EXHIBIT

Exhibit No.: _____

Issue(s): Residential Low-Income Rate
Witness // Type of Exhibit: Colton/Surrebuttal
Sponsoring Party: Public Counsel
Case Nos.: GR-2001-292

SURREBUTTAL TESTIMONY

OF

ROGER D. COLTON

Submitted on Behalf of the Office of the Public Counsel

MISSOURI GAS ENERGY

Case No. GR-2001-292

June 12, 2001

Exhibit No. 103
Date 6-25-01 Case No. GR-2001-292
Reporter SAE

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the matter of Missouri Gas Energy's tariff filing) Case No. GR-2001-292
for general rate increase.)

AFFIDAVIT OF ROGER D. COLTON

COMMONWEALTH OF MASSACHUSETTS)
) ss
COUNTY OF MIDDLESEX)

Roger D. Colton, of lawful age and being first duly sworn, deposes and states:

1. My name is Roger D. Colton. I am a consultant retained by the Missouri Office of the Public Counsel.

2. Attached hereto and made a part hereof for all purposes is my surrebuttal testimony consisting of pages 1 through 39 and Schedules RC1 through RC8.

3. I hereby swear and affirm that my statements contained in the attached testimony are true and correct to the best of my knowledge and belief.

Roger D. Colton

Subscribed and sworn to me this 8th day of June, 2001.

Notary Public

My commission expires 09/17/04

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Q. PLEASE STATE YOUR NAME AND ADDRESS.

A. My name is Roger Colton. My address is 34 Warwick Road, Belmont, MA 02478.

Q. ARE YOU THE SAME ROGER COLTON WHO PREVIOUSLY SUBMTITED DIRECT TESTIMONY AND EXHIBITS ON BEHALF OF THE OFFICE OF PUBLIC COUNSEL IN THIS PROCEEDING?

A. Yes.

Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?

A. My surrebuttal testimony will respond to the testimony of the following persons: (1) Philip Thompson; (2) F. Jay Cummings; and (3) David Hendershot.

1. Response to Philip Thompson.

Q. PLEASE DESCRIBE THE ASPECTS OF DR. THOMPSON'S TESTIMONY TO *WHICH YOU RESPOND.*

A. MGE witness Philip Thompson asserts that natural gas usage in MGE's service territory is above-average at the lowest income levels, declining through middle incomes, and then rising again to above the average at higher income levels. (Thompson, at 12). My surrebuttal testimony presents information demonstrating that Dr. Thompson's conclusion that low-income customers have above-average natural gas consumption is in error.

A. The Contrary Information.

Q. IS THERE AN INITIAL ERROR THAT DR. THOMPSON MAKES IN HIS TESTIMONY?

A. Dr. Thompson states that "there is no evidence that consumption increases steadily from lowest incomes to higher incomes." (Thompson, at page 9, lines 12-13, emphasis in original). That statement is wrong. Let me review the information that exists. Information can be obtained from the U.S. Department of Energy, from the U.S. Department of Health and Human Services (which administers the Low-Income Home Energy Assistance Program (LIHEAP)), from the U.S. Bureau of Labor Statistics Consumer Expenditures Survey (CES), and from the U.S. Department of Housing and Urban Development. Each of these documents is considered to be an authoritative source of information.

Q. WHAT HAS THE U.S. DEPARTMENT OF ENERGY (DOE) FOUND WITH RESPECT TO THE RELATIONSHIP BETWEEN INCOME AND THE CONSUMPTION OF NATURAL GAS?

A. In January 2001, the U.S. Department of Energy published its most recent analysis of the relationship between natural gas consumption and household income. I have attached this DOE analysis as Schedule RDC-R1. The DOE concluded: ". . .natural gas consumption and expenditures per household did vary by household income—higher income households consumed more and spent more on average. Higher income households lived in larger housing units, which require more energy for heating." Contrary to Dr. Thompson's

statement, DOE found that natural gas consumption steadily increased with income. While households with incomes less than $10,000 consumed 65 mmBtu, households with incomes between $10,000 and $25,000 consumed 75 mmBtu; between $25,000 and $50,000 85 mmBtu, and over $50,000 consumed 98 mmBtu. While the average consumption for all households was 83 mmBtu, the average consumption for households below the Poverty Level was only 68 mmBtu.

Q. PLEASE DESCRIBE THE FINDINGS OF THE FEDERAL LIHEAP OFFICE AS TO THE RELATIONSHIP BETWEEN LOW-INCOME STATUS AND NATURAL GAS CONSUMPTION.

A. Each year, the Division of Energy Assistance within the Office of Community Services prepares a "LIHEAP Home Energy Notebook" to assist state LIHEAP offices in designing their federal fuel assistance program. The LIHEAP Home Energy Notebook for Fiscal Year 1998 (October 2000) is the most recent such publication. According to this LIHEAP report, low-income Midwest households that use natural gas as their primary heating source have average annual home heating expenditures of $449. In contrast, non-low-income households have average annual home heating expenditures of $473. Average home heating expenditures are $466. Home heating, of course, is not the only use of energy. LIHEAP reports that low-income Midwest households using natural gas as their primary heating fuel have average annual energy expenditures of $1,163, while non-low-income households have average annual expenditures of $1,394. Home energy expenditures for the average household are $1,328. Clearly, low-income households have natural gas expenditures that

are not only "below average," but that are also considerably below what non-low-income households spend.

Q. WHAT DOES THE U.S. DEPARTMENT OF LABOR'S CONSUMER EXPENDITURE SURVEY FIND AS TO THE RELATIONSHIP BETWEEN INCOME AND NATURAL GAS EXPENDITURES?

A. The U.S. Department of Labor, Bureau of Labor Statistics, publishes the annual Consumer Expenditures Survey. This analysis is based on actual data provided by households participating in the survey. The Department of Labor reports that, contrary to Dr. Thompson's statement, there is a direct relationship between income and natural gas expenditures. The results of the Consumer Expenditure Survey back through 1994 are presented in Schedule RDC-R2. While households with incomes of less than $5,000 have natural gas expenditures of $193, households with incomes of $20,000 to $30,000 have expenditures of $352, and households with income over $70,000 have natural gas expenditures of $528. Each level of higher income reports higher natural gas expenditures.

Q. PLEASE EXPLAIN THE FINDINGS OF THE AMERICAN HOUSING SURVEY BY THE U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT.

A. The U.S. Department of Housing and Urban Development (HUD) takes a periodic survey of housing conditions and expenses in selected metropolitan areas around the nation. HUD also performs a national survey. These studies are collectively referred to as the American Housing Survey (AHS). Kansas City is one of the metropolitan areas that is included in the

AHS. The most recent Kansas City survey for which data has been published is the 1995 AHS. While the AHS does not directly report natural gas costs by income levels, it provides data that, when combined with the information from other sources such as the Department of Energy, will either corroborate or not the findings of the other three agencies discussed above. Remember, DOE has found that the reason low-income households consume less natural gas is because they tend to live in smaller housing units. The AHS for Kansas City corroborates this conclusion. For example, it finds that while the average monthly natural gas expenditure for an owner-occupied home is $43, the average natural gas expenditure for a renter-occupied home is $35 ($516 and $420 annually respectively).

The American Housing Survey also reports the number of rental units and owner-occupied units by income for the City of Kansas City. Weighting monthly natural gas expenditures by the number of owners and renters at each income level, we find that natural gas expenditures are associated with income. The results of this process are presented in Schedule RDC-R3. While households with incomes of under $5,000 have natural gas expenditures of $479, households with incomes of more than $120,000 have natural gas expenditures of $514.

Q. WHAT DO YOU CONCLUDE FROM THE DATA THAT YOU JUST PRESENTED?

A. Dr. Thompson certainly errs when he states that no evidence exists showing that low-income consumers have lower natural gas consumption and expenditures than do higher

income consumers. Each of the federal agencies that reports on direct survey research of consumer energy expenditures concludes that home energy expenditures are directly related to income. Even if one accepts Dr. Thompson's hypothesis that low-income consumers may use natural gas energy less *efficiently* than do their higher income counterparts on a per square foot of heated living space basis, holding all else equal, low-income households have substantially smaller housing units. As a result, their total natural gas consumption is less than average on a per-customer basis.

B. The Errors in Dr. Thompson's Analysis.

Q. DO YOU HAVE AN OPINION ON WHY DR. THOMPSON'S ANALYSIS IS CONTRARY TO ALL OTHER WORK THAT HAS EXAMINED THE RELATIONSHIP BETWEEN ENERGY CONSUMPTION AND INCOME?

A. Remember that while Dr. Thompson draws quite broad conclusions in his testimony about the relationship between income and natural gas use, his analysis is actually quite narrow. Most importantly, Dr. Thompson's analysis looks at the impact of a single variable holding all other variables constant. He states, for example, that "regression analysis allows us to answer the question, 'what is the impact of a particular variable, *assuming all of the other variables are held constant*?'" (Schedule PBT-2, at 4) (emphasis added). He states further that "regression analysis allows us to *isolate the separate impacts of the other variables* in terms of usage across zip codes." (Schedule PBT-2, at 4) (emphasis added).

The problem in Dr. Thompson's conclusion that low-income households use more natural gas than average (all other things equal) is that, contrary to this assumption, all other things are *not* equal. Most specifically, low-income households live in much smaller housing units than do their higher income counterparts.

Consider information from the Department of Energy's 1997 Residential Energy Consumption Survey (RECS). The RECS is consistent, in some ways, with Dr. Thompson's study. DOE reports that, holding all else equal, low-income households that use natural gas for space heating have a higher "heating intensity" than do households with higher incomes. Heating intensity is measured as usage per thousand square feet per heating degree day. DOE, however, did what Dr. Thompson did *not* do, which was to extend the analysis to determine if "all else is equal." DOE found that factors were *not* equal. The 1997 RECS results, by income, on consumption, on space heating intensity, and on heated square footage are presented in Schedule RDC-R4.

Note that the DOE data documents that while the average household has a space heating intensity of 7.919, households with incomes below Poverty Level have a space heating intensity of 10.704. Households with incomes less than $10,000 have a space heating intensity of 11.327. If one were to stop at this point, the conclusion would clearly be that "low-income households use more energy than households on average holding all else equal." However, DOE goes on to find that while households on average have 1,747 square feet of heating floor space, households with incomes below Poverty have only 1,192 of

heating floor space. Households with incomes below $10,000 have only 1,143 square feet of heated floor space. As a result, while total natural gas space heating consumption is 66.9 mmBtu for the average household, total natural gas space heating consumption is only 55.3 mmBtu for the household living below Poverty and only 56.6 mmBtu for the household with income below $10,000. Contrary to what Dr. Thompson concludes, DOE also empirically found that total space heating consumption for households using natural gas steadily increases as income increases. While households with incomes below Poverty have 1,192 square feet of heated floor space, households with incomes of $50,000 or more have 2,360 square feet of heated floor space. Unlike Dr. Thompson's imputation of consumption to low-income households –remember that Dr. Thompson did not directly measure the consumption of households known to be low-income—the DOE work both has identified which households are low-income and has obtained energy consumption and expenditure data for those households from energy vendors.

Q. IS THERE A SECOND PROBLEM WITH DR. THOMPSON'S CONCLUSIONS?

A. Dr. Thompson errs in asserting that the average income usage can be attributed to all households or customers in a zip code. The "average" income and "average" usage used by Dr. Thompson includes an entire range of factors that have not been considered in his analysis. First, not all zip codes have the same penetration rate of natural gas customers. Schedule RDC-R5, for example, sets out the percentage of households using natural gas, as well as electricity, fuel oil/kerosene and LPG, as their primary space heating fuel in the 37 zip codes that Dr. Thompson identified as having the lowest average income. Dr.

Thompson cannot tell from his analysis which customers use natural gas and which use some other source of fuel. Low-income rural customers, for example, are likely to use propane, fuel oil or kerosene. Note that in 18 of the 37 zip codes, 50% or less of all households even use natural gas for fuel. Within Dr. Thompson's analysis, therefore, he not only does not know the specific incomes of individual households, or the specific consumption of individual households in the zip codes he studies, he doesn't even know the primary fuel which each household uses for its space heating.

Moreover, every zip code has a mix of low-income and high-income households. Dr. Thompson does not test for this mix in his analysis. When an average income for a zip code is $30,000, Dr. Thompson cannot tell how that income is derived. Schedule RDC-R6 shows that the use of average income, without considering the distribution of income making up the average, can be quite misleading. The Schedule shows that Zip Code 1 is the "wealthiest" zip code of the three based on income averages, despite having two of three customers with an income of less than $10,000, with no other zip code having any customer with incomes that low. Dr. Thompson's assertion that an analysis based on average incomes by zip codes can be used as the tool to determine natural gas consumption for individual customers is in error.

Q. HAVE YOU SOUGHT TO APPLY THE RESULTS OF DR. THOMPSON'S MODEL TO SEE IF HIS RESULTS GENERATE MEANINGFUL INFORMATION?

A. Yes. Dr. Thompson purports to set forth average monthly consumption by income ranges in Exhibit PBT-2. Presumably, if his estimates are accurate, I should be able to apply the consumption for each income range to the number of customers in that income range in each zip code and obtain an average for the zip code that reasonably reflects the average calculated by Dr. Thompson. My hypothesis going into this analysis is that Dr. Thompson's figures are not well-founded and will not generate reasonably comparable results.

Q. PLEASE EXPLAIN WHAT YOU DO TO CHECK DR. THOMPSON'S CONSUMPTION ESTIMATE FOR EACH INCOME RANGE?

A. Dr. Thompson purports to have calculated what the average usage is for each income range. Using his Model 5M, he asserts, for example, that while households with an income of less than $5,000 will have consumption of 78.208 ccf, households with incomes of $10,000 to $15,000 will have consumption of 73.876 ccf. (Schedule PBT-2, at 15). The Census Bureau reports data for the number of households by income range by zip code. If Dr. Thompson's consumption figures are correct, I should be able to multiply Dr. Thompson's consumption for each income range, sum the total consumption in each zip code, and divide by the total number of households in each zip code, to obtain an average consumption for each zip code. If. Dr. Thompson's consumption figures are correct, the average consumption calculated in such a fashion should reasonably reflect the average consumption figures that underlie Dr. Thompson's analysis.

Q. DO YOU EXPECT TO OBTAIN REASONABLY COMPARABLE RESULTS?

A. No. For all of the reasons I discuss above, I do not believe that Dr. Thompson's modeling will have accurately captured consumption by income level.

Q. DID YOU USE 1990 CENSUS DATA IN YOUR ANALYSIS?

A. Yes. The Census reports the number of households by income range for each zip code. I agree with Dr. Thompson's assessment of the use of 1990 Census data. He stated: "there is no reason to believe that differences in 1990 and 2000 data would be such that the quantitative results would be greatly affected or that the qualitative conclusions would be any different." (Thompson Rebuttal, at 8).

Q. WHAT DID YOU FIND?

A. Multiplying Dr. Thompson's estimates of natural gas consumption for each income level by the number of households at that income level, does not yield an average consumption that is reasonably consistent with the average that Dr. Thompson found to exist for each zip code. Of the 37 zip codes with the lowest income levels, Dr. Thompson's results result in an overestimated average consumption in 24 cases. In only three of the 37 cases are the estimates within +/-1%. In only 10 of the 37 cases are the estimates within +/- 10%.

Q. CAN YOU SUMMARIZE YOUR ASSESSMENT OF DR. THOMPSON'S CONSUMPTION MODELING?

A. My conclusions are several fold. First, Dr. Thompson's mathematical modeling generates conclusions that are at odds with the data of every federal agency that has directly examined the same issue by performing actual survey work of individual consumers. The Commission should not accept a mathematical model that uses average income, which does not reveal actual incomes; which uses all consumers, without identifying who is a gas customer and who is not, let alone what the incomes of gas customers and non-gas customers are; and which does not reflect a full range of variables that have been found not only to be relevant, but critical in explaining how gas consumption varies by income. Moreover, I conclude that when applied to real world income distribution data, Dr. Thompson's consumption figures fail to generate reasonable results.

Q. PLEASE EXPLAIN.

A. Instead of relying upon Dr. Thompson's flawed analysis, the Commission should recognize and adopt the conclusions of the U.S. Department of Energy, the U.S. Department of Labor, the U.S. Department of Health and Human Services (Energy Assistance Division), and the U.S. Department of Housing and Urban Development that energy consumption is related to income in such a way that as income goes down, consumption goes down. The Commission should recognize that this conclusion is supported by the observation that while low-income households may have a higher heating intensity (measured in mmBtus per thousand square feet of heated floor space per Heating Degree Day), low-income households live in substantially smaller housing units resulting in lower overall natural gas consumption.

2. Response to F. Jay Cummings.

A. Dr. Cummings' Implementation Objections.

Q. PLEASE DESCRIBE THE ESSENCE OF DR. CUMMINGS' REBUTTAL TESTIMONY.

A. The testimony of Dr. Cummings as it relates to the proposed low-income fixed credit tariffed rate is directed toward implementation issues, cost estimates, cost recovery and customer impacts. (Cummings, at 13). He recommends that the fixed credit rate not be approved.

Q. WHAT IS DR. CUMMINGS' FIRST OBJECTION TO THE FIXED CREDIT RATE?

A. Dr. Cummings asserts that a fixed credit rate limited to customers with arrears of at least $200 "provides incentives for low-income, good-pay customers to become delinquent." He offers no evidence that this has happened in other low-income programs directed toward payment-troubled low-income customers around the country. Indeed, such evidence does not exist. Consider, for example, that Pennsylvania's gas and electric utilities all now have universal service programs limited to payment-troubled customers. These programs, in operation since 1992 and now serving hundreds of thousands of low-income customers statewide, have never been found to create an incentive for "low-income, good pay customers" to stop paying their bills merely to become eligible for the universal service program.

The program has protections that serve to prevent such an incentive in any event. For example, those customers with arrears of less than $200 are subject to the same credit and collection practices (including service terminations) as any other customers. Indeed, merely because a customer is low-income with arrears does not mean that the customer will receive a fixed credit through the tariffed rate. Only if a fixed credit is necessary in order to bring the bill down to the designated affordable level will such a credit be provided.

Aside from these observations, it is necessary to limit the fixed credit to remain consistent with the purpose of the fixed credit rate. The fixed credit rate is not simply a social assistance program directed toward income-eligible households. It is designed to be (and has repeatedly been found to have been, as discussed in my Direct Testimony) a more effective, as well as a more *cost*-effective, way of responding to low-income payment troubles than traditional credit and collection techniques. If not limited to payment-troubled customers, the fixed credit loses its conceptual grounding of being an alternative to credit and collection techniques that are both expensive and ineffective when directed toward payment-troubled low-income customers.

Q. PLEASE RESPOND TO DR. CUMMINGS' SECOND OBJECTION.

A. Dr. Cummings asserts that programming changes to the Company's billing system will need to be developed and tested prior to implementation of the new rate. He asserts that "the costs of these programming changes and their resulting implementation should be

established and included as a cost to be recovered as part of the tariff proposal." (Cummings, at 14). I certainly do not disagree with the underlying comment in Dr. Cummings' testimony that the Company is entitled to a reasonable opportunity to recover the costs of any programming changes and their resulting implementation. I expect Dr. Cummings would agree, however, that the Company is entitled to recover only its incremental costs. Any costs devoted to the programming changes and their implementation that are already embedded in rates should not be recovered twice. Existing MGE personnel, for example, even if devoted to programming for the fixed credit rate, would already be embedded in rates.

Moreover, the Southern Union Company has previously developed a billing system that is capable of delivering bills that are grounded in energy burdens. PG Energy Company, a Southern Union natural gas company serving Pennsylvania, has implemented a customer assistance program (CAP). The PG Energy Partners Program (PGEPP), while not involving a fixed credit, nonetheless involves an income-based energy bill made available pursuant to the Pennsylvania PUC's CAP Policy Statement (52 Pa. Code, sec. 69.261, et seq.). Unlike another utility, who may have *no* experience with such rates, MGE is not beginning at ground zero in the administrative implementation of a rate such as that which I have proposed.

It is unlikely that the Company would face incremental costs for programming and implementation for the fixed credit rate. While the tariffed rate costs that I calculated in my

Direct Testimony assume full enrollment for the full term, that full enrollment is not likely to occur in the first year of operation. The proposed fixed credit rate will have a ramp-up period. Accordingly, as I have recommended in other states (e.g., New Hampshire, Maryland, New Jersey, Pennsylvania), start-up administrative costs (including not only programming but training as well) should be covered by first year difference between full enrollment and the ramp-up enrollment figures.

Q. PLEASE RESPOND TO DR. CUMMINGS' THIRD OBJECTION.

A. Dr. Cummings observes that MGE does not know "whether any firms with the required expertise" to perform intake services "are located in Missouri or whether a wider search would have to be pursued." (Cummings Rebuttal, at 14). It is not clear why Dr. Cummings believes this to be a substantial obstacle. Not only have other states implemented such systems, but the telecommunications industry has successfully implemented an outreach and intake system for its lifeline program as well.

In addition, MGE has previously recognized the capacity of the Mid America Assistance Coalition (MAAC) to provide such services. According to MGE's own materials, MGE "appreciates that MAAC is a front-line agency, as well as an administrator." MGE described MAAC's capacity as involving "a state-of-the-art information network that has brought the greater Kansas City metropolitan area the capability of a seamless service delivery system." Working with MAAC, MGE has said, would allow intake and delivery services to occur in "a timely, efficient and effective manner." Moreover, MGE has said,

MAAC "has the resources, controls, and accountability required" to distribute low-income utility assistance funds proposed through the MGE Extra Help program.

Q. PLEASE RESPOND TO DR. CUMMINGS' FOURTH OBJECTION.

A. Dr. Cummings asserts, without more, that having a customer designate an agent to operate or his or her behalf in the submission of a LIHEAP application "would require agreement by the DFS." (Cummings Rebuttal, at 14). It is not clear why this is so, and Dr. Cummings does not explain why he believes this to be so. In my opinion as a lawyer, contrary to what Dr. Cummings says, the decision of a consumer on whether he or she needs or wants a third party to serve as her agent in accomplishing a given task is the decision of the consumer. DFS would have no legitimate objection to the designation of such agents. If Mrs. Jones provides First National Bank with a power of attorney to administer her financial affairs, DFS could not insist on dealing exclusively with Mrs. Jones. In such a situation, by dealing with First National Bank, DFS *is* dealing with Mrs. Jones. No difference exists in the result if MGE is the agent instead of First National Bank.

Dr. Cummings is also incorrect when he states that there will be administrative costs, "including necessary staff additions," if the Company serves as the agent for submission of LIHEAP applications. (Cummings Rebuttal, at 14). A common practice in today's world of public benefits is to have application forms serve duplicate functions (e.g., SSI/Medicaid, Food Stamps/WIC). While the Company could, indeed, implement such a process so as to

require substantial investments of time, effort and staff, this need not be the situation. If implemented correctly, the agency process that I propose should operate seamlessly.

Q. *PLEASE RESPOND TO DR. CUMMINGS' FIFTH OBJECTION TO THE PROPOSED FIXED CREDIT RATE.*

A. Dr. Cummings objects to the allocation of LIHEAP benefits, claiming that the proposed method of allocation "shifts the risks associated with changes in LIHEAP funding levels, eligibility, and participation rates to the Company. . ." Dr. Cummings does not explain why such a "shift" occurs. In fact, the risks associated with "changes in LIHEAP funding levels, eligibility, and participation rates" are *exactly* the same whichever way LIHEAP is allocated. The only difference is that, as I know from having helped a variety of utilities and states implement their programs, the method I have proposed works while the method Dr. Cummings apparently endorses does not. For example, after struggling with the issue for several years, the Pennsylvania PUC in 1999 adopted the LIHEAP allocation procedure I recommend here.

Q. PLEASE RESPOND TO DR. CUMMINGS' FINAL OBJECTION.

A. Dr. Cummings states that "program details are insufficient to determine whether there would be other implementation issues. For example, Mr. Colton does not address whether periodic re-evaluation of participant income qualifications would be part of his proposal." I agree that, as with any proposal of any nature, there will be "implementation issues." The Commission (and the Company), however, should not require more of the fixed credit rate

proposal than it requires of any other Company activity. Consider, for example, the complete absence of information about how the Company's *existing* credit and collection activities work with respect to low-income customers. To impose the burden that Dr. Cummings urges prior to implementing action in other aspects of the Company's operations would prevent the Company from doing *any*thing.

Moreover, Dr. Cummings' specific objection about "program details" is unfounded. An annual "re-evaluation of participant income qualifications" is contemplated by the fixed credit rate. Indeed, I have included in the calculated costs of the program a cost for annual intakes. (Colton Direct, at Schedule RDC-16).

B. Dr. Cummings' Cost Analysis.

Q. PLEASE RESPOND TO SCHEDULE FJC-3 IN WHICH DR. CUMMINGS ASSERTS THAT THE COSTS OF THE FIXED CREDIT RATE PROGRAM COULD REACH AS HIGH AS $21 MILLION.

A. It is difficult to refute every little thing that Dr. Cummings asserts "might" happen. Current rate decisions, of course, never address every scenario of what "might" happen in the future. The basic response to the various scenarios that Dr. Cummings spins out that "might" arise is that if dramatic changes in circumstances occur which reduce the Company's earnings, the Company is always entitled to file a rate case seeking changes in rates or in rate designs.

Q. SHOULD DR. CUMMINGS' HYPOTHETICAL CASES BE ACCEPTED AS EVIDENCE OF THE EXPOSURE OF THE COMPANY (OR ITS RESIDENTIAL CUSTOMERS) TO INCREASED COSTS FROM A FIXED RATE?

A. No. Hypotheticals are only meaningful to the extent that they can be tied to some empirical or factual basis lending support to the possibility or probability of the hypothetical. Dr. Cummings provides no support whatsoever for the possibility, let alone the likelihood, that any of his alternative scenarios will arise. Having said that, however, it is possible to review the various alternative assumptions made by Dr. Cummings and find that his alternative assumptions are simply unreasonable.

Q. PLEASE RESPOND TO THE HYPOTHETICAL THAT THE NUMBER OF LOW-INCOME PAYMENT TROUBLED CUSTOMERS MIGHT INCREASE TO 45%.

A. In my twenty years of experience in more than two dozen states with 50 plus utilities, I have not seen a payment-troubled rate of 45%. Moreover, if the Company experienced a nearly 30% increase in its low-income payment-troubled customers ((45% - 35%) / 35% = 0.286), the economics of the program would change. There would be a correspondingly higher amount of bad debt offset; there would be a higher credit and collection offset; there would be a higher working capital offset. Dr. Cummings did not factor any of these corollary changes, which necessarily follow a 30% increase in payment-troubled low-income customers, into his analysis.

Q. WHAT ABOUT AN INCREASE TO 55% OF ALL LOW-INCOME CUSTOMERS BEING PAYMENT TROUBLED?

A. Again, Dr. Cummings should be called upon to explain how or why or under what circumstances MGE might experience a nearly 60% increase ((55% - 35%) / 35% = 0.571) in the number of low-income payment troubled customers. This assumption is unreasonable and has no possible basis in fact.

I should note that when I say "increase," I do not limit my comments to the notion that the Company has a 35% payment troubled rate today, which Dr. Cummings says might rise in the future. I include, also, the notion that the Company should be called upon to explain why, and how and under what circumstances, their number of low-income payment-troubled customers might be 60% higher than the national average.

Q. IS THERE SOME REALITY CHECK THAT WOULD INDICATE WHETHER THE ALTERNATIVE HYPOTHETICAL ADVANCED BY DR. CUMMINGS IS REASONABLE?

A. Let's assume that 55% of all low-income customers have exactly $200 in arrears. Given my calculation of 94,500 low-income customers, that would mean that roughly 52,000 low-income customers have arrears of $200 or more (94,500 x 0.55 = 51,975). This figure can be compared to the total number of residential customers in arrears for MGE (Schedule RDC-10). That schedule shows the number of residential customers in arrears in 2000 ranged from a low of 60,334 (January 2000) to a high of 73,553 (May 2000). It would be

unreasonable to expect that 52,000 of those customers in arrears are low-income customers with arrears greater than $200. The same would be true of the Company's 45% figure; 45% of the roughly 94,500 total low-income customers would be 42,525. It would be unreasonable to expect that 42,500 of the total number of residential customers in arrears happen to be low-income customers in arrears more than $200.

Q. WHY IS IT UNREASONABLE TO EXPECT THAT 52,000 OR 42,500 LOW-INCOME CUSTOMERS WILL HAVE ARREARS OF $200 OR MORE?

A. The highest monthly total of residential customers in arrears in 2000 was 73,553. Dr. Cummings assumption would mean that low-income customers with arrears over $200 represented between 60% (42,500/73553 = 0.578) and 70% (52,000/73553 = 0.707) of *all* residential accounts in arrears. This would necessarily mean that the remaining 30% to 40% of accounts in arrears included all low-income customers with arrears of $1 - $199, and all non-low-income customers in arrears of any size.

It is important to remember that "payment-troubled" is a defined term. It refers only to low-income customers with $200 or more in arrears. If 52,000 low-income customers are in arrears more than $200, think of the implications that holds for the *total* number of low-income customers in arrears if one adds in those in arrears from $1 to $199 as well. It won't happen.

Q. PLEASE RESPOND TO DR. CUMMINGS' HYPOTHETICAL EXPANSION OF THE TAKE RATE TO 60% OR 70% ALTERNATIVELY.

A. No rate discount or energy assistance program currently exists that has a take rate of 60% or 70%. Indeed, I am not aware of *any* low-income assistance program (energy or otherwise) in which 60 – 70% of the eligible population participates. Not even the Ohio Percentage of Income Payment Plan (PIPP), which has existed for more than 15 years, enrolls 60 or 70% of the eligible population. The assumption that Dr. Cummings uses for alternative take rates is not only unfounded, it is unreasonable.

Q. IS THERE ANY INHERENT LIMITATION ON PARTICIPATION RATES THAT DR. CUMMINGS IGNORES IN HIS ASSUMPTIONS?

A. Yes. Dr. Cummings ignores the inherent limitations on participation in the fixed credit rate. A customer must not only be low-income and payment-troubled to receive credits under the fixed credit rate. He or she must also have an income-to-bill relationship that would result in a positive credit being merited once the customer pays an affordable percentage of income. Given an average gas bill of $700, only households with incomes of $17,500 or less ($17,500 x 0.04 = $700) would receive a credit. This, of course, assumes that all persons consume energy at the average. Even if everyone who was eligible applied to take service under the fixed credit rate, it is unreasonable to assume that 70% of low-income persons will have a bill-to-income ratio that would qualify them for fixed credits.

Q. ARE THERE OTHER REASONS THAT THE TAKE RATE WILL NOT REACH 60% OR 70%?

A. Yes. I, along with others, have done considerable research in why people do not participate in public benefit programs. Those same reasons would be applicable to the fixed credit utility rate as well. Some people will simply not be aware of the rate. Some people will not want to negotiate the administrative process to enroll in the rate. Some people will face language, transportation or other barriers that prevent their enrollment in the rate. Some people will mistakenly believe they are not eligible for the rate. Some people will choose simply not to bother with making the change. Some people will be unwilling to admit that they are in need of assistance. Other people will be unwilling to contact the Company, which they view as an adversary to whom they owe money, to provide personal information such as income. These reasons in combination will prevent the take rate from reaching the levels speculated to by Dr. Cummings.

Q. ARE THERE ANY INTERNAL INCONSISTENCIES IN DR. CUMMINGS' SCHEDULE FJC-3?

A. Yes. Consider that the number of customers taking service under the fixed credit rate in Dr. Cummings' Case No. 2 has increased by nearly 55% in absolute terms (from 18 customers per 100 to 28 customers per 100) (100 x .55 x .50 = 28) (100 x .35 x .50 = 18) ((28 – 18) / 18 = .543). Despite this nearly 55% increase, the amount of bad debt generated by that increased number of customers actually goes *down*. His Case No. 3 has an *additional* increase in participation of 43% (from 28 customers per 100 to 39 customers per 100). Yet

not one of those additional low-income payment troubled customers receives LIHEAP in his scenario. And, again, while the number of low-income customers with $200 in arrears substantially increases, the amount of bad debt goes down. Moreover, while Dr. Cummings keeps his bad debt rate constant, and increases his total revenue in Case No. 3 (by moving to consumption at 110% of the residential average), his total bad debt dollars out of that increased billing does down.

Q. YOUR COMMENTS INDICATE THAT YOU BELIEVE DR. CUMMINGS HAS USED WORST CASE SCENARIO ASSUMPTIONS IN HIS CALCULATIONS THAT ARE WELL BEYOND PLAUSIBLE OUTCOMES BASED ON PAST EXPERIENCE WITH LOW-INCOME RATES IN ORDER TO CALCULATE POTENTIAL COST EXPOSURE. CAN YOU EXPLAIN THE WAYS IN WHICH YOU INTENTIONALLY USED CONSERVATIVE ASSUMPTIONS IN YOUR COST CALCULATINS TO ENSURE THAT YOU DID NOT UNDERESTIMATE THE COMPANY'S COST EXPOSURE?

A. I introduced a number of ways to ensure that costs to the Company were not underestimated. First, I applied a 35% rate to determine the number of payment-troubled customers. The 35% figure is based on national data indicating that roughly that number of low-income customers are in arrears with their utility. As I discuss above, however, to be eligible for the fixed credit rate, a customer must not only be in arrears, but that customer must be in arrears of $200 or more. It is likely that the 35% figure *over*states the proportion

of low-income customers meeting the availability criteria for the fixed credit rate and, if anything, leads to an overstatement of the Company's cost exposure.

Second, I calculated that 16,537 low-income customers would take service under the fixed credit rate. For purposes of quantifying costs, I assumed that the rate was "fully enrolled" on Day 1 of Year 1. In fact, as with *any* new tariff, enrollment in the new fixed credit rate will involve a ramp-up period. If, for example, there is a constant increment of customers taking the new rate leading to full enrollment of my estimated 16,537 customers by the end of Year 1, as a matter of arithmetic, the Company would spend only 50% of the fixed credits in Year 1.

Third, the U.S. Department of Energy (DOE) has projected that the current high natural gas rates will continue through the 2001/2002 winter heating season before moderating. The cost calculation which I include, however, provides for the continuation of existing high gas costs without providing for the subsequent moderation. To that extent, my cost calculations overstate the revenue requirement deficiency resulting from the fixed credit rate.

Unlike Dr. Cummings, who simply throws out unsupported and unreasonable hypotheticals, and then complains about what "might" happen, my decisions on introducing conservatism are based on empirical facts and reasoned judgment.

Q. ASSUME, SIMPLY FOR THE SAKE OF ANALYSIS, THAT DR. CUMMINGS' WORST CASE SCENARIOS MATERIALIZE. WHAT HAPPENS IN SUCH A SITUATION?

A. Let me assume, simply for the sake of analysis, that the number of low-income customers with arrears greater than $200 increases by nearly 60% (from 35% to 55% of all low-income customers). Let me also assume that, contrary to the experience with every other low-income rate, 70% of those customers apply for the fixed credit rate and that 100% of those customers who apply are found to have unaffordable bills in the absence of a fixed credit. If, indeed, all these worst case scenarios occur, the appropriate response would be to propose a redesign of the rate within the context of a general rate case. Within such a general rate case, perhaps the appropriate response would be to raise the arrears threshold to $300 (or higher); perhaps the appropriate response would be to limit the program to households that are at or below 100% of Poverty (or 75% of Poverty); perhaps the appropriate response would be to increase the gas burden deemed to be affordable from 4% to a somewhat higher percent. The appropriate response would, in part, be dictated by what circumstances gave rise to an increase in program costs.

The bottom line, however, is that Dr. Cummings' hypothetical worst case scenario assumptions are not only unfounded and unreasonable, but that they are also directly contrary to fact. If these case scenario assumptions come true, however, the fixed credit rate has the flexibility to redesigned in a general rate case. I cannot imagine a set of conditions

that would give rise to a net incremental cost for MGE equal to those costs which Dr. Cummings sets forth in Case 1, Case 2 or Case 3 of Schedule FJC-3.

Q. CAN YOU RELATE DR. CUMMINGS' REBUTTAL TESTIMONY, MR. HENDERSHOT'S REBUTTAL TESTIMONY, AND YOUR DIRECT TESTIMONY TO EACH OTHER?

A. Yes. Neither the Company nor the Commission should require a greater precision with respect to the fixed credit rate than they require with respect to other aspects of the Company's credit and collection operations. Consider, for example the following:

1) Does the Company enter into deferred payment arrangements (DPAs)? Yes. Does the Company know the unit cost of each DPA? No. Does the Company know how many DPAs are successfully completed? No. Does the Company know how much money it collects through DPAs that it would not collect in the absence of DPAs? No. Does the Company know how many low-income customers use DPAs, or whether DPAs are an effective collection tool for low-income customers? No. Does the Company know the carrying costs of arrears subject to its current DPAs? No. Has the Company ever considered whether DPAs are a cost-effective collection tool? No. Does the Company know what increased gas cost prices have done to the cost, the effectiveness, or the cost-effectiveness of DPAs? No. Is there any proposal to discontinue the use of DPAs because of these unknowns? Of course not.

2) Does the Company use the disconnection of service for nonpayment (DNP) as a collection tool? Yes. Does the Company know how much money it collects through

DNPs that it would not collect in the absence of DNPs? No. Does the Company know how many low-income customers are subject to DNPs, or whether DNPs are an effective collection tool for low-income customers? No. Does the Company know the bad debt generated by subjecting a customer to a DNP? No. Has the Company ever considered whether DNPs are a cost-effective collection tool? No. Does the Company know what increased gas cost prices have done to the frequency, the effectiveness, or the cost-effectiveness of DNPs? No. Is there any proposal to discontinue the use of DNPs because of these unknowns? No.

The point is that if any of the Company's existing credit and collection tools were subject to the measurement precision which Dr. Cummings advocates in his testimony for the fixed credit rate, the Company would do nothing. The fixed credit rate has repeatedly been found to be both effective and cost-effective in doing what I set forth as its objective. Moreover, the costs of the fixed credit rate have been quantified using reasonable methods and reasonable assumptions that have been used time and again by other states. They should be accepted.

C. Dr. Cummings' Program Objections.

Q. PLEASE RESPOND TO DR. CUMMINGS' CRITIQUE OF YOUR PROPOSED ALTERNATIVE TO ARREARAGE FORGIVENESS.

A. Dr. Cummings asserts that my proposal to implement an extended deferred payment arrangement as an alternative to an arrearage forgiveness program does not give the

Company a reasonable opportunity to collect its arrears. He hypothesizes that a customer with $6,000 in annual income and a $500 arrears would require eight years to pay off the arrears. (Dr. Cummings does *not* say that there *are* any such customers, but, if there were, it would take eight years.) Of course, Dr. Cummings doesn't consider the alternative. His customer with a $6,000 annual income would have an income of $500 per month. Assuming an average annual bill of $720, and an arrears of $480 (simply to make the arrears divisible by 12), this customer will receive a natural gas bill of $100 per month (assuming a 12-month payment plan). This customer, in other words, will receive a monthly bill asking her to pay 20% of her income simply for her natural gas bill (setting aside her electric bill and all other household expenditures). The likelihood of MGE collecting its current bill, let alone its $500 arrears, under such circumstances is remote at best.

Dr. Cummings cites my direct testimony as evidence that the Company would not likely collect any arrears spread over such a time period. However, it was my study of low-income households in Missouri, published in the *Journal of Children and Poverty*, that found a strong relationship between unaffordable home energy bills and frequent low-income mobility in the first instance. My study, which was cited as recently as Spring 2001 in the *Journal of Education*, provides the basis for concluding that adopting initiatives such as the fixed credit rate and the extended deferred payment arrangements (in the absence of arrearage forgiveness) will mitigate the problems resulting from the mobility about which Dr. Cummings complains rather than exacerbate those problems.

Finally, it is not as though Dr. Cummings can say MGE's existing deferred payment plan generates "a reasonable opportunity for the Company to collect" its arrears. When asked in a data request how many of the deferred payment arrangements MGE negotiates with residential customers are successfully completed, the Company didn't know. This sets aside the narrower question of how many deferred payment arrangements negotiated with *low-income* customers are successfully completed. Moreover, the proportion of residential customers in arrears –even those substantially in arrears—that even enter into deferred payment arrangements is quite small. Simply getting that low-income customer in the door, talking with the Company, and entering into a deferred payment arrangements through the fixed credit rate is a step ahead of where the Company is now.

Q. PLEASE COMMENT ON DR. CUMMINGS' OBJECTION TO THE USE OF SOME PROPORTION OF THE KANSAS AD VALOREM TAX REFUND TO CAPITALIZE AN AFFORDABLE RATE FUND.

A. Dr. Cummings asserts that the proposal to use some proportion of the Kansas ad valorem tax refunds to capitalize an affordable rate fund as proposed in my testimony is contrary to the stipulation in Docket No. GO-98-500, to which the Office of Public Counsel was a signatory. I have been informed by Counsel that the conflict which Dr. Cummings posits does not exist. The stipulation which Dr. Cummings references necessarily covers only those dollars that the Commission finds are refunds to customers. The rate affordability fund proposed in my testimony does not establish an alternative method of refunds, let

alone a conflicting method of refunds. It merely establishes one component of the Kansas ad valorem *overcharges* that is not subject to refund.

Reference to the treatment of "refunds" in the stipulation and order, rather than to "overcharges" is significant. A "refund" is a *return* of money to customers who were overcharged with which to begin. As Chairperson Lumpe indicated in her testimony to Congress in June 1999, the dollars represented by the Kansas ad valorem overcharges belong to the people who paid them in the first place. They are not the property of the government to take (or to give to someone other than those who paid them). Moreover, they are not the property of current customers merely because of the fact that they happen to be current customers. For all of the reasons set forth in my Direct Testimony, a considerable proportion of the Kansas ad valorem overcharges do not represent "refunds." They are residual overcharges that do not represent "refunds" to current customers. Accordingly, they can appropriately be set aside in a *cy pres* fund to be used to capitalize a rate affordability fund.

3. Response to David Hendershot.

Q. PLEASE DESCRIBE THE ESSENCE OF MR. HENDERSHOT'S REBUTTAL TESTIMONY.

A. Mr. Hendershot sets forth the crux of his rebuttal testimony when he states:". . .the tone of Mr. Colton's direct testimony would leave the reader with the impression that MGE has placed no emphasis on collection activities or in developing ways to improve those

activities." (Herdershot, at 2). Mr. Hendershot then asserts that, while MGE's credit and collection activities may be "less than perfect," they are nonetheless "reasonable procedures" and "reasonable attempts." (Hendershot, at 2 – 3).

Q. PLEASE RESPOND TO MR. HENDERSHOT'S RECITATION OF CREDIT AND COLLECTION ACTIONS THAT MGE HAS TAKEN.

A. The purpose of my testimony was not to "leave the impression" that MGE "places no emphasis" on collection activities or on ways to improve those activities. My testimony instead merely establishes and documents two facts:

First, MGE has placed no emphasis on the unique collection issues presented by low-income customers. Nor has MGE placed any emphasis on ways to improve its response to low-income inability to pay. Despite Mr. Hendershot's litany of various Company activities, the facts, as acknowledged by the Company's own responses to discovery, are that the Company is unaware of any study that it might have that distinguishes between residential customers generally and low-income residential customers in particular on factors including, but not limited to: (a) usage levels and patterns, (b) history of payment troubles, (c) credit and collection history, or (d) consumption of Company resources such as staff time. (OPC-DR-5158). The Company is unaware of any study that considers the load profile of a typical low-income customer. (OPC-DR-5159). The Company is unaware of any study that "considers, evaluates or discusses" the relationship between residential payment troubles and low-income status. (OPC-DR-5161). The Company does not track

bad debt by socio-economic status or by receipt of low-income fuel assistance (OPC-DR-5149); nor does the Company track arrears by socio-economic status or by receipt of low-income fuel assistance (OPC-DR-5150). This lack of consideration, information seeking, and process improvement exists despite the fact that, while low-income customers represent only roughly 20% of the Company's residential customer base, they represent 50% of the Company's nonpayments.

Second, the Company cannot establish either the effectiveness or the cost-effectiveness of its current credit and collection activities. The Company does not assess to what extent activities such as the negotiation of deferred payment plans, the termination of service, the use of field collections, or the imposition of late payment charges, generate collections that would not have occurred in the absence of the activity. The Company knows that it enters into deferred payment arrangements, but has no idea of the extent to which those arrangements are ever successfully completed. The Company collects deposits, but has no idea of the extent to which those deposits actually generate collections that would not have existed without the deposits. The Company does not know the unit cost of any of its collection activities, let alone know whether the unit cost is cost-justified by increases in collections, reductions in bad debt, reductions in working capital, or reductions in any other expense.

Despite the expenditure of millions of dollars on these credit and collection activities in the light of this lack of knowledge, the Company, nonetheless, engages in (and the Commission

approves cost-recovery for) these activities because, as Mr. Hendershot asserts, they are, in his words, *"reasonable procedures"* and *"reasonable attempts."* The Company and Commission should apply the same "reasonable procedures" test or "reasonable attempts" test to the fixed credit rate.

Q. PLEASE RESPOND TO MR. HENDERSHOT'S CRITIQUE OF YOUR USE OF THE TB&A BENCHMARKING STUDY.

A. Mr. Hendershot asserts that use of the Theodore Barry and Associates (TB&A) benchmarking study is misleading since it includes electric companies as well as natural gas companies. Mr. Hendershot's "belief" –which "belief" was unsupported by any data whatsoever—is that electric companies "as a whole have lower levels of delinquency and bad debt" which would make a direct comparison to the TB&A benchmarking study "misleading and inaccurate." Several responses are appropriate.

First, the selection of the TB&A study for use as a benchmark was MGE's choice, not mine. It was MGE staff that used one number after another as a benchmark against which to measure the Company's performance. Second, in its presentation of the MGE benchmarking to senior management, not once in the analysis did MGE staff note that the comparisons being presented were "misleading and inaccurate." Given the fact that MGE selected, used and presented the TB&A study as a legitimate benchmark for MGE internal purposes, it is unreasonable for MGE to contend that the TB&A study is an unreasonable source of comparative data.

Q. IS MR. HENDERSHOT'S CLAIM THAT ELECTRIC COMPANIES HAVE, AS A WHOLE, LOWER LEVELS OF PAYMENT TROUBLES THAN NATURAL GAS COMPANIES ACCURATE?

A. That has certainly not been my experience. In 1994, for example, I completed a study for the national office of the American Association of Retired Persons (AARP). The study, titled "Public Utility Credit and Collection Activities: Establishing Standards and Applying them to Low-Income Utility Programs," examined 25 utilities. These utilities included natural gas, electric and combination utilities. I found no systematic differences in the payment troubles between the gas and electric utilities.

In addition, through 1995, the Pennsylvania Bureau of Consumer Services annually reported on its evaluation of utility collections in that state. The 1995 information (containing data for the three years 1993 – 1995) is presented in Schedule RDC-R7. As you can see, Mr. Hendershot's "belief" is simply not supported by the empirical evidence.

Q. PLEASE RESPOND TO MR. HENDERSHOT'S COMMENTS ABOUT COMPARING MGE WRITEOFFS TO AN INDUSTRY AVERAGE.

A. Mr. Hendershot indicates that my testimony "would leave the reader with the false impression that MGE has made no improvements" as to its net write-offs. That is not the case. My testimony was that MGE under-performs when compared to the industry average. Mr. Hendershot's MGE data for the fiscal years 1999 and 2000 does not show otherwise.

He presents only MGE data without showing comparable industry average statistics. Even if I were to hold the industry average *constant*, however, at best, MGE performs equal to the industry average on one of the benchmarks I discuss. Moreover, Mr. Hendershot attributes the reduction in net charge-offs completely to MGE "improvements." It is more likely that the reductions have occurred due to a combination of mild weather and an improved economy.

Q. PLEASE COMMENT ON MR. HENDERSHOT'S CLAIM THAT YOU MISCONSTRUE OR MISINTERPRET INFORMATION RECEIVED FROM MGE.

A. Mr. Hendershot's comments merely serve to reinforce the analysis, which I present in my Direct Testimony. My testimony is that the Company does not track, and certainly does not evaluate or analyze, either the effectiveness or the cost-effectiveness of its existing credit and collection activities. For example, Mr. Hendershot claims that I misconstrue or misinterpret certain information about field collections by portraying it as the Company's total effort rather than merely the effort of its third party contractors (Hendershot, at 8). He states that the information on third party contractors relates to "only a small portion of overall field collection activities during this period of time." When asked for information on the effectiveness and cost-effectiveness of its field collections, however, the Company either could not, or would not, provide additional information. (OPC-DR-5140). If additional information exists which is responsive to OPD-DR-5140, then it should be provided to OPC in a timely manner.

In addition, the Direct Testimony which Mr. Hendershot cites doesn't have the "misinformation" about which he complains in the first place. After referring to "field collection contractors" or "contractors" three different times (while citing the relevant data request response: OPC-DR-5140), I then make a transition by stating in the very next paragraph that "the Company's *in-house collections* do not generate considerable success *either*." (Colton Direct, at 21; emphasis added). It was abundantly evident that, at that point, I was drawing a comparison of the Company's "in-house collections" to its external collections (such as the third party contractors that I had just been discussing). One might wonder what Mr. Hendershot thought I was comparing the Company's "in-house collections" to when I said "the Company's in-house collections do not generate considerable success either."

In sum, what Mr. Hendershot does *not* say in his rebuttal testimony is as significant as what he does say. Not once does Mr. Hendershot claim, let alone try to document or provide any support for the claim, that the Company's field collections are either effective or cost-effective at collecting money.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes it does.

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Related Information

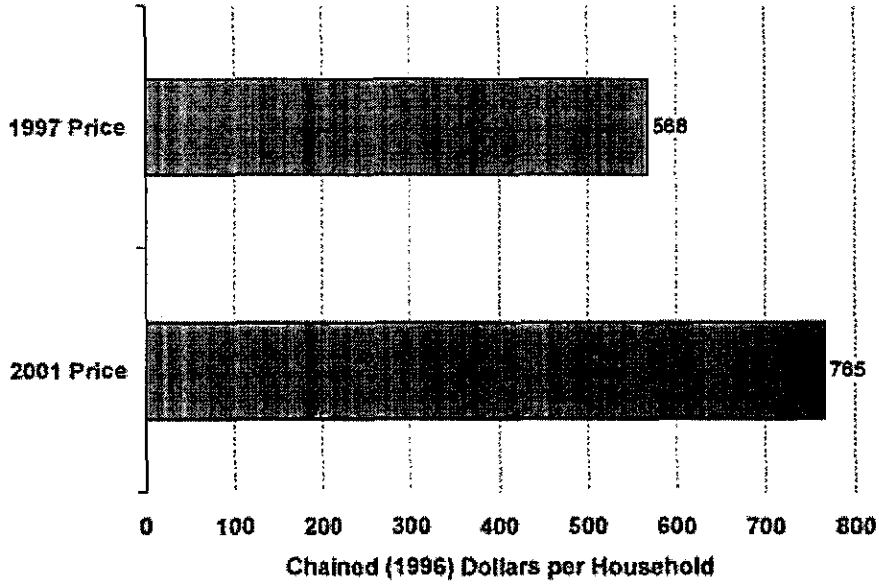
Natural Gas Use in American Households

Households that use natural gas, especially for space heating, will be confronted this winter heating season by the recent sharp increase in the price of natural gas and the forecast that higher prices will continue through the season and beyond. Residential natural gas prices remained in the $6 to $7 per thousand cubic feet (mcf) range annually throughout the 1990s (Figure 1). Although prices vary by season—lower in the first quarter and higher in the third quarter—comparison of residential prices for the same month (September) between 1999 and 2000 shows a sharp increase, from $8.63 to $9.78 per mcf *(Monthly Energy Review January 2001)*. Prices that exceed $10 per mcf for the next few quarters before dropping below $9 are projected by EIA's *Short-Term Energy Outlook February 2001* (STEO) (Figure 2).

According to the most recent Residential Energy Consumption Survey (RECS), the average American household paid $579 for natural gas in 1997 (at an average price of $6.96 per mcf). The price projected by the STEO is $10.07 per mcf for 2001. This price is applied to the average annual consumption reported by the 1997 RECS (83 mcf per household at prevailing 1997 weather conditions, Figure 3) to estimate expenditures at the projected higher price. In order to account for inflation when comparing expenditures for different years, all dollar values are converted to chained (1996) dollars. We find that households paid, in chained dollars, $568 in 1997 and would pay $765 at 2001 prices (Figure 4).

If natural gas prices projected for 2001 were applied to households that used the fuel in 1997, annual expenditures (in chained dollars) would be 35% higher.

Figure 4. Natural Gas Expenditures per Household in 1997 (Based on 1997 and 2001 Prices)



Sources: EIA, Residential Energy Consumption Survey 1997 and EIA, *Short-Term Energy Outlook February 2001.*

The use of natural gas in the United States is widespread. In 1997, 61 percent of residences used the fuel for one or more end uses—53 percent used it as the main heating fuel and 52 percent used it for water heating. Most natural gas (68 percent of the total) was consumed for space heating. While natural gas is widely used, its use and the amount consumed vary significantly within the residential sector and, consequently, the impact of higher prices will be variable. Consider the following findings from the 1997 RECS:

- **Census Region:** More than three-fourths of households in the Midwest

Schedule RDC-R1

Census Region used natural gas while less than half in the South did; households in the Midwest consumed nearly twice as much natural gas as did those in the West.

- **Type of Housing Unit:** More than 64 percent of single-family units used natural gas, 56 percent of multifamily buildings with 5 or more units used the fuel, and less than 40 percent of mobile homes used it. Single-family units consumed slightly more than the average for all residences.

- **Year Constructed:** Older homes were more likely to use natural gas—three-fourths of those built before 1960 used it, while less than half built since 1980 did. Older homes consumed more than newer residences.

- **Household Income:** The percentage of residences that used natural gas varied little by household income; however, higher income households consumed more natual gas than lower income households.

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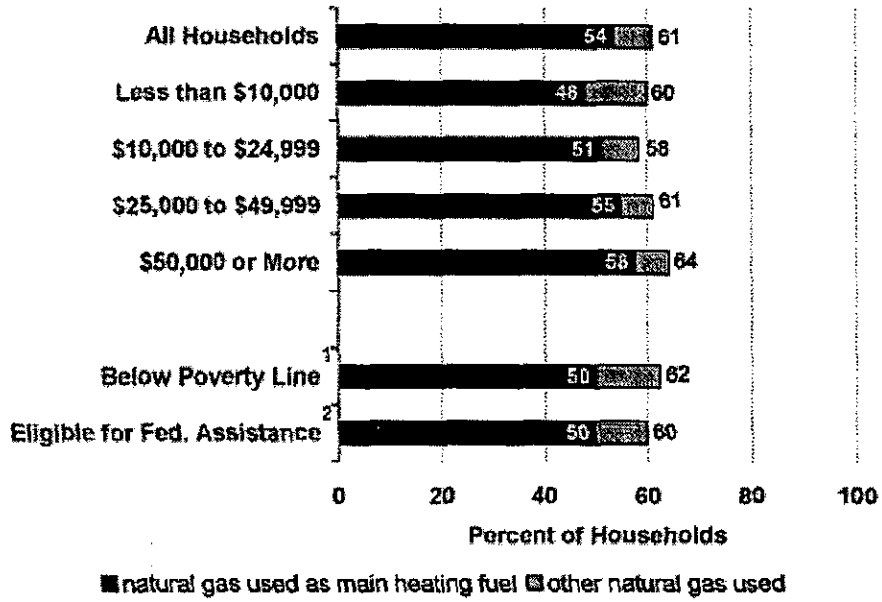
Household Income

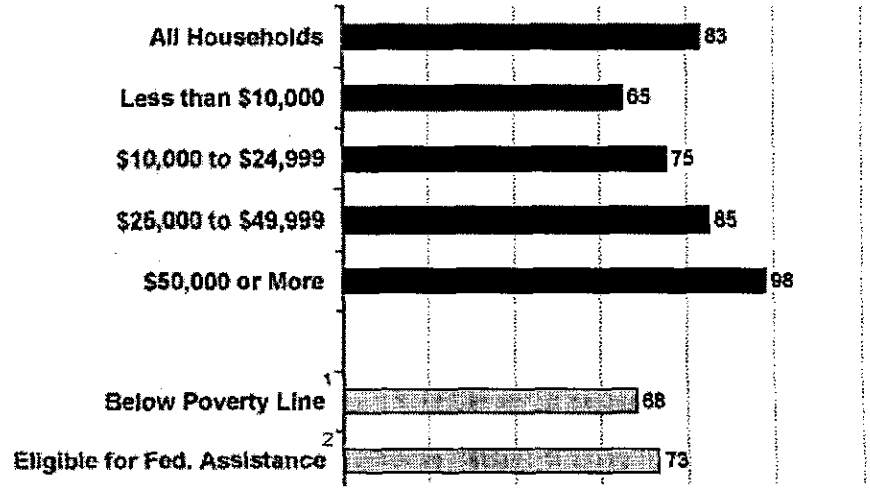
The use of natural gas for any end use and as the main heating fuel was approximately the same regardless of household income category (Figure 1). In contrast, natural gas consumption and expenditures per household did vary by household income—higher income households consumed more and spent more on average (Figures 2 and 3). Higher income households lived in larger housing units, which require more energy for heating. Natural gas prices varied little by household income (Figure 4).

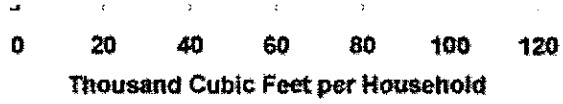
Figure 1. Percent of Households That Use Natural Gas by Household Income, 1997



Notes:
1. Poverty line: Low-income classification defined by U.S. Census Bureau and U.S. Office of Management and Budget.
2. Eligible for Federal assistance: Below 150 percent of U.S. poverty line or equal to, or below, 60 percent of median State income.
Source: Residential Energy Consumption Survey 1997.

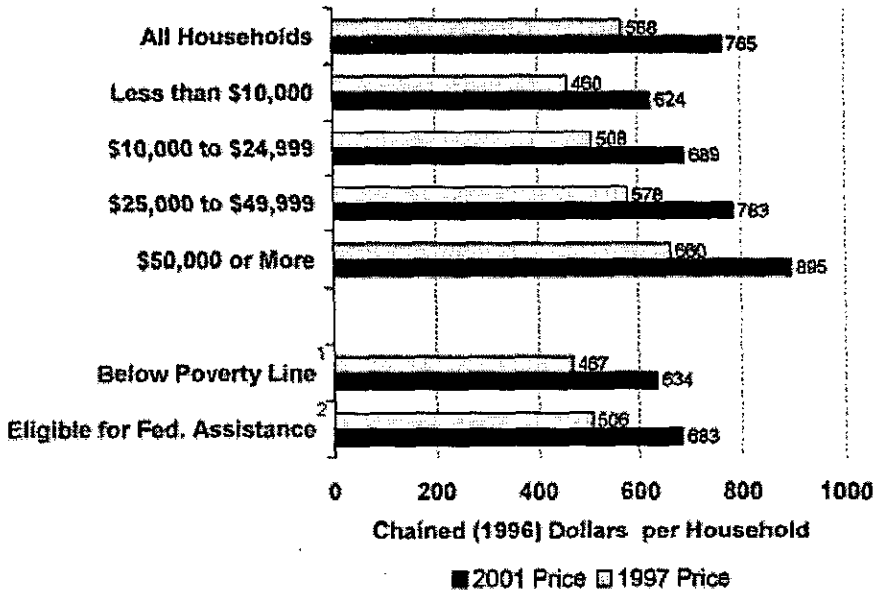
Figure 2. Natural Gas Consumption per Household by Household Income, 1997





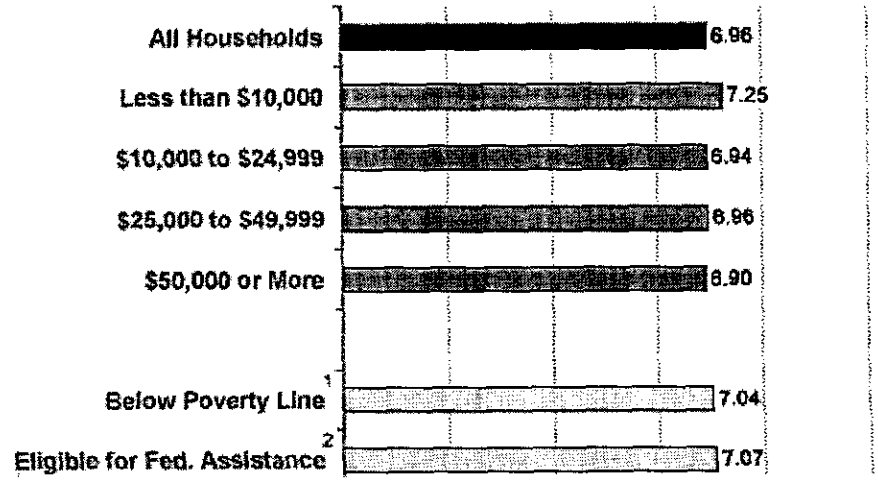
Notes:
1. Poverty line: Low-income classification defined by U.S. Census Bureau and U.S. Office of Management and Budget.
2. Eligible for Federal assistance: Below 150 percent of U.S. poverty line or equal to, or below, 60 percent of median State income.
Source: Residential Energy Consumption Survey 1997.

Figure 3. Natural Gas Expenditures per Household in 1997 by Household Income (Based on 1997 and 2001 Prices)



Notes:
1. Poverty line: Low-income classification defined by U.S. Census Bureau and U.S. Office of Management and Budget.
2. Eligible for Federal assistance: Below 150 percent of U.S. poverty line or equal to, or below, 60 percent of median State income.
Source: Residential Energy Consumption Survey 1997 and EIA, *Short-Term Energy Outlook February 2001*.

Figure 4. Natural Gas Prices by Household Income, 1997



Notes:
1. Poverty line: Low-income classification defined by U.S. Census Bureau and U.S. Office of Management and Budget.
2. Eligible for Federal assistance: Below 150 percent of U.S. poverty line or equal to, or below, 60 percent of median State income.
Source: Residential Energy Consumption Survey 1997.

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Schedule RDC-R2

Consumer Expenditure Survey: Natural Gas Expenditures (Midwestern Region)						
Income Range	Natural Gas Expenditures					
	1998 - 1999	1997 - 1998	1996 – 1997	1996 – 1995	1994 – 1995	1993 – 1994
Less than $5000	$193	$235	$265	$268	$219	$226
$5,000 - $9,999	$284	$295	$277	$266	$279	$309
$10,000 - $14,999	$303	$334	$362	$365	$360	$358
$15,000 - $19,999	$331	$380	$390	$365	$415	$424
$20,000 - $29,999	$352	$411	$405	$355	$372	$410
$40,000 - $39,999	$331	$404	$435	$426	$429	$444
$40,000 - $49,999	$414	$454	$484	$468	$476	$493
$50,000 - $69,999	$448	$501	$523	$475	$476	$541
$70,000 and over	$528	$566	$629	$600	$571	$615
SOURCE: 100% federal Poverty Level: 66 *Federal Register* 10695 - 10697 (February 16, 2001).						

Schedule RDC-R3

Weighted Natural Gas Expenditures by Renter and Owner Status By Income (Kansas City: MO)	
Income	**Annual Gas Expenditure**
Under $5,000	$479
5,000 - $9,999	$483
$10,000 - $14,999	$489
$15,000 - $19,999	$496
$20,000 - $24,999	$496
$25,000 - $29,999	$498
$30,000 - $34,999	$498
$35,000 - $39,999	$502
$40,000 - $49,999	$504
$50,000 - $59,999	$508
$60,000 - $79,999	$512
$80,000 - $99,999	$514
$100,000 - $119,999	$516
$120,000 and above	$514
NOTE: Owner occupied natural gas monthly cost: AHS—Kansas City (1995), at Table 3-13 Renter-occupied natural gas monthly cost: AHS—Kansas City (1995), at Table 4-13. Owner occupied units by income: AHS—Kansas City (1995), at Table 3-18. Renter occupied units by income: AHS—Kansas City (1995), at Table 4-18.	

Schedule RDC-R4

Natural Gas Consumption and Consumption Indicators
(by Income)

	Total	Less than $10,000	$10,000 - $24,999	$25,000 - $49,999	$50,000 or more	Below Poverty
Avg Sp Htg Btu Consumption per HH	66.9	56.6	61.5	67.4	75.5	55.3
Space Heating Intensity	7.919	11.327	9.903	7.627	6.422	10.704
Heated Square Footage per Household	1,747	1,143	1,343	1,746	2,360	1,192

SOURCE:

Energy Information Administration (1999). A Look at Residential Energy Consumption in 1997, at Table CE2-3c, Space Heating Energy Consumption in U.S. Households by Household Income, 1997.

Schedule RDC-R5

Fuel Use by Zip Code
37 Zip Codes Designated "Low-Income"
by Philip Thompson
Percent Using Fuel

Zip Code	Natural Gas	LPG/FO-Kero	Electricity
64106	71%	4%	24%
64109	84%	2%	13%
64120	98%	0%	2%
64124	93%	1%	6%
64126	96%	1%	3%
64127	94%	1%	5%
64128	92%	1%	6%
64130	91%	1%	8%
64501	91%	1%	6%
64744	60%	19%	6%
64748	58%	17%	12%
64756	29%	29%	7%
64784	33%	33%	9%
64831	28%	35%	9%
64835	68%	6%	22%
64843	45%	19%	15%
64844	48%	21%	10%
64847	39%	31%	9%
64854	49%	14%	20%
64862	54%	14%	15%
64863	24%	32%	23%
64865	33%	23%	14%
64870	88%	3%	7%
64873	9%	36%	6%
65230	56%	12%	4%
65349	75%	15%	3%
65360	77%	6%	9%
65605	57%	15%	13%
65623	38%	44%	6%
65625	40%	17%	21%
65647	21%	31%	10%
65657	0%	20%	6%
65661	50%	10%	29%
65682	25%	45%	6%
65734	34%	27%	10%
65785	21%	33%	23%
65802	83%	3%	12%

Schedule RDC-R6

Average Income by Hypothetical Area Codes			
	Zip Code 1	**Zip Code 2**	**Zip Code 3**
Customer 1	**$100,000**	**$32,000**	**$50,000**
Customer 2	**$6,000**	**$28,000**	**$21,000**
Customer 3	**$4,000**	**$30,000**	**$15,000**
Average for Zip Code	**$36,667**	**$30,000**	**$28,667**

Schedule RDC-R7

ZIP	Income-Based Average	Actual Average	Difference (ccf)	Difference (pct)
64844	72.5	105.4	-32.9	-31.2%
64109	73.0	104.7	-31.7	-30.2%
64128	72.5	100.9	-28.4	-28.2%
64130	71.6	94.8	-23.2	-24.5%
64501	72.5	95.3	-22.8	-23.9%
64124	71.9	88.3	-16.4	-18.5%
64127	73.2	89.5	-16.3	-18.2%
65349	73.0	85.3	-12.3	-14.4%
64120	77.7	83.7	-6.0	-7.2%
64126	72.2	77.0	-4.8	-6.3%
64784	74.6	74.8	-0.2	-0.3%
65802	71.7	71.9	-0.2	-0.2%
65230	77.8	77.3	0.5	0.6%
65682	72.5	68.3	4.2	6.1%
64748	75.4	69.7	5.7	8.1%
64862	73.2	66.0	7.2	10.9%
64870	71.9	64.8	7.1	11.0%
65360	72.8	64.9	7.9	12.1%
64835	73.2	63.5	9.7	15.3%
65605	71.8	61.7	10.1	16.3%
64744	72.1	61.3	10.8	17.7%
65661	74.0	62.2	11.8	19.0%
65734	72.8	60.9	11.9	19.5%
64865	72.0	59.5	12.5	21.0%
64756	76.6	62.7	13.9	22.2%
64873	74.7	61.0	13.7	22.4%
64831	72.4	56.1	16.3	29.1%
64863	75.7	57.7	18.0	31.1%
65625	72.4	53.7	18.7	34.7%
65785	72.9	53.9	19.0	35.2%
64843	73.8	53.6	20.2	37.6%
65623	76.6	54.4	22.2	40.8%
65647	73.7	52.0	21.7	41.7%
64106	74.9	51.8	23.1	44.5%
64854	73.9	50.3	23.6	47.0%
64847	78.7	49.3	29.4	59.5%
65657	87.1	44.8	42.3	94.5%

Schedule RDC-R8

Payment Troubles of Pennsylvania Natural Gas and Electric Utilities 1993 – 1995						
	Electric Utilities (statewide average)			Natural Gas Utilities (statewide average)		
	1993	1994	1995	1993	1994	1995
Percent of Customers in Debt	19.3%	18.8%	18.5%	15.8%	16.9%	16.9%
Amount of money at risk	$273,072,149	$273,318,332	$261,503,591	$333,518,285	$355,897,800	$345,389,376
Weighted "bills behind" statistic	3.8	4.1	4.2	3.8	4.5	4.8
Gross Billings Written Off	1.74%	1.72%	1.72%	2.24%	2.29%	2.72%
SOURCE: Bureau of Consumer Services, Pennsylvania Public Utility Commission, 1995 Consumer Activity Report (July 1996).						