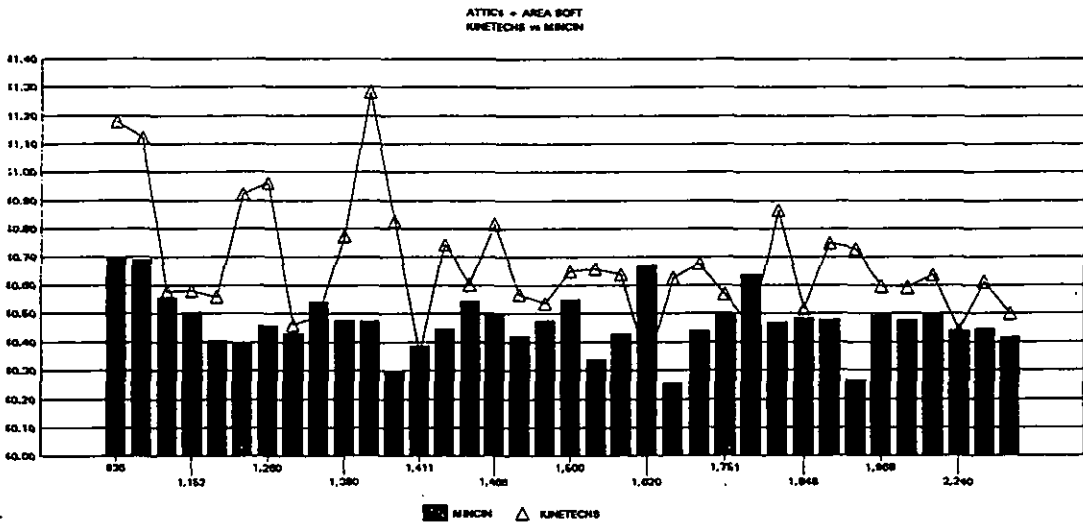


Figure 11 - Matched Cases - Kinetechs vs COAD Attic Expenditures/sq ft

COAD					
JOB	A AREA	LEVELS	AREA	ATTIC	ATTIC/AREA
94-0500-2	684	1.0	684	\$403	\$0.59
94-0275-2	736	1.0	736	\$444	\$0.60
94-0589-2	840	1.0	840	\$448	\$0.53
94-0256-2	844	1.0	844	\$477	\$0.57
94-0557-2	933	1.0	933	\$485	\$0.52
94-0641-2	560	1.7	960	\$465	\$0.48
94-0598-2	992	1.0	992	\$475	\$0.48
94-0416-2	692	1.6	1,076	\$433	\$0.40
94-0676-2	1,194	1.0	1,194	\$574	\$0.48
94-0445-2	625	2.0	1,250	\$493	\$0.39
94-0522-2	1,366	1.0	1,334	\$780	\$0.59
94-0359-2	980	1.4	1,344	\$627	\$0.47
94-0390-2	1,100	1.3	1,456	\$652	\$0.45
94-0239-2	1,335	1.1	1,530	\$828	\$0.54
94-0603-2	1,350	1.2	1,580	\$1,068	\$0.68
94-0340-2	828	1.9	1,596	\$561	\$0.35
94-0204-2	924	1.8	1,704	\$515	\$0.30
94-0255-2	896	2.0	1,792	\$522	\$0.29
94-0298-2	1,260	1.4	1,824	\$755	\$0.41
94-0661-2	944	1.9	1,840	\$509	\$0.28
94-0629-2	1,654	1.1	1,898	\$933	\$0.49
GROUP	987	1.4	1,305	\$593	\$0.47

KINETECHS								DIFFERENCE
PCID	DWELL TYPE	AREA	ATTIC	R3B	ATTIC/AREA			
1269241800	Ranch single le	696	\$741	\$741	\$1.06		\$0.48	
1300332100	1-1/2 2 or more	756	\$432	\$402	\$0.57		(\$0.03)	
1025094800	Bi-level or Spl	840	\$919	\$536	\$1.09		\$0.56	
1047919500	1-1/2 2 or more	850	\$839	\$319	\$0.99		\$0.42	
1356105700	1-1/2 2 or more	936	\$1,107	\$1,067	\$1.18		\$0.66	
1045494600	?	960	\$541	\$511	\$0.56		\$0.08	
1001432900	Ranch single le	1,008	\$840	\$800	\$0.83		\$0.35	
1091925700	1-1/2 2 or more	1,070	\$622	\$277	\$0.58		\$0.18	
1356297500	1-1/2 2 or more	1,188	\$667	\$632	\$0.56		\$0.08	
1047406500	1-1/2 2 or more	1,260	\$1,214	\$96	\$0.96		\$0.57	
1000504900	Ranch single le	1,320	\$595	\$0	\$0.45		(\$0.13)	
1378998900	1-1/2 2 or more	1,350	\$624	\$89	\$0.46		(\$0.00)	
1049981500	1-1/2 2 or more	1,456	\$882	\$692	\$0.61		\$0.16	
1317128500	?	1,527	\$457	\$48	\$0.30		(\$0.24)	
1298842200	1-1/2 2 or more	1,580	\$1,010	\$817	\$0.64		(\$0.04)	
1003239000	1-1/2 2 or more	1,584	\$432	\$0	\$0.27		(\$0.08)	
1021860500	1-1/2 2 or more	1,705	\$1,069	\$497	\$0.63		\$0.33	
1407181300	Duplex or cond	1,792	\$729	\$240	\$0.41		\$0.12	
1019823600	1-1/2 2 or more	1,800	\$1,560	\$863	\$0.87		\$0.45	
1050492400	?	1,836	\$657	\$495	\$0.36		\$0.08	
1373501400	Ranch single le	1,893	\$790	\$554	\$0.42		(\$0.07)	
GROUP		1,305	\$797	\$461	\$0.66		\$0.19	

STD DEV	\$0.26
N	21
t	2.09
95% CI	\$0.12

ATTIC\$ + SQFT AREA  
KINETECHS vs COAD

ATTIC\$ + AREA

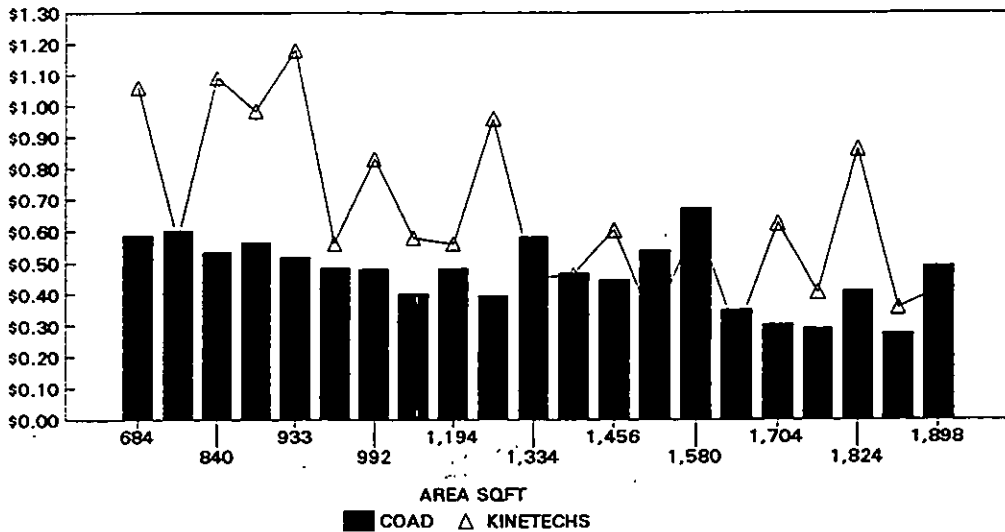
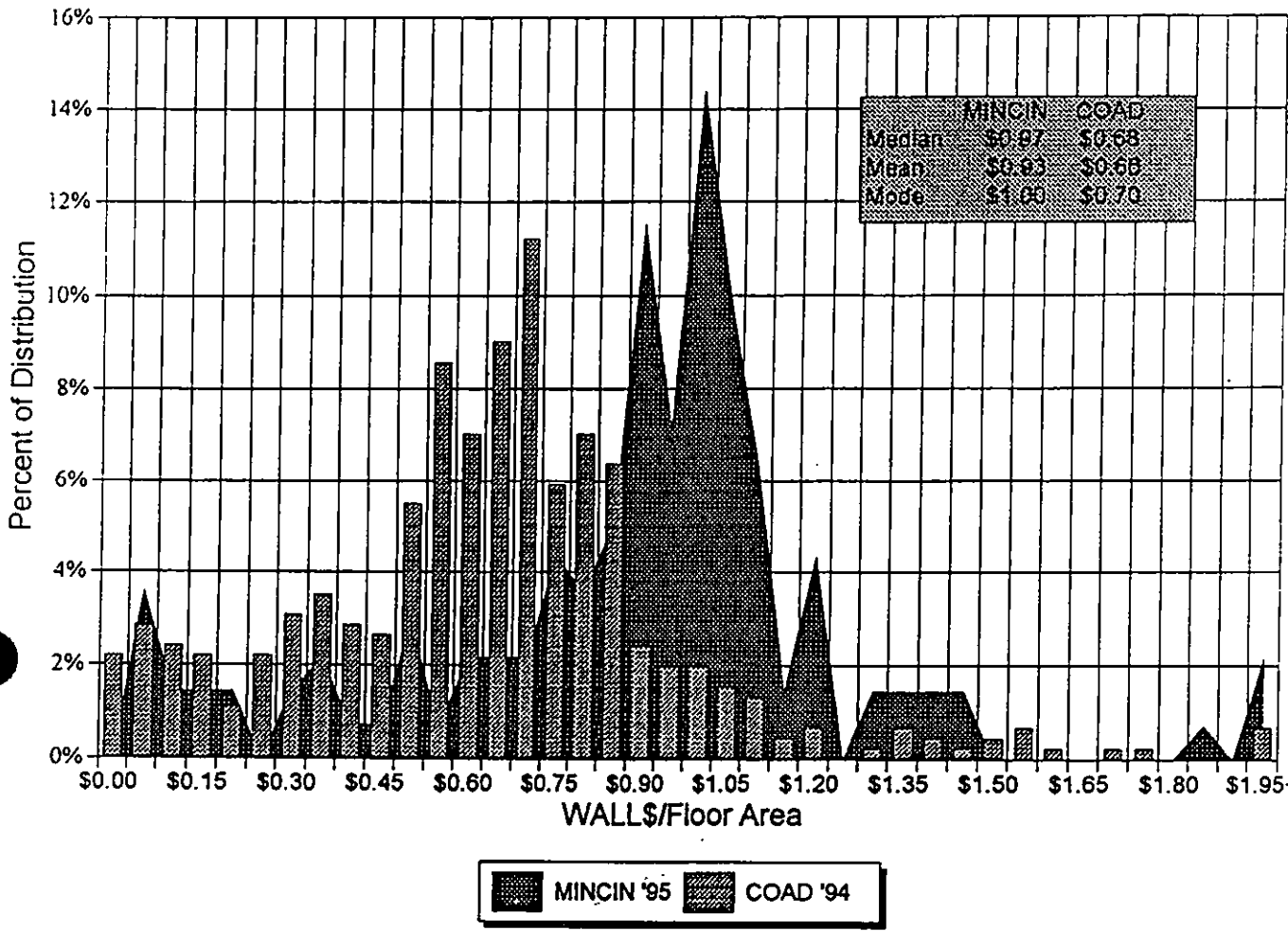


Figure 12 - Cost of Wall Insulation Per Sq Ft of Floor Area - Mincin vs COAD



## Impact of Weatherization Measures

*What factors account for different levels of energy savings among LIURP participants?*

Overall, the 1995 LIURP program has produced a large average impact on energy use among participants.

Figure 13 presents the change in NAC savings as well as the NAC percent savings for the participant group. As the figure displays, NAC percent savings for the treatment group was 26.6% ( $\pm 1.7\%$ ), or 49.3 MCF per house ( $\pm 3.8$ ).

**Figure 13**

Sample Statistics for Participant Group	Pre NAC	Pst NAC	SAVINGS	Percent SAVINGS
Mean	185.0	135.7	49.3	26.6%
Median	177.2	129.0	47.1	27.0%
Range	336.9	287.2	184.7	79.6%
Minimum	83.5	53.8	-31.8	-18.7%
Maximum	420.4	341.0	152.9	60.9%
Count	269	269	269	269
Confidence Level (95%)	$\pm 6.0$	$\pm 5.3$	$\pm 3.8$	$\pm 1.7\%$

Sample Statistics for Control Group	Pre NAC	Pst NAC	SAVINGS	Percent SAVINGS
Mean	181.2	184.3	-3.1	-1.7%
Median	171.4	175.4	-3.2	-1.9%
Range	267.8	242.4	161.3	93.4%
Minimum	82.3	84.2	-80.9	-58.9%
Maximum	350.2	326.6	80.4	34.6%
Count	336	336	336	336
Confidence Level (95%)	$\pm 4.8$	$\pm 5.0$	$\pm 1.9$	$\pm 1.1\%$

Control Adjusted Savings	SAVINGS	Percent SAVINGS
Mean	52.4	28.3%

Figure 13 also tests for control group sample changes over the same time period. The control group demonstrated statistically significant NAC increase in consumption of -1.7% ( $\pm 1.1\%$ ).

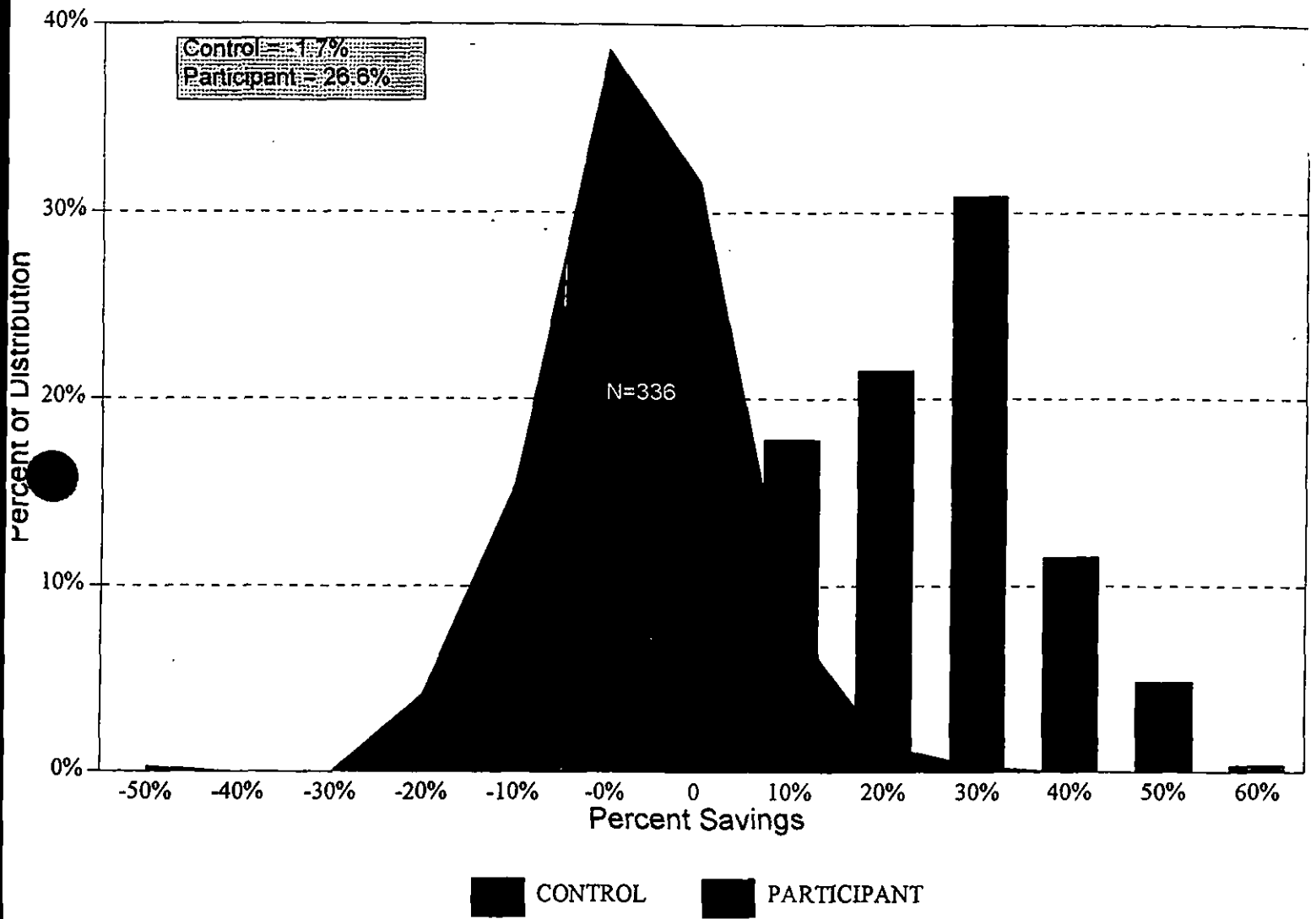
Because the control group's consumption increase is statistically significant, they must be added to the participant savings to determine control adjusted savings. Control adjusted savings for 1995 are 49.3 MCF + 3.1 MCF, or 52.4 MCF. Multiplied by the 355 total completions for 1995, total savings are equal to 18,602 MCF. Percentage savings are likewise adjusted, 26.6% + 1.7%, or 28.3%.

The large average savings described above do tend to mask quite a bit of variability in savings achieved. **Figure 14** presents the distribution of savings for both the participant and control groups. The most frequent category of participants falls around the 30% level, while substantial number of participants saved more than 40% and even greater numbers fell into the 0-10% or 20% ranges. Our task is to identify factors that can help explain why one house savings only a small amount, while another saves much more.

Figure 14

# LIURP 1995 Saving Distributions

Participant vs. Control



## Contractor Impacts

**Figure 15** illustrates the great variation in NAC savings by contractor, with Lancaster Energy Center having by far the lowest NAC percent savings. Lancaster Energy Center's savings were only 14.3%, compared to those generated by Kinetechs (28.4%) and Mincin (29.9%).

Some contractors face a different mix of housing types within their service territories. To control for any impact of differing house types, **Figure 16** compares savings levels by contractor after removing row-houses and unknown housing types from the analysis. After controlling for the large number of row houses the Lancaster Energy Center weatherizes, their savings still don't approach the savings of the other two contractors.

**Figure 16** illustrates that dropping row houses and "unknown" dwelling types actually widens the gap between the savings obtained for the Lancaster Energy Center units, 12.3%, compared to those units worked on by Kinetechs and Mincin, where savings were 29.0% and 29.6% respectively.

Figure 15

MEAN % SAVINGS BY COUNTY  
LIURP 1995

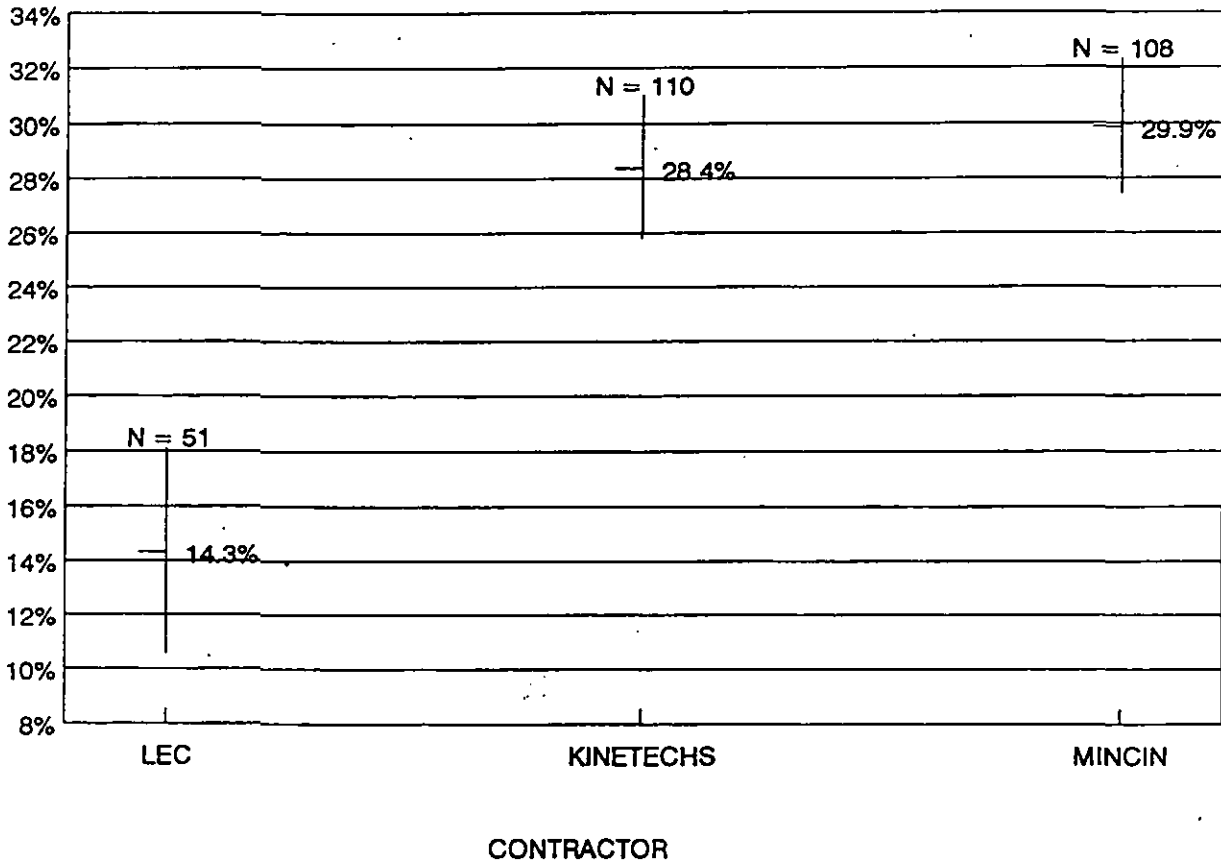


Figure 16

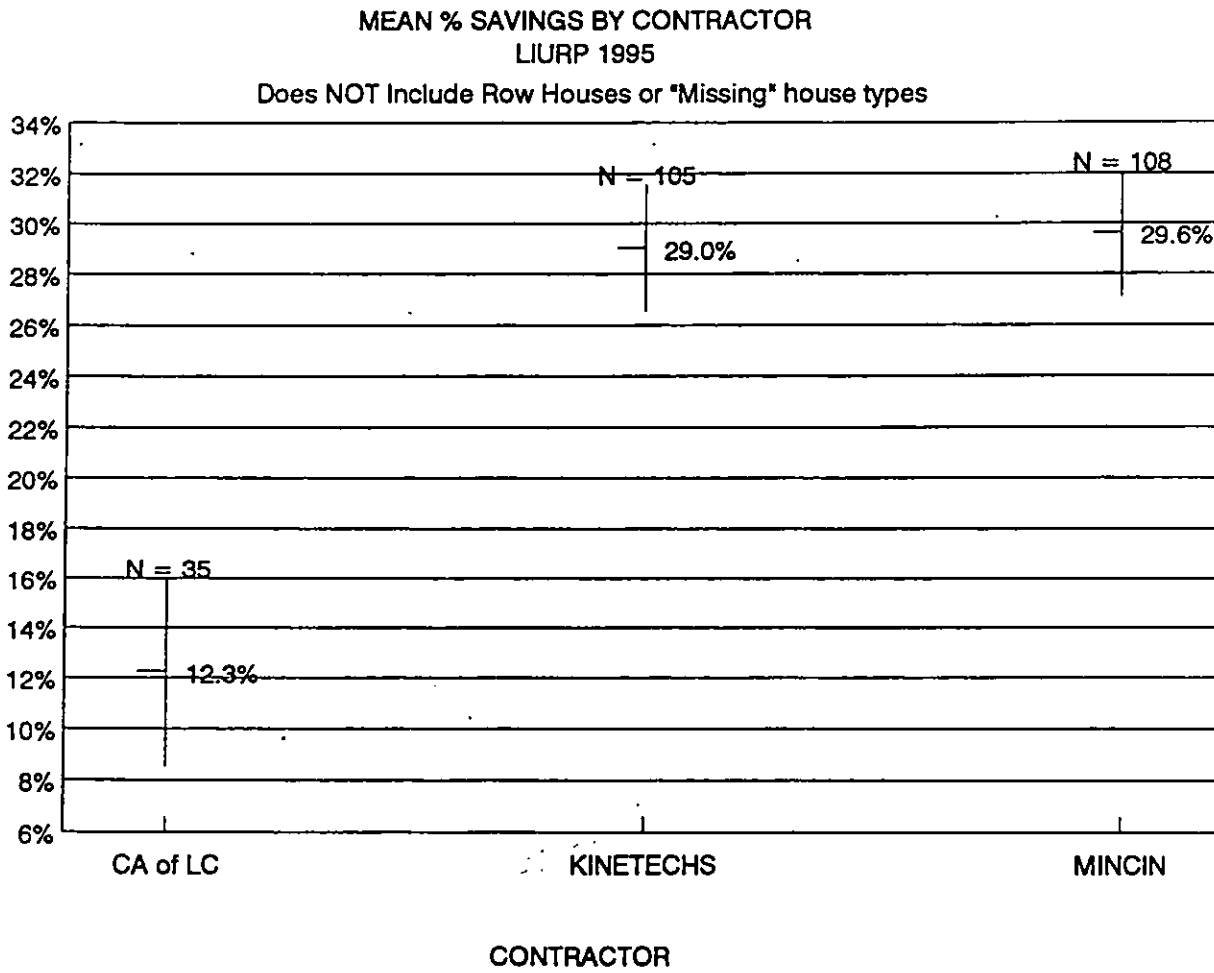
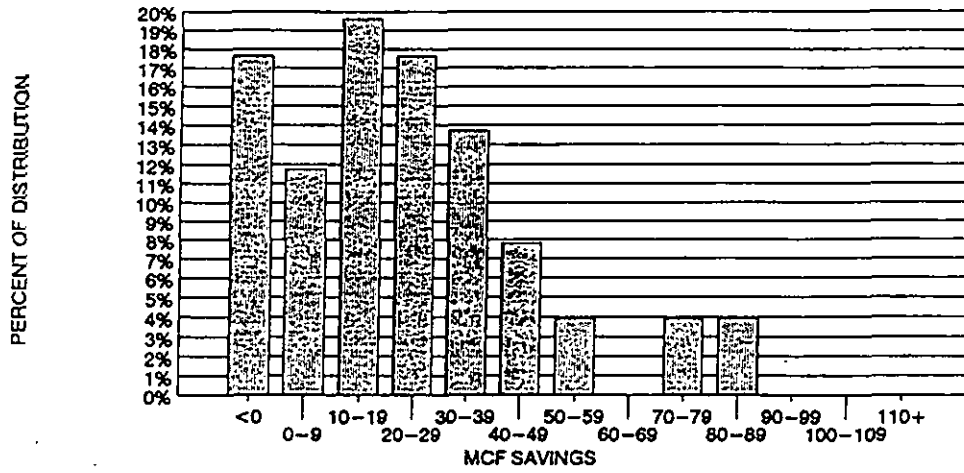
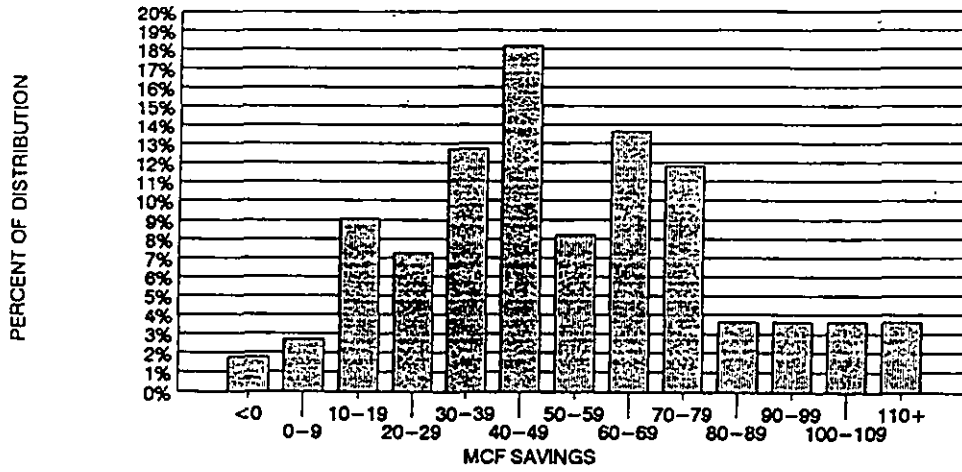


Figure 17 - Distribution of Savings by Contractor

LANCASTER ENERGY CENTER



KINETECHS



MINCIN

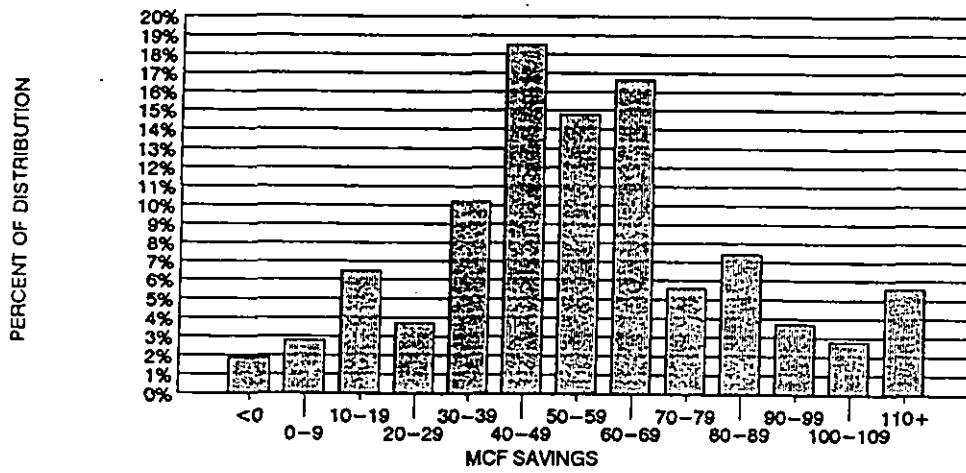
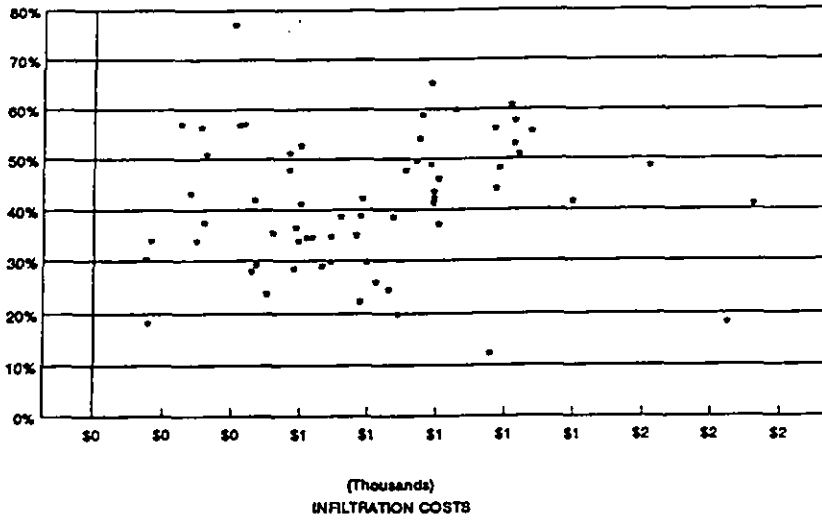
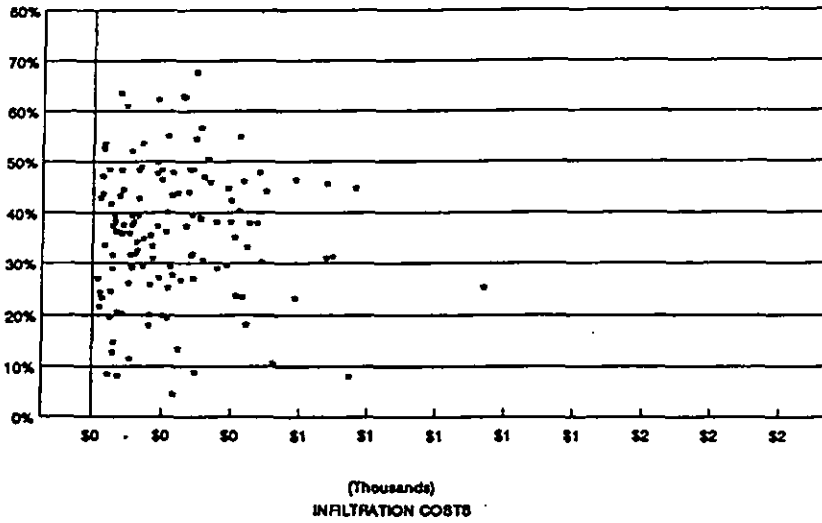


Figure 18 - Infiltration Costs vs CFM Percent Reduction

Infiltration Costs vs CFM % Reduction  
LEC (R<sup>2</sup> = .0101)



Infiltration Costs vs CFM % Reduction  
Kinetcha (R<sup>2</sup> = .0004)



Infiltration Costs vs CFM % Reduction  
Mincln (R<sup>2</sup> = .1033)

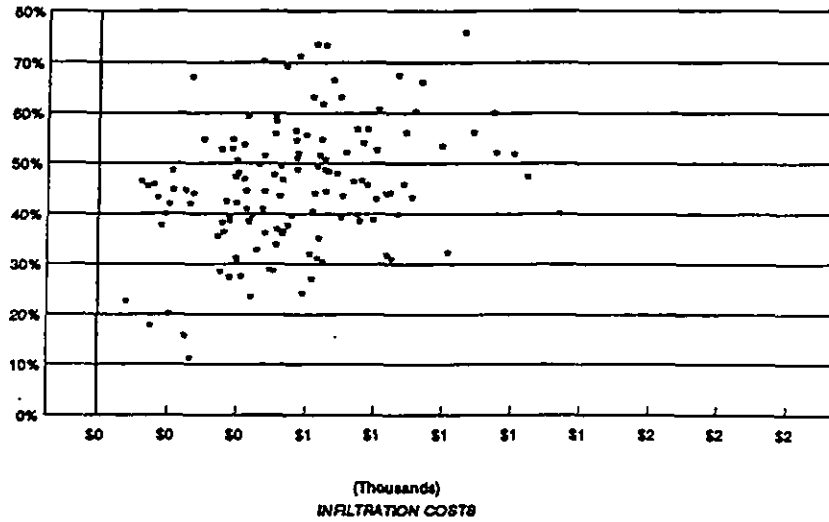
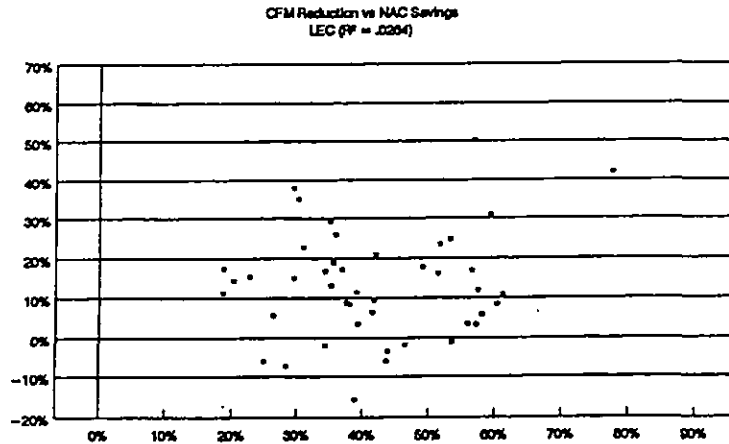
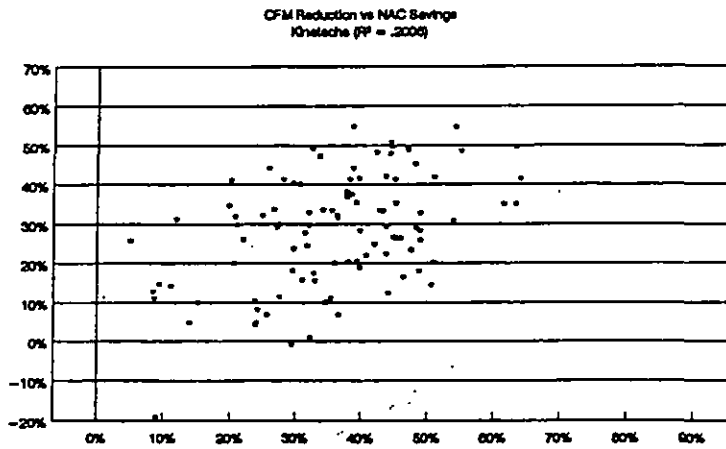


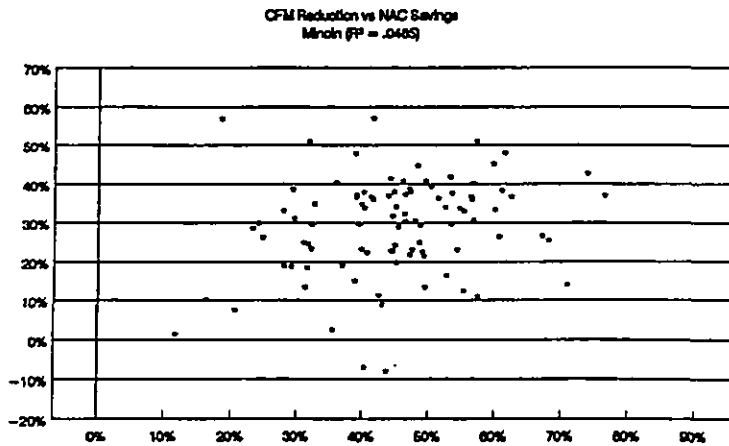
Figure 19 - CFM Percent Reduction vs Percent Savings



CFM Reduction



CFM Reduction



CFM Reduction

Figure 20 - Savings by Education and Contractor

PRE NAC	Ed/Inspect	Education	NONE	TOTAL
LEC	1,647	NA	NA	1,647
KINETECHS	2,166	1,836	1,701	1,873
MINCIN	1,976	1,928	1,655	1,922
TOTAL	1,809	1,883	1,684	1,850

POST NAC	Ed/Inspect	Education	NONE	TOTAL
LEC	1,411	NA	NA	1,411
KINETECHS	1,417	1,325	1,365	1,341
MINCIN	1,327	1,364	1,132	1,348
TOTAL	1,397	1,345	1,282	1,357

% SAVINGS	Ed/Inspect	Education	NONE	TOTAL
LEC	14.3%	NA	NA	14.3%
KINETECHS	34.6%	27.9%	19.7%	28.4%
MINCIN	32.9%	29.3%	31.6%	29.9%
TOTAL	22.8%	28.6%	23.9%	26.6%

95% CI	Ed/Inspect	Education	NONE	TOTAL
LEC	3.8%	NA	NA	3.8%
KINETECHS	5.9%	3.0%	11.0%	2.6%
MINCIN	5.2%	2.8%	13.5%	2.4%
TOTAL	3.5%	2.0%	7.8%	1.8%

N	Ed/Inspect	Education	NONE	TOTAL
LEC	51	0	0	51
KINETECHS	16	85	9	110
MINCIN	15	88	5	108
TOTAL	82	173	14	269

*What energy savings were achieved?*

*What is the distribution of energy savings?*

**Figure 17** illustrates that the most frequent category of savings among both Mincin and Kinetechs is the 40-49 MCF group, with almost all of their cases falling between 40 and 80 MCF. This is a very consistent pattern. On the other hand the Lancaster Energy Center's savings are distributed across the 0 to 40 MCF range.

*What accounts for variations in energy savings?*

Infiltration costs are only related to CFM reduction for Mincin (10%) The implication that the measures applied to reduce infiltration may not be reliable and effective in the context in which they are applied. In turn CFM reduction is only related to savings for Kinetechs (20%) This implies that other factors such as the application of insulation are stronger determinates of savings.

The interesting question is why does Kinetechs exhibit a significant relationship in **Figure 19**. This may be the result of a different method of diagnostic and measure selection than is used by the other two contractors.

**Figure 20** presents the available data on education impacts. Since all the Lancaster Energy Center jobs got only one type of education (ed/inspect) comparison cannot be made across all three contractors. The small samples involved for the other contractors prevents a clear pattern from emerging from this data. Should a test of the effectiveness of education methods be desired, a small field experiment can be set up to randomly assign education treatments to different groups of LIURP participants.

## Non-Energy Impacts

Five questions are addressed in this section:

*Are customer bills reduced following the delivery of LIURP services?*

*Are customer payments more timely and complete following the delivery of LIURP services?*

*Are the levels of customer arrearages reduced following the delivery of LIURP services?*

*Are LIURP participants subject to less frequent collection actions?*

*Are LIURP participants less likely to request utility services than other customer group.*

**Figure 21 - Revenue Billing Impacts**

Group	PreCAP	PstCAP	N	Pre	Post	Chg	Pr >  t
PART	N	N	192	1146	941	-248	0.00
PART	N	Y	3	1210	839	-449	0.29
PART	Y	N	5	1150	959	-220	0.03
PART	Y	Y	66	1221	960	-261	0.00
PART	ALL		265	1166	945	-253	0.00
CTRL	N	N	440	1185	1150	-27	0.16
CTRL	N	Y	1	1119	1112	-7	.
CTRL	Y	N	3	1108	1262	154	0.45
CTRL	Y	Y	30	1269	1170	-91	0.00
CTRL	ALL		474	1190	1152	-29	0.10

Prior the delivery of weatherization services the 265 LIURP participants for whom billing data was available had average revenue bills of \$1,166. This value was similar to the matched control sample's bills of \$1,190.

Figure 21 illustrates participant reductions in utility bills of \$253. The \$29 decline in Control sample bills is not statistically significant. For Customers not participating in the CAP program, bills were reduced by \$248 in the year following delivery of weatherization services. LIURP customers who also participated in CAP saw their bills reduced by \$261.

**Figure 22 - Customer Payment Impacts**

Group	Payment Plan Status		N	Pre	Post
	PreCAP	PstCAP		Mean	Mean
PART	N	N	221	3.76	4.26
FULL					
PARTIAL			3.61	3.24	
MISSED				3.81	4.00
CTRL	N	N	465	2.49	2.27
FULL					
PARTIAL			4.57	4.08	
MISSED				4.94	4.97

Because Customer Assistance Plan customers experience different installment payment obligations, they were excluded from the comparisons in **Figure 22**. The 221 participants for whom bill payment data were available improved the rate of full and on time payments from 3.76 per year prior to weatherization to 4.26 during the year following weatherization. This represents a 13.3% improvement for the participant group. Because the control samples full payment rate declined from 2.49 to 2.27 during the same time interval(-8.8%), this results in a control adjusted improvement in full payments of 22%.

**Figure 23 - Energy Assistance Impact**

Group	Payment Plan Status		N	Pre	Post	Chg	Pr >  t
	PreCAP	PstCAP					
PART	N	N	269	218	120	-98	0.00
PART	N	Y	3	320	302	-18	0.88
PART	Y	N	7	197	48	-149	0.09
PART	Y	Y	77	307	130	-177	0.00
PART	ALL		355	238	122	-115	0.00
CTRL	N	N	469	229	95	-133	0.00
CTRL	N	Y	1	250	777	527	.
CTRL	Y	N	3	532	52	-480	0.14
CTRL	Y	Y	32	274	119	-156	0.00
CTRL	ALL		505	233	98	-136	0.00

Figure 23 shows a significant decline in the amount of energy assistance credited to participant accounts. The 355 participants received \$238 during the year prior to weatherization services, and \$122 during the year following the delivery of weatherization. This value was more than matched by the decline experienced by the \$136 decline within the control sample actually results in a net improvement of 13% for non CAP participants.

CAP participants show a greater decline in energy assistance payments than non CAP customers among both LIURP participants and controls. This observation indicates that the LIURP participation per se does not cause the reduction in energy assistance. As in past years, energy assistance is being generally reduced among the LIURP eligible population.

Figure 24 - Arrearage Impacts

Group	Payment Plan Status		N	Arrearage Points Prior to Wx		Following Wx	
	PreCAP	PstCAP		AR1	AR2	AR3	AR4
PART	N	N	185	531	628	670	642
PART	N	Y	3	504	1107	935	848
PART	Y	N	5	778	887	669	843
PART	Y	Y	72	921	857	824	645
PART	ALL		265	639	698	715	650
CTRL	N	N	453	777	819	813	1001
CTRL	N	Y	1	293	199	375	481
CTRL	Y	N	3	1922	1829	1843	2066
CTRL	Y	Y	31	876	832	823	729
CTRL	ALL		488	789	825	819	989

LIURP participants averaged \$639 in accrued arrearage one year prior to receiving weatherization (AR1). Their arrearage climbed to \$698 at the point just prior to delivery of weatherization, (AR2) in Figure 24.

Because the CAP plan targets especially high arrearage customers and includes an arrearage forgiveness plan, examining LIURP participants who have not been enrolled in CAP provides better evidence of any arrearage reduction impact of LIURP by itself. Non-CAP Participant arrearage climbed from \$531 to \$628 during the year prior to weatherization, and then began to decline during the year following weatherization, dropping from \$670 to \$642.

Another way to express these trends is to estimate what the expected value of these groups arrearage would have been had the pre-program trends continued. For participants, arrearage was growing at an 18% annual rate, yielding an expected value at the end of the year following weatherization of \$792. Since the actual value of their arrearage was \$642, we can say that participants avoided \$150 in arrearage. Using the same procedure we find that the non-CAP control sample's arrearage was growing at a 5% rate, giving an expected post weatherization arrearage level of \$857. Since the control sample's actual arrearage was \$1001, they were \$144 over the expected level. Therefore the control adjusted arrearage changes is \$294 during the post weatherization period.

This is consistent with the finding that the savings in revenue billing and receipt of energy assistance has been directed to the reduction of participant arrearage among the non-CAP LIURP participants.

Among CAP participants, arrearage also dropped faster in the post weatherization. This group of 72 CAP/LIURP participants saw their arrearage dropping at a 7.5% annual rate during the pre period and 27.8% during the post weatherization interval.

## Customer Service Impacts

Figure 25 describes the changes in both collection actions and requests for customer services among several subgroups of LIURP participants and their control counterparts. Again, because the CAP program is designed to have a major impact on these customer service features, the CAP and No CAP samples are presented separately.

In the collections area, both shut off order printing and termination notice issuing are factors that should be reduced markedly by more complete customer payments. Related to collections pressures are demands for other types of customer service such as customer contacts, disputes, cancelling and enrolling in extended payment agreements, customer service orders, credit and financial inquiries, and remarks.

The following Figure 25 depicts the observed pre and post weatherization changes for each control and participant sub-sample respectively. Among non-CAP participants and controls alike, the most frequently occurring transactions were customer remarks, termination notices, customer contacts, and financial keyword inquiries.

Significant differences between participants and controls were observed for both termination notices and financial keywords. The control sample showed 19% fewer termination notices against a 37% drop among the participants when comparing the year prior to weatherization with the year after the delivery of weatherization services. For financial keywords, the control sample showed a decline of 20% during the study interval compared to a 45% drop within the non-CAP participants.

The overall decline in both customer contacts and remark transactions was much higher between the pre and post weatherization periods, but with no clear advantage for the LIURP participants.

Canceled and extending new extended payment plans is also a very significant source of demand for Columbia Customer Service and Credit personnel. These two transactions occurred 2.19 and 2.87 times per year among control population and 1.80 and 2.59 for the participant non-CAP group prior to weatherization. Among controls, the levels of these transactions declined by 20% and 17% respectively during the study interval. The decline among participants was much sharper at 49% and 48%.

Among non CAP participants, the 10 transaction categories tallied below represent 22.6 transactions per year. Because participant transactions declined at a 47% rate overall, and the controls declined at a 32% rate, we can conclude that LIURP participation resulted in a net reduction of 3.4 transaction per year. This reduction in demand for services is an avoided cost that offsets part of the LIURP program expense.

This conclusion is also supported by the prior observations of lower bills and reduced arrearage levels results in less collection pressure on customers and hence produces a smaller demand for customer service.

**Pre Weatherization(Figure 25)**

All Controls	
Variable N=505	Mean
Cancel Plan	2.10
Shut Off Print	0.67
Term Notice	3.85
Cust Contact	3.75
Dispute	0.17
Extended Pay	2.73
Service Order	0.10
Credit	2.17
Financial	3.55
Remarks	5.67

**Post Weatherization**

All Controls	
Variable N=504	Mean
Cancel Plan	1.66
Shut Off Print	0.67
Term Notice	3.10
Cust Contact	1.95
Dispute	0.07
Extended Pay	2.27
Service Order	0.13
Credit	1.22
Financial	2.85
Remarks	2.95

**Pre Weatherization**

All Participants	
Variable N=355	Mean
Cancel Plan	1.68
Shut Off Print	0.46
Term Notice	2.79
Cust Contact	3.50
Dispute	0.24
Extended Pay	2.36
Service Order	0.13
Credit	1.92
Financial	3.05
Remarks	5.54

**Post Weatherization**

All Participants	
Variable N=355	Mean
Cancel Plan	0.75
Shut Off Print	0.40
Term Notice	1.62
Cust Contact	2.03
Dispute	0.08
Extended Pay	1.12
Service Order	0.36
Credit	0.83
Financial	1.51
Remarks	2.55

**Pre Weatherization**

Controls with no CAP	
Variable N=469	Mean
Cancel Plan	2.19
Shut Off Print	0.69
Term Notice	4.04
Cust Contact	3.72
Dispute	0.17
Extended Pay	2.87
Service Order	0.10
Credit	2.24
Financial	3.72
Remarks	5.64

**Post Weatherization**

Controls with no CAP	
Variable N=468	Mean
Cancel Plan	1.75
Shut Off Print	0.72
Term Notice	3.27
Cust Contact	1.84
Dispute	0.07
Extended Pay	2.39
Service Order	0.12
Credit	1.29
Financial	2.99
Remarks	2.88

**Pre Weatherization**

Participants with No CAP	
Variable N=269	Mean
Cancel Plan	1.80
Shut Off Print	0.47
Term Notice	3.02
Cust Contact	3.55
Dispute	0.25
Extended Pay	2.59
Service Order	0.12
Credit	1.99
Financial	3.32
Remarks	5.52

**Post Weatherization**

Participants with No CAP	
Variable N=269	Mean
Cancel Plan	0.92
Shut Off Print	0.46
Term Notice	1.91
Cust Contact	1.72
Dispute	0.09
Extended Pay	1.35
Service Order	0.36
Credit	1.01
Financial	1.84
Remarks	2.32

## Cost of Savings Achieved

*What factors account for differences in the cost of the energy savings achieved through the LIURP program.*

The cost of energy saved is found by dividing the total weatherization measure cost by the amount of savings in MCF. For 1995 the cost per MCF was \$62.07 in the subset of 256 participants for which complete data was available. (See Figure 27)

Since the measures installed by the LIURP program contractors are long lasting, the LIURP investment leads to a stream of benefits that can be as long as 15 years. The value of this stream of benefits is also proportional to both the price of natural gas (and electricity when air conditioning is involved) as well as the tendency of low income customers not to be able pay their entire bill for gas service. In the latter case the reduction in shortfall (expressed by reduced arrearage) may be a better indicator of utility benefits of LIURP.

*What is the distribution in the cost of each MCF saved?*

Each of the three contractors exhibited a starkly different pattern of cost per MCF distributions. Figure 26 illustrates that Mincin's costs were very highly concentrated in the \$50 to \$99/MCF category. On the other hand Kinetechs most frequent category was the \$0-\$49 group, but they also showed a significant number of cases in the \$100-\$149 group.

Lancaster Energy Center had a much higher incidence of extreme values (12% cost over \$300/MCF and about 18% of their houses actually used more energy during the post weatherization period.

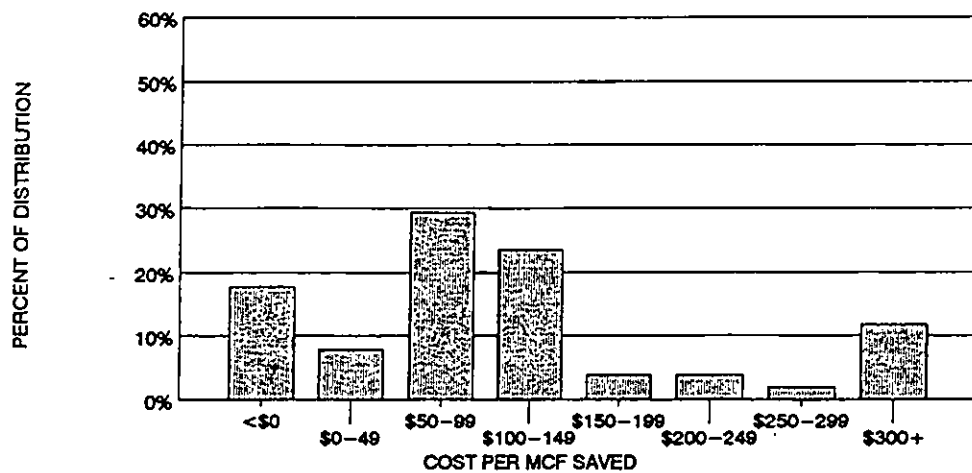
One model of program improvement would be to obtain the consistency of Mincin and move all the contractors toward the "under \$49" category that Kinetechs has shown is obtainable in some circumstances.

*What accounts for variations in the cost of energy savings?*

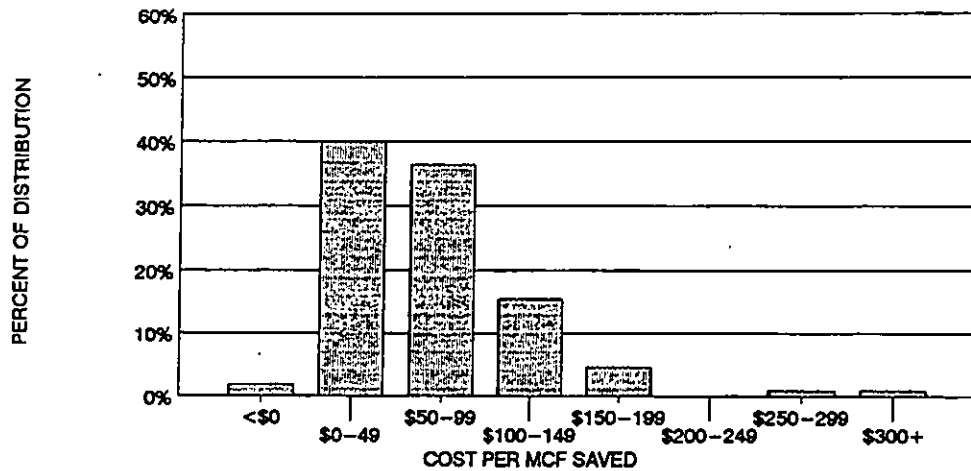
To understand these variations in cost per MCF saved, we excluded negative savers as well as the Lancaster Energy Center completions and looked just at Mincin and Kinetechs. Here we found that only 6% of the observed variation in cost per MCF can be accounted for by any combination of factors collected within the LIURP program. The two factors accounting for this 6% are CFM reduction and the pre-weatherization energy use per square foot. This means that the higher the air infiltration reduction and the more pre weatherization use per square foot, the lower the cost per MCF. It is important to note that CFM reduction is product of both wall insulation and specific air infiltration measures.

Figure 26 - Cost Per MCF Saved - Distribution by Contractor

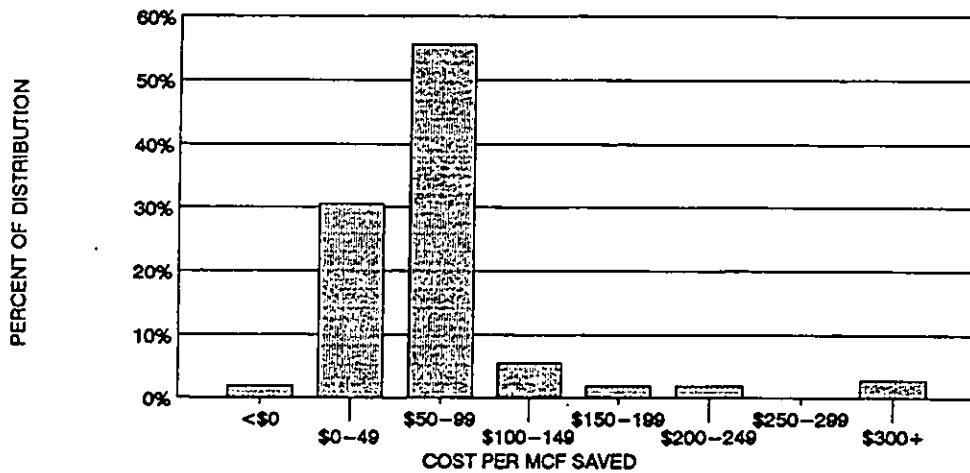
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KINETECHS



MINCIN



## Weatherization Measure Combinations

Eleven specific combination of weatherization measures occurred at least once among LIURP participants. A measure occurrence was defined as spending at least \$100 for one of the four major categories summarized in **Figure 27**.

In the left most column in **Figure 27**, the presence or absence of each measure is indicated by either a "0" or a "1" in one of four positions defined as follows:

0011 Wall-No: Attic-No: Duct/Furnace Work-Yes: Infiltration Work-Yes  
0100 Wall-No: Attic-Yes:Duct/Furnace Work-No: Infiltration Work-No  
0101 Wall-No: Attic-Yes:Duct/Furnace Work-No: Infiltration Work-Yes  
0110 Wall-No: Attic-Yes:Duct/Furnace Work-Yes: Infiltration Work-No  
1000 Wall-Yes:Attic-No :Duct/Furnace Work-Yes: Infiltration Work-No  
1011 Wall-Yes:Attic-No :Duct/Furnace Work-Yes: Infiltration Work-No  
1100 Wall-Yes:Attic-Yes:Duct/Furnace Work-No : Infiltration Work-No  
1101 Wall-Yes:Attic-Yes:Duct/Furnace Work-No : Infiltration Work-Yes  
1110 Wall-Yes:Attic-Yes:Duct/Furnace Work-Yes: Infiltration Work-No  
1111 Wall-Yes:Attic-Yes:Duct/Furnace Work-Yes: Infiltration Work-No

Overall the combination made up of Wall/Attic/Infiltration was the most frequently applied, occurring 115 times out of the 256 cases where complete data was available. Out of the 16 possible combinations, only 11 were observed.

The second most popular combination (all four measure groups applied) accounted for an additional 60 cases. Only two other combinations were substantial, the all but wall combination with 22 cases, and the attic and infiltration only group with 20 cases.

The most dramatic aspect of **Figure 27** is the high concentration of 86 out of 105 Mincin cases within the "1101" group (Wall, Attic, Infiltration).

While measure combinations varied between contractors, the total expenditures for weatherization measures did not vary greatly, ranging only from \$2,862 for Lancaster Energy Center, to \$3,312 for Mincin. Cost per MCF saved on the other hand varied more widely ranging from \$118.24 per MCF at Lancaster Energy Center to \$57.45 at Mincin.

The two houses treated by Mincin in the Attic and Infiltration combination probably come closest to best possible outcome feasible in a weatherization program. While less was done to these houses they achieved 37.9% savings at a cost of only \$1,804. While there were no doubt exceptions circumstances that created the opportunity to achieve the favorable cost benefit ratio observed, this type of ratio may form a benchmark or target toward which the program may strive in the future.

The effects of Wall Insulation on reducing air infiltration can be seen in **Figure 27** by comparing the levels of CFMCHNG in column 5 between the combinations that did not receive wall insulation (the first five rows for each contractor, with those that did receive wall insulation, (the last six rows). Only Kinetechs has a wide enough distribution of cases across the wall no-wall divide to test this hypothesis. For Kinetechs, it is clear that CFM reduction is higher for the wall measure combinations (27.6% without wall vs 38.7% for those combinations with wall insulation)

LUWP 05 MEASURES CROSSTABS

Figure 27 - Costs per/MCF Saved: Combinations of Weatherization Measures

ALL GROUPS	N	PRECFM	POSTCFM	CFMCHNG	NAC1	NAC2	MCF SAVED	%SAVED	AREA	PREMCF/SQF	TOT\$	COST/MCF SAVED	WALLS/SQF	ATTICS/SQF	DUCT/URN/SQF	INFILTS/SQF
0011	4	4,710	3,096	34.2%	134	125	9	6.8%	2,040	0.066	\$1,572	\$173.24	\$0.00	\$0.00	\$0.33	\$0.26
0100	5	3,675	2,528	31.2%	173	149	23	13.6%	2,593	0.067	\$1,417	\$60.53	\$0.01	\$0.30	\$0.01	\$0.02
0101	20	4,900	3,070	38.6%	179	149	30	18.0%	2,454	0.073	\$1,890	\$62.51	\$0.00	\$0.37	\$0.01	\$0.21
0110	2	2,058	2,297	22.3%	187	165	22	11.7%	2,893	0.065	\$2,128	\$97.01	\$0.00	\$0.17	\$0.26	\$0.02
0111	22	4,343	2,711	37.9%	153	126	27	17.8%	1,890	0.081	\$2,503	\$95.50	\$0.00	\$0.60	\$0.21	\$0.25
1000	4	5,727	3,565	37.7%	178	132	46	28.0%	3,855	0.046	\$2,382	\$51.42	\$0.43	\$0.01	\$0.01	\$0.01
1011	1	6,093	3,979	34.7%	143	128	15	10.5%	3,456	0.041	\$1,948	\$130.04	\$0.33	\$0.00	\$0.05	\$0.01
1100	10	4,818	3,074	36.2%	166	116	50	30.3%	3,446	0.048	\$2,081	\$59.03	\$0.42	\$0.26	\$0.01	\$0.01
1101	115	6,105	3,313	45.7%	190	136	54	28.5%	1,953	0.098	\$3,200	\$60.56	\$0.70	\$0.41	\$0.01	\$0.01
1110	13	5,877	3,266	44.4%	215	132	83	29.3%	3,753	0.067	\$3,814	\$60.59	\$0.45	\$0.29	\$0.05	\$0.01
1111	60	5,882	3,316	43.4%	192	130	62	32.5%	2,800	0.099	\$3,654	\$58.74	\$0.49	\$0.33	\$0.09	\$0.18
	258	5,650	3,211	43.2%	185	135	50	27.2%	2,364	0.077	\$3,130	\$62.07	\$0.46	\$0.35	\$0.05	\$0.19

KINETECHS	N	PRECFM	POSTCFM	CFMCHNG	NAC1	NAC2	MCF SAVED	%SAVED	AREA	PREMCF/SQF	TOT\$	COST/MCF SAVED	WALLS/SQF	ATTICS/SQF	DUCT/URN/SQF	INFILTS/SQF
0011	1	8,558	6,502	24.0%	217	205	11	5.3%	5,215	0.042	\$1,574	\$137.23	\$0.00	\$0.01	\$0.06	\$0.08
0100	5	3,675	2,528	31.2%	173	149	23	13.6%	2,593	0.067	\$1,417	\$60.53	\$0.01	\$0.30	\$0.01	\$0.02
0101	9	5,113	3,557	30.4%	180	152	28	18.2%	3,708	0.050	\$1,797	\$52.99	\$0.00	\$0.25	\$0.01	\$0.02
0110	2	2,058	2,297	22.3%	187	165	22	11.7%	2,893	0.065	\$2,128	\$97.01	\$0.00	\$0.17	\$0.26	\$0.02
0111	9	3,718	2,504	30.2%	166	133	32	19.8%	2,841	0.083	\$2,175	\$66.97	\$0.00	\$0.40	\$0.08	\$0.11
1000	4	5,727	3,565	37.7%	178	132	46	28.0%	3,855	0.046	\$2,382	\$51.42	\$0.43	\$0.01	\$0.01	\$0.01
1011	1	6,093	3,979	34.7%	143	128	15	10.5%	3,456	0.041	\$1,948	\$130.04	\$0.33	\$0.00	\$0.05	\$0.01
1100	10	4,818	3,074	36.2%	166	116	50	30.3%	3,446	0.048	\$2,081	\$59.03	\$0.42	\$0.26	\$0.01	\$0.01
1101	21	5,477	3,253	40.6%	182	128	54	29.0%	3,132	0.056	\$3,165	\$56.57	\$0.47	\$0.25	\$0.01	\$0.01
1110	12	6,209	3,416	45.0%	217	153	64	29.3%	3,948	0.055	\$3,890	\$61.21	\$0.43	\$0.28	\$0.05	\$0.01
1111	32	5,181	3,209	37.6%	169	125	70	39.0%	3,818	0.054	\$3,716	\$52.76	\$0.44	\$0.23	\$0.09	\$0.01
	109	5,135	3,206	37.5%	187	134	64	28.6%	3,433	0.055	\$3,058	\$57.07	\$0.35	\$0.25	\$0.04	\$0.07

LEC	N	PRECFM	POSTCFM	CFMCHNG	NAC1	NAC2	MCF SAVED	%SAVED	AREA	PREMCF/SQF	TOT\$	COST/MCF SAVED	WALLS/SQF	ATTICS/SQF	DUCT/URN/SQF	INFILTS/SQF
0011	3	3,427	1,943	42.7%	106	98	8	7.8%	982	0.108	\$1,571	\$180.69	\$0.00	\$0.00	\$0.82	\$0.57
0100	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
0101	9	5,029	2,759	45.1%	172	154	18	10.7%	1,480	0.116	\$2,000	\$108.97	\$0.00	\$0.63	\$0.01	\$0.54
0110	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
0111	13	4,810	2,792	42.0%	144	120	23	16.3%	1,360	0.104	\$2,883	\$122.83	\$0.00	\$0.86	\$0.30	\$0.44
1000	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1011	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1100	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1101	8	6,810	3,812	44.0%	219	191	28	12.8%	2,145	0.102	\$3,836	\$138.60	\$0.33	\$0.62	\$0.00	\$0.50
1110	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1111	9	6,554	3,442	47.5%	188	135	33	19.8%	1,437	0.117	\$3,250	\$97.69	\$0.24	\$0.68	\$0.31	\$0.67
	42	5,513	3,059	44.5%	187	143	24	14.5%	1,531	0.109	\$2,802	\$118.24	\$0.14	\$0.67	\$0.21	\$0.53

MINCHN	N	PRECFM	POSTCFM	CFMCHNG	NAC1	NAC2	MCF SAVED	%SAVED	AREA	PREMCF/SQF	TOT\$	COST/MCF SAVED	WALLS/SQF	ATTICS/SQF	DUCT/URN/SQF	INFILTS/SQF
0011	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
0100	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
0101	2	4,343	2,276	47.6%	178	110	67	37.9%	1,101	0.149	\$1,804	\$26.80	\$0.03	\$0.47	\$0.00	\$0.40
0110	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
0111	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1000	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1011	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1100	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1101	88	6,192	3,281	47.0%	190	133	57	30.0%	1,047	0.115	\$3,270	\$57.49	\$0.85	\$0.45	\$0.00	\$0.33
1110	1	1,898	1,459	23.1%	190	135	55	28.1%	1,415	0.134	\$2,827	\$51.13	\$1.14	\$0.49	\$0.06	\$0.06
1111	19	7,006	3,479	50.3%	196	136	61	30.9%	1,899	0.108	\$3,756	\$61.90	\$0.84	\$0.45	\$0.11	\$0.36
	105	6,240	3,275	47.5%	191	133	58	30.3%	1,681	0.115	\$3,312	\$57.45	\$0.84	\$0.45	\$0.02	\$0.34

## Appendix

# METHODOLOGY

Annual savings in natural gas usage is the difference between energy use estimates in the pre-program period and the usage estimates in the post-program period. These values are reported as normalized annual consumption (NAC), the unit of measure being MCF's of natural gas.

NAC Savings were calculated for program participants and a control group, a sampling of program non-participants. The control group was selected from among income eligible non-program participants that matched LIURP participants on pre weatherization consumption and pre weatherization arrearage.

This yielded a control sample with consumption and arrearage patterns that were similar to the participant group. This step was essential in generating a valid control group since the LIURP program is targeted toward high consumption, high arrearage customers. This similarity in pre weatherization consumption can be seen in **Figure 28**. There we can see that the participant and control groups have a very similar distribution of pre weatherization MCF consumption.

The mean and median savings were then calculated for both the program participants and the program control group. Pair wise pre-post tests for significance were run on both samples. When the control group exhibits statistically significant pre-post changes, mean control savings are subtracted from the mean savings for the participant group to produce a control-adjusted savings estimate.

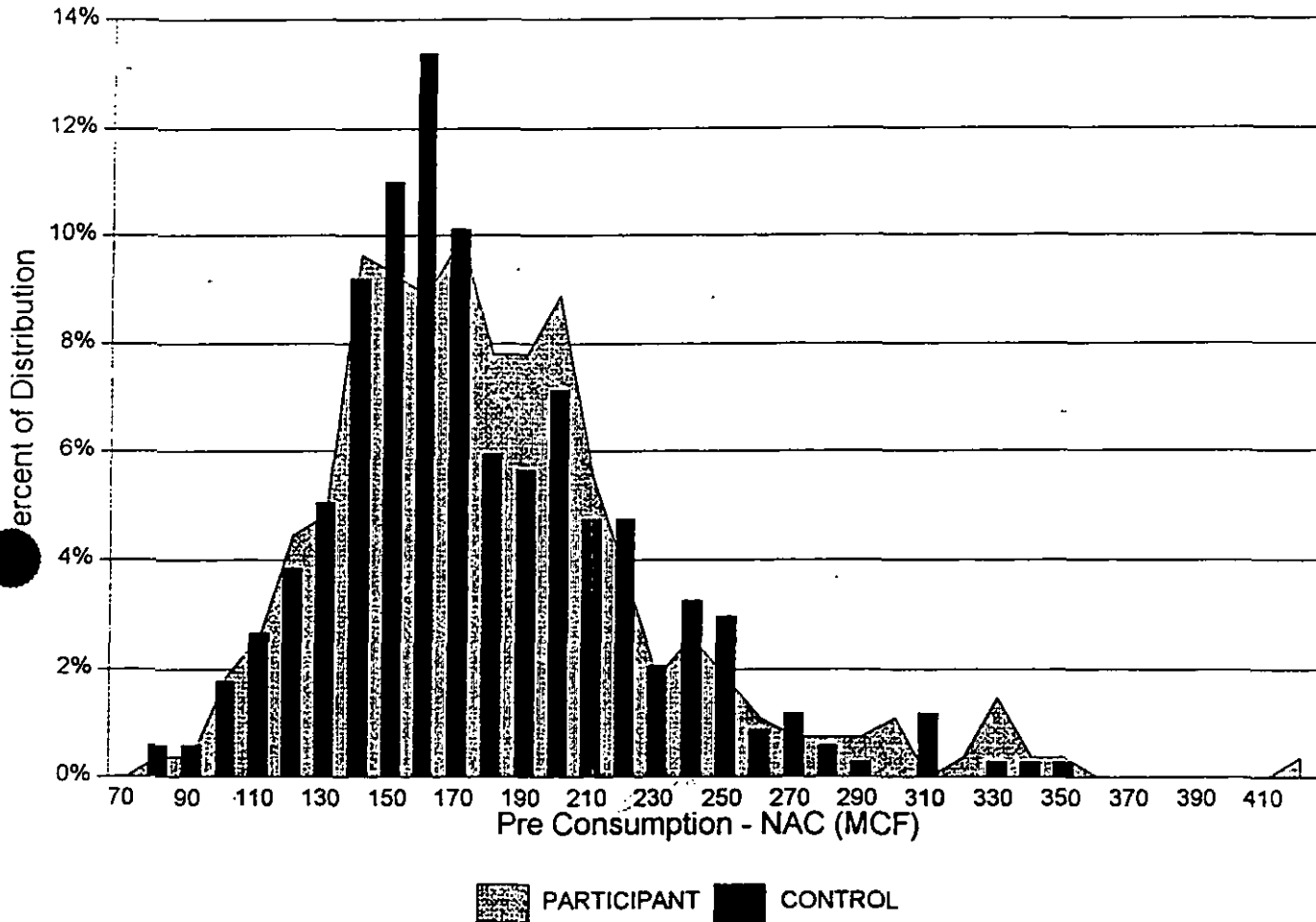
### Normalization Routine

To study changes in energy consumption, A&CE used the Princeton Scorekeeping Method (PRISM) to estimate normalized natural gas consumption. Because Columbia Gas collects actual meter readings on a bi-monthly schedule, a minimum of 15 months of consumption history pre and post was collected for each participant (except where noted below) and non-participant to maximize the number of usable customer records. This data was then sorted by weather station into consumption files which were used by PRISM for this analysis.

PRISM utilizes three types of data; Average Daily Temperatures (ADTs), Normal Heating Degree Days (NHDD), and customer consumption history. Thirty-five years of ADTs were obtained from Columbia's Energy Services Information System (ESINS) for the three weather stations used in this study; Harrisburg PA, Pittsburgh PA and Morgantown WV.

Actual meter readings were used by PRISM to generate annual weather-normalized consumption estimates. These estimates are reported as Normalized Annual Consumption (NAC). Figure 28 shows the distribution of program participants.

### PRE NAC DISTRIBUTION TREATMENT vs. CONTROL



NHDD were then calculated directly from the NOAA ADT data. In compliance with PUC regulations at §69.165(a)(1-3) on Program Evaluation, a reference temperature of 65°F was used to calculate all degree-day data.

Consumption history was collected directly from the utility's ESINS and DIS (Distributive Information System) for all program participants and a representative group of program non-participants.

Prior to 1994's analysis, we had limited our consumption time frame to a fifteen month

period prior to weatherization, and to a period fifteen months following weatherization. For this analysis we also ran PRISM on an unlimited pre and post number of months, the only restrictions being the amount of consumption data available. This did prove to be a restriction for the post weatherization period for many units, as insufficient actual readings were available in the post period to generate a reliable NAC estimate (see discussion below regarding **Figure 29**, Participant Exception Table).

### Exclusion Routine

Consumption estimates have varying degrees of reliability. In this study, the following limits were used to exclude 1995 LIURP participants and non-participants from the study:

- ⊙ **R<sup>2</sup> values less than .75.** R<sup>2</sup> is a measure of the level of correlation between consumption and heating degree days computed to the best fitting reference temperature. The higher the correlation, the better the NAC estimate.
- ⊙ **CV percents greater than 12%.** Coefficient of variation (CV), or relative standard error, of the Normalized Annual Consumption (NAC) estimate. For this limit lower scores indicate better NAC estimates.
- ⊙ **Less than 225 days** in the consumption period, or more than 225 days but less than two full summer months (June, July, August) and less than two full winter months (December, January, February).

Of the 355 housing units receiving weatherization in the program year, 269 met, and 86 failed to meet, the complete set of exclusion criteria used in this analysis as shown in **Figure 29**.

For this year's analysis we attempted to identify why a significantly larger percentage of units did not pass our PRISM screens. In past analyses we've used categories for non-passers such as "Too Few Meter Readings", "CV% (NAC) Out of Range" and "R<sup>2</sup> and CV% Out of Range".

For this analysis we broke out the "Too Few Meter Readings" into three categories, "Estimates", "Moved" and "Idle". Those that fell into the "Estimates" category were houses that had too many estimated readings within the scope of the consumption data we had for that period (either pre or post weatherization) to generate a meter file. This turned out to be more of a problem for the post weatherization period, given the time constraints between generating this analysis and the end of the weatherization work. If more effort were given to at least obtaining an actual reading every other month at least 12 more units might have passed the PRISM screens.

The bulk of the rest of those units that would previously have been categorized as having "Too Few Meter Readings" consisted of households in which the program participant had moved from the residence prior to the minimal accumulation of consumption data (this applied exclusively to the post period, as one would expect). If we were to analyze these units substituting consumption data for subsequent residents, we might have been able to evaluate 30 more houses. We say might have been able, because an occupancy change often leads to periods of account inactivity that could bias the consumption data leading to an inaccurate NAC estimate for the period.

The remaining unit in the previously categorized "Too Few Meter Readings" consisted on one house with a DIS status of Idle. Idle, in DIS terms, indicates the premise is no longer receiving gas service, though service lines have not been disconnected.

For this analysis we also wanted to determine just exactly why so many houses failed the PRISM screens, primarily in the Post weatherization period (N = 29). For a few there was no apparent reason for their not passing. Perhaps one or more of the actual readings were incorrectly recorded, causing low correlation between consumption data and the heating degree days for that period. But for most those units failing PRISM had too many estimated readings between actual reads. This often left 3 or 4 months of estimated readings being combined into one reading with the next actual read, therefore lowering the correlation between heating degree days and consumption. As stated above in regards to units with too few readings to generate a NAC, if more effort were given to obtaining actual readings at least bi-monthly it's likely most of these 29 PRISM failed units would have passed the PRISM screens, and they could have been included in this analysis.

**FIGURE 29**  
**Participant Exception Table**

Pre Period	Post Period					Total
	Estimates	Failed*	Moved	Idle	Passed	
Estimates	0	0	0	0	2	2
Failed	0	1	0	0	7	8
Idle	0	0	1	0	0	1
Passed	16	28	30	1	269	344
<b>Total</b>	<b>16</b>	<b>29</b>	<b>31</b>	<b>1</b>	<b>278</b>	<b>355</b>

Estimates: Too many estimated readings in period to generate meter file.

Failed: Failed PRISM screens on R<sup>2</sup>, CV Nac, and minimum days utilized in NAC estimation.

Moved: Participating resident no longer residing at weatherized house.

Idle: Unit's DIS status is IDLE (premise no longer receiving service).

Passed: Passed PRISM screens on R<sup>2</sup>, CV Nac, and minimum days utilized in NAC estimation.

\* Most of the Post Period "Failed" units failed due to too many estimated readings, leaving 3 or 4 months estimates being combined into one reading, therefore lowering the correlation between weather and consumption.

## **Sources of Billing data**

Records of customer bills histories were collected for a period extending 15 months prior to the LIURP inspection and for a period 15 months after the completion of weatherization services. Data items included the amount of revenue bills, indicators of full or missed customer payments, and monthly arrearage data.

These data were obtained from two sources within Columbia Gas. The bulk of the data was obtained via Columbia's Low Income Data base system, (ESINS). Because a number of months during the post weatherization period were missing in this database, A&C Enercom commissioned a work-study to obtain selected variables on customer billings.

## **Source of Transaction Data for Credit, Collection, and Customer Service Data**

A separate work study was utilized to obtain customer transaction histories covering collection and customers service information for all LIURP participants and control households for a period extending at least one year prior to weatherization enrollment.

## **Source of Weatherization measures data**

Columbia Gas provided access to its TERMS database for information on expenditures for specific technical weatherization measures, educational efforts, housing characteristics, and diagnostic test data on each house.

**Columbia Gas of  
Pennsylvania, Inc.**

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# **Customer Assistance Program**

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**Pilot Extension**

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Submitted to:

Public Utility Commission  
July 17, 1997

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Revised: October 20, 1998

# Customer Assistance Program

Pilot Extension

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# **Customer Assistance Program**

## Pilot Extension

### **Introduction**

The Customer Assistance Program (CAP) Pilot will be extended for one (1) year in the existing Columbia Gas of Pennsylvania, Inc. (Columbia) service territories. Information in this document includes revisions to the existing program design. These changes were developed from the recommendations provided in the evaluation conducted by A&C Enercom and Steckel & Associates; from internal company CAP team meetings and meetings/discussions with the Bureau of Consumer Services (BCS).

# Customer Assistance Program

## Pilot Extension

### PROGRAM PARTICIPANTS

Columbia's Customer Assistance Program Extended Pilot will be comprised of two groups. One includes the existing 500 program participants from the counties of Allegheny, Beaver, Fayette, Lawrence, Washington and Westmoreland. The other group will consist of new enrollees not to exceed a combined total of 1,000 participants.

Because Columbia is expanding residential choice in Allegheny and Washington counties, the 500 new participants will be solicited from them. The gas transportation arrangement will be detailed further in this document.

*Other eligibility criteria include:*

- Participants must heat with natural gas
- Household income must be at or below 150% of Federal poverty income level
- Participants must be payment troubled

Income is subject to initial verification and annual reverification. Failure to reverify when requested is cause for dismissal from the program. Both the company and the customer may request an income reassessment if a change occurs. Reverification is also a condition for CAP re-entry, should a program default occur.

## **Customer Assistance Program**

### Pilot Extension

#### **ADMINISTRATION**

Dollar Energy Fund, Inc. will continue to administer portions of the CAP Pilot. Dollar Energy has demonstrated excellent administrative services in the areas of pre-screening, outreach/intake, account monitoring and the operation of the customer service telephone line.

Dollar Energy Fund, Inc.'s screening agencies which routinely process applications for fuel funds will continue to interview eligible customers, verify income and provide program details and guidelines.

## Customer Assistance Program

### Pilot Extension

#### PAYMENT TERMS

Evaluation studies indicated that although CAP customers pay more frequently after enrollment, they paid less in total than prior to CAP. Columbia has designed this component to increase payment while maintaining customer affordability.

Evaluation studies recommend the availability of several payment options. This flexibility allows for administrators to select the most affordable option while maintaining payment of at least the average payment amount received over the previous 12 months.

- **Option #1:** Percentage of Income
  - 0 - 110% = 7%
  - 110 - 150% = 9%
- **Option #2:** Average of last 12 months of customer payments.  
(Available for customers with at least six months of uninterrupted service.)
- **Option #3:** Flat rate of 50% of bill.

A minimum payment amount of twenty-five dollars (\$25.00) will be required.

Selection of payment option will be determined by the intake agent. All payment option amounts will be available to the screening agency prior to the interview. A payment option will be recommended, however, not confirmed with the customer. The payment recommended will not be less than the average of the previous 12 payments unless significant hardship occurred to change the customer's ability to pay.

The CAP customer will be required to pay a five dollar (\$5.00) co-payment towards their pre-program arrears.

After review of the application from Dollar Energy, the payment option will be selected and inputted into Columbus' mainframe computer (DIS). A letter of confirmation with the payment amount will be mailed to the customer.

## **Customer Assistance Program**

### **Pilot Extension**

#### **CUSTOMER RESPONSIBILITIES**

A CAP customer must agree to and uphold the following obligations:

- Initial application and subsequent reapplication of customers in Columbia's CAP pilot is subject to agreed upon conditions which serve as a contract between the customer and the company.
- Because of the possible income fluctuation between program years, income must be verified annually.
- The percentage of income monthly payment amount and the customer five dollar (\$5.00) co-pay must be paid by the due date.
- All available energy assistance monies must be applied for with the LIHEAP grant credited to the shortfall balance on their Columbia Gas account.
- Additionally, the customer must apply for any eligible free weatherization services offered through the Department of Community Affairs state weatherization agencies and Columbia LIURP if they meet the eligibility requirements.
- To assist the company in tracking monthly usage, the customer must agree to allow the Company access to the meter for bi-monthly regularly scheduled meter readings.
- New and existing enrollees in Allegheny and Washington Counties must sign a contract with Columbia Gas to be their agent to purchase gas on their behalf with the selected marketer.

Should the CAP applicant refuse to agree to any one of the conditions described in the preceding paragraphs, their application will be rejected.

Additionally, since this is a pilot program, the customer shall be required to agree to additional requirements or actions resulting from modifications made to the program. It is anticipated that such modifications will be approved by the BCS and the Company before they are imposed upon CAP pilot participants. Further, customers who refuse to agree to such program modifications shall be removed from the program.

## **Customer Assistance Program**

### **Pilot Extension**

#### **CONSERVATION EDUCATION**

Program evaluation studies showed CAP Customers actually decreased usage by three percent (3%) after enrollment (this does not include reductions due to LIURP measures). In an attempt to continue this conservation effort among program participants, conservation education is necessary.

Conservation Consultants, Inc. (CCI), a non-profit conservation company specializing in energy audits and energy education, performed the home education component of CAP.

Columbia recognizes the significance of education while realizing the cost of providing it through a home visit. Although the home energy audit will not be offered, CCI will be retained as a consultant in designing and training of a conservation/energy education module to be utilized by the screening agency at the time of intake.

Proper maintenance and efficient use of existing gas appliances, especially the furnace and hot water heater will be explained. Printed conservation materials tailored to the household will be reviewed by the intake worker and given to the customer. Additionally, simple budget counseling, utilizing income and expense worksheets will be provided.

The conservation credit component previously implemented in the first phase of the CAP pilot did not demonstrate benefit to the customer nor was it correlated to the customer's conservation efforts. In many cases, it confused the customer and interrupted the customer's payment frequency. Therefore, Columbia will discontinue the conservation credit component in this pilot extension.

## Customer Assistance Program

### Pilot Extension

#### DEFAULT PROVISIONS

A CAP participant can default from the program for non-compliance to program guidelines and customer responsibilities.

Among the reasons for default is non-payment. A CAP customer will be in default after one missed payment or partial payment which includes the five dollar (\$5.00) co-pay to the pre-program arrears.

Columbia will issue a letter from its mainframe computer (DIS) five (5) days after the bill is due. Prior to the release of the termination notice, Dollar Energy will call the customer. This will consist of two (2) attempts and one letter, if telephone attempts are not successful.

A 10-day termination notice will be released according to Chapter 56 regulations if the missed payment is not received.

The release of a 48-hour notice automatically generates the customer's removal from the CAP program.

Columbia will include these ex-CAP participants in its normal collection activity. If the missed payment is not made, the customer's service would be terminated.

During the winter heating season (December - March), a non-payment defaulted CAP customer may be removed from CAP without termination. This customer would remain in Columbia's credit operation and receive collection activity. The customer will be requested to catch up on CAP payments. If payments due are not paid by April 1<sup>st</sup> this customer would be targeted for termination.

If enrollment drops below 850, Columbia will open up enrollment to raise participation to 975. All CAP customers will be eligible for re-instatement until such a time when we reach 1,000 participants. At that time we will maintain a waiting list for re-instatement.

## Customer Assistance Program

### Pilot Extension

#### RE-STATEMENT PROVISIONS

Customers who have been removed for reasons other than non-payment may re-enter one (1) year from the date of removal. Self-removal is also included in this policy.

Due to the accelerated removal and termination process for non-payment defaulted accounts, most customers should owe one missed payment and one payment which was due at the time of shut off. During the winter heating season, an exception may occur when a customer retains gas services after removal from CAP.

Provisions for both scenarios are detailed below.

If the customer's **gas service was terminated** after removal from the program and he wishes to re-enter:

- The CAP payments, which include the five dollar (\$5.00) co-pay to pre-program arrears for the months during which gas service was retained, will be requested.
- Any payments made by the customer during the time after removal will be deducted from the amount needed for program re-entry.
- The balance of the pre-program arrearage at the time of default will be brought forward.
- Current bill amounts incurred after default which are not paid by the customer, will be treated as current bill shortfall amounts.
- While customers are in a CAP default status, normal office operations credit and collections procedures will apply.

If the customer **retained gas service** after removal from the CAP program and wishes to re-enter:

- The entire balance of missed CAP payments which include the five dollar (\$5.00) co-pay to the pre-program arrears will be requested.
- Any payments made by the customer during the time after removal will be deducted from the amount needed for program re-entry.
- The pre-program arrearage at the time of default will be brought forward.
- Current bill amounts incurred after default which are not paid by the customer will be treated as current bill shortfall.
- While customers are in a CAP default status, normal office operations credit and collections procedures will apply.

If a former CAP customer moves to a new service address with no interruption of service due to termination, the guidelines for defaulted customers who retained service will apply.

Defaulted CAP customers who move to a new address after a service termination for non-payment will be asked to comply with the guidelines for defaulted customers whose service was terminated.

## Customer Assistance Program

### Pilot Extension

#### RE-VERIFICATION

CAP customers are required to re-verify household income annually.

Evaluation studies indicate that CAP customers paid more frequently, however, less in total amount received while in CAP than they did prior to CAP. For this reason, all CAP payments will be increased in the pilot extension at the time re-verification, explanation of payment increase will be provided.

Those customers currently enrolled who have re-verified in 1997 will not be required to re-verify for the implementation of the CAP pilot extension. They will be assigned the payment option #1 - Percent of Income. Their new payment amount at the percentage pertaining to their recorded income will be mailed to the customer in a letter explaining their continuance in the CAP pilot extension. This letter will be mailed two (2) weeks prior to the next bill.

Those CAP participants who have not re-verified in 1997 will be included in two groups.

The first group will be those customers who received LIHEAP on their gas accounts. These customers will not be asked to re-verify. They will be assigned payment Option #1 - Percent of Income. Their new payment amount at seven percent (7%) will be mailed to the customer in a letter explaining their continuance in the CAP pilot extension. This letter will be mailed two (2) weeks prior to their next bill.

The second group of current CAP participants are those who did not receive LIHEAP. These customers will be asked to mail in verification of their household income to Dollar Energy for processing. Their new payment amount at the percentage pertaining to their recorded income will be mailed to the customer in a letter explaining their continuance in the CAP pilot extension. This letter will be mailed two (2) weeks prior to their next bill. If the customer prefers to re-verify in person this appointment will be made available to the customer with the screening agency, however, it will not be encouraged.

Failure to re-verify will result in removal from CAP.

## Customer Assistance Program

### Pilot Extension

#### ARREARAGE RETIREMENT

Columbia intends to continue the arrearage retirement component of CAP. It is a requirement of the arrearage retirement element that the customer be required to exhibit regular monthly payment practices to continue to qualify for that benefit.

A five dollar (\$5.00) monthly customer co-pay is added to the customer's CAP payment to be applied to the customer's pre-program arrearage.

Customer co-payments will be spread over a maximum of a four (4) year time period, commencing when a customer is accepted in the program. The unpaid portion of the pre-program arrears will be forgiven or retired by one-fourth ( $\frac{1}{4}$ ) after a twelve-month period of required CAP payments.

The customer co-pay retirement will be clearly demonstrated on the account summary portion of the monthly CAP bill.

The yearly Columbia arrearage retirement amount will be shown after a twelve-month period of successful customer participation in the CAP program again on the account summary of the CAP bill.

## **Customer Assistance Program**

### **Pilot Extension**

#### **GAS TRANSPORTATION**

Columbia recognizes the challenges in serving payment-troubled customers in a deregulated market. The realm of deregulation should offer some ability for customers on assistance programs to participate in transportation arrangements.

Therefore, Columbia has formulated a proposal that would provide service to approximately 740 CAP customers who are located in Washington, Allegheny and Beaver counties through a transportation arrangement. The proposed transportation service is consistent with Columbia's Choice pilot currently offered to residential customers in these counties.

As proposed, customers in Washington and Allegheny counties who qualify for and elect to participate in the CAP program will receive gas supplies from a marketer selected by Columbia. As a condition of a CAP customer's (both existing and new enrollees), participation in the CAP program, the customer will be required to agree in writing to allow Columbia to act as an agent, on their behalf to contract for the purchase of gas supplies from a marketer. The marketer will be selected by Columbia based upon responses to a Request for Proposal (RFP). CAP customers in the remaining counties will receive their gas supplies from Columbia.

The CAP customers in the two counties will pay the same amounts to Columbia as they would if they were CAP customers in other counties. The payment for the entire cost of gas supply provided by a marketer will be made by Columbia. It is expected that the RFP will result in lower gas costs than would be experienced by Columbia if it were to continue to acquire and sell gas to these CAP customers, and therefore, improve the viability of the CAP program.

The revisions to the CAP program are designed both to provide a way to offer transportation of gas to CAP customers and to allow Columbia to reduce the shortfall under the CAP program. The success of this proposal is dependent upon the RFP process providing a qualified marketer to deliver firm gas to Columbia's city gate at a price below Columbia's expected gas costs.

## **Customer Assistance Program**

### Pilot Extension

#### **EVALUATION**

Columbia gained significant information from its original process/impact evaluation resulting in the recommendations stated above.

Looking beyond the one-year extension, Columbia is committed to evaluate the results of the changes and recommendations indicated through this document.

Both A&C Enercom and Steckel and Associates will continue to advise Columbia with ongoing evaluation data and perspectives. After one year from the date of implementation, a final report will be submitted to the BCS.

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# IMPACT ASSESSMENT OF THE ONE-YEAR EXTENSION OF THE COLUMBIA GAS CAP PILOT

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*An Independent Analysis of a Customer Assistance Pilot Program*

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**IMPACT ASSESSMENT  
OF THE ONE-YEAR EXTENSION OF THE  
COLUMBIA GAS  
CAP PILOT**

## FOREWORD

The scope of analysis in this impact evaluation study is limited to the *quantitative analysis* of five areas that concern a *one-year extension* of the Columbia Gas CAP Pilot.<sup>1</sup> A broader qualitative study may be found in the process evaluation by Debra L. Steckel Consulting,<sup>2</sup> with which the impact study has been coordinated. The five areas of focus are payment options, gas transportation, default provisions, removal of in-home conservation education, and administrative costs.

The gas transportation component of the pilot extension is of particular interest. It provides a way for low-income payment troubled customers to participate (as a customer aggregate) in the current competitive reforms. A significant feature of Columbia's approach is that it is compatible with the inability of the payment troubled "market segment" to sustain any increased financial risk.

A Customer Assistance Program (CAP) provides continued access to essential utility service for customers whose household income does is not sufficient to support the necessities of life. CAPs are of increasing importance because over the past twenty years (nationally, regionally, and locally) the real income of the lowest quintile of Americans has fallen dramatically as income inequality has increased. It has become *much harder* for many families to pay for basic needs, compared to similar families of the not too distant past.

At the time this report is completed, we may be skirting the edge of a downturn in the business

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<sup>1</sup> A full analysis of the earlier Pilot is available in the comprehensive impact and process evaluation prepared by A&C Enercom and Debra Steckel Consulting in the fall of 1996. A&C Enercom and Debra Steckel Consulting, *Final Report: Process and Impact Evaluation Customer Assistance Program*, November 15, 1996.

<sup>2</sup> Steckel, Debra L., *Process Evaluation of the Customer Assistance Program*. Macungie, Pennsylvania: Debra L. Steckel Consulting, October 1998.

cycle. There is chronic global over-capacity across all markets from basic commodities to high-tech, steel, and autos; there is economic collapse in Asia, Africa, and Latin America. These are classic precursors to a deflation driven economic recession. At the same time, most of the federally supported "social safety net" is phasing out. *This leaves the states, the cities, and the private sector to deal with problems of poverty and payment, as was traditional in the United States before the Great Depression of the 1930s.*

In this context of continuing economic change, driven by global conditions, it can only be prudent to plan for the contingency of increase in need for CAP services. The investment of the utility and the interest of the state in CAP Pilots to make CAPs more efficient and more effective will likely prove increasingly important. The effort to plan and implement the Columbia Gas Pilot Extension is intelligent: financially prudent for the utility; beneficial for customers; beneficial to society.

H. Gil Peach, Roger Colton, Anne West  
January 1999

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## EXECUTIVE SUMMARY

Columbia Gas of Pennsylvania selected H. Gil Peach & Associates/Scan America® to carry out an impact evaluation of the one-year extension of the Customer Assistance Program (CAP)<sup>3</sup>. The impact evaluation team for this study consists of Gil Peach<sup>4</sup>, Roger Colton<sup>5</sup>, and Anne West<sup>6</sup>. The impact evaluation has been carefully coordinated with a separate process evaluation by Debra L. Steckel Consulting<sup>7</sup> as insights, intermediate results, and section drafts have led towards results.

The findings are:

- The payment options are functioning as planned. Some yield more revenue; some are more difficult for payment troubled customers. The data is presented, but there are no recommendations in this area.
- Columbia's collections activities associated with the CAP continue the pattern of a high level of notice and contact activity, resulting in a very low percentage of eventual gas shut-off. This finding is identical to a prior finding of the Pilot evaluation.
- The removal of the in-home conservation option is supported by the analysis. The recommendation is to

---

<sup>3</sup> Columbia's CAP targets Budget Plus customers who continue to be payment troubled. To be eligible, customers must be low-income (at or below 150% of federal poverty) and payment troubled. They must also use natural gas as their primary heating fuel. Columbia's CAP is administered by Dollar Energy Fund, a Pittsburgh-based fuel fund under contract to Columbia Gas. The goals of a CAP are to be effective in providing continuing service, while at the same time arriving at an arrangement in which the customer can and will make regular, on-time payments of the (lesser) dollar amounts billed under CAP.

<sup>4</sup> Principal, H. Gil Peach & Associates/Scan America®.

<sup>5</sup> Partner, Fisher, Sheehan & Colton.

<sup>6</sup> Principal, West & Company.

<sup>7</sup> Steckel, Debra L., *Process Evaluation of the Customer Assistance Program*. Macungie, Pennsylvania: Debra L. Steckel Consulting, October 1998.

continue the present approach over the prior approach of the Pilot.

- Columbia has adequate control of costs, and each cost component is running lower than in the original pilot. For this reason, there are no additional recommendations in this area, other than to continue the Pilot Program.
- The gas transportation component is working as planned. This is a "win-win" option, and the recommendation is that it should be continued, with consideration given to the possibility of splitting the cost benefit with CAP customers.

Columbia Gas now has several years of experience with CAP, and the company has been evolving modifications to improve operations (for example, now accepting LIHEAP status in lieu of a separate re-verification). Overall, the Pilot Extension is working well. The Columbia Gas CAP is a "mature" pilot.

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## SECTION I. ASSESSMENT OF PAYMENT OPTIONS

The Columbia Gas Customer Assistance Program (CAP) includes four payment options. This section reviews these options as to impact to shortfall, payment pattern, and affordability. The four options are:<sup>8</sup>

- (1) **Percent of Income:** In the percent of income option, a customer with household income from 0-110 percent of federal poverty is expected to pay 7% of income. A customer with household income in the 111-150 percentage range is billed at 9% of income.
- (2) **Average Payment:** In the Average Payment option, the bill is set at the average calculated from the previous twelve months of customer payments.<sup>9</sup>
- (3) **Fifty percent of Bill:** In this option, the bill presented to the customer is exactly one-half of the bill at the standard residential rate.
- (4) **Minimum Payment:** This option requires a fixed payment of twenty-five dollars per month.

Why have four options? In developing the extension to the pilot, Columbia Gas and its consultants reviewed current evaluation studies. They noted from this review that while CAP participants pay their bills more frequently than in the year before participation, they generally pay less in total than they had paid in the prior year. Additionally, Columbia Gas noted another commonality in the findings of CAP evaluations – the recommendation to have more than one type of payment option. Guided by these insights, the

---

<sup>8</sup> To be eligible for participation in Columbia's CAP, a customer must heat with natural gas, have a household income at or below 150% of federal poverty level, and be payment troubled.

<sup>9</sup> Note that "Average Payment" is based on an average of actual customer payments, not an average of bills. This option is a possibility for customers with at least six months of uninterrupted service.

provision of a set of options was designed to provide assignment of customers to options to increase payment while maintaining affordability.

#### **A. ASSIGNMENT TO AN OPTION**

Customers are initially assigned to a payment option by a computer program. The computerized procedure attempts to maximize customer payment, according to the following steps:

- (1) The Minimum Payment option is assigned if all of the other available options would yield lower payments.
- (2) Otherwise, the Average Payment option is considered. It is selected if it requires a higher payment than the Percentage of Income and Fifty Percent of Bill options.
- (3) If the Percentage of Income option or the Fifty-Percent of Bill option would yield a higher payment than the Average Payment option, the payments required by each of the three options are averaged. The option closest to the average is selected.

Following computer assignment, a Dollar Energy Fund intake worker may recognize extenuating circumstances. If these circumstances indicate the computer recommendation is not affordable, the intake worker may assign a more affordable option from among the four available in the program.

#### **B. PAYMENT OPTIONS & SHORTFALL**

Two types of shortfall arise under these options, the planning or "design shortfall" and the actual shortfall. These are defined in the accompanying text box.

**Shortfall Definitions**

**Design Shortfall:** Standard bill minus full CAP bill (based on actual usage).

**Actual Shortfall:** Standard bill (based on actual usage) minus actual CAP payments plus other payments to current account.

**Note:** The portion of the payment designated for application to pre-program arrearage (the customer "copay" toward arrearage), as well as any arrearage forgiveness amounts are excluded.

**a. Design Shortfall**

The largest design shortfall (70%) is associated with the "Minimum Payment" option (Table 1). The "Percentage of Income" option follows at 53%.

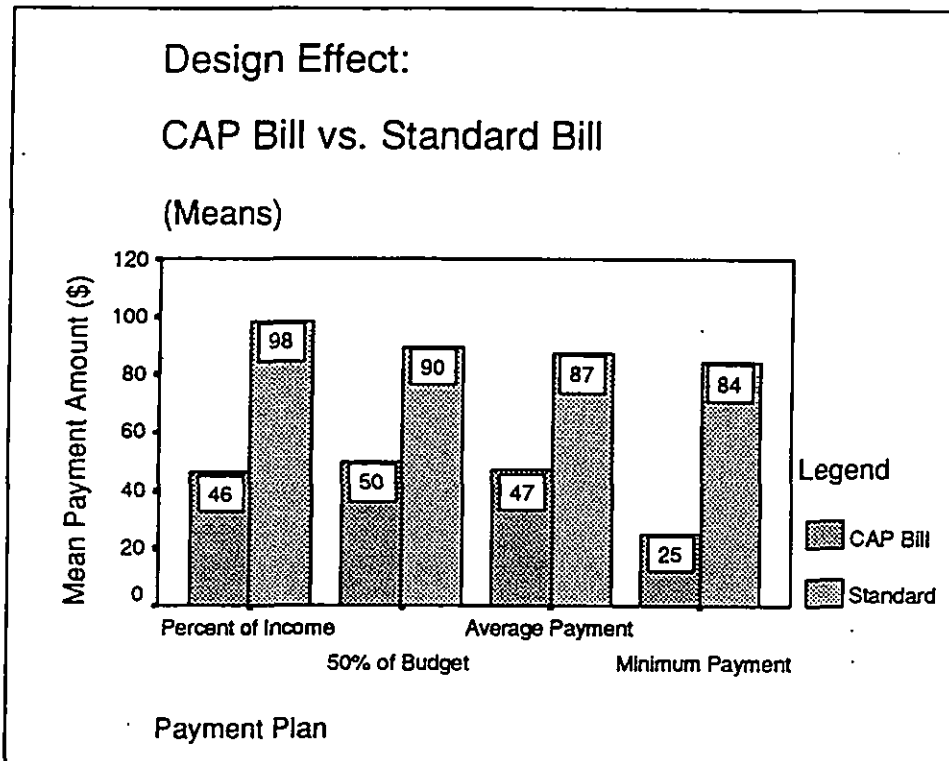
**TABLE 1  
DESIGN SHORTFALL OF THE FOUR PAYMENT OPTIONS**

	CAP Bill (\$)	Standard Bill (\$)	Design Shortfall (\$ (%))	Expected Payment (% Std. Bill)
Percentage of Income (N=2469)	114,173	242,752	128,579 (53%)	47%
Average Payment (N=1337)	66,742	119,712	52,970 (44%)	56%
50% of Bill (N=1025)	47,987	89,547	51,560 (46%)	54%
Minimum Payment (N=1091)	27,745	92,168	64,423 (70%)	30%
Overall (N=5922)	256,647	544,179	287,532 (53%)	47%

Note: Table provides analysis of all CAP bills presented to customers active at any time from January 2, 1998 through July 23, 1998.

The "Average Payment" and "50% of Bill" options offer the smallest design shortfall (44% and 46%, respectively). Figure 1 shows the relative size of

average billed amounts under the four CAP options, compared (over six months) to corresponding regular bills for each option.



**Figure 1: Design Shortfall**

**b. Percent of Bill Paid by Customers**

Over time, for the group of customers participating in the Columbia Gas CAP, the percentage of the CAP bill paid is somewhat less than the amount indicated by the design shortfall: Not all customers pay the CAP billed amount in full. The percentage of the CAP bill paid is shown in Table 2 (using the same period as in Table 1). For this table, the number of CAP bills presented was 5,922 while the number of payments was 5,095. For each of the payment options, the sum of customer payments is less than the sum of CAP bills.

TABLE 2  
PERCENT OF CAP BILL PAID BY CUSTOMERS  
(APPROXIMATELY ONE-HALF YEAR)

	CAP Bill (\$)	Customer Payment (\$)	Paid by Customer (% CAP Bill)	Paid by Customer (% Std. Bill)
Percent of Income	114,173	108,091	95%	46%
Average Payment	66,742	61,533	92%	51%
50% of Bill	47,987	38,266	80%	43%
Minimum Payment	27,745	24,815	89%	27%
CAP, Overall	256,647	232,705	91%	43%

Note: Customers active at some time from January 1998 through July 23, 1998. There were 5,922 CAP bills and 5,095 customer payments in this period.

### c. Actual Shortfall

However, in addition to customer payments, credits to customer accounts include all grants received by customers. Columbia Gas applies these grants to shortfall. The actual shortfall is determined by subtracting the sum of customer payments *plus grants* from the standard bill (Table 3). As shown in this table, the option with the highest actual shortfall is the "Minimum Payment" option with a shortfall of about 59%. The "Percent of Income" (48%) and "Average Payment" (46%) options follow. The lowest is the "50% of Bill option" (41%).

Table 4 contrasts design shortfall and the actual shortfall.

**TABLE 3  
ACTUAL SHORTFALL**

	Standard Bill	Credited	Shortfall (Actual)	Payment (% Standard Bill)
	(\$)	(\$)	(%)	(%)
Percent of Income	242,752	108,091 p 18,404 g 126,495 t	48%	52%
Average Payment	119,712	61,533 p 9,561 g 71,094 t	41%	59%
50% of Bill	89,547	38,266 p 9,695 g 47,961 t	46%	54%
Minimum Payment	92,168	24,815 p 12,923 g 37,738 t	59%	41%
CAP, Overall	544,179	232,705 p 50,583 g 238,288 t	48%	52%
Note: Grant source: \$27,520 Federal Assistance 199 Federal Emergency Assistance 399 Welfare Emergency Assistance 11,075 Citizen Energy Assistance <u>11,390</u> Matching Funds \$50,583  Note: Customers active at some time from January 1998 through July 23, 1998, "p" = customer payment, "g" = assistance, and "t" = total applied.				

### C. PAYMENT OPTIONS AND RATE OF PAYMENT

The percentage of requested payments actually made by customers ranges from 79% to 89% across the four payment options (Table 5). The Average Payment option (at 79%) appears the most difficult to maintain. However, the other three options are relatively close to each other (85%, 87%, and 89%).

**TABLE 4  
DESIGN & ACTUAL SHORTFALL**

	Standard Bill	Shortfall (Designed)	Shortfall (Actual)
Percentage of Income (N=2469)	209,445	113,154 (54%)	116,257 (48%)
Average Payment (N=1025)	98,804	34,628 (35%)	48,618 (41%)
50% of Bill (N=1337)	67,650	20,500 (30%)	41,586 (46%)
Minimum Payment (N=1091)	71,330	44,055 (62%)	54,430 (59%)

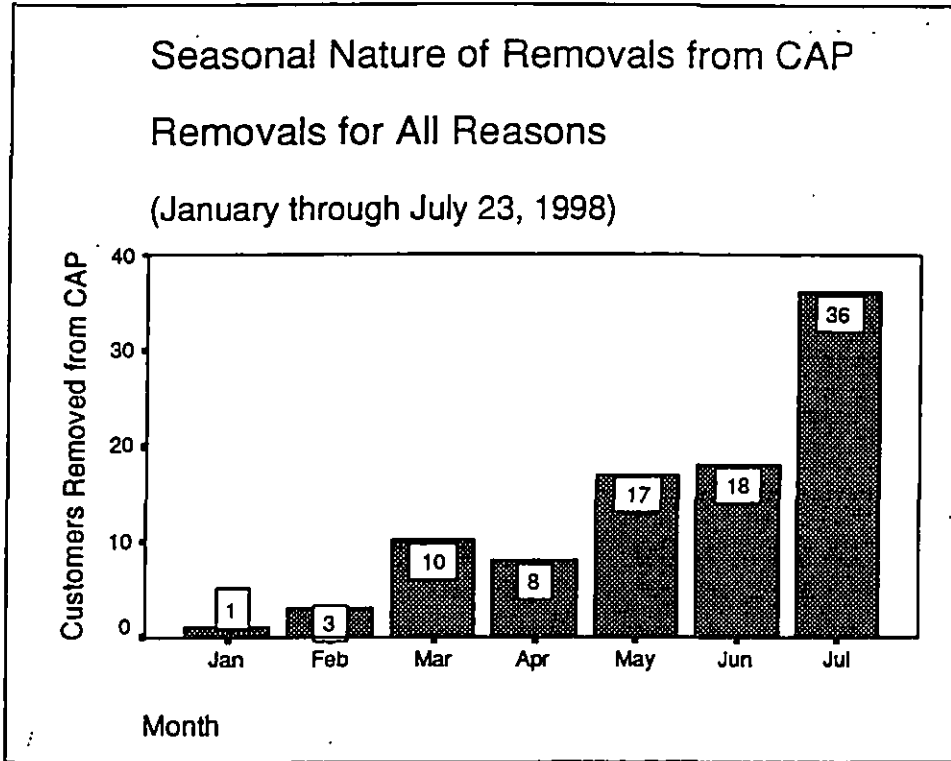
Note: Table provides analysis of all CAP bills presented to customers active at any time from January 2, 1998 through July 23, 1998.

**TABLE 5  
PAYMENTS & PAYMENT OPTIONS**

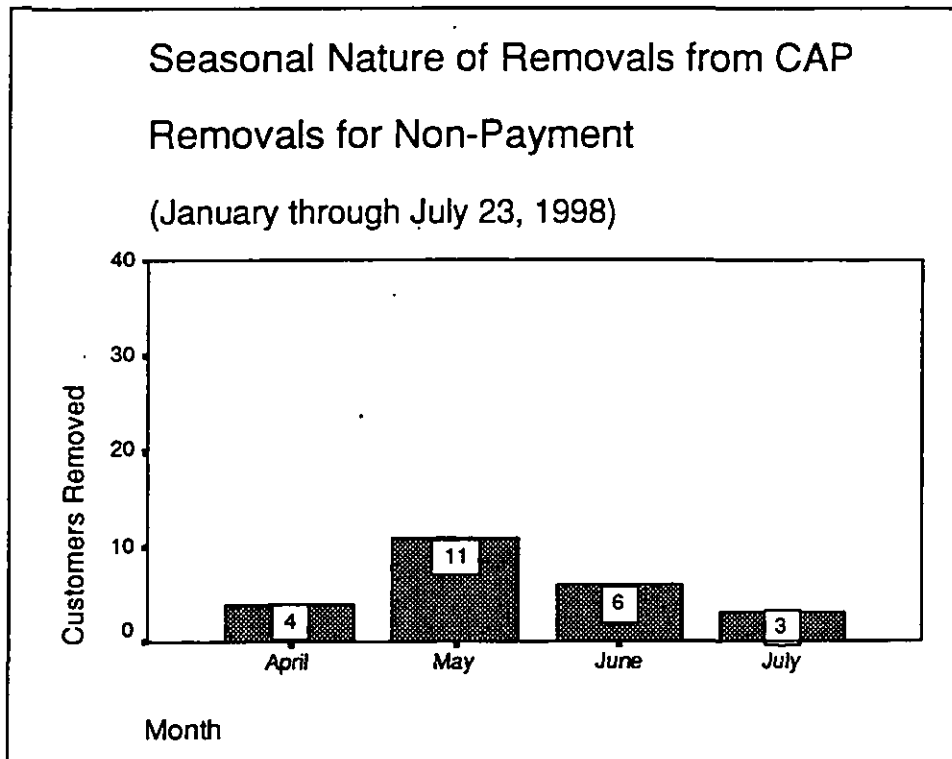
	No. of Bills (N)	No. of Payments (N)	Mean Bill (\$)	Mean Payment (\$)
Percent of Income	2,469	2,203 (89%)	46.24	49.07
50% of Bill	1,337	1,162 (87%)	49.92	52.95
Average Payment	1,025	808 (79%)	46.82	47.36
Minimum Payment	1,091	922 (85%)	25.43	26.91
CAP, Overall	5,922	5,095 (86%)	43.33	45.67

**D. PAYMENT OPTION AND AFFORDABILITY TO CUSTOMER**

The potential differences in the affordability of payment options hinted at for the "Average Payment" customers in Table 5 may be followed up in more detail with additional indicators. The indicators used are percentage of customers removed, percentage delinquent, and credit and collections status.



**Figure 2: Seasonal Removal**



**Figure 3: Seasonal Removal for Non-Payment**

**a. Percentage Removed**

Customers are removed from CAP under a strict set of rules, subject to the exercise of seasoned judgment. Figure 2 shows all removals from CAP among participants active at some time between January and July 23, 1998. Of the ninety-three removals, twelve customers were reinstated during this period. Removal for non-payment (Figure 3) is for the most part a seasonal activity that occurs during the summer months, following the winter moratorium on termination of service. Customers removed for all reasons and for non-payment are shown in Figure 2.<sup>10</sup>

	Number Retained	Removed (All Causes)		Removed (Non-Payment)	
	(N)	(N)	(%)	(N)	(%)
Percent of Income	363	43	11	9	2
50% of Bill	210	12	5	4	2
Average Payment	180	14	4	6	3
Minimum Payment	175	24	12	5	3
CAP, Overall	928	93	9	24	2

**b. CAP Status Delinquencies on Last Transaction**

The indicator for CAP Status is affixed to each customer transaction in the Table of Active Customers. For customers active at any time, and never removed, within the period from January through July 23, 1998, status at

<sup>10</sup> Company records indicate 25 removals for non-payment, of which only 24 could be matched to the master tables available in the database. This small inconsistency will not affect results.

last transaction of record is shown in Table 7. This provides another indicator of affordability.

	Retained (N)	Delinquent ("D") (%)	Other "B" (%)
Percent of Income	363	29	71
50% of Budget	210	33	67
Average Payment	180	31	69
Minimum Payment	175	18	71
CAP, Overall	928	30	70

**c. Credit & Collections Status**

The final indicator of affordability considered is the customer "Credit & Collections" status. The "Credit & Collections" status of the last transaction on record for customers active in CAP from January through July 23, 1998, and never removed from CAP during this period is shown in Table 8.

	No. Retained	No. Delinquent	% Delinquent
Percent of Income	363	118	33
50% of Budget	210	100	48
Average Payment	180	118	66
Minimum Payment	175	84	48
CAP, Overall	928	420	45

**E. SECTION SUMMARY**

Selected indicators from this section of the report are summarized as percentages in Table 9 and as rankings in Table 10. As suggested by the verbal rankings in the table, the "Average Payment" option presents the most difficulty in terms of affordability, with a rank of "High" in each risk category. The "Minimum Payment" option presents the least risk to affordability. As might be expected, the "Minimum Payment" option is associated with the highest actual shortfall.

Jumping ahead to the next section of the report, a very small gas cut-off rate is shown. The high delinquency of Table 7 may seem inconsistent with eventual payment success. However, Columbia Gas defines delinquency as any past due situation. One day past due, the customer goes into delinquency status. This is a part of Columbia's highly interactive approach to collection. As discussed later in the study, the process results in many communications and several opportunities to pay.

**TABLE 9  
SECTION SUMMARY  
(APPROXIMATELY ONE-HALF YEAR)**

	<b>Shortfall (actual)</b>	<b>Partial Payment</b>	<b>Removed for Non- Payment</b>	<b>CAP Delinquent</b>	<b>C&amp;C Delinquent</b>
	(%)	(%)	(%)	(%)	(%)
Percent of Income	48	6	2	29	33
50% of Budget	41	7	2	33	48
Average Payment	46	10	3	31	66
Minimum Payment	59	6	3	18	48
CAP, Overall	48	7	2	30	45

**TABLE 10**  
**SECTION SUMMARY – RANKINGS**  
**(APPROXIMATELY ONE-HALF YEAR)**

	<b>Percent Shortfall (actual)</b>	<b>Percent Partial Payments</b>	<b>Percent Status "D"</b>	<b>Percent C&amp;C Delinquent</b>
	(%)	(Risk Rank)	(Risk Rank)	(Risk Rank)
Percent of Income	48	Low	High	Low
50% of Budget	41	Low	High	Medium
Average Payment	46	High	High	High
Minimum Payment	59	Low	Low	Medium

## II. COLLECTIONS ACTIVITIES

According to the prior Pilot evaluation:<sup>11</sup>

Columbia Gas of Pennsylvania is unique among the other Columbia Gas System companies operating in other states in terms of the relationship between the various collection activities. [Columbia Gas] has both a much lower shutoff rate per 1000 customers and a higher rate of termination notices issued...

In the current Pilot One-Year Extension evaluation, this basic pattern of *many* notice activities and *few* actual shutoffs is continued.

### A. COLLECTIONS PROCEDURES (CAP CUSTOMERS ONLY)

The collection activity for an account that falls behind in payment has several steps, and provides several opportunities for the customer to respond. There are seven steps:

- (1) Five Days -- Five days after the due date of a missing or a partial payment, the computer automatically mails a "reminder" letter that a payment is needed. (Customers not in CAP are not sent reminders.)
- (2) Fourteen Days -- Approximately fourteen days past the due date, the computer automatically generates and sends a "Notice of Termination." This notice specifies service termination in ten days.

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<sup>11</sup> A&C Enercom & Debra Steckel Consulting, 1996, P. 15.

- (3) Seventeen Days -- Dollar Energy, acting for Columbia Gas, attempts two telephone calls to the customer. In these calls, the consequences of default are explained.
- (4) Seventeen Days Plus – If Dollar Energy is unable to reach the customer by telephone, Columbia Gas is notified by Dollar Energy and an employee of Columbia Gas is dispatched to make a premise visit.
- (5) Shut-Off Notice – At the premise visit, the employee posts a 72-hour shut-off notice on the customer's door. The local office always posts a 48-hour Notice of Shut-Off at the customer's residence.
- (6) Turn Off Gas --Then, after 48 hours, the local office returns to the residence and shuts off the gas supply.

Dollar Energy may "delay" the account at any step along the way it finds that the customer has extenuating circumstance, although this should happen infrequently and only in the case of emergencies. If the final step is reached, and the gas is turned off, the account is "finaled" from CAP within approximately five days from shutoff.

#### **B. CATCHING UP AFTER BEING FINALED**

If a customer account has been finaled, but the customer catches up on payment within forty-five days, both gas service and CAP status are restored without any further administrative steps. In such a case, all records of a removal from CAP are eliminated, and the customer's CAP situation is the same as if a payment problem had never occurred. If more than forty-five days has passed, the customer terminated for non-payment must apply for reinstatement through a local agency.

---

### C. WINTER MORATORIUM

In winter, customers are not removed from CAP for non-payment. Each month, the CAP bill includes the amount owed from the month before, and each month the customer is asked to catch up the payments. In April, the customer is again asked to catch up. If they make a full payment, including the CAP arrearages, they continue in CAP. If they do not, then the collections procedures discussed above begin.

### D. RESTORATION OF CAP SERVICE AFTER TERMINATION

A customer terminated from CAP may apply for reinstatement. If default from CAP was due to a reason other than non-payment (that is, failure to re-verify, report of zero income for more than three months, moving outside Columbia's service areas), the terminated customer must wait one full year to apply for reinstatement. However, as noted above, a customer terminated for non-payment may be automatically reinstated by catching up payments within forty-five days of being finalized or after forty-five days by applying to a local agency for reinstatement.

### E. COLLECTIONS ACTIVITIES FOR CAP EXTENSION

Figure 4 shows the collection activity for the 1,021 customers active in CAP at any time from January through July 23, 1998. At each step, the percentages in the figure indicate the split pattern of the customers in the step before. For example, the flow begins with 100% of participants. This group splits into two daughter groups: 25% continue with regular payments, but 75% experience delinquency. Then, of those who are delinquent, 69% make their payments, but 31% do not and receive a "Notice of Termination." Of those who receive a "Notice of Termination," 59% make their payments, but 41% do not. The 41% are then contacted either by telephone or by a visit

to the home, and about 82% of those contacted then make payment. The other 18% do not make payment, and receive a shut off notice. Of those who receive a shut off notice 26% then make payment, but 64% do not, and their gas is turned off.

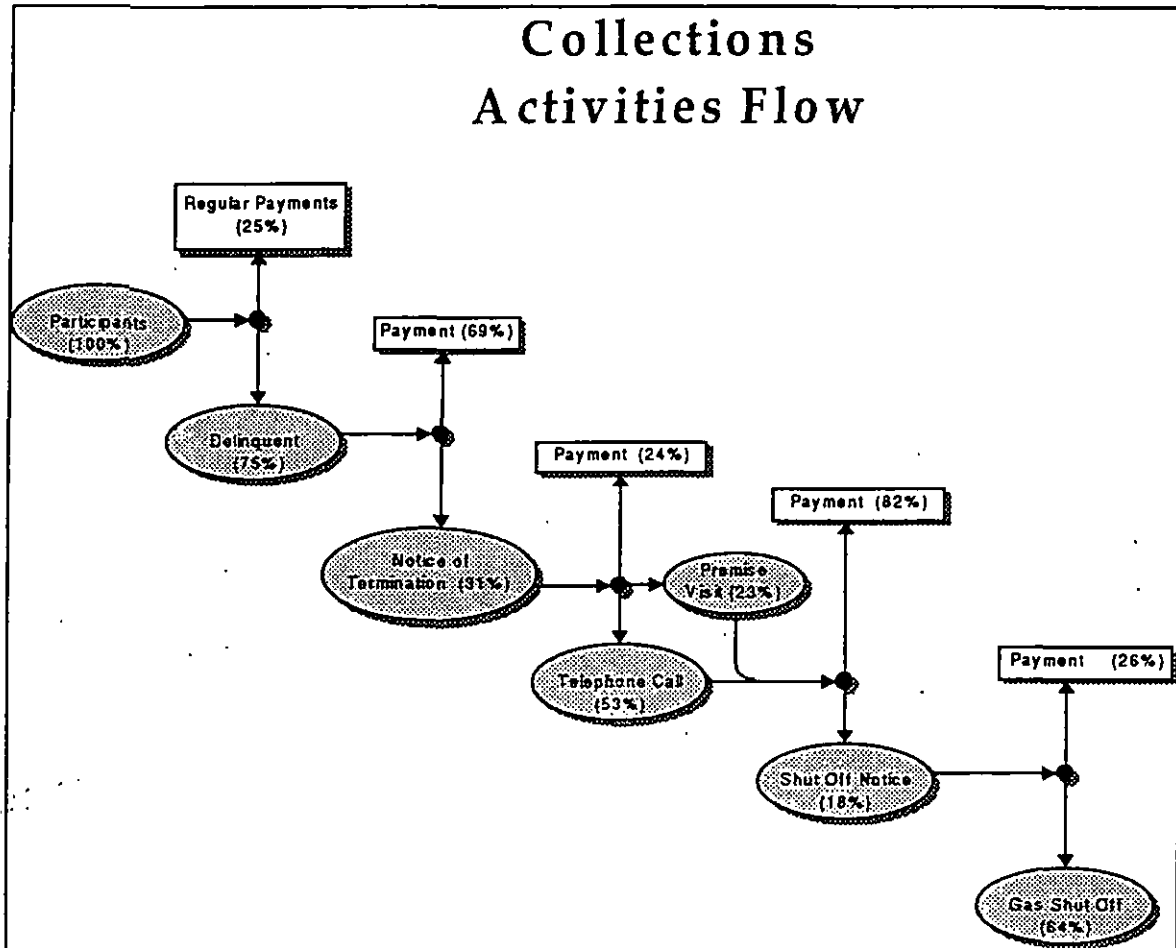


Figure 4: Collections Flow Chart

A feature of this type of “tree diagram” is that its mathematical relationships are those of a probability diagram.<sup>12</sup> That is, a CAP customer, beginning at

<sup>12</sup> A “tree diagram” may also be used as a learning diagram for a neural net.

the left, has a 75% chance of being delinquent in about a six and one-half month period.

The probability of a customer receiving a "Notice of Termination" is:

$$p = (0.75)(0.31)(100) = 23\%$$

The cumulative probability of receiving a shut-off notice is given by:

$$p = (0.75)(0.31)(0.76)(0.18)(100) = 3\%$$

The cumulative probability of a gas shut off is:

$$p = (0.75)(0.31)(0.76)(0.18)(0.64) = 2\%$$

These results are shown in Table 11. The table provides a picture of collections actions in terms of actual numbers of customer, conditional probabilities, cumulative probabilities, and rate per thousand CAP customers.

Table 11 Collections Actions						
	All Customers	Delinquency	Notice of Termination	Call or Visit	Shut Off Notice	Gas Shut Off
Number	1021	770	238	181	33	21
Conditonal probability	100%	75%	31%	76%	18%	64%
Cumulative probability	100%	75%	23%	18%	3%	2%
Rate per thousand	1000	750	230	180	30	20

#### F. SECTION SUMMARY

Analysis of collection actions for the CAP Extension shows that results are similar to those in the previous pilot evaluation. Columbia Gas is very active

in providing notice and following up with CAP customers who fall behind in payment. Consequently, the actual gas shut-off rate is very small (about 2% in six months).

---

### III. REMOVAL OF IN-HOME CONSERVATION OPTION

In-home conservation education was a component of the prior version of CAP. Previously, all customers were provided with in-home conservation education. In the extension of CAP covered in the current evaluation, CAP customers are provided with conservation education in the form of a review of conservation practices and concerns at intake, and conservation literature that may be taken home.

#### A. CONTINUING CAP CUSTOMERS AND NEW ENROLLEES

The effect of removal of the in-home conservation component may be tested by contrasting two groups of currently active CAP customers.<sup>13</sup> With the pilot extension, Columbia Gas included the re-verification of approximately 500 existing participants in Allegheny, Beaver, Fayette, Lawrence, Washington, and Westmoreland counties, and new enrollees from Allegheny and Washington counties. New enrollees included in the current pilot extension, who received take-home conservation literature, discussion, and no in-home education provide one analysis group. They may be compared to continuing CAP customers, who will have received in-home education component of the initial pilot.

Active CAP Customers in the comparison were required to have usage readings for the first six months of 1997, and the first six months of 1998. Comparison is based on one-half year of data, using the same set of calendar months from 1997 and 1998. The comparison group of "original CAP customers" – that is, those continuing from the original pilot into the one-

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<sup>13</sup> This comparison follows the standard "Non-Equivalent Control Group" design.

year extension of CAP – will be expected to have already incorporated any conservation effect.

**a. Previous Estimate of In-Home Conservation Effect**

According to the prior evaluation (Figure 1, P. 7),<sup>14</sup> annual energy use as indicated by the revenue bill decreased two-tenths of one percent for first year CAP enrollees. This provides an estimate of gross savings for CAP of 0.2% (0.002) as an estimate of gross savings due to the in-home education component.

**b. Gross Energy Savings of the Two Groups**

As shown in the table below, both continuing customers and new enrollees in the CAP extension showed a decline in energy consumption for the first half-

	Original Pilot, Continuing		New Enrollees in Extension	
	Jan-Jun 1997	Jan-Jun 1998	Jan-Jun 1997	Jan-Jun 1998
Mean Usage	105.8	90.0	99.8	83.0
Std. Error of the Mean	2.2	1.8	2.2	1.9
No. of cases	390	390	278	278
Correlation	0.89		0.88	
Mean Difference	15.8 (14.9%)		16.8 (16.8)	
95% Confidence Interval	13.8 to 17.8		14.6 to 18.9	
Std. Error of the Mean	1.0		1.1	
Statistical Significance	0.0001		0.0001	

<sup>14</sup> A&C Enercom & Debra Steckel Consulting, 1996. See Figure 1: the CAP Annual Revenue Bill is \$1,037 in the Pre-enrollment year, and \$1,035 in the Post-enrollment (1<sup>st</sup>) year.

year of 1998 compared to the first half-year of 1997. The decline for the continuing customers was about 14.9%, while the decline for the new enrollees averaged 16.8%. It should be noted that both gross savings results are of meaningful size and show high statistical significance.

### **c. Net Impact**

The net advantage shown by the new enrollees is 1.9% over the continuing customers. The data have not been weather normalized; however, since the comparison is over identical calendar months, all cases are subject to the same weather patterns. Weather differences between the first half of 1997 and the first half of 1998 affect the gross savings results, but "net out" of the difference between the two gross savings figures.

A net savings of about 2% over a comparison group which already incorporates the residual effect of the in-home conservation component is quite a bit larger than the previous estimate of the in-home conservation effect (0.2%). This suggests that the replacement of the in-home conservation education component has not affected energy use. In addition, the previously observed small tendency to decrease energy use associated with participation in CAP is continuing in the current extension.<sup>15</sup>

## **B. SECTION SUMMARY & RECOMMENDATION**

The current pilot design should be continued in preference to the original CAP design because the current design costs less and does not appear to increase energy usage over the original design. This recommendation is based on the calculation of numerical results consistent with the hypothesis

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<sup>15</sup> Note that while the gross savings results are both large enough to be meaningful and have a high statistical significance, the net savings is quite small. Net savings do not approach a useful level of statistical significance.

that there is no increase in energy use due to the modification of conservation education.

## IV. PILOT ADMINISTRATIVE COST

Administrative costs for CAP were collected for a central staff component and for a contract component. The central component consists of direct Columbia Gas costs. The contract component represents costs from Dollar Energy, which carries out most of the field implementation tasks of Columbia's CAP. The Dollar Energy costs are invoiced as line items, so tracking of these costs is straightforward. In some cases, internal budget documents were used to help interpret accounting figures. All costs are based on records for seven to ten months. Costs for the remaining months are estimated, using projection of recurring costs and activity estimates from budget documents. Costs reported in this section are for one-year.

### A. COST COMPONENTS

Three cost areas have been identified: Education, Outreach, and General Administrative. Direct Columbia Gas costs and Dollar Energy contract costs are combined for reporting.

#### a. Conservation Education Cost

The education cost is represented by \$5.00 of each initial intake cost, and by cost of creating the education module, and observing intake to insure the education component is being properly maintained (Cost Element 3H16).

#### b. Outreach Cost

Outreach consists of cost of enrollment for new enrollees, as well as reinstatement and re-verification costs.<sup>16</sup> The extension of the pilot includes customers from the original CAP pilot, plus the initial enrollment of new

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<sup>16</sup> This definition is identical to calculation of outreach cost in the original Pilot evaluation.

Table 13  
Conservation Education Cost

Cost Element	Description	Cost
Intake Allocation	469 @ \$5.00/each	\$2,345.00
3H16 Charges	106.50, 2,695.00, 350.00, 267.50	\$3,409.00
Total, eight months		\$5,754.00
Projected to one-year:		\$8,631.00

customers in counties in which gas transportation will be implemented. The outreach costs include cost of initial application (\$25/customer)<sup>17</sup>, re-verification (\$15/customer), and reinstatement (\$15/customer).<sup>18</sup> Since Columbia now accepts LIHEAP status in lieu of the standard re-verification procedure, many re-verifications are now accomplished at no additional cost.

#### c. General Administrative (Contract)

Dollar Energy day-to-day administrative costs are collected from the "Dollar Energy Fund Invoice Record Sheets." Central administrative and control costs for Columbia Gas include staff and Other Than Personal Services (OTPS) costs. These costs are collected from internal accounting records. These costs are presented as annual totals and annual per participant costs. Two methods of projection to a one-year period are used and compared.

<sup>17</sup> Through 12/18/97, 469 initial applications were accepted at a cost of \$14,070, or \$30 per initial application (Cost Element 3H03). Assignment of \$5 of each application to Conservation Education results in a total cost of \$11,725 or \$25 per initial application.

<sup>18</sup> Customer Re-verification & Reinstatement for 40 customers from 12/8/97 through 7/1/98 cost \$645 or \$15/customer.

**a. First Method**

In the first method, costs are averaged over available months. Averages are then multiplied by twelve. Expected attrition is used to adjust the estimated cost per participant. For the one-year projection, the 9.1% removal rate experienced during the first approximately one-half year has been doubled to 18.2%.<sup>19</sup> In addition, the outreach component is judgmentally adjusted. The outreach component includes a substantial number of initial applicants (469 @ \$30 each or 469 @ \$25 each, corrected for the educational component) and a limited number of reinstatements or re-verifications (40 @ \$15/each). When projected to one year, the mathematical expansion results in a projection somewhat over the cost (835 x \$15 = \$12,525) of continuing re-verification in an ongoing program. This would permit 835 re-verifications/reinstatements plus 100 new initial enrollments.

**Table 14**  
**Administrative Costs, On-going CAP Program**  
**(Yearly, Estimated)**

Cost Component	Projected Annual Cost	Projected Annual Cost Per Participant (N=835)
Outreach (see note to table)	\$ 15,025	\$ 17.99
Education (eight month cost expanded to 12 months)	\$ 8,631	\$ 10.34
Administrative, Dollar Energy (seven months cost expanded to one year)	\$ 68,139	\$ 81.60
Central, Columbia Gas (eight month cost expanded to one year)	\$ 26,246	\$ 31.43
<b>Total</b>	<b>\$118,041</b>	<b>\$ 141.37</b>

Note: Outreach includes Enrollment, Reinstatement & Re-verification. Active Participants for a six month window were 928 (Table 5), while 93 or 9.1% were removed during this period, for 1,021CAP Participants. One-year removal rate estimated at twice the six-month rate, or 18.2%, yielding 835 Participants. Outreach estimate is based on re-verification of 835 participants at \$15 each, plus enrollment of 100 new enrollees (later in the year) at \$25 each.

<sup>19</sup> This is a conservative projection, since the dropout rate tends to decrease over time.

### b. Second Method

The second method of projection (Table 15) is based on calculation of "participant-months" of service.<sup>20</sup> For all customers active at any time from January through July 23, 1998, the date of first transaction and the date of the last transaction were recorded. The number of days of service was then calculated using a spreadsheet "days between dates" function based on a 360-day year, and European end-of-month conventions. The result was summed across all participants and divided by 30 to obtain 5,214.27 participant months. The cost components were then adjusted to a common duration of 6.5 months, using ratios as discussed above. The resultant 6.5-month costs were then divided by the 5,214.27 participant months and then multiplied by twelve to yield the annual estimated cost per participant.

Table 15 Administrative Costs, On-going CAP Program (Per Participant, Estimated)		
Cost Component	6.5 Month Est. Cost	Projected Annual Cost Per Participant
Outreach	\$ 13,401	\$ 30.84
Education	\$ 4,675	\$ 10.75
Administrative, Dollar Energy	\$ 39,748	\$ 91.48
Central, Columbia Gas	\$ 14,217	\$ 32.72
Total	\$ 72,041	\$ 165.79
Note: The 6.5 month estimated costs are projected to annual costs by dividing by 5214.27 participant months and then multiplying the result by 12.		

The two methods yield similar costs for education and for central administration. The second method yields a much higher outreach cost because it implicitly assumes more initial enrollments than the first

<sup>20</sup> This is similar to the method used in the Pilot Evaluation.

method<sup>21</sup>, and it projects a somewhat higher administrative cost. The overall result is that the first method projects an annual participant cost of \$141.37 while the second projects a cost of \$165.79. Either number may be used, but the second is more conservative, since it is the larger of the two.

### C. COMPARISON TO PREVIOUS RESULTS

The Pilot evaluation (A&C Enercom & Debra Steckel Consulting, 1996, Pp. 26-28) found an outreach cost of \$12.51 per active participant (in the Pilot evaluation, "active" is defined as the average number of active participants per month over an ongoing program year which did not involve many initial enrollments). However, for an earlier period that involved primarily initial enrollments, the cost was \$27.00 per enrollee. These numbers compare with an average of \$17.99/active participant (first method) or \$30.84/participant (method two – assuming many more new enrollments) in the current evaluation.

Conservation education cost in the previous program evaluation cycle was found to be \$41.51 per active customer and \$117/enrollee in the earlier period that was characterized primarily by initial enrollments. The cost of in-home education was replaced by discussion of conservation during intake, provision of guides and pamphlets, and occasional site visits for training and inspection to insure the education module is properly implemented. Conservation education is currently estimated at \$10.34 per customer (first method) or \$10.75 (second method).

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<sup>21</sup> New enrollments for the extension were processed in a group before January. If another similar group of new enrollees is processed toward the end of the year, the second method will yield the better projection. If only 100 new enrollees are processed later in the year, the first method will yield the better estimate.

The contract (Dollar Energy) cost per active participant appears less when calculated by the first method (\$81.60) than the cost in the previous cycle (\$93.17). However, when calculated by the second method, it is almost identical (\$91.48). This cost is really a fixed cost, not responsive to a shift of a few hundred participants either way. For this reason, the three numbers are much the same, reflecting different divisors into a similar sum. This total dollar cost is actually almost identical (\$68,139 for the Pilot Extension, \$66,150 for the Pilot).

The dollar value of the total Columbia Gas administrative cost is much less now (\$26,246 now, according to the first method vs. \$84,556, then), and this smaller total is spread over more customers. On a participant basis, the estimates are \$31.43 (first method), \$32.72 (second method), and \$119.08 (prior evaluation).

Overall, cost is down from \$266.29 (prior evaluation) to \$141.37 (first method) or \$165.79 (second method). Using either method, it is clear that there is a change to a lower cost of service.

#### **D. SECTION SUMMARY**

The conclusions of the cost analysis are: (1) Columbia Gas has an adequate control of costs, and (2) Columbia Gas has instituted internal steps that are driving costs in a downward direction. Each cost component is running lower than and in some cases substantially lower than the same component in the original Pilot. Based on demonstrated improvement, there are no additional recommendations from the cost analysis, except to continue the CAP Pilot Program.

## V. GAS TRANSPORTATION

The gas transportation component of CAP works exactly like the fully regulated component except that it permits a different bulk pricing arrangement. Currently, in the context of opening energy service markets to competition, customers are increasingly being offered the opportunity to participate in the market by choosing a supplier. The Local Distribution Company continues to serve, but commodity gas may be purchased from one of several gas marketers. For low-income payment troubled customers this change presents an increment of complication and possible confusion.<sup>22</sup> The Columbia Gas "Gas Transportation" pilot provides a workable way for low-income payment troubled customers to participate in the competitive reform.

### A. POLITICAL ECONOMICS OF GAS TRANSPORTATION

The cost advantage of transportation gas has long been an advantage to the industrial sector. Now, through the opening of markets and the formation of *de facto* customer aggregates, residential customers may also participate in the cost savings sometimes available through transportation gas. The financial background for the transportation component includes both a "state" and a "market" component. The state component is the advantage to non-regulated companies due to the structure of the Pennsylvania Gross Receipts Tax. By law, a regulated gas utility must recover the Gross Receipts Tax on sales to customers. However, a non-regulated sales transaction is exempt from the tax. When residential customers are aggregated based on individual agreements to permit an entity to serve as their agent in purchasing gas, there is technically no sale by a regulated utility. Instead, by means of the agency agreement, the utility becomes the agent of each

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<sup>22</sup> Please see the Process Evaluation documentation on this point.

customer. It then contracts on behalf of the customer aggregate with a marketing company (supplier).

Under this arrangement, the supplier receives a firm contract for purchase of anticipated volumes from the utility. The supplier can offer a lower price, in part because the transaction is exempt from 5% Gross Receipts Tax. In addition, if the supplier happens to have access to lower cost gas deliveries, the arrangement may incorporate a competitive market advantage.

### **B. CURRENT PILOT DESIGN**

In this first pilot program cycle, the advantage offered by the lower price is used to offset the CAP shortfall. The arrangement is transparent to the CAP customers served with transportation gas. Other than the initial contact and signature required to establish Columbia Gas as the agent for each of the aggregated customers, the customer receives no communications regarding the transportation arrangement. In addition, the individual CAP customer experiences the same CAP bill with or without participation in the gas transportation arrangement. Currently, signing up for gas transportation is required to participate in CAP in counties in which Columbia Gas offers the "Choice" option.<sup>23</sup> The formal requirement is written assent by individual agreement, signed by the customer.

The CAP aggregate in a sense reflects the customer "Choice" program, in that it accompanies "Choice" as it is introduced in certain counties. Participants in "Choice" in effect become de facto customer aggregates for various marketing companies through the exercise of individual choice. The low-

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<sup>23</sup> In counties in which "Choice" is not currently offered, the transportation arrangement is not offered (the agreement step is skipped).

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income payment troubled CAP customers similarly become part of a customer aggregate, however they do not choose a supplier. The supplier is selected by their agent, Columbia Gas, based on a formal bidding arrangement.

**a. Risk to the Utility**

The gas arrangement is subject to the contingencies of weather and the logistics of maintaining the size of the aggregation so that planned volumes will be consumed. In addition, the company may experience risks of timing and supply price on long-term arrangements or spot-purchases, and the risk of an imbalance penalty charge. However, these risks are already familiar to the *Local Distribution Company*, and are built in as *normal operating factors*. There is no difference in the *kinds* of risk to the company in the CAP gas transportation pilot than in the company's normal supply arrangements. As well as containing no new kinds of risk, there is also no meaningful quantitative increment in *amount* of any normal supply risks.

**b. Possibility of Excess Volumes**

A supply arrangement is a planning function, based upon estimated daily average use for the duration of contract. Thus, in a "true-up" at the end of a contract there may be an excess volume or an under-supply. Both of these situations appear solvable through bookkeeping, and neither presents either a physical or a cost problem. It is unlikely that an excess volume of gas would occur. Any volume unused by the aggregate (for example, due to a warm winter) is paid by the utility under the terms of the contract with the supplier. It then belongs to the utility, and presumably could be applied to the aggregate during additional months.

**c. Possibility of Under-Supply**

Because the gas transportation arrangement is transparent to the CAP customer and does not affect customer bills, an under-supply problem may be

solved through bookkeeping transactions. In the case of, for example, an unexpected harsh winter if the gas transportation supply contract does not supply sufficient volumes to meet the needs of the CAP aggregate, regulated gas may be supplied. The contribution of the transportation gas as an offset to CAP shortfall remains the same.

#### **d. Costs of Start-Up**

This gas transportation component had start-up costs because existing CAP customers had to be contacted to send in signed gas transportation agreements. In addition, it took time to fill the available slots (the initial agreements took time, and the Company used an open or “rolling” enrollment procedure).<sup>24</sup>

However, these costs will not be associated with an established ongoing program, except when the pilot is expanded into new counties in which current CAP participants must all sign new agreements. Even in this case, customer contact is a one-time start-up cost, and is not an incremental cost for an ongoing program. In an ongoing program, the agreement procedure will fit into the existing CAP intake procedure without additional cost.

#### **e. Ongoing Operation**

The gas transportation arrangement operates using a simple balance sheet approach. Each month’s accounting begins with a transfer of a (positive or negative) balance measured in Dth.<sup>25</sup> The remaining entries record the

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<sup>24</sup> This may result in excess volumes in initial months. However, as discussed, excess volumes do not present a cost problem.

<sup>25</sup> The “Beginning Bank” is stated in Dth. The monthly accounting is summarized in both Dth and Mcf, where  $Mcf = Dth / (\text{Columbia's Btu average for the month})$ . The Btu average varies slightly from month to month. A representative value is 1.0370, the Btu average for March of 1998.

volume received during the month, any transfers from other accounts, and allocation to customers.

	Jan	Feb	Mar	Apr	May	Jun
Beginning Bank	(915)	(2,435)	(4,124)	(5,534)	(5,141)	(3,988)
Received	2,604	2,352	2,602	3,300	2,728	2,640
Bank Transfer	0	0	0	0	0	0
Bank Adjustment		3	-67		114	-1185
Allocations	4,124	4,044	3,945	2,907	1,689	892
Remaining	(2,435)	(4,124)	(5,534)	(5,141)	(3,988)	(3,425)
Bank Tolerance						
Imbalance	0	0	0	0	0	0
Ending Bank	(2,435)	(4,124)	(5,534)	(5,141)	(3,988)	(3,425)

Source: Columbia Gas Billing Statements for Rate Schedule MKT.

The "true up" of the transportation arrangement occurs at the end of the contract year.

#### f. Impact of Gas Transportation to Shortfall

Currently the transportation arrangement provides a 1.99% savings by contract,<sup>26</sup> and according to the company, actual savings are running about 2.1%. Using the contract total daily volume of 290 Dth and 334 days, this results in a "Contract Quantity" of 96,860 Dth. Using an approximate Btu value of 1.0370, this results in approximately 93,404 Mcf.

The "Contract Price" per Mcf is the Company's "Expected Gas Cost" rate at the point of delivery less 1.99% or \$3.25 per Mcf. If the reduced price is \$3.25

<sup>26</sup> The contract runs from December 1, 1997 through October 31, 1998.

per Mcf, the standard price is \$3.315 per Mcf. The difference is \$0.065. Multiplication of the estimated Mcf by this cost saving yields an estimated approximate offset to shortfall of approximately \$6,071.

**g. Current Contingencies & the Future**

Gas supply is based on average day pricing, usually figured on a one-year basis. Short-term supply depends on the spot market and can cost considerably more. Currently the supply contract for the transportation arrangement is ending, and the current CAP gas transportation supplier has expressed an interest in moving on to a different market, leaving Pennsylvania. Three options are under consideration: a one-year extension, a shorter extension (but this would require pricing on the spot market in a season when price is traditionally up), and reversion back to tariff until it is decided whether or not to continue to develop aggregation arrangements for the future.

**C. SECTION SUMMARY & RECOMMENDATIONS**

Columbia's Gas Transportation component is a timely innovation that should, if possible, be continued in further program cycles. The operation takes advantage of the operation of both a particular tax situation, and of the competitive market for transportation supply. It does not entail any new risks, has no downside, and provides a way for low-income payment troubled customers to participate in modalities of the current reform. In particular, it provides a means of market participation for customers who cannot take on additional financial risk.

There are two recommendations:

- (1) Supply bids currently include the effects of the Pennsylvania Gross Receipts Tax. In other words, the supplier's bid includes the current operation of the Gross Receipts Tax among other market factors. Yet, regardless of the tax, aggregating low-income customers in Columbia's approach will provide any market advantage that may be available from whatever source. Thus, it is an intelligent and useful approach: if the bids come in lower than regulated supply, a supplier may be selected; if they come in higher, no outside supplier is selected in that round. Thus, we recommend that Columbia Gas continue several program cycles of CAP gas transportation arrangements, and continue its lead in this area by expanding participation.
  
- (2) Continue any aggregation of low-income payment troubled customers in the current form to prevent assignment of additional financial risk to customers already experiencing payment problems.
  
- (3) We also recommend that Columbia Gas consider a fifty-fifty split of the savings due to the transportation arrangement, with one-half rebated back to the customer in a future program cycle. However, to avoid administrative overhead, if a rebate arrangement is implemented in a future program cycle, the arrangement could take advantage of a single "balancing account." This will permit the yearly "true-up" to involve only one additional (and centralized) account, from which the per customer rebate would be drawn automatically based on monthly consumption.

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**Impact Assessment  
of the  
One-Year Extension of the Columbia Gas CAP Pilot**

**H. Gil Peach & Associates, 1999  
Monograph 99-1-2**



**ABACUS**  
Custom Research

**Process Evaluation of  
Columbia Gas of Pennsylvania's  
*Customer Assistance Program***

Participant Focus Groups  
(Attachment A)

Prepared for: Columbia Gas of Pennsylvania  
September 1998

Prepared by: Debra L. Steckel  
ABACUS Custom Research  
(ABACUS Job # 8085)

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- A. Participant Screener
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## EXECUTIVE SUMMARY

In order to explore Columbia Gas's Customer Assistance Program (CAP) participants' perceptions of the program, two focus groups were conducted. One was held among transportation pilot program participants, and one was held among original pilot program participants. A total of 19 participants from a good mix of age categories attended the focus groups. Following are the key findings.

### Program Participation

- When asked to describe Columbia Gas's CAP, the comments given by participants were overwhelmingly positive. Most of the participants mentioned the fact that the program set one amount for them to pay each month. This made it easier for them to budget expenses and pay the bill, and it gave them peace of mind.
- Overall, the budget amount that had been set for focus group participants was perceived to be affordable and fair.
- Although some participants clearly understood that the program rewarded them for paying their bills on time and consistently by forgiving their arrearages, a few seemed to believe that by paying the budgeted amount every month they were actually paying off their arrearages.
- A few participants in one of the groups mentioned that they had been initially confused about how the CAP actually worked. However, this initial lack of understanding had no negative effect on their overall perception of the program.
- Participants in the original pilot group felt that the gas bill they received contained very useful and positive information. A few participants mentioned that seeing the usage chart heightened their energy usage awareness.
- Overwhelmingly, participants mentioned the increased ability to pay their gas bill as a factor motivating their participation in the CAP.
- Throughout the discussions, participants expressed a great deal of respect for Columbia Gas and how the company administered the CAP.

### Choosing Gas Suppliers

- None of the participants in the transportation pilot group could describe the program on an unaided basis. When it was explained to them (as a condition of participation in the CAP they had agreed to allow Columbia Gas to act as their agent to purchase natural gas from one or more natural gas suppliers), only two of the nine participants knew they were participating in this pilot.

- Transportation pilot participants had no objections to the concept of Columbia Gas purchasing natural gas from other suppliers. Participants wanted to deal with Columbia Gas and the company's representatives.
- When asked how likely they would be to choose their own natural gas supplier, assuming their CAP benefits **would** continue, not a single transportation pilot participant said they would choose their own supplier. They could not describe any benefits of being able to choose their own supplier.
- The drawbacks of choosing their own marketer were apparent to transportation pilot participants. Switching to another supplier held many unknowns. Some participants compared shopping for natural gas suppliers to dealing with Health Maintenance Organizations (HMOs) and telephone companies since deregulation. They believed that these companies had made many promises but delivered on few.
- None of the participants in either the transportation pilot or the original pilot would consider choosing their own marketer even if their CAP benefits would **not** continue.
- Like the transportation pilot program participants, none of the participants in the original pilot group could describe the CHOICE program in any detail on an unaided basis. One participant could recall that if you chose another marketer, you would no longer be on CAP.
- Original pilot participants were extremely unlikely to change suppliers if given the opportunity. Not a single participant in the group said they would switch suppliers, even if their CAP benefits were to continue.
- When asked to describe the drawbacks of switching to a natural gas marketer that may offer them lower prices, many of the same reasons were given, including having a positive history with Columbia Gas, the hassle of changing, and fear of the unknown/a different supplier.

### Energy Affordability

- Participants generally agreed that being enrolled in CAP lowered their monthly payment, and that they were able to make their payments more consistently than before they were enrolled in CAP. Some participants again mentioned that the program allowed them to more easily budget their monthly expenses, and one or two participants mentioned paying the gas bill first because they always knew how much it was going to be.
- Participants mentioned paying down arrearages, being able to pay other bills, being able to be more flexible with their household budget (because they knew in advance how much the gas bill was going to be), increased peace of mind, receiving weatherization measures, and, again, being able to more easily budget their monthly expenses as things they would not have been able to do if they were not on CAP.

- Overall, transportation pilot participants were not aware that more than one payment plan was available, and they generally agreed that the payment selected for them fit their needs. Again, participants described situations in which Columbia Gas was willing to work with them to help them pay their bills.
- Original pilot participants had no clear understanding of why their payment amounts had changed. Many described changes in personal income as reasons for a higher budget payment. None of the participants felt the payment plan they had when they were originally enrolled in the program was any better or worse than the plan they currently had.

### **Program Requirements**

- Most participants could easily list the CAP requirements. They mentioned making monthly payments on time, verifying income yearly, applying for Low Income Home Energy Assistance Program (LIHEAP) and signing it over to Columbia Gas, not missing a payment, and making an effort to reduce energy consumption.
- When asked whether or not they thought CAP requirements were fair, all of the participants said they were. Participants valued the program and believed that the requirements were very fair considering the benefits they received.
- When asked how the requirements had changed since they first enrolled in the program, most original pilot program participants thought they had not changed at all. There was no perception that the program requirements had gotten stricter recently.
- Although almost all participants knew that failure to make payments would mean being dropped from the program, many mentioned Columbia Gas's willingness to work with them on payments in times of hardship.

### **Energy Conservation Education**

- Those participants who had been enrolled in CAP for the first time during the last year recalled receiving the CAP pamphlet on low cost/no cost energy conservation techniques, but had little unaided recall of its contents. One participant did mention that the pamphlet contained important telephone numbers.
- Recently enrolled participants felt that the material in the CAP pamphlet was easy to understand, but some mentioned that they did not read it in detail. They mentioned keeping this pamphlet as reference material—just as those who were enrolled in the program earlier kept the folders they received.
- Participants tended to mention energy conservation measures or techniques specific to their situations as the most useful thing they learned from the CAP enrollment process. These participants could not recall anything when asked to describe the least useful thing they learned.

- Several participants mentioned taking energy conservation steps since enrolling in CAP. Cleaning the furnace, adjusting the thermostat, and weatherizing their homes were all mentioned by these participants.
- Participants generally agreed that energy conservation was important, although they did not discuss this issue in much detail when asked specifically about it. Throughout the discussion, participants spoke of specific energy conservation steps they had taken in their homes (i.e., keeping the thermostat set at 65 degrees, using draft protection measures, etc.).
- When asked whether they have been more or less comfortable in their home since participating in CAP, several participants said they were more comfortable. When they described this increase in comfort, it translated to an increase in peace of mind as opposed to an increase in physical comfort.

### Program Overview

- As in to other studies conducted by the process evaluator and ABACUS, none of the participants in either of the groups were able to cite program attributes that were not valuable.
- Lowering arrearages, receiving weatherization measures that helped reduce their monthly consumption, and Columbia Gas's representatives' willingness to be flexible were all mentioned as most valuable aspects of the program.
- The main issue these participants brought up when given the opportunity to discuss pertinent topics that had not been addressed during the discussion was the fact that the CAP was not more widely known, and that it was not easy to obtain information about it.

## OBJECTIVES

As part of the process evaluation of Columbia Gas's Customer Assistance Program (CAP), Debra L. Steckel, Consultant, in conjunction with ABACUS Custom Research, Inc., conducted two focus groups among customers who are participants in either the original CAP pilot program (1992-1996) or the transportation pilot program (1997-1998) in Washington and Allegheny Counties.

The overall research objectives of the focus groups were to assess the perceived value of the program to participants and to determine program design changes necessary for effective program targeting and maximizing program participation. Specifically, the focus groups explored issues such as the impact of the program on customers' ability to pay their bills, the benefits and drawbacks of choosing a gas supplier, and the educational component of the program.

## METHODOLOGY

In order to explore customers' behaviors and perceptions regarding Columbia Gas's CAP, two focus groups were conducted. Focus groups provide an appropriate forum to discuss and explore perceptions and attitudes about programs like CAP. One focus group was held with program participants from the original pilot and one group was held with participants from the more recently developed transportation pilot.

Both of the groups were held on September 10, 1998. The group held among the transportation pilot participants was conducted at 9:00 a.m. in a meeting room of Focus on Renewal (F.O.R.) in McKees Rocks, Pennsylvania. The second group was conducted among participants from the original pilot at 2:00 p.m. in a meeting room of Allegheny Alliance for Unity and Development (A.A.U.D.) in the Franklin Center, Aliquippa, Pennsylvania.

Twelve participants were recruited to attend each group. In order to ensure a high participant show rate, each participant recruited received a confirmation letter approximately one week before the group and a confirmation call the night before the group. All individuals who participated in the groups received a monetary incentive in appreciation for their time and opinions. To facilitate a prompt starting time, all participants who arrived for the group at least fifteen minutes early were entered into a drawing for an additional incentive.

The discussion guide was developed by Debra L. Steckel and ABACUS based on input from Columbia Gas. The focus groups were moderated by Kathy Pierfy, Senior Project Director of ABACUS. She is a RIVA-trained moderator and has conducted focus groups and in-depth interviews for a wide range of clients. For these clients, she has integrated qualitative and quantitative data into successful marketing plans. Debra L. Steckel assisted Ms. Pierfy. Ms. Steckel is Columbia Gas's CAP process evaluator. She also has been professionally trained as a focus group moderator and has conducted numerous focus groups with residential, commercial and industrial utility customers.

General topic areas covered during the focus groups were as follows:

- **Program Participation:** how participants would describe the program; factors that convinced participants to participate in the program; the level of understanding participants have about the particular pilot in which they are participating and what it means to them as customers; the perceived benefits and drawbacks of choosing a gas marketer if CAP benefits were to continue; the perceived benefits and drawbacks of choosing a gas marketer if CAP benefits were terminated; perceived benefits and drawbacks of CHOICE (a program that allows CAP participants to choose their own gas supplier) and/or remaining on CAP and having Columbia Gas choose a supplier.
- **Energy Affordability:** how being enrolled in CAP affected participants' gas bills/ability to pay gas bills; for transportation pilot participants, how well payment plan selected fits their needs; for original pilot participants, perception of how payment plan has changed since initial enrollment, and if changed, effect on ability to pay bill compared to initial payment plan.
- **Program Requirements:** perceived program requirements and perception of requirements (fair/unfair); for original pilot participants, perception of how program requirements have changed since initial enrollment and effect on participation in program; understanding of consequences of non-compliance with program requirements.
- **Education (transportation pilot participants only):** recollection of educational materials/information presented during enrollment process; understanding of materials and areas that needed more explanation; description of conservation measures learned, as well as most useful and least useful information learned; energy conservation measures taken by participants and their family members as a result of participating in program; perception of importance of energy conservation; perception of increase/decrease in comfort (in home) since participating in program.
- **Program Overview:** least/most valuable aspects of program.

### **STATEMENT OF LIMITATIONS**

In market research, the focus group approach seeks to develop insight and direction rather than quantitatively precise measures. Because of the limited number of respondents and the restrictions of recruiting, this research must be considered in a qualitative frame of reference.

The reader may find some information that seems inconsistent when first reading this report. When such data appears in the context of findings, it should be considered as valid data from the participant's point of view. That is, the participant may be misinformed or simply wrong in his/her knowledge or judgment, and the reader should interpret that as useful information.

This study cannot be considered reliable or valid in the statistical sense since the recruiting of participants cannot be exactly replicated, identical questions cannot be asked in each group, and

the results from one group cannot be compared precisely with the results from other groups. Results from each group can only be added to the body of knowledge on this topic.

The following five biases are inherent in this type of study:

- (1) Focus group participants tend to be risk takers and may be somewhat more assertive than non-participants.
- (2) Focus group participants "self-select," i.e., they are those people who are available on the day and at the time a particular group is scheduled.
- (3) Focus group participants who attend focus group sessions may be more articulate and willing to express opinions in a group than non-participants.
- (4) Focus group participants are not selected randomly; therefore, each person in the pool of possible participants does not have an equal chance of being selected.
- (5) People in groups may respond differently to a question than if asked that same question individually. They may follow the lead of a strong speaker or someone they perceive as an "expert."

## PARTICIPANT QUALIFICATIONS

All focus group participants were recruited from the Columbia Gas's list of program participants. Participants from a good mix of age categories from 25 to over 75 were recruited to each group. A total of 19 individuals participated in the focus groups. Sixteen participants were women, and three were men.

It is important to note that some of the participants in the transportation pilot group were enrolled under the original pilot program, but because they lived in Washington or Allegheny Counties they became part of the transportation pilot. This is important because some individuals who attended the transportation pilot focus group went through the enrollment process before 1997. These individuals experienced a different enrollment process than those enrolled in 1997 or later.

## GENERAL FINDINGS

Because the discussion for each of the groups followed the same general discussion guide and participants' responses were similar from group to group, results will be presented by topic area. Differences by group will be discussed where identified. Verbatim responses from the focus groups are included in order to support and illustrate findings.

### **Program Participation**

#### Description of Program:

When asked to describe Columbia Gas' Customer Assistance Program (CAP), the comments given by participants were overwhelmingly positive. Most of the participants mentioned the fact that the program set one amount for them to pay each month. This made it easier for them to budget expenses and pay the bill. Many agreed that the ultimate benefit of knowing in advance what their payment would be each month was peace of mind. They did not have to worry about the amount of their next gas bill. Overall, the budget amounts that had been set for the focus group participants was perceived to be affordable.

*What I think is the best is that you have only one certain amount to pay every month and especially in the winter, if you are not able to pay, say if your bill is \$200 you are not able to pay all of that at that month so it is just lowered and it is evened out during the year. (Transportation pilot)*

*There is one thing, it keeps you in good spirit 'cause you know exactly what your bill is. Before I had to be on this, I would be wondering what my bill was. I would wonder if I was burning too much gas which I very sparingly use. (Original pilot)*

*I'd tell them how great it is. I've already talked to people that have Columbia Gas and didn't know nothing about it and I told them you should try to get it. 'Cause most of them are like single parents or they are really low income, and I said they (Columbia Gas) help you out a lot. Without them I don't know how to pay my winter heating bills and that is the truth. (Transportation pilot)*

*It makes it easier to pay your bills and they come out and they show you how to block off air holes.... (Transportation pilot)*

*Helps to get you on your feet. (Original pilot)*

*I would say, it's a good way of getting your gas bill caught up. If you get behind, it helps you get caught up to where you need to be. (Original pilot)*

*People who are on Social Security, it really helps. Cause we can use all the help we can get. (Original pilot)*

Many of the participants mentioned that being on the program was a great way to get their gas bill "caught up." Although some participants clearly understood that the program rewarded them for paying their bills on time and consistently by forgiving their arrearages. However, a few seemed to believe that by paying the budgeted amount every month they were actually paying off their arrearages. Many in each of the group were not overly concerned with "the big picture." They knew what amount to budget for the gas bill each month and that was all the information they needed to know.

*...is really nice because when they first started CAP, I had called Columbia Gas because my gas bill was humongous. Like I said, being a single mom, you know what I'm talking about, you got to buy shoes, clothes, and everything else. Well, what happened is the lady at Columbia Gas told me to go down and sign up for it. And she explained to me that, you know, after four years of being on this (program) our back bill will be totally eliminated because what they do is after the first year they knock off one-quarter of your bill. The next year, another quarter, and at the end of four years that bill is totally deleted. So I didn't owe them that \$1000 or whatever, they knocked it off...I thought "Wow, somebody finally cares enough to help," and my budget bill was at the time \$56 because I still had all of my kids at home. Now it is down to like \$42 a month, and I love it...because when I get paid (which I make minimum wage), I can say gas—\$42. I don't have to say, "What is the bill going to be this month?" I love it. (Transportation pilot)*

*It really does help your bill, it really does. It can get you caught up and out. Faster than I thought. It was like, "Oh, this is so much high a month...", then the next time you get your bill, it's really amazing. (Original pilot)*

*...then you can budget, you know what you are paying every month. (Transportation pilot)*

*I was on CAP and then I said, "Oh, look, my bill, my payments, are low. My gas is on—so what, I think I'll get off CAP." Yeah, right. Then it started going up. I called down here, I came in. Thank God, I had a hard time, but they did put me back on CAP. I thought, "Miss Big Shot here." ...when (my) bill came in, and I was like, "It's high! What? I should have stayed on CAP. Why did I get off?"*

*Then I called down here, got an appointment and came in. . . my advice to you is stay on CAP, don't try it, because you have a hard time getting back on. . .*  
(Original pilot)

A few participants in one of the groups mentioned that they had been initially confused about how the CAP actually worked. These participants were recruited to the transportation pilot group, but some of them had participated in the original pilot program. As the following verbatim comments illustrate, these participants were not sure about how they would receive assistance. However, once they received several gas bills, CAP became clearer. It is important to note that this initial lack of understanding about how the program worked had no negative effect on their overall perception of the program. These participants needed help in order to pay their gas bills, CAP provided that help and they were grateful for it—in whatever form it came.

*Yeah, I wasn't real clear on it either, but all I knew was my bill was astronomical and I needed help. I needed help bad because it was like getting to the point where they were sending cutoff notices and stuff...so at that point I called Columbia Gas and they told me that there was an energy assistance program that I could get into and to call this number. I called the number, and that is when I spoke to Mark and he made an appointment for me to come out. Once I came out he explained it to me but like her, I wasn't clear. Like Rosetta, I wasn't clear at all. Then I said, "Okay, wait a minute," once the bills started coming, I said, "Okay, now I understand" (Transportation pilot)*

*Well, I was kind of confused at first. I thought that there was some sort of grant that they give you and when I come down, I thought okay, they are going to allot so much money to my bill. And I didn't know anything about the CAP Program and I'm thinking okay, well, this is great, I get some type of energy assistance check, monthly.... (Transportation pilot)*

Interestingly, several of the participants in the original pilot group mentioned the fact that the gas bill they received contained very useful and positive information. These participants liked to see the bar graph comparing their current energy usage to past energy usage. A few participants mentioned that seeing the usage chart heightened their energy usage awareness. They also liked seeing the amount of the total bill that they did not have to pay.

*Yeah, there's like a little bar and it says, this is how you are doing since you've been on CAP, the difference and the usage and that. Which is very nice. It's an eye catcher. (Original pilot)*

*I don't waste anything. When I receive (the gas bill), I feel good, cause I know I haven't messed up. (Original pilot)*

*Yes, it is, it is very nice and they also always compliment me on...not using too much gas. (Original pilot)*

*It also makes you aware of the gas that you are using. Like she said, they compliment her on not using as much as before. It makes you kind of watch what you are doing. (Original pilot)*

*I like the fact that they put the minus amount there too. You have used so much less, you have got \$57, and a minus 35. You have this "minus amount" that you do not have to pay. (Original pilot)*

*In other words, they give you the information that you want, too. Real good information on (the bill). (Original pilot)*

*They don't just say your CAP amount is \$35. They tell you what you used, what your savings are. (Original pilot)*

Yet other participants mentioned weatherization benefits they had received since participating in the CAP. Many of these participants did not distinguish WarmChoice (Columbia Gas's weatherization program) from CAP when discussing weatherization measures received, although a few did.

*They stopped cracks in my place. All around the door and over, where they thought air could come in and around the doors, openings of doors, and it certainly did make a big difference. (Original pilot)*

*Once I found out about the CAP program, the application procedures were rather easy. All you have to do is provide documentation on income, which I did. It requires a yearly free evaluation—except for this year—which is a nice change where I got a letter that said, unless my income, family situation changed since last September or October, there wouldn't be a need to...to verify the eligibility guidelines. I particularly benefitted from the CAP program in that once I learned of the program and obtained some of their literature, I found out that they had the WarmChoice Program, which I also applied for. They came out and did a total heat loss, energy audit and then put in, I don't remember how many bags of insulation, but they brought the R factor of my attic floor to 32 or 34.... (Original pilot)*

#### Motivation to Participate in CAP:

After describing the CAP, participants were asked what factors motivated them to participate in the program. Overwhelmingly, participants mentioned the increased ability to pay their gas bill as a motivating factor. Others mentioned that the CAP budget payment was better than Columbia Gas's regular budget plan payment.

*It seemed to be a better budget payment than what Columbia Gas itself would. Your outright budget (amount). (Original pilot)*

*I'd say the monthly payments are a lot easier to pay. (Transportation pilot)*

*'Cause I'm a diabetic and I was missing my medicine because I couldn't pay my utilities. CAP helped me a great deal. (Transportation pilot).*

At this point in the discussion, many participants shared stories about how being on Columbia Gas's CAP helped them. Throughout the discussions, participants expressed a great deal of respect for Columbia Gas and how the company administered the CAP. The following quote is typical of many of the stories shared by participants.

*Well, I'll give you an example of Columbia Gas's help. My daughter has a little girl and at the time the baby was only 2. She is a chronic asthmatic and the house my daughter was living in...She had Equitable Gas. Equitable Gas told her that her budget payment would be \$103 a month. My daughter says, "I only get \$116 (or whatever she got from public welfare)," and they said, "That is too bad; if you can't pay we are shutting you off." They shut my daughter's gas off for the whole summer. I called them and argued with them and they said, "Well, all she needs is a note from her doctor." I said, "She shouldn't need a note from her doctor; the girl explained to you what is going on." I called Columbia Gas and spoke to one of their representatives. Do you know they called her doctor, Equitable Gas, and the Public Utility Commission for me? Her gas was on that next day. So that is why I said I would never trade Columbia Gas. I told my daughter, "Don't move in a house that don't have it." And that is the truth, they'll go out of their way to help, they are very human resourceful people. Very. (Transportation pilot)*

*Awareness of Transportation Pilot:*

Participants in the transportation pilot group were asked to explain what they knew about Columbia Gas's transportation pilot program. None of the participants in the group could describe the program on an unaided basis. When it was explained to them that as a condition of participation in this program, they had agreed to allow Columbia Gas to act as their agent to purchase natural gas from one or more natural gas suppliers, only two of the nine participants knew they were participating in this pilot. One of these two participants remembered receiving a letter from Columbia Gas describing the program.

*...what they do is they send a letter with your gas bill...that is when all of those companies were trying to come in and they were saying you can pick your company, you can do this or you can stay with Columbia Gas. If need be, they would go purchase gas at a lower price and their benefits would also benefit you, it would reflect in your bill. To where they would find the cheapest source—but you would still stay with Columbia Gas. I said, "Go ahead." 'Cause I look at it this way, nobody else was out there to help me those hard winters. I'll stick with Columbia Gas through thick and thin and that is where I'm staying. (Transportation pilot)*

After hearing the explanation of the program given by the participant quoted above, one of the other participants responded (about Columbia Gas purchasing gas on their behalf),

*Oh, yeah, that is only right. I mean they are helping you out.... (Transportation pilot)*

This response was typical of all respondents in the group. Not a single participant raised an objection to the concept of Columbia Gas purchasing natural gas from other suppliers. Participants wanted to deal with Columbia Gas and the company's representatives. If Columbia Gas could save money by purchasing from another supplier, all the better.

When asked how likely they would be to choose their own natural gas marketer, assuming their CAP benefits **would** continue, not a single participant said they would choose their own marketer. These participants could not describe any benefits of being able to choose their own marketer.

The drawbacks, however, were clear to these participants. Columbia Gas was perceived as a very friendly and understanding company. Participants mentioned that Columbia Gas was willing to work with them when they could not pay their bills, that it was a company that had been around for a long time, and that it had a history of working with them to solve problems. Participants were very loyal to Columbia Gas. Switching to another company held many unknowns for these respondents. Some participants compared shopping for natural gas suppliers to dealing with HMOs and telephone companies since deregulation. They believed that these companies had made many promises but delivered on few.

*It reminds me, you know, of all of these different carriers. They remind me of the HMO. When they first came out they sounded so enticing. You felt like, oh, you get to choose your own physician and this and that and the other. Then, once you come on down the line, you find out that there are a lot of negatives with that. There are a lot of times when they treat you like you are no one. So, I think it was a lot better the way things were instead of changing it to an HMO. They kick people out of the hospital when they are still feeling bad. I don't trust the new, you know .... (Transportation pilot)*

*...offering lower prices and that. Well, how do we even know that they...I mean Columbia Gas is the one that gave us the program. How do we know that these other companies are going to be around in a year? (Transportation pilot)*

*Columbia Gas has been here like forever so I'll hang in. (Transportation pilot)*

*There is, like they say, read all of the fine print. If you quit them you get fined or penalized and it is confusing. Like I told my husband, we are just staying. I said you don't move, you don't make a mistake. You keep one company that you know. (Transportation pilot)*

*I think it might remind me of the phone services. You know you had something, and then you are always getting phone calls—all of the time—about switching and what not. It is just a big headache. (Transportation pilot)*

*If the CAP benefits went with you, and you were going to pay the same anyway, then why bother leaving? (Transportation pilot)*

Not surprisingly, none of the transportation pilot participants would consider choosing their own marketer if their CAP benefits would not continue.

*Awareness of CHOICE Program:*

Participants in the original pilot group were asked to explain what they knew about Columbia Gas' CHOICE program. This program allows CAP participants to choose their own gas supplier. Like the transportation pilot program participants, none of the participants in the original pilot group could describe the program in any detail on an unaided basis. One participant could recall that if you chose another marketer, you would no longer be on CAP.

*But you would naturally be out of this program (CAP) if you took another choice. (Original pilot)*

*I knew they had that, but it's up to you. You don't have to change if you don't want to. (Original pilot)*

*Didn't even know they had it. (Original pilot)*

In this group too, participants were extremely unlikely to change suppliers if given the opportunity. Not a single participant in the group said they would switch suppliers, even if their CAP benefits were to continue.

*I can't say nothing about Columbia Gas 'cause they work with me. If I have a problem, I call, and they (respond). I've never had a problem with Columbia. (Original pilot)*

When asked to describe the drawbacks of switching to a natural gas marketer that may offer them lower prices, many of the same reasons were given, including having a positive history with Columbia Gas, the hassle of changing and fear of the unknown/a different supplier.

*When you change to another company, you don't know what you are getting into. You know what Columbia Gas is, but you don't know with these other ones. (Original pilot)*

*If they push me to do that, I'm staying where I'm at. (Original pilot)*

*I think if you are satisfied where you are at, then why do the effort. (Original pilot)*

*I never had trouble with (Columbia Gas). They have always worked with me. They have been good to me so I can't find any (reason to change). (Original pilot)*

*Plus, it's what we are used to. (Original pilot)*

Like the transportation pilot participants, none of the original pilot participants would consider choosing their own marketer if their CAP benefits would not continue.

### **Energy Affordability**

#### *CAP's Effect on Gas Bill/Ability to Pay:*

Next, all participants were asked to describe how being enrolled in CAP affected their gas bills, as well as their ability to pay their gas bills. Participants generally agreed that being enrolled in CAP lowered their monthly payment, and that they were able to make their payments more consistently than before they were enrolled in CAP. Some participants again mentioned that the program allowed them to more easily budget their monthly expenses, and one or two participants mentioned paying the gas bill first because they always knew how much it was going to be.

*My budget payment used to be like \$50 or \$60 for the amount of gas that was used...It seemed to be a well-kept secret because I heard of it by word of mouth from a neighbor of mine...she was kicked off of it because she could not make the payment. When I think of the budget payment that we have, there's no way... There's no way in world that I would not rob Peter to pay CAP. (Original pilot)*

*I think that to me it works out real good because every month your light bill is going to be different and the telephone is going to be different. When you come to the gas you say, "Oh well, I pay \$56." That is on top of the sheet. I know what I got to pay. The telephone bill I don't know until it comes. So right away, you know I'm gonna pay the gas first because you know what it is going to be. (Transportation pilot)*

*(On CAP) the gas bill is not one of the ones you juggle. (Transportation pilot)*

*Both of your cable bills today are higher than your gas. Your cable bill is higher than your CAP program (payment). Almost twice as high (as your cable), if you have cable. (Transportation pilot).*

*You can budget your bills better. (Original pilot)*

*It helps me a lot, 'cause I have two kids going to college. (Original pilot)*

*It's helped a lot financially. (Original pilot)*

*(I pay) on time. (Transportation pilot)*

*(I pay) more consistently. (Transportation pilot)*

During this part of the discussion, participants were also asked if being enrolled in CAP had allowed them to do anything that they would not otherwise have been able to do. Participants mentioned paying down arrearages, being able to pay other bills, being able to be more flexible

with their household budget (because they knew in advance how much the gas bill was going to be), increased peace of mind, receiving weatherization measures and, again, being able to more easily budget their monthly expenses.

*It's helped me pay another bill. It's helped a lot. Big difference. (Original pilot)*

*It was an awful big help for me, because when the steel mill went out, I had to retire and you know what little retirement money is. It's nothing. And, having to pay house bills and stuff like that, this is a wonderful thing for me. (Original pilot)*

*So I could pay other things, 'cause I'm on a fixed income. (Original pilot)*

*A couple of years ago, they came in and winterized my home and my cellar door was broke. It was an outside entrance. They put on a new door. A new bolt installed on the outside doors and insulated it. Then about six months later, my gas was almost down to nothing. (Original pilot)*

*I know when I first found out about the program, I had these space heaters that you have in your house—that you used to have, you don't have them now that often—but Columbia Gas came out and they checked them. And, I had a leak in some of them. So to replace and get rid of my space heaters, they had to provide a furnace for me, for my house. (Transportation pilot)*

*You know what that bill is gonna be and unlike Dusquene Light, it's like, "I wonder what it's gonna be this month. Wonder what it's gonna be next month." (Original pilot)*

*I was just saying it is nice, it is really nice to know. Like you were saying that you are going to have the same amount every month because you know what to look forward to for your bills. You can more or less budget your money better that way. (Transportation pilot)*

*Well, other than money, I would say the main thing in winter when you get these bad months you have peace of mind, right? (Transportation pilot)*

*And in the wintertime, you don't have to worry about the \$200 gas bill. (Transportation pilot)*

*It is like she said, you use so much but you only pay \$70 a month. You are still getting money put towards your back bill. (Transportation pilot)*

*Suitability of Payment Plan (Transportation Pilot):*

Those participants who were in the transportation pilot were asked how well the payment plan selected for them fit their needs. Overall, these participants were not aware that more than one payment plan was available, and they generally agreed that the payments selected for them fit

their needs. One participant in the transportation pilot mentioned having the payment originally determined for her lowered. This participant was satisfied with the payment amount selected for her. Here, again, participants described situations in which Columbia Gas was willing to work with them to help them pay their bills.

*...I actually talked to them and said don't you think, I mean this is my opinion, can you adjust it a little bit more, or if not let me know, and we will settle for what it is. They actually did adjust a little bit more.... (Transportation pilot)*

*Well, when I started working, which was four years ago, my CAP program they said it don't matter if you are working, it don't matter if you are not working—as long as you meet the eligibility requirements. Actually, this past year it lowered my budget payment because I'm not making big money but they have took everything into consideration and all. And, like I said, you don't have to be on public assistance, which is what a lot people think, in order to get this program. (Transportation pilot)*

Perception of Change in Payment (Original Pilot):

Participants in the original pilot were asked to describe how their payment plan changed since they first enrolled in CAP. Participants had no clear understanding of why the payment amount had changed. Many described changes in personal income as reasons for a higher budget payment. None of the participants felt the payment plan they had when they were originally enrolled in the program was any better or worse than the plan they currently had.

Again, participants shared examples of how flexible Columbia Gas was when it came to adjusting their monthly budget amounts. Generally, participants believed the amount they paid each month was fair.

*I know one of the things I really liked about it was after the grant was over with the job that I had, I was still paying this higher budget amount. So I called and talked to one of the ladies which was Mary, she was very nice. I told her how my hours were decreased and they adjusted it within the next month. (Original pilot)*

*You didn't have to wait, you just gave a call. (Original pilot)*

*It might of changed \$20. They make you pay more. (Original pilot)*

*Mine went up \$5 because of change in income because of working. They go by what you make an hour. But, still, even though it went up \$5, I still can't complain. (Original pilot)*

*I can't complain. (It increased) a little bit. It's worth it though, I can't complain. It only went up about \$5, that's all. (Original pilot)*

*Mine went higher to like \$46 because of the type of job I was doing at the time and then after that it decreased a little, when I first went on, it was \$22. (Original pilot)*

*Mine changed once. The amount. I pay more now, 'cause I don't get welfare no more. I'm on my kids' survivors benefits. (Original pilot)*

### **Program Requirements**

#### *Awareness of Requirements:*

After discussing payment plan amounts and changes, participants were asked to explain CAP requirements. Most participants could list the requirements. Applying for LIHEAP and signing it over to Columbia Gas, making the monthly payments on time, reducing gas consumption, reporting income yearly and reporting any changes in income were all mentioned by participants in both groups.

*Try to keep your gas usage down. (Original pilot)*

*Changes, if your monthly income changes. Or you have to come in once a year for reevaluation. You have to bring in your bills, and your proof of income. (Original pilot)*

*Right. You have to make those payments on time. (Transportation pilot)*

*I think that is part of the contract you signed, when you sign saying you have to attempt to conserve. (Transportation pilot)*

*If you mess around and miss your payments, you are not going to be on (the program). (Transportation pilot)*

*Also, when you are on that program, they don't want you to abuse the program. You don't say well I'm not paying, I'm paying so much, I'll leave it (the thermostat) on a hundred. Open the windows and let the furnace run. (Transportation pilot)*

*But you also have to agree to sign up for LIHEAP in order to remain on a program. And turn it over to Columbia Gas. It is like you can't sign up, then say, "Well, I'll just take this check, and I'm going to pay the gas bill," and (then don't pay it). It automatically goes to Columbia Gas, that is one of the requirements. (Transportation pilot)*

*...once a year they renew your application, yes. (Transportation pilot)*

#### *Perception of Requirements:*

When asked whether or not they thought these requirements were fair, all of the participants said they were. Participants valued the program and believed that the requirements were very fair considering the benefits they received. However, there was some confusion about how the

LIHEAP dollars were used. One of the participants wanted to know if this money went toward his bill.

*I think they are fantastic. (Transportation pilot)*

*They are fair. (Transportation pilot)*

*That's not much to ask for really. (Original pilot)*

*For the help they give you, it's not that much to have to do. (Original pilot)*

*Well, you don't know because first of all, they are giving you a discounted rate and they are deducting ...bill off. That's the way they get their money back for helping us. So they can have mine every year. (Transportation pilot)*

*It is only right, you know.... (Transportation pilot)*

Perceived Change in Requirements:

When asked how the requirements had changed since they first enrolled in the program, most original pilot program participants thought they had not changed at all. There was no perception that the program requirements had gotten stricter recently. Again, these participants shared many stories about how Columbia Gas worked with them when they were not able to pay their bill on time.

*Nothing has changed in the seven years I've been on it. (Original pilot)*

Penalty for Failing to Meet Requirements:

Next, all participants were asked to describe what happens to CAP participants who do not meet the program requirements. Although almost all participants knew that failure to make payments would mean being dropped from the program, many mentioned Columbia Gas' willingness to work with them on payments in times of hardship. Several also mentioned being afforded flexibility when it came time to make their yearly appointment.

*They will be dropped. (Transportation pilot)*

*Once you are dropped you are finished. (Transportation pilot)*

*To do that would be a big mistake on your part. If you mess up on this baby, ... (Transportation pilot)*

*Which is only right, you know. (Transportation pilot)*

*Then you are off and that's it. (Original pilot)*

*I've gone as far as to miss two months and then talk to them and there was no hassle. (Transportation pilot)*

*Yeah, they don't just cut you off, you know. (Transportation pilot)*

*They are pretty good about that. When the time comes. They do work with you. (Original pilot)*

*Even if you are late. They are the total opposite (of Dusquene Light). They (Columbia Gas) will work with you unlike Dusquene Light. They don't care. (Original pilot)*

*And all they ask is, "Where do you make your payment?" No problem as long as you call them and let them know. They have no problem with it. Which ain't too often it happens 'cause I always pay ahead of time or on time. (Original pilot)*

*(About paying on time)...If you have a good reason for not doing it, I don't think they would fault you too much for it. But they require that, if you don't do it because you don't want to do it, then they will take you off the CAP program. (Original pilot)*

*I fell behind because my kid was in Children's Hospital. They didn't shut me off yet. I was like two months behind, because I've been too busy up in Pittsburgh. I wasn't taking care of things here. (Original pilot)*

*As long as you tell them. They are not going to stress over that. (Transportation pilot)*

*'Cause I was just a couple of days late this month and they were, they didn't bother me at all. (Transportation pilot)*

*...they even accept partial payments...if you call and explain that all I can send is \$75 this month, I'm sorry but things are tight. "Just make sure you pay it by such and such date and we will reestablish your budget next month." They were always decent. I'd never trade. (Transportation pilot)*

*Even without the CAP program when I was having problems with my bills, they were always willing to work. Unless you were like seven months behind, they were willing to work with you. Even if I broke an arrangement, they put me back on one. It went up a little bit but.... (Transportation pilot)*

*They give you 30 days to make your appointment. That should be more than ample time for anyone to be able to make an appointment. (Original pilot)*

*They are flexible a lot. (Original pilot)*

*If you can't make your appointment, cause my kid is a really bad asthmatic, there have been a couple times that I have not been able to be down here exactly when my year has been up, and they were okay with it. (Original pilot)*

## **Education (Transportation Only)**

### Educational Material Recall:

Those participants who were part of the transportation pilot were asked to describe the information or education materials that were presented to them during their enrollment meeting. Those participants who had been enrolled for the first time during the last year recalled receiving the pamphlet, but had little unaided recall of its contents.

*All I had was a little pamphlet. (Transportation pilot)*

*He give me a little pamphlet, and I was reading that, but I really can't think of what it was saying now. (Transportation pilot)*

### Clarity of Educational Material:

These participants felt that the material was easy to understand, but some mentioned that they did not read it in detail. These participants said the agency person covered so much material during the enrollment meeting, it was hard to remember all the details. They mentioned keeping the pamphlet as reference material—just as those who were enrolled in the program earlier kept the folders they received.

*I guess they expect you to utilize it...The book isn't really hard to understand. You can pretty much go through it once you get home and read it and figure it out on your own, but it was kind of unclear as to whether or not my bill was going to be the same every month. There were things that I forgot that he told me, and then once I got the bill a few times, I said, "Okay, I understand now."  
(Transportation pilot)*

*Mark was the same way. He was really thorough, too. And there is so much information that they go through with you that there is no way you can possibly remember every little thing once you get home unless you just look through the book again. (Transportation pilot)*

*They basically briefly told you what it was about. A brief description and then they expect you to go home (and read it).... (Transportation pilot)*

### Most/Least Useful Educational Materials/Learning:

These participants were also asked what they learned from the agency about conserving energy and lowering their energy bill. Participants tended to mention energy conservation measures or techniques specific to their situations as the most useful things they learned. These participants could not recall anything when asked to describe the least useful thing they learned.

*Well, the main thing is to keep the draft out of the house. Like she said, windows, vents, the draft, the windows, any place that you could that the hot air could seep out. (Transportation pilot)*

*Checking out the water heater. (Transportation pilot)*

*Insulating the hot water heater and stuff. (Transportation pilot)*

*A lot of times too, if you have an older furnace that has to be adjusted because that could be wasting a lot of gas. If you ever look and see if your flames are blue or red it could indicate that you are burning too much gas instead of carbon, it has to be mixed...that has a lot to do with your gas bill. (Transportation pilot)*

Energy Conservation Measures Taken:

Several participants mentioned taking energy conservation steps since enrolling in CAP. Cleaning the furnace, adjusting the thermostat, and weatherizing their homes were all mentioned by participants.

*Had the furnace cleaned. (Transportation pilot)*

*Actually it costs more gas to keep turning it on and off than to just set it low. (Transportation pilot)*

*Plastic on them windows. (Transportation pilot)*

*I got new windows. (Transportation pilot)*

*I've found out that I have some of my rooms that I don't use. If I close the door that keeps a lot of the hot air in any of the rooms that you are really using. (Transportation pilot)*

Importance of Energy Conservation:

Participants generally agreed that energy conservation was important, although they did not discuss this issue in much detail. Throughout the discussion, participants spoke of specific energy conservation steps they had taken in their homes (i.e., keeping thermostat set at 65 degrees, using draft protection measures, etc.).

Change in Comfort since Participating in CAP:

When asked whether they have been more or less comfortable in their homes since participating in CAP, several participants said they were more comfortable. Interestingly, when they described this increase in comfort, it translated to an increase in peace of mind as opposed to an increase in physical comfort.

*I don't have to worry too much about how much I'm gonna burn, how much gas I'm gonna burn, you know. Or I'm scared to burn this here and turn it up 'cause the bill gonna be high but now I seem more relaxed. I don't have to worry as much. (Transportation pilot)*

## Program Overview

### Most/Least Valuable Program Aspects:

As occurred in to other studies conducted by the process evaluator and ABACUS, none of the participants in either of the groups were able to cite program attributes that were not valuable. At this point in the discussion, a few of the participants gave suggestions for improving the program. As the verbatim comments below illustrate, these suggestions primarily addressed increasing awareness of the program in the community. One participant mentioned being disappointed by the telephone message system when she called Columbia Gas CAP with a problem or question because there was no one available to address her concerns immediately, and another mentioned that it took a lot of effort to find out about the WARM CHOICE program.

*But they still don't get the information out to the general public that the program. Of course, we may not want them to do that, then there would be more people.... (Original pilot)*

*My neighbor, he said, "Call this number and ask for so and so and see about (CAP) because not too many people know about it." I said, "Why?" (Original pilot)*

*First, I would mention to them that it's an excellent assistance program for the gas energy used, but it was a well-kept secret as far as I was concerned. I never knew this assistance was available until I happened to meet someone at the resource center and they said why don't you look into this. (Original pilot)*

*I didn't even know it existed to tell you the truth. I was shocked to hear that a lot of people have been on for a number of years when I thought it just first came out.... (Transportation pilot)*

*...it took at least two months of phone calls, September and October, for the WarmChoice. (Original pilot)*

*The only thing I don't like about it is when you do call that number, you get this recording. To me, there is a lot of times when all of us are in and out because of things we do, the children we have, so we are out and we might miss the call. (Original pilot)*

Participants were better able to discuss the aspects of the program they found most valuable. Lowering arrearages, receiving weatherization measures that helped reduce their monthly consumption and Columbia Gas's representatives' willingness to be flexible were all mentioned as most valuable aspects of the program.

*It's nice to see that amount go down on the bill to zero. That's what's on your bill. It shows how much, since you've been on CAP, your bill have come down to zero. (Original pilot)*

*Most valuable is getting your bill paid up. The budget, get that amount to where I don't have a gas bill. I was . . . about \$600 or something. Today, I don't have a gas bill. I have my CAP payment, but I have a zero balance. (Original pilot)*

*I got a new furnace out of the deal, and a new roof. (Original pilot)*

*They sent someone out to the house and they insulated the house free of charge. They wrapped the pipes, they wrapped the hot water heater, they caulked... (Transportation pilot)*

*Checking your furnace free and ... (Transportation pilot)*

*Their willingness to be helpful. (Transportation pilot)*

### **Participant-Identified Areas for Discussion**

At the end of the discussion, participants were given the opportunity to bring up issues they felt were pertinent to the discussion but not covered previously. The main issue these participants brought up was the fact that CAP was not more widely known, and that it was not easy to obtain information about it. The vast majority of these participants were not aware that the program was a pilot that was being tested in certain areas of Columbia Gas's market. This was explained to them.

In addition, one participant suggested developing a program to help participants "earn" weatherization or energy-efficient equipment so that they could get off CAP permanently. Another participant suggested that Columbia Gas attempt to make apartment landlords more aware of programs that would help their tenants or develop programs that would benefit these landlords as well as their tenants.

*I would like to make a suggestion for Columbia Gas if they determine to continue with the program. Everything that they have done for me and the other people at the table has been highly, highly appreciated. It really, though, as far as my situation is concerned, is just a Band-Aid. My problem and the reason that I needed so much assistance from Columbia Gas is that I have a furnace that is bigger than this table. Perhaps their analyst could somehow tie in the benefits of reduced gas prices or monthly charges with some kind of program where they would help us perhaps replace our furnaces with something more energy efficient. That way, while we are saving them gas, which is part of the game we are playing, saving up the funds, I would like to see some of the funds that we are getting credited with go towards replacing this monster I've got in my basement... When I am off of CAP, then I don't have the same problem facing me. Now I have a better furnace, and gas consumption is better for them, so maybe that would be a program they could develop.... (Original pilot)*

*...it would be nice to know if there are other programs that we might be eligible for. I think that would be nice to know. Like I said, I knew nothing about this at all. It was just by word of mouth. Not knowing what other programs we might have been eligible for. (Original pilot)*

*They only thing I think is that they should make more well known to the public because there are a lot of your elderly people that don't know. They are scared to turn that thermostat up and they are freezing. (Transportation pilot)*

*It is almost like when you call to make arrangements, it's just if they feel in the mood to tell you. (Transportation pilot)*

*I think that people that rent, let the landlord know the things that they can get. Like the one time they were in, they wanted to insulate it, and the landlord was too ignorant about the program, and didn't bother doing nothing. (Original pilot)*

Steckel F.G. Screener  
September 10, 1998  
Program Participants

Date: \_\_\_\_\_  
Time: \_\_\_\_\_  
Interviewer Initials: \_\_\_\_\_

(SCREEN FOR PERSON ON LIST; LIST SHOULD BE CLOSE TO 100% QUALIFIED FOR QUESTION #1) Hello, my name is \_\_\_\_\_. I'm calling with \_\_\_\_\_. We are conducting a group discussion among Columbia Gas CAP program participants to get some feedback about your experience with the program.

1. Are you the person in your household who is most familiar with the program? (CHECK ONE)

- 1 Yes (CONTINUE)  
-2 No (ASK TO SPEAK TO APPROPRIATE PERSON)

ONCE APPROPRIATE PERSON IS CONTACTED AND MADE AWARE OF PURPOSE OF CALL: Because Columbia Gas wants to develop programs that meet the needs of customers like you, they have hired an independent market research firm to conduct several discussion groups in the Pittsburgh area. These discussions are being held to get opinions about their CAP program from people like you. We are holding a group in your area. The session will last about two hours and you would receive a monetary incentive for your time and opinions. Would you be interested in attending the group? (IF YES, CONTINUE)

Great! Because we would like to invite a mix of people to each of the groups, I would like to ask you just a few questions. First,

Do you or does anyone in your household work in any of the following areas or types of companies: (CIRCLE ONE FOR EACH OPTION. IF RESPONDENT IS RETIRED FROM ANY ONE OF THE OCCUPATIONS LISTED, THANK AND TERMINATE.)

- | <u>Yes</u>                  | <u>No</u>                   |  |
|-----------------------------|-----------------------------|--|
| <input type="checkbox"/> -1 | <input type="checkbox"/> -2 | Advertising (IF YES, THANK AND TERMINATE)  |
| <input type="checkbox"/> -1 | <input type="checkbox"/> -2 | Market research (IF YES, THANK AND TERMINATE)  |
| <input type="checkbox"/> -1 | <input type="checkbox"/> -2 | An electric company, a gas company or some other type of utility company (water, etc.) (IF YES, THANK AND TERMINATE) |

3. Which of the following best describes your age: (READ LIST; CHECK ONE; RECRUIT A GOOD MIX)

- |  |  |
|--|--|
| <input type="checkbox"/> -1 Under 18 (THANK AND TERMINATE) | <input type="checkbox"/> -6 Between 55 and 64  |
| <input type="checkbox"/> -2 Between 18 and 24              | <input type="checkbox"/> -7 Between 65 and 74  |
| <input type="checkbox"/> -3 Between 25 and 34              | <input type="checkbox"/> -8 75 or older        |
| <input type="checkbox"/> -4 Between 35 and 44              | <input type="checkbox"/> -9 REFUSED (CONTINUE) |
| <input type="checkbox"/> -5 Between 45 and 54              |  |

4. DO NOT ASK; CIRCLE ONE:

- 1 Female  
-2 Male

You would be a great participant for the group. It is scheduled for Thursday, September 10

McKees Rocks: from 9:00 a.m. to 11:00 a.m. at F.O.R. (Focus on Renewal) 701 Chartiers Avenue, McKees Rocks (phone # is 412-771-6460).

Aliquippa: from 2:00 p.m. - 4:00 p.m. at Aliquippa Alliance for Unity & Development (AAUD) in the Franklin Center, 524-26 Franklin Avenue (phone # is 724-378-2882).

At the conclusion of the session you will receive \$50.00 for your time and opinions. And, to help get the group started on time, all participants who arrive at least 10 minutes early will be entered into a drawing for an additional \$50.00. In addition, Would you like to attend the group?

McKees Rocks: donuts, muffins and juice will be served.

Aliquippa: light snacks will be served.

So that we can send you a confirmation letter with directions to the facility, could I please have your name and address? (RECORD NAME AND ADDRESS BELOW)

Name: \_\_\_\_\_

Street: \_\_\_\_\_

City: \_\_\_\_\_, State: \_\_\_\_\_ Zip: \_\_\_\_\_

We will also call you the night before the group to remind you. Is your home number the best place to reach you or is there some other number we should call? (IF HOME NUMBER IS BEST, CONFIRM THAT THE NUMBER IS CORRECT. OTHERWISE, RECORD APPROPRIATE NUMBER TO CALL BELOW.)

Confirmation Call Telephone Number (include area code): \_\_\_\_\_

What is the best time of day to call? (RECORD TIME) \_\_\_\_\_ A.M. OR P.M.

If you have any questions before the day of the group, or something comes up and you will not be able to attend, please call Kathy at ABACUS. The telephone number is 1-800-595-4187. Thank you very much. We look forward to meeting you.

Columbia Gas of Pennsylvania/Deb Steckel  
Customer Assistance Program Participants  
Draft Moderator Guide

**I. Moderator Introduction**

- A. Independent moderator - feel free to make any positive or negative comments
1. Purpose of the group is to get your opinions about the Customer Assistance Program

**II. Ground Rules**

- 2 hour session (tape recorded)
- speak clearly and one at a time
- feel free to react to what someone else has said
- need to hear from everyone
- no wrong answers
- colleagues are here to observe
- paid for time, opinions and courage of convictions
- will observe the no smoking rule

**III. Self-Intros (I, II, III = 15 minutes)**

- A. Let's go around the room and introduce ourselves to each other, please tell us your first name and how long you have been in the program.

(For transportation pilot group: if any participants indicate they have been in the program for longer than 1 year; explain that discussion should focus on their experiences with the program during THE LAST YEAR.)

**IV. Program Participation**

- A. How would you describe Columbia Gas' Customer Assistance Program (CAP) to someone who never heard of it?
- B. What convinced you to participate in the program?

C. TRANSPORTATION PILOT GROUP: Tell me what you know about Columbia Gas' "transportation pilot." (Probe: are they aware they are enrolled in the program?)

1. What does it mean to you as a gas customer?  
*(As a condition of participation, you have agreed to have Columbia Gas act as your agent to purchase natural gas on your behalf from one or more suppliers. The gas will continue to be delivered to your home by Columbia Gas.)*
2. How likely would you be to choose your own natural gas marketer (supplier/company that provides natural gas) assuming your CAP benefits would continue?
  - a. What are the benefits of choosing your own gas supplier?
  - b. What are the drawbacks of choosing your own gas supplier?
  - c. Poll; show of hands for each option
3. If you had to choose between selecting your own gas marketer and receiving no CAP benefits **OR** remaining on CAP and having Columbia Gas choose your gas marketer, which option would you choose? (Poll)
  - a. What are the benefits/drawbacks of first option? (No CAP, but get to choose own marketer)
  - b. What are the benefits/drawbacks of the second option? (CAP, but no choice of marketer)

D. ORIGINAL PILOT: What can you tell me about Columbia Gas' CHOICE program?

(CHOICE program allows you to choose your own natural gas marketer/supplier)

1. How likely would you be to choose your own natural gas marketer (supplier/company that provides natural gas) assuming your CAP benefits would continue?
  - a. What are the benefits of choosing your own gas supplier?
  - b. What are the drawbacks of choosing your own gas supplier?
  - c. Poll; show of hands for each option

2. If you had to choose between Columbia Gas' CHOICE Program (selecting your own gas marketer and receiving no CAP benefits) OR remaining on CAP and having Columbia Gas choose your gas marketer, which option would you choose? (Poll)
  - a. What are the benefits/drawbacks of first option? (No CAP, but get to choose own marketer)
  - b. What are the benefits/drawbacks of the second option? (CAP, but no choice of marketer)

**V. Energy Affordability**

- A. How has being enrolled in CAP affected your gas bill?
  1. Increased/decreased/no effect on ability to pay bill
    - a. Has being enrolled in the program allowed you to pay your gas bill more often than before you were enrolled in the program?  
  
-Why or why not?
  2. Has being enrolled in CAP allowed you to do anything that you wouldn't have otherwise been able to do?
    - Pay down an arrearage on your gas bill
    - Improved ability to pay other utility bills
    - Improved ability to pay household expenses
    - Put money into savings
    - Improve ability to pay medical expenses
- B. TRANSPORTATION PILOT: How well do you think the payment plan selected for you fits your needs? (Has it improved your ability to pay you gas bill?)
  - a. What makes you say that?
- C. ORIGINAL PILOT: How has your payment plan changed since first enrolling in CAP?
  1. (If changed) What are the reasons your payment plan changed?

2. (If changed) How would you describe your ability to pay your gas bill with your new payment plan compared to the payment plan you had when you first enrolled in CAP?
  - a. What makes the new payment plan better/worse?

## **VI. Program Requirements**

- A. As a participant in CAP, what are you required to do in order to remain in the program? (List)
  1. What do you think about these requirements? (Are they fair/unfair)
    - a. What makes you say that?
- B. ORIGINAL PILOT: How, if at all, have the program requirements changed since you FIRST enrolled in the program?
  1. How have these changes affected your participation in the program?

(Stricter guideline = higher compliance? Make it a priority to pay gas bill; gas bill has moved up on the list of payment priorities, etc.)
- C. What is your understanding of what will happen to CAP participants who do not meet the program requirements?

(Removed from CAP and return to credit and collections or face shut-off)

## **VII. Education (TRANSPORTATION ONLY)**

- A. Thinking about when you were enrolled in CAP, what type of information or education materials were presented to you? (Ask for examples)
  1. Did you understand the program information and education materials that were presented to you?
    - a. What was unclear/which areas did you need more explanation?

2. What, if anything, did you learn from the agency about how to conserve energy and/or lowering your energy bill?
  - a. What, if anything, would you say is the most useful thing you learned about conserving energy?  
  
-what makes you say that?
  - b. What, if anything, was the least useful thing you learned about conserving energy?  
  
-what makes you say that?
- B. Since enrolling in CAP, what—if anything—have you and your family done to conserve energy? (Probe for specifics)
- C. Do you believe that it is important for you and your family to conserve energy?
  1. Why or why not?
- D. Since participating in the program, have you and your family been more or less comfortable in your home?
  1. What makes you say that?

#### **VIII. Program Overview**

- A. Overall, what aspects of the program—if any—do you feel were LEAST valuable?
  1. Why do you say that?
- B. Overall, what aspects of the program—if any—do you feel were MOST valuable?
  1. Why do you say that?

*Prepared by Debra L. Steckel  
Consultant*

**Process Evaluation of the  
Customer Assistance Program  
Pilot Extension**

*Prepared for Columbia Gas of  
Pennsylvania  
October 1998*

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# Report Highlights

## Program Strengths

- Columbia Gas continues to work effectively to involve the state Bureau of Consumer Services, the state Office of the Consumer Advocate, as well as evaluators and community-based organizations in the design, management, implementation, and evaluation of the Customer Assistance Program (CAP) pilot extension.
- All members of the CAP collaborative team remain dedicated to ensuring the overall success of the CAP. All elements necessary for a successful program are present in the CAP pilot extension, clear goals, a high degree of organization, internal and external cooperation, and excellent technical and communication skills.
- Once again, Columbia has surged to the forefront with the CAP pilot extension. Columbia was the first utility in Pennsylvania to offer a CAP in 1992 and now, they are the first utility to attempt to aggregate low-income customers in preparation for deregulation reform. This program is on the "cutting edge" offering a potential model for the future of serving low-income customers in a deregulated environment.

## "Top Five" Findings

- CAP pilot extension customers are unaware that they are participating in a gas transportation pilot. After hearing a description of the transportation pilot, participants resoundingly indicate that they want to continue to deal with Columbia Gas. No one objects to the concept of Columbia purchasing gas from a marketer and most feel that if Columbia can save some money by doing so, that it is only right since Columbia is helping them out. Customers are not interested in choosing their own provider, whether or not, CAP benefits continue.
- CAP customers feel that the payment plan option selected for them fits their needs and that the payment amount is fair. Customers are

able to pay their CAP bill more consistently than before enrolling in the CAP.

- CAP customers understand the program requirements and consider them fair especially in light of the benefits they receive. Default provisions are not perceived as being stricter. While customers know that they must make their CAP payments each month on time, they indicate that Columbia is always willing to work with them when they are unable to pay their bills.
- CAP customers comprehend the energy education they receive at the time of intake and have taken energy conservation steps since enrolling in the program. It is unclear whether or not CAP pilot extension customers are applying for weatherization services through Warm Choice.
- Some CAP screening agencies do not enroll enough CAP customers regularly to keep their energy education skills finely tuned. CAP screening agencies benefit from the energy conservation information learned through demonstrations and onsite visits from Conservation Consultants, Inc. (CCI).

## “Top Five” Recommendations

- The gas transportation arrangement has been a win/win situation. CAP pilot extension customers participated in the open market for gas supplies and received an affordable CAP payment. And, Columbia Gas has been able to reduce shortfall with the savings received by purchasing gas from a marketer at a lower price. Columbia should expand the CAP pilot extension as designed. This transportation arrangement offers a successful solution to aggregating low-income customers. Customers are not interested in choosing their own gas marketer and feel that Columbia deserves any savings they receive by selecting a marketer on their behalf.
- Continue to monitor payment plan options to ensure customer payments are maximized.
- Further impact assessment studies should be conducted to address default occurrences by customer and the effect on administrative costs. Consider limiting the number of times a customer can be delinquent.

- Coordination of benefits between CAP and the Warm Choice Program is important. Ensure CAP customers are considered for Warm Choice by having the referral form completed at intake by the CAP screening agencies.
- Conduct onsite visits of CAP screening agencies on a rotating schedule that permits CCI to review two to three agencies each quarter. This offers a quality control measure to ensure the program is being delivered as designed

# Chapter 1

## Introduction

Columbia Gas of Pennsylvania contracted with Debra L. Steckel to conduct a process evaluation of the Customer Assistance Program (CAP) pilot extension. H. Gil Peach & Associates is conducting the impact evaluation and reported results can be found in the *Impact Assessment of the One-Year Extension of the Columbia Gas CAP Pilot*. Important considerations driving the process study approach and in conducting this work were the research objectives and the need to provide quality information in a timely manner which could be used to refine or redirect efforts. The intent of this study was to assess the pilot extension after one year of operation with a particular focus on the following five program features: 1) gas transportation arrangement, 2) payment plan options, 3) default provisions, 4) conservation education, and 5) administration.

The remainder of this chapter includes a background on the Customer Assistance Program, the objectives of this evaluation work, data sources and activities used to obtain information about the program and an organization of the report.

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### **Program Background**

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Columbia Gas implemented the Customer Assistance Program pilot in July 1992. CAP was developed by Columbia in collaboration with the Bureau of Consumer Services (BCS) and the Office of the Consumer Advocate (OCA) pursuant to the Pennsylvania Public Utility Commission's (PPUC) order in Columbia's 1989 general rate case. The program was intended to assist low-income customers with overcoming chronic difficulties in paying for home energy use and to reduce Columbia's losses resulting from unpaid bills. The CAP pilot targeted Budget Plus customers with failed payment arrangements and increasing arrearages. Customers were required to have natural gas as the primary heating source and reside in service territories selected for CAP implementation.

The CAP pilot ended in 1997 after a six-year period. Process and impact evaluations were conducted periodically throughout this period and a final evaluation was completed in November 1996. Results and recommendations highlighted in the *Final Pilot Evaluation of the Customer Assistance Program*

were used as input into the development of the CAP pilot extension filed with the PPUC in July 1997. The pilot extension included several key program changes.

- **Gas Transportation Arrangement** – service was to be provided to CAP participants in Washington and Allegheny counties through a transportation arrangement. Under this arrangement customers were aggregated based on individual agreements permitting Columbia to serve as their agent in purchasing gas. Columbia contracted with a marketer of gas supplies to purchase anticipated volumes at a lower price. The lower price was used to offset the CAP shortfall. Customers were able to participate in a deregulated market and their CAP payments were the same amount as they would have been without participation in the gas transportation arrangement.
- **Payment Plan Option** – in the CAP pilot, CAP bills were based on a percentage of household income. Evaluation studies showed that while CAP customers paid more frequently than they had prior to enrollment, in total, they paid less.<sup>1</sup> The payment plan was revised for the CAP pilot extension to include four payment options: 1) percent of income, 2) average payment, 3) percent of bill, and 4) minimum payment. An affordable payment option was selected for each customer that was not less than the average of the previous 12 payments unless significant hardship had occurred to change the customer's ability to pay.
- **Default Provisions** – evaluation studies of the CAP pilot indicated that some CAP customers were perpetually delinquent by always staying one payment behind and a few customers had been delinquent since entering the CAP.<sup>2</sup> Default provisions were changed for the CAP pilot extension and a customer was considered in default after one missed CAP payment.
- **Conservation Education** – the extensive in-home energy audit and education feature of the CAP pilot (which lasted about 1 ½ to 2 hours) was eliminated and replaced with a 20 minute energy conservation education module offered by the CAP screening agencies at the time of intake. Conservation Consultants, Inc. (CCI) designed this education module; CCI was the firm responsible for performing the in-home audits under the CAP pilot.
- **Conservation Credit** – the incentive for conserving energy (conservation credit) was eliminated in the CAP pilot extension. Administration of the conservation credit was costly and caused confusion among many CAP pilot customers.

Dollar Energy Fund, Inc. (DEF) continues to administer daily program operations for the CAP pilot extension. Their administrative services include

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<sup>1</sup>A&C Enercom Inc. and Debra Steckel Consulting, *Final Report: Process and Impact Evaluation of the Customer Assistance Program*, p. ii.

<sup>2</sup>Ibid., p.46.

pre-screening, outreach and intake, account monitoring and operation of the customer service 1-800 telephone line. CAP screening agencies perform outreach and intake functions. Conservation Consultants, Inc. developed the conservation and energy education materials used by the CAP screening agencies to educate CAP customers on low-cost, no-cost conservation techniques. CCI also conducted the training session on energy conservation education for the CAP screening agencies.

**Evaluation Objectives**

Process evaluation objectives vary depending upon the maturity of the program, results to date and the types of decisions that need to be made regarding the program. Specific objectives of this process evaluation are summarized in Table 1-1.

Table 1-1  
Evaluation Objectives

1. Assess the efficiency and effectiveness of ongoing program administration, operations, and management infrastructure and staffing with a particular focus on the transportation arrangement.
2. Identify program strengths and opportunities for improvement.
3. Develop recommendations to support decision making with respect to expanding the CAP transportation pilot.

**Data Sources and Research Activities**

Several data collection activities and data sources were used to inform the research objectives specified above. This work included obtaining multiple perspectives and integrating the results of each activity in order to develop a well-formed understanding of program functions. In-person interviews were conducted with program staff, management, and contractors between September 8 and 11, 1998. One-on-one interviews were conducted with (7) seven individuals; there was (1) two-on-one interview held and a few informal discussions also took place. Table 1-2 shows the interviews conducted.

Table 1-2  
Staff and Contractor Interviews Conducted

Interviews	Quantity	Dates
Columbia Gas	2	September 8
Conservation Consultants, Inc.	1	September 8
Dollar Energy Fund	2	September 9
CAP Screening Agencies	3	September 9-11

A review of program documentation including the CAP pilot extension training manual, energy conservation education materials, management reports, and program filing information also contributed to this study.

Additionally, focus group discussions were held with program participants in the CAP pilot and CAP pilot extension. The focus groups were held on September 10 at Focus on Renewal in McKees Rocks (CAP pilot extension participants) and Aliquippa Alliance for Unity and Development (AAUD) in Aliquippa (CAP pilot participants). A detailed focus group report, prepared by the process evaluator in conjunction with Abacus Custom Research is included as Attachment A.

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### **Organization of the Report**

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Chapters 2 through 6 present research findings for major evaluation topic areas. Recommendations are included at the end of each topic. Attachment A presents the full report on the focus group discussions held with the CAP participants.

# Chapter 2

## Gas Transportation Arrangement

Once again, Columbia Gas of Pennsylvania has surged to the forefront with the CAP pilot extension. Columbia was the first utility in Pennsylvania to offer a CAP in 1992 and now, they are the first utility to attempt to aggregate low-income customers in preparation for deregulation reform. This program is on the "cutting edge" offering a potential model for the future of serving low-income customers in a deregulated environment.

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### Customer Participation

Signing a Transportation Agreement was a condition of participation in the pilot extension for CAP customers residing in Washington and Allegheny counties. The agreement allowed Columbia to act as the agent for these customers and to enter into contract(s) with gas marketers to purchase natural gas. CAP pilot extension customers were able to participate in the open market for gas supplies while maintaining the same affordable CAP payment they would have received without participation in the gas transportation arrangement. Unlike Columbia's CHOICE program offered to non-CAP participants in these same counties, CAP pilot extension participants could not select their own gas supplier; participants received gas supplies from a marketer selected for them by Columbia.

During focus group discussions, CAP pilot extension participants were asked about their knowledge of the CAP transportation pilot and not one participant could describe the program. With aided recall (after describing the transportation pilot), only two of the nine focus groups participants knew that they were participating in the CAP pilot extension. One of these two participants recalled receiving a letter from Columbia describing the program. After hearing the description of the transportation pilot, participants resoundingly indicated that they wanted to continue to deal with Columbia Gas. No one objected to the concept of Columbia purchasing gas from a marketer and most claimed that if Columbia could save money by doing so, that it was only right since Columbia was helping them out. Interviews with CAP screening agencies revealed that customers offered no resistance to signing the Transportation Agreement and that they felt customers perceived it as nothing more than a requirement of participation offering no objections and asking no questions.

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## **The Concept of Choice**

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During focus group discussions, CAP pilot extension participants were asked if they would like to choose their own gas marketer, assuming their CAP benefits would continue. Not one of these participants wanted to choose their own marketer and no one could describe any benefits of being able to make this choice. The drawbacks, however, were clear to most participants. Columbia Gas was described by many as a very friendly and understanding company. They indicated that Columbia was willing to work with them when they had been unable to pay their bills in the past. Further, they mentioned that Columbia had been around for a long time and that they had a history of working with customers to solve their bill paying problems. All of the CAP pilot extension focus group participants were very loyal to Columbia Gas. Switching to another company held many unknowns for them. Some of the participants were very astute and compared shopping for a gas supplier to that of selecting a Health Maintenance Organization (HMO) or telephone company since the deregulation of those industries. They believed that these companies had made many promises but delivered few.

Not surprisingly, when these CAP pilot extension participants were asked if they would like to choose their own gas marketer, assuming their CAP benefits would not continue (as with the CHOICE program), not one of these participants would consider it.

In focus group discussions held with CAP pilot customers, participants were asked about their knowledge of the CHOICE program. Not one of these participants was able to describe the program in any detail on an unaided basis. One participant recalled that if you choose another marketer, you would no longer be able to participate in CAP. As with the CAP pilot extension customers, these participants indicated they were extremely unlikely to change suppliers if given the opportunity. Not a single participant said that they would switch suppliers, even if their CAP benefits were to continue. When asked to describe the drawbacks to selecting another gas marketer that may offer them lower gas prices, many of the same reasons offered by CAP pilot extension customers were given by these CAP pilot participants. Reasons included having a positive history with Columbia Gas, the hassle of switching and the fear of the unknown with a different provider. Likewise, none of the CAP pilot customers would consider choosing their own gas provider if their CAP benefits would not continue.

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## **Solicitation and Outreach**

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At the time the CAP pilot extension was filed, there were about 500 participants in the CAP pilot from the counties of Allegheny, Beaver, Fayette, Lawrence, Washington, and Westmoreland. The CAP pilot extension targeted 500 participants from Allegheny and Washington counties, as those were the areas where the residential CHOICE program was being expanded. Referrals into the CAP pilot extension were received from several sources including Columbia's Customer Assistance and Referral Evaluation Services

(CARES) program, Columbia's Customer Satisfaction Center (CSC), DEF, and CAP screening agencies.

During interviews and informal discussions held with CAP screening agencies, two agencies mentioned that they had difficulty getting referred customers to come into their offices to enroll into the program. These agencies offered several reasons as to why they felt it was difficult to get customers to enroll in the program.

- **Welfare Reform** – many qualifying customers are now required to work as a result of the changes in the welfare system. This makes it difficult for these customers to come into the agency offices to enroll in the program during working hours. Most CAP agencies do offer some weekend and evening hours to accommodate working individuals. For those agencies that don't have extended hours (i.e. agencies staffed with volunteers), customers are referred to another CAP agency nearby where extended hours are offered.
- **Termination Notice** – many of those customers referred into the program had recently received a termination notice for their gas service. These customers were told that the termination would be placed "on hold" for 30 days to allow the customer time to enroll in the program. Customers may have thought that the pressure was off and that there was no immediate need to go into the agency to enroll in the program.
- **Timing** – many customers were solicited for enrollment into the program during the winter heating season (December through March) while the statewide moratorium on termination was in effect. Other customers were solicited during spring and early summer when gas service for heating was not a big concern. Customers may not have been as motivated to enroll as they would have been if solicited during the fall.
- **Concurrent Programs** – Columbia Gas's CHOICE program was being offered in Washington and Allegheny counties concurrently with the CAP pilot extension. Neighborhood canvassing was used to market CHOICE to customers in these areas. Customers that signed up for the CHOICE program were precluded from entering CAP and existing CAP customers that joined CHOICE were dropped from the CAP. Many of the CAP customers that selected CHOICE were unaware that enrollment in CHOICE would affect their CAP status and monthly CAP payment. These customers wanted to return to the CAP but only one marketer was willing to break their CHOICE contracts allowing them to do so.

Interestingly, focus groups discussions with program participants revealed that for some there is the perception that programs like CAP are only for those on public assistance or whose gas has been shut off. Perhaps some of the customers who had to be called three and four times before they finally agreed to come into the CAP screening agency felt they would not qualify for CAP since they were working or had gas service. And, several focus group participants mentioned that having 30 days to enroll in CAP was ample time.

## *Recommendations*

- *The gas transportation arrangement has been a win/win situation. CAP pilot extension customers participated in the open market for gas supplies and received an affordable CAP payment. And, Columbia Gas has been able to reduce shortfall with the savings received by purchasing gas from a marketer at a lower price. Columbia should expand the CAP pilot extension as designed. This transportation arrangement offers a successful solution to aggregating low-income customers. Customers are not interested in choosing their own gas marketer and feel that Columbia deserves any savings they receive by selecting a marketer on their behalf.*
- *Solicitation materials and efforts should be clear regarding program eligibility requirements. CAP screening agencies must continue to offer extended hours to accommodate those who work.*
- *Consider limiting the amount of time a customer has to enroll in CAP to 15 days once a termination notice is received.*

# Chapter 3

## Payment Plan Options

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### Affordability

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Focus group discussions with CAP participants revealed that they have been able to pay their monthly CAP payment more consistently than before they were enrolled in the CAP. Some participants mentioned that the CAP has allowed them to more easily budget their monthly expenses, and a few indicated that they pay the gas bill first because they know exactly how much it will be. Participants were also asked if being enrolled in the CAP had allowed them to do anything that they would otherwise not have been able to do. Participants mentioned the following:

- Paying down their arrearage;
- Increased peace of mind;
- Flexibility with the household budget (purchasing items for the children like backpacks and purchasing needed medicines they were unable to afford before); and
- Improved ability to budget monthly expenses (knowing they could afford the gas bill and knowing exactly how much the bill would be).

Results of the final evaluation of the CAP pilot showed that varying a customer's CAP bill was confusing and conflicting.<sup>3</sup> Applying a conservation credit to a customer's CAP bill once a year was perceived by many customers to be confusing. Customers became accustomed to paying the same amount each month. When they received a bill for a reduced amount, customers expected to continue paying the lower amount in subsequent months and were angered when the bill returned to the original amount.

CAP pilot extension participants indicated in focus groups discussions that the payment selected for them fit their needs and that the payment amount was fair. CAP pilot participants were asked if their payment plan had changed since first enrolling in the CAP. Many indicated that their payment amounts had not changed and for those who had received a higher payment amount, many described changes in personal income as the reason for the

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<sup>3</sup> Ibid., p. 44.

higher payment. None of the participants felt that the payment plan they had when they first enrolled in the program was any better or worse than their current plan. Like CAP pilot extension participants, CAP pilot customers generally believed that the amount they paid each month was fair.

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### **Flexibility**

Initial plans to implement the payment plan options included having the CAP screening agencies calculate the four payment options for a customer at the time of intake. The agency would then select the option that maximized customer payment while maintaining affordability. CAP screening agencies were not comfortable with these procedures and plans were modified to have a computer calculate the payment amounts and assign an option. If there are extenuating circumstances, the CAP screening agency has the flexibility to assign a lower payment amount not less than the minimum payment option. DEF has final approval of the lower payment option.

In most cases, CAP screening agencies interviewed felt that the option assigned by the computer was appropriate. There had been a few instances where extenuating circumstances necessitated a lower payment amount. Examples included customers with large medical bills and situations where a customer's family income had changed through the loss of a job or a cutback of hours worked. One CAP pilot extension customer mentioned during focus group discussions that the initial CAP payment amount selected for her was too high but that the CAP screening agency adjusted the amount down as she had medical expenses not considered initially.

CAP screening agencies interviewed are happy with the existing procedures and feel that the flexibility to adjust payment options selected is adequate.

### *Recommendations*

- *Continue to monitor payment plan options to ensure customer payments are maximized.*
- *In addition to affordability, a key feature contributing to a customer's ability to pay their CAP bill each month is the equality of the monthly amount. Exercise caution in considering program adjustments resulting in monthly changes to CAP bill payment amounts.*

# Chapter 4

## Program Requirements

Most of the CAP pilot and CAP pilot extension customers that participated in the focus groups were clear as to what was required of them in order to remain in the program. Participants easily listed the following program requirements: 1) make monthly CAP payments on time, 2) not miss a CAP payment, 3) verify income yearly, 4) report changes in income, 5) apply for Low Income Home Energy Assistance (LIHEAP) signing over the payment to Columbia, and 5) reduce gas consumption. All of the focus groups participants thought that the program requirements were fair especially considering the benefits they received.

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### Default Provisions

Focus group participants from the CAP pilot were asked if and how the program requirements had changed since first enrolling in the program. Most participants indicated that the program requirements had not changed at all and there was no perception that the requirements had gotten more strict. Almost all focus group participants, including CAP pilot and CAP pilot extension customers, were aware that failure to make a CAP payment would mean being dropped from the program. However, many mentioned Columbia's willingness to work with them during times of hardship when they were unable to make their CAP payments.

Default provisions were changed in 1997 when evaluation studies showed that policies were too lenient resulting in unnecessary monthly administrative costs. Some CAP customers were perpetually delinquent, always staying one payment behind to avoid removal from the program. There were even a few customers that had been delinquent since entering the CAP.

Existing default provisions maintain that a customer is considered in default after one missed payment. A collection activity for a customer that falls behind in a payment follows seven steps. In step three, 17 days after the due date of a missed payment, DEF, acting on Columbia's behalf, attempts two telephone calls to the customer to explain the consequences of default. It is during these telephone conversations that a customer has the opportunity to explain why the payment was missed. DEF has the authority to negotiate a payment arrangement for those customers with extenuating circumstances or that demonstrate a hardship in making the payment. During interviews with the DEF CAP Aide, the aide indicated that she spends, on average, about two hours each day (or 25 percent of her daily hours) handling delinquencies.

Sometimes, she spends as much as four hours on any given day. This appears to be an inordinate amount of time. During further elaboration, the aide revealed that it was the same customers whose names appeared on the list of delinquencies over and over again.

The impact evaluation of the CAP pilot extension when compared to results of the CAP pilot impact evaluation reported that the "same basic pattern of *many* notice activities and *few* actual shutoffs is continued."<sup>4</sup> The intent of the changes to the default provisions for the CAP pilot extension was to limit the occurrences of defaults and to minimize the associated administrative costs.

### *Recommendations*

- *Further impact assessment studies should be conducted to address default occurrences by customer and the effect on administrative costs.*
- *Consider limiting the number of times a customer can be delinquent. Exceeding the established limit should result in removal from the program.*
- *The DEF CAP Aide must be careful to balance compassion with fairness. The removal guidelines must be enforced when appropriate.*

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<sup>4</sup> H. Gil Peach & Associates, *Impact Assessment of the One-Year Extension of The Columbia Gas CAP Pilot*, p. 21.

# Chapter 5

## Conservation Education

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### Awareness

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CAP pilot extension customers were asked during focus group discussions what they recalled about energy conservation education from their meeting with CAP screening agencies. Those participants who had enrolled in CAP for the first time in the last year or so did recall receiving a pamphlet, but had little unaided recall of its contents. Participants were then shown the pamphlet, CAP: your low-cost, no-cost guide to home comfort, to aid their recall. Many participants mentioned that the pamphlet was easy to understand, but some indicated that they had not read it in detail. Participants said that the CAP screening agency covered so much material and information at the enrollment meeting, it was hard to remember all the details. They did indicate that they had retained the pamphlet as reference material. Similarly, participants who had enrolled in the CAP several years earlier and received the in-home energy audit had retained their folders of CAP information and education material as references. In fact, two of these participants brought their folders to the focus group meeting.

CAP screening agencies indicated that they felt the pamphlet was a valuable resource. They said that it is thorough yet easy for customers to understand mentioning that the pictures were very helpful. All of the agencies interviewed indicated that they review the items in the booklet with each customer, stressing some items more than others depending upon the customer and their circumstances. They said that some customers are not interested in learning about energy conservation, they are only interested in the bottom line, "What will my CAP payment be?" Others appear to be interested in the materials but indicate they do not have much money to spend on conservation efforts.

CCI provides agencies with supporting "how to" information for various conservation measures. Examples include information on how to clean a furnace, changing furnace filters, caulking windows, sealing windows and doors, and weather stripping doors. Agencies said that the information was too detailed and technical to present to most customers, mentioning they had used some of the information with one or two CAP participants.

All of the agencies interviewed said that they review the sample CAP bill with each customer pointing out the usage bar chart and showing customers how to compare their current usage to the usage from the similar time period in

the previous year. Several CAP pilot customers mentioned during the focus groups that the CAP bill contains very useful and positive information. These participants like to see the bar graph comparing current usage to past energy use. A few participants mentioned that seeing the usage chart increased their awareness of energy usage. The focus group discussions did not specifically address the gas bill or usage chart. The fact that CAP pilot customers did refer to the gas bill and usage chart while not one CAP pilot extension customer who had enrolled in the program over the past year mentioned them is not significant. No specific conclusions can be drawn regarding the value of the bill and chart to CAP pilot extension customers or about the effectiveness of the CAP screening agencies in presenting this information.

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### **Conservation Efforts**

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Many of the CAP customers that participated in the focus groups were educated about energy conservation citing several techniques highlighted in the pamphlet and mentioning conservation efforts taken since enrolling in the CAP. When focus group participants were asked what they had learned from the CAP screening agencies about conserving energy and/or lowering their energy bill, participants tended to mention conservation measures specific to their situation. Participants mentioned:

- **Drafts** – sealing holes, doors, and windows, anything to keep the draft out of the house and the hot air from escaping.
- **Water Heater** – insulating the water heater.
- **Furnace** – cleaning and inspecting the furnace.

These participants could not mention anything when asked to describe the **least useful** thing they had learned about energy conservation.

Several participants mentioned taking energy conservation steps since enrolling in the CAP. Cleaning the furnace, adjusting the thermostat to a lower setting, installing plastic over the windows, and closing doors to unused rooms were all mentioned by focus group participants.

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### **Warm Choice Referrals**

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CAP customers can receive free weatherization services through Columbia's Warm Choice Program (a Low-Income Usage Reduction Program), if they meet eligibility requirements. Not surprisingly, final impact results of the CAP pilot showed that CAP customers experiencing the greatest energy use reductions were those who had received weatherization assistance through

Warm Choice.<sup>5</sup> CCI completed the referral form to Warm Choice for CAP pilot customers.

In the CAP pilot extension, CAP screening agencies tell customers that they must apply for Warm Choice weatherization assistance to see if they are eligible. Warm Choice was not a particular topic of the focus group discussions. However, CAP pilot customers did mention receiving weatherization benefits since participating in the CAP. Many of these participants did not distinguish between the CAP and Warm Choice program, although a few did. Again, no conclusions can be drawn about CAP pilot extension customers who had enrolled in the program over the past year and Warm Choice. These customers may have received weatherization services through Warm Choice but did not mention it since no specific questions were asked about this topic.

### **Effectiveness of Screening Agencies**

CCI conducted a general training session on energy conservation education for all participating CAP screening agencies at the outset of the CAP pilot extension. CCI then visited each agency to demonstrate how to conduct energy education with customers during actual intake sessions. Onsite observations of delivery of energy conservation education by CAP screening agencies was also performed by CCI. The purpose of the onsite visits was to ensure that the education component of the enrollment process was being provided as expected. Communication skills and energy education content were examined. A summary report highlighting areas of strength and opportunities for improvement was prepared and shared with the CAP agency.

Agencies interviewed for this process evaluation found the one-on-one demonstrations and onsite visits by CCI to be very helpful. The initial training on education was included as part of the overall training on the CAP pilot extension and a lot of program information were presented in a concentrated session. Details about energy education were sometimes difficult to retain making the demonstrations and onsites an important part of the learning process. Some agencies indicated they do not perform that many CAP enrollments. As a result, these agencies need to review program materials including the education pamphlet prior to conducting some intake sessions to ensure completeness and accuracy.

### *Recommendations*

- *Energy conservation education should be ongoing. Consider reinforcing energy educational messages at regular intervals following intake. Detailed fact sheets that clarify benefits and installation criteria for energy efficiency measures can be sent to CAP*

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<sup>5</sup> A&C Enercom Inc. and Debra Steckel Consulting, *Final Report: Process and Impact Evaluation of the Customer Assistance Program*, p. ii.

# Chapter 6

## Administration

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### DEF Staffing

DEF continues to administer the CAP pilot extension with a high level of commitment and proficiency. The CAP Aide dedicated solely to Columbia's program performs pre-screening, oversees outreach and intake, monitors customer accounts and manages the 1-800 customer service line. A DEF Program Manager prepares the monthly statistical reports and handles all program removals, requiring on average about five to eight hours of her time each week.

Staffing levels appear to be appropriate for maintaining program delivery. If the CAP pilot extension expands, additional temporary assistance will be needed during the initial outreach phase.

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### Reporting

CAP related programming errors and problems with CAP accounts identified on the ProbLog Report continue to be problematic. Columbia has assigned a program staff member to facilitate the resolution of these issues. Some of the problems relate to individual CAP accounts and others are the result of programming changes to the Distributive Information System (DIS). Individual CAP account errors can typically be rectified relatively quickly by customer service. Effects of programming changes to the DIS are more difficult to resolve and can take several months before they are corrected.

The CAP Aide spends approximately three to five hours each week dealing with ProbLog issues, between discussions with Columbia and customers. The CAP Aide often feels "in the middle", as she cannot resolve the problems yet customers continually contact her to ask what the problem is and when it will be corrected. The Aide prepares a fax document describing the ProbLog error and sends it to Columbia. As problems are rectified, Columbia contacts the CAP Aide to inform her of the resolution. There are, however, many outstanding ProbLog errors that are not resolved and the Aide is uncertain of their status. The CAP Aide is also unsure as to how the errors occur and what it takes to resolve them. As a result, it is difficult for her to learn from past errors to help her understand similar problems when they recur and the resolution process involved.

## *Recommendations*

- *Develop a ProbLog communications form that tracks the status of each problem. The form should include customer contact information, a description of the error, type of error, resolution required, an estimate of when the problem will be corrected and status of the error. Each key step should be dated. This will provide a means of ongoing communication between Columbia, DEF, and the customer. This recommendation was suggested to the CAP Aide at the time of her interview and actions may have already been taken.*

3-038

Columbia Gas  
of Pennsylvania

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December 28, 1998

**COPY**

James J. McNulty, Secretary  
Pennsylvania Public Utility Commission  
North Office Building--Room B-20  
Commonwealth Ave. & North Streets  
Harrisburg, PA 17120

Re: Final Report and Continuation of Special Emergency Assistance Program  
Docket No. P-840506

Dear Mr. McNulty:

Enclosed for filing are three copies of the final report on gas purchases, fund generation, and assistance disbursements made during 1997-98 in support of the energy assistance program jointly sponsored by Columbia Gas of Pennsylvania, Inc. and Citizens Energy Corporation.

Also enclosed are three copies of the agreement between Columbia and Citizens to extend the program through the winter of 1998-99 under terms and conditions similar to those previously approved by the Commission.

Please contact me at (412) 572-7159 if you have any questions.

Very truly yours,

*Kenneth W. Christman*

Kenneth W. Christman

**RECEIVED**

**DEC 28 1998**

**PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU**

Enclosures

COLUMBIA GAS OF PENNSYLVANIA, INC.

FINAL REPORT TO THE COMMONWEALTH OF PENNSYLVANIA  
PUBLIC UTILITY COMMISSION OF THE COLUMBIA/CITIZENS ENERGY  
1997-1998 EMERGENCY FUEL ASSISTANCE PROGRAM

This report summarizes the activity for the 1997-98 program year reported through June 30, 1998. Attachments hereto trace the funds generated from Citizens to Dollar Energy and the Salvation Army (the contracted "Providers"), to the customers eligible for assistance (see Attachments 1 & 2).

Also included are new summaries for the 1996-97 program year updated to track last year's carryover balance through April of the current year when that fund was fully distributed.

Fund Summary

The entire \$363,750 generated by the 1997-98 program was transferred from Citizens to the Provider by April 30, 1997. Funds distributed through June 30, 1998 totaled \$330,129, leaving an undistributed balance after overheads of \$33,621. The remaining funds will be used for emergencies this fall before Federal and State funds are distributed.

Program Effectiveness - Distribution of Funds

When all funds for the 1996-97 program were fully distributed as of April 30, 1998. Over 1,856 eligible households had received assistance. Distribution of the 1997-98 fund as of June 30, 1998 reached a total of 1,364 eligible households which received grants averaging \$242.03.

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DEC 28 1998

PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU

Citizens Gas of Pennsylvania, Inc.  
 Summary of Emergency Assistance Fund Program  
 With Citizens Energy Corp. 1997-98

	Vols. Del. by <u>CEC</u> DTH {1}	Net Cost of Vols. <u>Delivered</u> \$ {2}	Volume CDC <u>Cost</u> \$ {3}	Net Funds Provided CEC for <u>EAF</u> \$ {4=3-2}	Less Overheads <u>for CEC</u> \$ {6}	Plus Accrued <u>Interest</u> \$ {6}	Cumulative Funds Available for <u>Provider</u> \$ {7}
<b><u>Summary 1996-1997 Contract Year</u></b>							
Conclusion of 1996-97 Contract Activity	296,938	827,153	1,202,153	375,000	13,125	-	361,875
<b><u>Summary 1997-1998 Contract Year Activity</u></b>							
April 1997	200,535	472,320	847,320	375,000	11,250 1/	-	363,750
May 1997- December 1997	-	-	-	-	-	-	0
January 1998	-	-	-	-	-	-	0
February	-	-	-	-	-	-	0
March	-	-	-	-	-	-	0
April	-	-	-	-	-	-	0
May	-	-	-	-	-	-	0
June 1998	-	-	-	-	-	-	0
<b>Total</b>	<b><u>200,535</u></b>	<b><u>472,320</u></b>	<b><u>847,320</u></b>	<b><u>375,000</u></b>	<b><u>11,250</u></b>	<b><u>0</u></b>	<b><u>363,750</u></b>

1/ Citizens Energy Corporation recorded a 3.0% overhead charge instead of the customary 3.5% overhead charge, thus increasing the fund balance.

Columbia Gas of Pennsylvania, Inc.  
 Summary of Emergency Assistance Fund Program  
With Citizens Energy Corp. 1997-1998

	Cumulative Funds Received By <u>Provider</u> \$ (1)	Plus Cumulative Accrued Interest \$ (2)	Less Cumulative Payments by Provider \$ (3)	Less Cumulative Provider Overhead \$ (4)	Balance of Fund \$ (5)
<u>Summary 1996-97 Contract Year</u>					
June 1997 as reported to the Commission	361,875	1,509	304,238	30,424	28,722
July	361,875	1,602	314,718	31,472	17,287
August	361,875	1,677	314,718	31,472	17,362
September	361,875	1,720	328,693	32,670	4,232
October	361,875	1,752	329,668	32,807	1,151
November	361,875	1,771	329,668	32,807	1,170
December 1997	361,875	1,775	329,668	32,807	1,175
January 1998	361,875	1,777	329,668	32,807	1,177
February	361,875	1,779	329,668	32,807	1,178
March	361,875	1,779	329,668	32,807	1,178
April 1998	361,875	1,781	330,741	32,915	(0)
Conclusion of 1996-1997					<u>(0)</u>
<u>Summary 1997-98 Contract Year Activity</u>					
March 1998	363,750 1/	20	0	0	363,770
April	363,750	608	164,686	16,469	183,204
May	363,750	987	267,600	26,760	70,378
June 1998	363,750	1,151	301,164	30,118	33,621

1/ Citizens Energy Corporation recorded a 3.0% overhead charge instead of the customary 3.5% overhead charge, thus increasing the fund balance.