



**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

**CASE NO. 2005-00042**

**AN ADJUSTMENT OF THE GAS RATES OF THE  
UNION LIGHT, HEAT AND POWER COMPANY**

**TESTIMONY OF**  
**DAVID H. BROWN KINLOCH**

On Behalf of

**THE OFFICE OF THE ATTORNEY GENERAL  
FOR THE COMMONWEALTH OF KENTUCKY**

**JUNE 2005**

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COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

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In the Matter of:

AN ADJUSTMENT OF THE GAS	)	
RATES OF THE UNION LIGHT,	)	CASE NO. 2005-00042
HEAT AND POWER COMPANY	)	

TESTIMONY OF DAVID H. BROWN KINLOCH

Q1: PLEASE STATE YOUR NAME AND ADDRESS.

A1: My name is David H. Brown Kinloch and my business address is Soft Energy Associates, 414 S. Wenzel Street, Louisville, KY 40204.

Q2: FOR WHOM HAVE YOU PREPARED TESTIMONY?

A2: I have prepared this testimony for the Office of the Attorney General for the Commonwealth of Kentucky.

Q3: PLEASE STATE YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND.

A3: I have received two master's degrees from Rensselaer Polytechnic Institute (RPI) in Troy, New York. I also received two undergraduate degrees from the same

1 school. My master's degrees are a Master of Engineering in Mechanical  
2 Engineering and a Master of Science in Science, Technology and Values,  
3 received in 1979 and 1981 respectively. My undergraduate degrees are in  
4 Mechanical Engineering and Philosophy. Much of my master's work included  
5 preparing Electric Generation Planning studies for the Center for Technology  
6 Assessment at Rensselaer. From this work I published two technical papers with  
7 IEEE Power Generation Division, and was a contributing author on two others. I  
8 also did work on New York State's first Energy Masterplan, one of the first  
9 comprehensive long-term planning studies in the nation.

10  
11 Q4: HAVE YOU PREVIOUSLY PRESENTED TESTIMONY BEFORE THIS  
12 COMMISSION?

13 A4: Yes, I testified in the numerous cases before this Commission. These cases  
14 include rate cases, Certificate of Convenience and Public Necessity cases,  
15 generation expansion planning cases, and other cases related to regulated utilities.  
16 A list of the cases in which I have presented testimony before this Commission is  
17 contained in Exhibit DHBK-1.

18  
19 Q5: WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS CASE?

20 A5: The Office of the Attorney General asked me to review the application to adjust  
21 the gas rates filed by Union Light, Heat and Power (ULH&P) in this case.  
22 Specifically, I have reviewed the Cost of Service and Rate Design portion of the  
23 application. In my testimony, I will point out problems with the ULH&P

1 application in four specific areas: 1) the Cost of Service Study and allocation of  
2 any rate increase to rate classes, 2) the proposed monthly customer charges,  
3 3) the proposed increase in the bad check and reconnection charges, and  
4 4) the proposed use of the AMRP tariff rider in the future.

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7 **COST OF SERVICE STUDY**

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9 Q6: IN SUPPORT OF ULH&P'S APPLICATION TO ADJUST GAS RATES, THE  
10 COMPANY FILED A COST OF SERVICE STUDY BASED ON A  
11 FORECASTED TEST YEAR ENDING SEPTEMBER 30, 2006. DO YOU SEE  
12 ANY PROBLEMS WITH THIS COST OF SERVICE STUDY FILED BY  
13 ULH&P?

14 A6: Yes. While the Cost of Service Study filed in this case is similar to the one  
15 ULH&P filed in its last gas rate case, Case No. 2001-092, this study is based on a  
16 forecasted test year while the previous study was based on a historic test year.  
17 The Cost of Service Study filed in this case used inputs from a historic test year,  
18 the forecasted test year, and combined historic and forecasted data.

19 There are three specific problems that I found that need to be corrected.

20 The first two, which are both related to sales volumes and demands that impact  
21 how costs are allocated between rate classes (1) are the way that ULH&P  
22 performed the weather normalization, and (2) the forecast for future Firm

1 Transportation sales volumes. The other problem is in the way that Regulator  
2 costs were allocated between rate classes.

3

4 Q7: THE FIRST PROBLEM YOU MENTIONED WAS WITH THE WAY ULH&P  
5 PERFORMED THE WEATHER NORMALIZATION. WHAT IS WRONG  
6 WITH THE WAY THAT ULH&P IMPLEMENTED THE WEATHER  
7 NORMALIZATION?

8 A7: Instead of correcting gas volumes using the standard NOAA 30-year  
9 normalization basis, Mr. Riddle proposes use of a normalization figure based on  
10 just a 10-year average for the years 1990-1999. He calculates this 10-year normal  
11 to be 4,950 Heating Degree Days (HDD) for Covington, Kentucky. He argues  
12 that average winter temperatures have increased in the last decade and that a  
13 shorter 10-year normalization period is a better predictor for future weather than  
14 the standard NOAA 30-year normal. He claims the NOAA 30-year normal is  
15 5,200 HDD for Covington.

16

17 Q8: DO YOU AGREE THAT A 10-YEAR AVERAGING PERIOD IS A BETTER  
18 PREDICTOR OF FUTURE WEATHER THAN THE STANDARD 30-YEAR  
19 PERIOD?

20 A8: No. There are numerous problems with Mr. Riddle's reasoning and methodology.  
21 The first problem is that Mr. Riddle relied on incorrect data. It appears that both  
22 Mr. Riddle's 10-year calculation of 4,950 HDD for 1990-1999 and this 30-year  
23 NOAA normal of 5,200 HDD were based on preliminary data issued December 1,

1           2001. In February 2002, the National Climatic Data Center (NCDC) released  
2           revised HDD data that affected “First-Order” stations, which includes the Greater  
3           Cincinnati – Covington station. This revised release re-calculated each of the last  
4           30 years’ HDD based on a more accurate methodology. The resulting Covington  
5           30-year normal for 1971-2000 is 5,148 HDD, instead of the preliminary 5,200  
6           HDD that Mr. Riddle used. A copy of the portion of the revised NCDC  
7           publication that includes Covington, Kentucky is attached in Exhibit DHBK-2.  
8           An explanation of the more accurate revised NCDC degree day methodology used  
9           for the Covington data is attached in Exhibit DHBK-3. I confirmed with NCDC  
10          that the preliminary report that Mr. Riddle used contains inaccurate HDD figures  
11          for First-Order stations including Covington and that the revised report released in  
12          February 2002 should be used.

13                 Had Mr. Riddle used the revised and more accurate 1971-2000 HDD  
14          normal for Covington, he would have realized that the 30-year normal of 5148  
15          was not that far from recent weather experienced. On page 8 of his testimony,  
16          Mr. Riddle refers to his Attachment JAR-4 to show that seven out of the last ten  
17          years has HDDs below the 1971-2000 30-year normal. I have reworked his  
18          attachment in Exhibit DHBK-4 using the revised 5,148 HDD normal. Using the  
19          correct 30-year normal shows that of the last 10 years, 5 were below the 30-year  
20          normal and 5 were above the 30-year normal. Thus, the most recent 10 years did  
21          not have a majority of years below the 30-year normal, but instead, were evenly  
22          distributed above and below the revised 30-year normal.

1           It should be noted that Mr. Riddle used a mix of the inaccurate preliminary  
2           December 2001 HDD data and the revised February 2002 data. While his  
3           Attachment JAR-1, page 2 of 2, is the preliminary data and the 4,950 HDD 10-  
4           year average is based on the preliminary data, Attachments JAR-2, 3, 4, and 5 all  
5           use the corrected revised data.

6

7   Q9:   IN ADDITION TO ULH&P'S USE OF INACCURATE WEATHER DATA,  
8           ARE THERE PROBLEMS WITH THE METHODOLOGY THAT WAS USED?

9   A9:   Yes. While I believe that Exhibit DHBK-4 shows that recent year HDDs are not  
10          out of line with the 30-year normal and the use of a 10-year normal period is not  
11          justified, the use of a short period, such as 10 years, creates unnecessary  
12          problems. When a short period is used there are fewer data points included in the  
13          average. As a result, one single year that is far from the norm can have a  
14          significant impact on the results. Just moving this period forward or backward a  
15          few years can produce very different results. This problem creates the possibility  
16          of shopping for the 10-year period that produces the best results.

17                The ULH&P proposed 10-year period suffers from this problem. Instead  
18                of selecting the 10-year period that lined up with the NCDC publication period of  
19                1971-2000 (thus using 1991-2000) or using the 10 most recent years, as Mr.  
20                Riddle did in his Attachments JAR-3, 4, and 5, he selected the 10-year period of  
21                1990-1999. In Exhibit DHBK-5, I have calculated 10-year normals for nine  
22                periods, including the three years before the period used by Mr. Riddle, up  
23                through the most recent 10 years. As it turns out, of the 9 periods examined, Mr.



1 Riddle selected the period that produced the lowest number of heating degree  
2 days. In fact, the 1990-1999 period produces HDD results significantly lower  
3 than any of the other periods. All of the other possible 10-year periods are closer  
4 to the 1971-2000 30-year normal than the one selected by Mr. Riddle.

5 It should be noted that the Commission had this same concern with the 10-  
6 year normal period proposed by ULH&P in its last rate case. On pages 14 and 15  
7 of the Commission's Rehearing Order in Case No. 2001-00092, the Commission  
8 rejected ULH&P's 10-year methodology specifically because the use of short  
9 periods can produce very different results depending on which years are included.  
10 Again in this case, ULH&P has demonstrated the problem, caused by use of a  
11 short normal period by selecting the period that would benefit the Company the  
12 most.

13

14 Q10: MR. RIDDLE PROVIDED A SPEECH MADE BY DR. KARL OF NOAA IN  
15 SUPPORT OF USING A 10-YEAR NORMALIZATION PERIOD. HAS NOAA  
16 ADOPTED THE USE OF A 10-YEAR NORMALIZATION PERIOD?

17 A10: No. In the comments made by Dr. Karl in the speech provided by Mr. Riddle, Dr.  
18 Karl states that in response to requests, NOAA was now providing the data that  
19 would allow users to construct normalization periods of a length different from  
20 the 30-year normal that NOAA and NCDC provide. Dr. Karl, NOAA, and NCDC  
21 have never endorsed the use of a 10-year normalization period or any period other  
22 than 30 years. In fact all Heating Degree Data normals provided by NOAA and  
23 NCDC are for 30-year periods.

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Q11: WHAT IS YOUR RECOMMENDATION WITH RESPECT TO WEATHER NORMALIZATION IN THIS CASE?

A11: I recommend that the Commission continue its past policy of using a standard 30-year normalization period. ULH&P has presented no evidence that would justify using a normalization period other than 30 years. In previous cases, the Commission has requested the use of the 30 most recent years in the normalization. In Exhibit DHBK-5, I have calculated the 30-year normal for Covington using the most recent 30 years of data. The result is 5,133 HDD. I have used this 30-year normal figure to correct the gas volumes and demands in the Cost of Service Study. I have also provided this figure to Mr. Henkes, for use in calculating the revenue implications of corrected normalized sales volumes.

Q12: THE OTHER PROBLEM YOU MENTIONED THAT AFFECTS THE GAS VOLUMES AND DEMANDS USED IN THE COST OF SERVICE STUDY IS THE VOLUMES FORECASTED BY ULH&P FOR THE FIRM TRANSPORTATION CLASS. WHAT IS THE PROBLEM WITH THESE FORECASTED VOLUMES?

A12: In this case, ULH&P uses a forecasted test year instead of a historic test year. This requires that revenues and costs be forecast for a period in the future. In this case, the forecast period is the year ending September 30, 2006, which uses the historic test year ending October 31, 2004 as a starting point. ULH&P forecasts

1 that Firm Transportation gas volumes will decline 26.6% in the 23 months  
2 between the actual historic test year and the forecast test year.

3 In the Attorney General's First Data Request, Question 130, and in the  
4 Attorney General's Second Data Request, Question 49, ULH&P was asked to  
5 explain why Firm Transportation (FT) volumes were projected to decline so  
6 significantly. Two reason were given by ULH&P. First, ULH&P is projecting  
7 the loss of 3 customers in this 2 year period, from 54 FT customers to 51.  
8 Second, ULH&P is projecting a 24% increase in gas costs in the next two years,  
9 which it projects will decrease sales by 20%. Combining these two factors would  
10 result in a decrease in FT volumes of 26.6% over two years.

11

12 Q13: DO YOU AGREE WITH ULH&P'S PROJECTED DECLINE IN FIRM  
13 TRANSPORTATION VOLUMES?

14 A13: No. The ULH&P forecast of a steep decline in Firm Transportation volumes  
15 stands in stark contrast to what the FT class has actually experienced in recent  
16 years. With respect to the number of FT customers, while ULH&P has projected  
17 the loss 3 FT customers, since the historic test year ULH&P has actually gained 3  
18 FT customers, from 54 to the current level of 57 customers. Clearly, the ULH&P  
19 forecast is out of touch with the actual experience of the FT class.

20 ULH&P's forecast of a 20% reduction in FT volumes due to gas cost  
21 increases also does not square with actual experience with the FT class. In  
22 Exhibit DHBK-6, I have shown the year-to-year growth rates of gas volumes for  
23 the FT class for the five most recent years of data. In this exhibit, I have also

1 shown the increases in gas prices for the same years. This exhibit shows that  
2 while gas prices increased over 63% between 2002 and 2003, instead of FT  
3 volumes decreasing as ULH&P predicts, FT volumes actually increased over 15%  
4 during this period. Also, when gas prices decreased about 14% between 2001 and  
5 2002, FT volumes declined over 15% instead of increasing as the ULH&P model  
6 would predict. It doesn't appear that FT volumes are responding to gas pricing as  
7 ULH&P suggests.

8 A much better explanation for how FT volumes have increased and  
9 decreased is that the FT class is simply responding to economic conditions.  
10 Looking at Exhibit DHBK-6, FT volumes declined in 2002, when our nation was  
11 in a recession. As we have come out of the recession, FT volumes grew by over  
12 15% in 2003 and by over 9% in 2004.

13  
14 Q14: WHAT DATA DID ULH&P USE AS A BASIS FOR PROJECTING A  
15 DECLINE IN FT VOLUMES?

16 A14: In ULH&P's response to the Attorney General's First Data Request, Question  
17 130, Attachment page 1 of 2, the decrease in Industrial volumes between 2001  
18 and 2002 is used as the reference data. But the drop in volumes referenced were  
19 during the recession. Since then FT volumes have grown by 15% and 9% in 2003  
20 and 2004, respectively.

21 Since the economy is growing now and is projected to continue growing  
22 as least in the near future, the ULH&P projection of a decline in FT volumes is  
23 out of touch with what is actually being experienced by the FT class. ULH&P has

1 provided no evidence in this case that indicates that FT volumes will decline in  
2 the next year and a half. To the contrary, FT growth in volume in the two most  
3 recent years since the end of the recession indicates that FT volumes will instead  
4 grow, not decline.

5 Q15: WHAT FIRM TRANSPORTATION VOLUMES DO YOU PROJECT FOR THE  
6 FORECAST TEST YEAR, BASED ON THE GROWTH THAT THE FT CLASS  
7 IS EXPERIENCING?

8 A15: I have calculated the projected growth in FT volumes between the actual volumes  
9 in the historic year and the forecast test year. In Exhibit DHBK-7, I have  
10 calculated the size of the weather normalization necessary to correct the historic  
11 test year FT volumes to weather normalized volumes based on a 5,133 HDD 30-  
12 year normal. This correction factor was then transferred to Exhibit DHBK-8,  
13 where the most recent growth rate of 9.08% was applied to the 23 months  
14 between the historic and forecast test years. The corrected FT volume was then  
15 used in the Cost of Service Study to calculate corrected allocation factors for  
16 volumes and demands.

17 I have also taken the results of Exhibit DHBK-8, and calculated the  
18 revenue impacts due to this difference in FT volumes in Exhibit DHBK-9. For  
19 this calculation, I have assumed the number of FT customers at the end of the  
20 historic test year, 55 customers. The results of Exhibit DHBK-9 were supplied to  
21 Mr. Henkes, to be used in the calculation of revenue requirements.

22

1 Q16: HOW DID YOU INCLUDE THE REVISED GAS VOLUMES BY RATE  
2 CLASS INTO THE COST OF SERVICE STUDY?

3 A16: Once the volumes and associated demands were corrected based on corrected  
4 weather normalization and Firm Transportation growth, I included these figures  
5 into ULH&P's calculation of the "Peak & Average – Peak Day" allocator  
6 calculation. This has been done in the calculations included in Exhibit DHBK-10.

7

8 Q17: THE OTHER ALLOCATOR IN THE COST OF SERVICE STUDY THAT YOU  
9 SUGGESTED HAD A PROBLEM WAS THE ALLOCATION OF  
10 REGULATOR COSTS. WHAT IS THE PROBLEM WITH THIS  
11 ALLOCATOR?

12 A17: ULH&P used a complex weighting methodology to develop the allocator for  
13 Regulators. This was done in WPFR-9v, page 14 of 31. The result of this  
14 exercise was to allocate residential customers over 68% of the costs, when actual  
15 residential costs in this workpaper show that residential customers only account  
16 for less than 54% of the costs. The problem arises because there are only 52,559  
17 residential regulators, yet regulators are being charged to 83,852 residential  
18 customers.

19 Allocation and a weighting system are necessary for commercial and  
20 industrial customers because they are a part of three difference rate classes. By  
21 contrast, residential customers are only in one rate class, and the regulator cost for  
22 this class is known and needs no allocation to other classes. In Exhibit DHBK-11,  
23 I have solved this problem with the ULH&P calculations by directly assigning

1 residential regulator costs, then I used a weighting allocation methodology to  
2 allocate the commercial and industrial regulator costs.

3

4 Q18: HOW HAVE YOU INTEGRATED THESE CORRECTED ALLOCATORS  
5 INTO THE COST OF SERVICE STUDY?

6 A18: As a starting point, I have used the ULH&P Cost of Service Study and then  
7 corrected the problems I have found. This will allow the Commission to make an  
8 “apples to apples” comparison of my results and the Company’s. It is important  
9 to note that to accomplish this comparison, I must use most of the figures  
10 assumed in the ULH&P study. This does not mean that I am endorsing the  
11 expense adjustment and revenue requirement proposed by the Company. Instead,  
12 I endorse the adjustments and revenue requirements sponsored by Mr. Henkes,  
13 but am only using the Company’s figures in the Cost of Service Study to allow a  
14 comparison of my study to the ULH&P study.

15 In Exhibit DHBK- 12, I have summarized the changes I have made to the  
16 volume, demand, and regulator allocators. As can be seen in this exhibit, all other  
17 allocators have not been changed and are the same as in the Company’s study.  
18 The only other change I have made is to the class revenues to reflect the proposed  
19 changes in gas volumes.

20 The allocators summarized in Exhibit DHBK-12 were integrated in the  
21 Cost of Service Study filed by ULH&P in this case. The result is a corrected Cost  
22 of Service Study that can be found in Exhibit DHBK-13.

23

1 Q19: WHAT ARE THE RESULTS OF YOUR STUDY, AND HOW DO THESE  
2 RESULTS DIFFER FROM THE ULH&P RESULTS?

3 A19: To view and compare the results of my Cost of Service Study, I have produced a  
4 summary exhibit similar to Mr. Ochsner's Attachment PFO-1. My results, based  
5 on the corrected Cost of Service Study, are summarized in Exhibit DHBK-14.  
6 While I have used the same summary tables to offer the Commission a  
7 comparison of the two studies, this does not mean that I accept Mr. Ochsner's  
8 methodology to allocate the rate increase between classes. To the contrary, I have  
9 significant concerns with his methodology and do not accept it.

10

11 Q20: WHAT ARE YOUR CONCERNS ABOUT THE ULH&P ALLOCATION  
12 METHODOLOGY, AND WHY DO YOU NOT ACCEPT IT?

13 A20: The results of the ULH&P methodology are not reasonable or fair. While the  
14 Residential class makes up only 65% of present revenues, the ULH&P  
15 methodology would assign over 90% of the increase to this class.

16 The problem is the design of the methodology. The starting point for the  
17 allocation is not present revenues, but capitalization. This starting point assigns it  
18 over 72% of the increase to the Residential class, instead of the 65% of present  
19 revenues. On top of this, ULH&P proposes to add half of a calculated subsidy  
20 based on the proposed rate of return. The result is to assign this one class over  
21 90% of the proposed increase.

22 To illustrate the problem of this proposed methodology, if the Residential  
23 class was assigned 100% of the UHL&P calculated subsidy, this class would be



1 assigned about 120% of the total rate increase. The ULH&P proposed increase  
 2 allocation methodology is neither fair nor reasonable.

3 In Exhibit DHBK-15 I have put forth a revenue increase allocation  
 4 methodology which is more fair and reasonable. As a starting point, I propose  
 5 allocating the rate increase to the classes in proportion to present revenues. I also  
 6 believe that from this point, it makes sense to move class returns closer based on  
 7 the results of the Cost of Service Study.

8 The other extreme would be to assign the entire rate increase to the classes  
 9 with present returns below the allowed rate of return. This would assign the  
 10 entire increase to just the Residential and Interruptible Transportation classes.

11 What I am proposing is to move the two classes with returns below the  
 12 overall return one-third of the way from an allocation proportional to the present  
 13 revenues to the extreme of these classes taking the entire increase. I used a  
 14 movement of one-third since this is the same movement that ULH&P is proposing  
 15 for the monthly customer charges. The results are listed below in terms of percent  
 16 of the total increase approved by the Commission:

17

18		Present	Below	AG
19	<u>CLASS</u>	<u>Revenues</u>	<u>ROR</u>	<u>Recommendation</u>
20	Residential	65.0%	98.9%	76.3%
21	General Service	31.9%	0%	21.3%
22	Firm Transportation	2.3%	0%	1.5%
23	Interruptible Transportation	0.7%	1.1%	0.9%

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10 **MONTHLY CUSTOMER CHARGE**

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Q21: ULH&P HAS TAKEN THE RESULTS OF ITS COST OF SERVICE STUDY AND THEN BROKEN THE COSTS DOWN INTO THEIR FUNCTIONAL COMPONENTS. FROM THIS FUNCTIONALIZATION, COSTS HAVE BEEN ANALYZED TO CALCULATE A MONTHLY CUSTOMER CHARGE FOR EACH CLASS. DO YOU AGREE WITH HIS METHODOLOGY?

17

18

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21

A21: The methodology employed by ULH&P is rather unorthodox, since the functionalization of costs is usually the first step in constructing a Cost of Service Study. By doing these steps backwards, it makes it difficult to track the source of expenses. Though I have questions about this unconventional approach, I have used it to make my analysis consistent with the Company's analysis.

22

23

My major concern about the calculation monthly customer charges is the costs that ULH&P has included in its calculation. I disagree with ULH&P with

1 respect to which expenses should be collected through the fixed monthly  
2 customer charge. The Company proposes to collect all costs that were labeled as  
3 customer related in the Cost of Service Study through the monthly customer  
4 charge. The problem with this argument is that there are some costs that are given  
5 the “customer” label that actually should be collected on a commodity basis for  
6 each customer class. A good example is Uncollectibles. The NARUC Gas  
7 Distribution Rate Design Manual identifies this cost as one that is much more  
8 likely to vary with the amount of gas sold as opposed to varying with the number  
9 of customers. It should be collected from customers as part of a commodity  
10 charge, even though it is labeled as a customer account.

11

12 Q22: WHAT COSTS ARE PROPERLY COLLECTED WITH A MONTHLY  
13 CUSTOMER CHARGE?

14 A22: In the NARUC Gas Distribution Rate Design Manual, on page 12, the manual  
15 states:

16

17 “The basis for the customer charge is that there are certain  
18 fixed costs that each customer should bear whether any gas  
19 is used at all. Examples of such costs are those associated  
20 with a service line, a regulator and a meter, recurring meter  
21 reading expenses, and administrative costs of servicing the  
22 account.”

23

24 Like Uncollectibles, distribution mains is another cost that is given the  
25 “customer” label but clearly does not fit the NARUC description of an appropriate  
26 cost to be collected through the monthly charge. ULH&P has included mains in

1 its calculation of the charge level and it should not be included. In Exhibit  
 2 DHBK-16, I have added my Cost of Service Study results to ULH&P's class  
 3 functionalization for the Residential class.

4 The functional costs associated with the Residential monthly customer  
 5 charge were then transferred to Exhibit DHBK-17. In this exhibit, the Residential  
 6 customer costs are calculated to be \$15.29 per month. As ULH&P has proposed,  
 7 I accept the concept of moving the customer charge one-third of the way between  
 8 the current charge and the calculated cost, to conform to the Commission's policy  
 9 of continuity and gradualism. The current charge is \$8.30 for the Residential  
 10 class. Moving the charge one-third toward the calculated cost results in a  
 11 proposed Residential Monthly Customer Charge of \$10.63 per month.

12

13 Q23: HOW DOES YOUR PROPOSED RESIDENTIAL MONTHLY CUSTOMER  
 14 CHARGE COMPARE TO THE CHARGES OF OTHER GAS UTILITIES?

15 A23: The table below compares ULH&P's current and proposed charge to other  
 16 utilities:

17

18	Atmos	\$7.50
19	Columbia	\$6.95
20	Delta	\$9.80
21	Equitable	\$7.50
22	LG&E	\$8.50
23		
24	ULH&P – Current	\$8.30
25	ULH&P - Company Proposal	\$15.00
26	ULH&P - AG Proposal	\$10.63

27

1           The charge of \$10.63 per month that I have proposed would be the highest  
 2           of any major gas utility in the Commonwealth. Still, this charge would not be  
 3           significantly larger than what other utilities are charging. By contrast, the  
 4           ULH&P proposed charge would be substantially larger than the charges of other  
 5           utilities, in some cases nearly double. The ULH&P proposed increase of over  
 6           80% would also contradict the Commission’s policy of continuity and gradualism.  
 7           I recommend that the Commission limit any increase in Residential Monthly  
 8           Customer Charge to a maximum charge of \$10.63 per month.

9

10   Q24: WHAT IS YOUR RECOMMENDATION FOR A MONTHLY CUSTOMER  
 11       CHARGE FOR THE GENERAL SERVICE CLASS?

12   A24: In the same manner, I have functionalized the General Service costs from the Cost  
 13       of Service Study in Exhibit DHBK-18. The customer charge costs from this  
 14       exhibit were used in Exhibit DHBK-19 to calculate a Monthly Customer Charge  
 15       for the General Service class, using the same methodology that was used for the  
 16       Residential class. The results of those calculations are a recommended customer  
 17       charge of \$22.84 per month. The table below compares this proposal to the  
 18       charges of other gas utilities in the state for General Service customers:

19

20	Atmos	\$20.00
21	Columbia	\$18.88
22	Delta	\$20.00
23	Equitable	\$7.50
24	LG&E	\$16.50
25		
26	ULH&P – Current	\$15.35

1	ULH&P - AG Proposal	\$22.84
2	ULH&P - Company Proposal	\$38.50

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**MISCELLANEOUS CHARGES**

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Q25: ULH&P HAS PROPOSED TO INCREASE ITS BAD CHECK CHARGE OVER

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80%, FROM \$11.00 TO \$20.00. WHAT JUSTIFICATION DOES THE

19

COMPANY GIVE FOR THIS PROPOSED INCREASE?

20

A25: ULH&P has proposed to almost double its Bad Check charge to make it “more

21

consistent with the bad check fees imposed by other businesses such as banks and

22

retailers”. The Company goes on to say that some customers might be more

23

inclined to write a bad check to it as opposed to other businesses with higher fees.

1           It is hard to conceive that customers would shop around to find the lowest  
2           Bad Check fees before writing a bad check to any particular company.

3           Further, when ULH&P was requested to provide its costs of processing  
4           bad checks in the Attorney General's Second Data Request, Question 52, the  
5           Company responded that it "has not performed a study of the costs associated  
6           with processing bad checks." Thus the cost associated with processing bad  
7           checks by ULH&P is unknown, and as such, ULH&P has not put forward  
8           evidence necessary to judge whether its proposed increase is fair, just and  
9           reasonable. Simply comparing a proposed charge to what retailers are charging  
10          gives us no information on the cost of this operation for ULH&P. The  
11          Commission should reject any change in ULH&P's Bad Check fee since the  
12          Company has failed to produce a cost justification for its proposal.

13

14   Q26:   ULH&P HAS ALSO PROPOSED TO INCREASE THE GAS  
15          RECONNECTION CHARGE BY 67%, FROM \$15.00 TO \$25.00. UNLIKE  
16          THE BAD CHECK CHARGE, THE COMPANY HAS ATTEMPTED TO  
17          QUANTIFY ITS COSTS ASSOCIATED WITH THIS FEE. DO YOU AGREE  
18          WITH THIS STEEP INCREASE IN THE RECONNECTION FEE PROPOSED  
19          BY ULH&P?

20   A26:   No. The Commission needs to keep in mind that the higher the reconnection fees,  
21          the greater the deterrent to quick reconnection. Living in a household without gas  
22          for heat, hot water and cooking can be very hard on a family. Poor families have  
23          a difficult time finding the money both to pay back-balances that lead to the

1 disconnect and to pay the reconnection fee. The larger the Reconnection fee, the  
2 more difficult it is for families to reconnect. Not only does this hurt the families  
3 involved, it also reduces the motivation to pay the past due balances. This can  
4 increase uncollectibles. It is particularly important that the Commission apply its  
5 policy of continuity and gradualism to the Reconnection fee.

6 I recommend that the Reconnection fee be raised by a percentage no  
7 higher than the overall percent rate increase the Commission allows in this case.  
8 In Exhibit DHBK-20, I have applied the Attorney General's recommended overall  
9 rate increase percent to the Reconnection Charge. Based on these calculations, I  
10 am recommending a gas-only Reconnection fee of \$15.41 and a combined  
11 Reconnection fee of \$21.57. I have provided this proposed increase in fees to Mr.  
12 Henkes for his calculation of proposed revenue requirements.

13

14

## 15 AMRP TARIFF RIDER

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17 Q27: IN THIS CASE, COSTS THAT HAVE BEEN COLLECTED WITH THE AMRP  
18 TARIFF RIDER ARE BEING ROLLED INTO BASE RATES. BUT ULH&P  
19 HAS PROPOSED TO BEGIN USING THE AMRP TARIFF RIDER AGAIN  
20 FOR ACCELERATED MAIN REPLACEMENT COSTS THAT ARE  
21 INCURRED AFTER THE END OF THE FORECAST TEST YEAR. DO YOU  
22 AGREE WITH THIS PROPOSAL?



1 A27: No. The Accelerated Main Replacement Program (AMRP) tariff rider is an  
2 means to collect the costs associated with this program outside of a regular rate  
3 case. The use of this rider constitutes single-issue ratemaking, which I believe is  
4 poor policy. The issue was addressed in detail in ULH&P's last gas rate case,  
5 Case No. 2001-00092 and the problems set out then are still problems. While the  
6 Company is adding these new assets, other assets are depreciating that could  
7 offset these new investments. Other costs may decrease, as the cost of debt has  
8 done. Taxes may decrease, as has happened. The decreases in these costs may  
9 offset some or all of the mains replacement costs. When single-issue ratemaking  
10 is allowed, the offsetting cost reductions are not accounted for, and customers  
11 could be overcharged.

12

13 Q28: DIDN'T THE STATE LEGISLATURE RECENTLY PASS A BILL THAT  
14 AUTHORIZES A SEPARATE RIDER FOR THE COLLECTION OF COSTS IN  
15 A PROGRAM LIKE ULH&P'S AMRP?

16 A28: While it is correct that the 2005 Legislature passed HB 440, it is unclear what  
17 impact this statute will actually have. The pertinent language from this bill is:

18

19 "Notwithstanding any other provision of law to the contrary, upon  
20 application by a regulated utility, the commission may allow  
21 recovery of costs for investment in natural gas pipeline replacement  
22 programs which are not recovered in the existing rates of a regulated  
23 utility. No recovery shall be allowed unless the costs shall have been  
24 deemed by the commission to be fair, just, and reasonable."

25

1 I am not a lawyer, but I see differences between the Environmental  
2 Surcharge, KRS 278.183, and HB 440. I have attached a copy of KRS 278.183,  
3 the Environmental Surcharge statute, for comparison as Exhibit DHBK-21.

4 While KRS 278.183 specifically authorizes a separate tariff rider and  
5 states that the utility "shall be entitled" to recovery of environmental costs, HB  
6 440 does not specifically mention a separate rider and the Commission "may"  
7 authorize recovery. Under HB 440, there is no reason to believe that these costs  
8 cannot be recovered in a general rate case so that there is no need for a separate  
9 rider.

10 Another significant difference is that while the Environmental Surcharge  
11 statute specifically authorizes a return or profit to be earned on environmental  
12 investments as a cost to be recovered in the separate tariff, HB 440 only  
13 authorizes the recovery of pipeline costs and provides no authorization for utilities  
14 to earn a return or profit on these investments.

15 It is clear that HB 440 does not authorize the type of tariff rider that  
16 ULH&P has requested in its proposal for future use of the AMRP. The  
17 Commission should reject the use of the proposed or any AMRP rider by ULH&P  
18 in the future.

19

20 Q29: DO YOU HAVE OTHER CONCERNS ABOUT THE AMRP TARIFF RIDER  
21 THAT ULH&P HAS PROPOSED TO USE IN THE FUTURE?

22 A29: Yes. ULH&P has proposed to collect the AMRP rider on a per customer basis for  
23 the Residential and General Service classes. This proposal is in direct

1 contradiction to the results of the Cost of Service Study in this case. The ULH&P  
2 analysis of mains showed that 78% of the mains were demand related and only  
3 22% was customer related. Since the vast majority of main costs are demand  
4 related, AMRP costs should clearly be collected on a demand or commodity basis.  
5 In addition, as I discussed with the Monthly Customer Charge, it is not  
6 appropriate to collect any part of the costs of mains on a customer basis. If an  
7 AMRP rider is eventually authorized, it should only be collected on a commodity,  
8 or per MCF basis.

9

10 Q30: IS IT POSSIBLE FOR ULH&P TO COLLECT THE AMRP RIDER ON A  
11 COMMODITY BASIS FOR THE RESIDENTIAL AND GENERAL SERVICE  
12 CLASSES?

13 A30: Yes. Currently ULH&P is collecting the AMRP charge on a commodity or per  
14 MCF basis for the two transportation classes. There is no reason that ULH&P can  
15 not also collect the rider on a commodity basis for the Residential and General  
16 Service classes.

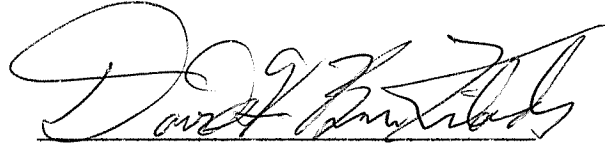
17

18 Q31: DOES THIS CONCLUDE YOUR TESTIMONY?

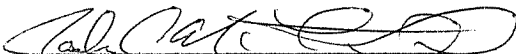
19 A31: Yes it does.

I, David H. Brown Kinloch, certify that the statements contained in the foregoing testimony are true and correct to the best of my knowledge, information, and belief.

Dated this 6th day of June, 2005.

  
David H. Brown Kinloch

Affirmed to and subscribed  
before me, this 6th day  
of June, 2005.

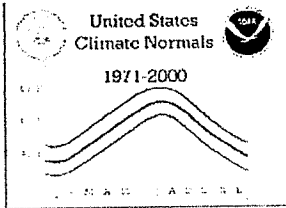
  
Notary Public

My Commission Expires: 4/26/06

Cases in which testimony has been presented by David Brown Kinloch:

Case No. –	Utility -	Case Type
9242 -	Louisville Gas & Electric Co. -	Trimble County 1 power plant
9613 -	Big Rivers Electric Corp. –	Rate Case
9824 –	Louisville Gas & Electric Co. -	Rate Case
9934 -	Louisville Gas & Electric Co. -	Trimble County 1 power plant
10064 –	Louisville Gas & Electric Co. -	Rate Case
10320 -	Louisville Gas & Electric Co. –	25% Disallowance of Trimble County 1 power plant
90-158 –	Louisville Gas & Electric Co. -	Rate Case
91-066 -	Kentucky Power Co. –	Rate Case
91-115 -	Kentucky Utilities -	Certificate of Convenience and Necessity Case
91-370 -	Union Light Heat and Power Co. –	Rate Case
92-112 -	East Kentucky Power -	Certificate of Convenience and Necessity Case
92-219 -	Clark RECC –	Rate Case
92-346 -	Union Light Heat and Power Co. –	Rate Case
93-113 -	Kentucky Utilities -	Coal Litigation Refund Case
93-150 -	Louisville Gas and Electric Co. -	Demand Side Management Case
93-163 -	Big Rivers -	Sale of Peaking Capacity to Hoosier Energy
93-465 -	Kentucky Utilities -	Environmental Surcharge Case
94-332 -	Louisville Gas and Electric Co. -	Environmental Surcharge Case
94-336 -	East Kentucky Power Cooperative –	Rate Case
94-336 –	Pass-through each of East Kentucky Power’s Cooperatives	
95-010 -	Western Kentucky Gas Co. –	Rate Case
96-489 -	Kentucky Power Company -	Environmental Surcharge Case
96-523 -	Kentucky Utilities -	Fuel Adjustment Clause Case
96-524 -	Louisville Gas & Electric Co. -	Fuel Adjustment Clause Case
97-066 -	Delta Natural Gas Co. –	Rate Case
97-204 -	Big Rivers Electric Corp. –	Rate Case
97-209 -	Meade County RECC –	Rate Case
97-219 -	Green River EC –	Rate Case
97-220 -	Henderson Union ECC –	Rate Case
97-224 -	Jackson Purchase ECC –	Rate Case
97-300 -	Louisville Gas and Electric and Kentucky Utilities -	Merger Case
98-321 -	Licking Valley RECC –	Rate Case
2000-056 -	East Kentucky Power -	Certificate of Convenience and Necessity Case
2000-079 -	East Kentucky Power -	Certificate of Convenience and Necessity Case
2000-080 –	Louisville Gas & Electric Co. -	Rate Case
2000-095 -	LG&E Energy and PowerGen -	Merger Case
2000-426 -	Union Light, Heat and Power Co. -	Refund Case
2001-053 -	East Kentucky Power -	Certificate of Convenience and Necessity Case
2002-029 –	LG&E and KU -	Certificate of Convenience and Necessity Case

<b>Case No. –</b>	<b>Utility -</b>	<b>Case Type</b>
2003-00030	- East Kentucky Power	- Certificate of Convenience and Necessity Case
2003-00052	- Union Light, Heat and Power Co.	- Generation Acquisition Case
2003-00165	- Kenergy Corp.	- Rate Case
2003-00433	- Louisville Gas & Electric Co.	- Rate Case
2003-00434	- Kentucky Utilities Co.	- Rate Case
2004-00067	- Delta Natural Gas Co.	- Rate Case
2004-00507	- Louisville Gas & Electric and Kentucky Utilities	- Trimble County 2 power plant



**CLIMATOGRAPHY OF THE UNITED STATES NO. 81**  
**Monthly Normals of Temperature, Precipitation, and Heating and Cooling Degree Days**  
**1971-2000**

**KENTUCKY**

**NOTES**

**Product Description:**

This Climatology includes 1971-2000 normals of monthly and annual maximum, minimum, and mean temperature (degrees F), monthly and annual total precipitation (inches), and heating and cooling degree days (base 65 degrees F). Normals stations include both National Weather Service Cooperative Network and Principal Observation (First-Order) locations in the 50 states, Puerto Rico, the Virgin Islands, and Pacific Islands.

**Abbreviations:**

**No.** = Station Number in State Map  
**COOP ID** = Cooperative Network ID (1:2=State ID, 3:6=Station Index)  
**WBAN ID** = Weather Bureau Army Navy ID, if assigned  
**Elements** = Input Elements (X=Maximum Temperature, N=Minimum Temperature, P=Precipitation)  
**Call** = 3-Letter Station Call Sign, if assigned  
**MAX** = Normal Maximum Temperature (degrees Fahrenheit)  
**MEAN** = Average of MAX and MIN (degrees Fahrenheit)  
**MIN** = Normal Minimum Temperature (degrees Fahrenheit)  
**HDD** = Total Heating Degree Days (base 65 degrees Fahrenheit)  
**CDD** = Total Cooling Degree Days (base 65 degrees Fahrenheit)

**Latitude** = Latitude in degrees, minutes, and hemisphere (N=North, S=South)  
**Longitude** = Longitude in degrees, minutes, and hemisphere (W=West, E=East)  
**Elev** = Elevation in feet above mean sea level  
**Flag 1** = \* if a published *Local Climatological Data* station  
**Flag 2** = + if WMO Fully Qualified (see Note below)

**HIGHEST MEAN/YEAR** = Maximum Mean Monthly Value/Year, 1971-2000  
**MEDIAN** = Median Mean Monthly Value/Year, 1971-2000  
**LOWEST MEAN/YEAR** = Minimum Mean Monthly Value/Year, 1971-2000  
**MAX OBS TIME ADJUSTMENT** = Add to MAX to Get Midnight Obs. Schedule  
**MIN OBS TIME ADJUSTMENT** = Add to MIN to Get Midnight Obs. Schedule

**Note:** In 1989, the World Meteorological Organization (WMO) prescribed standards of data completeness for the 1961-1990 WMO Standard Normals. For full qualification, no more than three consecutive year-month values can be missing for a given month or no more than five overall values can be missing for a given month (out of 30 values). Stations meeting these standards are indicated with a '+' sign in Flag 2. Otherwise, stations are included in the normals if they have at least 10 year-month values for each month and have been active since January 1999 or were a previous normals station.

**Map Legend:** Numbers correspond to 'No.' in Station Inventory; Shaded Circles indicate Temperature and Precipitation Stations, Triangles (Point Up) indicate Precipitation-Only Stations, Triangles (Point Down) indicate Temperature-Only Stations, and Hexagons indicate stations with Flag 1 = \*.

**Computational Procedures:**

A climate normal is defined, by convention, as the arithmetic mean of a climatological element computed over three consecutive decades (WMO, 1989). Ideally, the data record for such a 30-year period should be free of any inconsistencies in observational practices (e.g., changes in station location, instrumentation, time of observation, etc.) and be serially complete (i.e., no missing values). When present, inconsistencies can lead to a non-climatic bias in one period of a station's record relative to another, yielding an "inhomogeneous" data record. Adjustments and estimations can make a climate record "homogeneous" and serially complete, and allow a climate normal to be calculated simply as the average of the 30 monthly values.

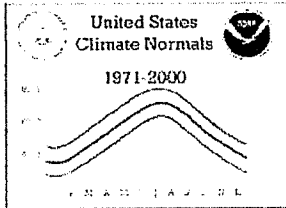
The methodology employed to generate the 1971-2000 normals is not the same as in previous normals, as it addresses inhomogeneity and missing data value problems using several steps. The technique developed by Karl *et al.* (1986) is used to adjust monthly maximum and minimum temperature observations of conterminous U.S. stations to a consistent midnight-to-midnight schedule. All monthly temperature averages and precipitation totals are cross-checked against archived daily observations to ensure internal consistency. Each monthly observation is evaluated using a modified quality control procedure (Peterson *et al.*, 1998), where station observation departures are computed, compared with neighboring stations, and then flagged and estimated where large differences with neighboring values exist. Missing or discarded temperature and precipitation observations are replaced using a weighting function derived from the observed relationship between a candidate's monthly observations and those of up to 20 neighboring stations whose observations are most strongly correlated with the candidate site. For temperature estimates, neighboring stations were selected from the U.S. Historical Climatology Network (USHCN; Karl *et al.* 1990). For precipitation estimates, all available stations were potential neighbors, maximizing station density for estimating the more spatially variable precipitation values.

Peterson and Easterling (1994) and Easterling and Peterson (1995) outline the method for adjusting temperature inhomogeneities. This technique involves comparing the record of the candidate station with a reference series generated from neighboring data. The reference series is reconstructed using a weighted average of first difference observations (the difference from one year to the next) for neighboring stations with the highest correlation with the candidate. The underlying assumption behind this methodology is that temperatures over a region have similar tendencies in variation. If this assumption is violated, the potential discontinuity is evaluated for statistical significance. Where significant discontinuities are detected, the difference in average annual temperatures before and after the inhomogeneity is applied to adjust the mean of the earlier block with the mean of the latter block of data. Such an evaluation requires a minimum of five years between discontinuities. Consequently, if multiple changes occur within five years or if a change occurs very near the end of the normals period (e.g., after 1995), the discontinuity may not be detectable using this methodology.

The monthly normals for maximum and minimum temperature and precipitation are computed simply by averaging the appropriate 30 values from the 1971-2000 record. The monthly average temperature normals are computed by averaging the corresponding monthly maximum and minimum normals. The annual temperature normals are calculated by taking the average of the 12 monthly normals. The annual precipitation and degree day normals are the sum of the 12 monthly normals. Trace precipitation totals are shown as zero. Precipitation totals include rain and the liquid equivalent of frozen and freezing precipitation (e.g., snow, sleet, freezing rain, and hail). For many NWS locations, indicated with an "\*" next to "HDD" and "CDD" in the degree day table, degree day normals are computed directly from daily values for the 1971-2000 period. For all other stations, estimated degree day totals are based on a modification of the rational conversion formula developed by Thom (1966), using daily spline-fit means and standard deviations of average temperature as inputs.

**References:**

Easterling, D.R., and T.C. Peterson, 1995: *A new method for detecting and adjusting for undocumented discontinuities in climatological time series*. *Int'l J. Clim.*, **15**, 369-377.  
 Karl, T.R., C.N. Williams, Jr., P.J. Young, and W.M. Wendland, 1986: *A model to estimate the time of observation bias associated with monthly mean maximum, minimum, and mean temperatures for the United States*. *J. Clim. Appl. Met.*, **25**, 145-160.  
 Peterson, T.C., and D.R. Easterling, 1994: *Creation of homogeneous composite climatological reference series*. *Int'l J. Clim.*, **14**, 671-679.  
 Peterson, T.C., R. Vose, R. Schmoyer, and V. Razuvaev, 1998: *Global Historical Climatology Network (GHCN) quality control of monthly temperature data*. *Int'l J. Clim.*, **18**, 1169-1179.  
 Thom, H.C.S., 1966: *Normal degree days above any base by the universal truncation coefficient*. *Month. Wea. Rev.*, **94**, 461-465.  
 World Meteorological Organization, 1989. *Calculation of Monthly and Annual 30-Year Standard Normals*. WCDP-No. 10, WMO-TD/No. 341, Geneva: World Meteorological Organization.

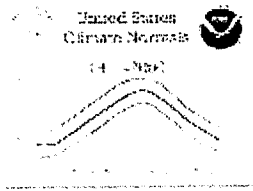


**CLIMATOGRAPHY OF THE UNITED STATES NO. 81**  
Monthly Normals of Temperature, Precipitation, and Heating and Cooling Degree Days  
1971-2000

**KENTUCKY**

No.	Station Name	Element	DEGREE DAYS (Total)												ANNUAL
			JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
003	ASHLAND	HDD	1076	875	684	383	171	27	1	9	77	338	636	940	5217
		CDD	0	0	0	4	69	185	299	254	113	19	0	0	943
004	BARBOURVILLE	HDD	958	757	578	318	136	10	0	2	42	306	557	846	4510
		CDD	0	0	0	6	85	209	331	295	135	34	1	0	1096
005	BARDSTOWN 5 E	HDD	996	768	566	289	117	7	0	5	49	281	558	861	4497
		CDD	0	0	0	9	96	221	341	301	139	29	0	0	1136
006	BARDWELL 2 E	HDD	959	717	505	222	77	2	0	1	30	213	508	833	4067
		CDD	0	0	3	22	139	313	434	371	183	33	2	0	1500
007	BARREN RIVER LAKE	HDD	961	753	549	272	110	6	0	1	33	239	509	823	4256
		CDD	0	0	1	17	127	278	409	364	185	42	2	0	1425
008	BAXTER	HDD	964	772	601	331	140	12	0	3	50	307	574	850	4604
		CDD	0	0	0	4	75	188	310	277	126	25	0	0	1005
009	BEAVER DAM	HDD	973	735	530	250	94	3	0	1	37	240	520	838	4221
		CDD	0	0	1	15	117	272	393	346	172	32	1	0	1349
010	BEREA COLLEGE	HDD	941	727	540	264	108	8	0	4	46	262	518	813	4231
		CDD	0	0	1	14	106	230	334	292	142	29	2	0	1150
012	BERNHEIM FOREST	HDD	967	741	533	265	100	6	0	2	31	236	515	829	4225
		CDD	0	0	1	14	114	255	383	348	174	35	2	0	1326
019	BOWLING GREEN FAA AP	HDD	956	740	535	261	99	4	0	2	40	251	527	828	4243
		CDD	0	0	1	15	122	283	417	366	178	31	0	0	1413
020	BRADFORDSVILLE	HDD	997	789	605	325	139	8	0	3	50	300	567	865	4648
		CDD	0	0	0	6	92	224	354	306	141	27	1	0	1151
028	CAMPBELLSVILLE 2 SSW	HDD	957	737	537	271	114	8	0	3	42	252	518	810	4249
		CDD	0	0	0	9	107	242	352	310	148	33	1	0	1202
032	CARROLLTON LOCK 1	HDD	999	778	579	290	118	7	0	3	33	251	520	854	4432
		CDD	0	0	0	7	103	236	367	331	170	39	1	0	1254
039	CINCINNATI COVINGTON AP	HDD*	1110	881	670	368	130	19	1	3	68	319	626	953	5148
		CDD*	0	0	3	13	73	215	335	282	126	16	1	0	1064
040	CRAB ORCHARD 6 N	HDD	946	761	545	284	130	11	0	5	55	288	533	842	4400
		CDD	0	0	1	10	97	213	312	271	126	24	2	0	1056
043	CYNTHIANA	HDD	1075	861	671	376	162	17	0	5	57	333	615	930	5102
		CDD	0	0	0	5	86	210	328	285	120	21	0	0	1055
044	DANVILLE	HDD	1026	820	627	330	149	17	0	6	52	292	570	887	4776
		CDD	0	0	0	7	97	216	336	303	147	32	0	0	1138
046	DIX DAM	HDD	950	740	550	270	111	4	0	1	33	240	499	810	4208
		CDD	0	0	1	14	115	251	375	337	172	40	1	0	1306
050	EASTERN KENTUCKY UNIV	HDD	1036	820	628	327	136	12	0	5	52	296	567	890	4769
		CDD	0	0	0	6	95	214	338	289	128	24	0	0	1094
052	ELIZABETHTOWN WP 2	HDD	1064	831	653	348	158	10	0	2	41	296	592	902	4897
		CDD	0	0	0	4	71	206	332	302	153	23	0	0	1091
055	FALMOUTH	HDD	1118	881	702	389	179	22	1	11	59	347	632	967	5308
		CDD	0	0	0	4	78	191	305	275	107	14	0	0	974
056	FARMERS 2 S	HDD	1033	829	639	343	144	16	0	6	48	309	573	881	4821
		CDD	0	0	0	8	85	207	328	290	121	25	0	0	1064
061	FRANKFORT LOCK 4	HDD	1077	871	684	377	166	20	0	5	60	327	611	931	5129
		CDD	0	0	0	2	71	189	316	279	118	19	0	0	994
069	GILBERTSVILLE KY DAM	HDD	894	676	465	184	52	1	0	0	14	162	441	773	3662
		CDD	0	0	5	27	171	383	522	469	259	62	6	0	1904
070	GLASGOW	HDD	897	677	479	218	79	3	0	1	28	221	488	771	3862
		CDD	0	0	5	21	141	300	421	375	199	45	2	0	1509
072	GOLDEN POND 8 N	HDD	958	732	517	239	81	3	0	1	28	225	502	823	4109
		CDD	0	0	2	19	127	285	426	371	193	41	1	0	1465
073	GRAY HAWK	HDD	1085	877	710	423	202	34	4	11	86	395	661	960	5448
		CDD	0	0	0	1	48	131	239	203	75	14	0	0	711
074	GRAYSON 3 SW	HDD	1066	870	696	399	183	22	0	9	69	357	631	926	5228
		CDD	0	0	0	2	60	160	282	252	92	17	0	0	865
076	GREENSBURG	HDD	978	771	576	297	118	6	0	2	39	274	543	847	4451
		CDD	0	0	0	11	111	258	392	343	164	32	1	0	1312
078	HARDINSBURG	HDD	1015	764	556	267	101	7	0	2	37	249	543	864	4405
		CDD	0	0	3	15	115	245	365	324	157	32	1	0	1257
083	HEIDELBERG	HDD	1034	832	654	374	166	18	0	6	55	324	597	898	4958
		CDD	0	0	0	3	68	167	292	261	113	18	0	0	922
084	HENDERSON 7 SSW	HDD	1005	771	556	264	98	4	0	2	34	234	531	875	4374
		CDD	0	0	0	15	123	276	389	341	165	34	1	0	1344
087	HODGENVILLE-LINCOLN NP	HDD	964	731	531	265	111	6	0	2	44	256	529	841	4280
		CDD	0	0	0	12	99	224	344	306	153	32	1	0	1171
088	HOPKINSVILLE	HDD	988	766	543	255	93	4	0	1	36	242	517	853	4298
		CDD	0	0	2	23	127	286	410	364	179	40	2	0	1433





## United States Climate Normals, 1971-2000 Degree Day Computation Methodology

National Climatic Data Center/NESDIS/NOAA  
January 15, 2003

The 1971-2000 degree day normals are computed using a new methodology. Previously, degree days were computed using the Thom rational conversion formulae (Thom 1954, 1966). The Thom method allows a monthly degree day total to be estimated from input average temperature means and standard deviations.

For the 1971-2000 normals, degree day totals were computed in *two* distinct ways. For stations that are not first-order National Weather Service locations, the rational conversion formulae developed by Thom (1954, 1966) was *modified* by using inputs of daily spline-fit (rather than monthly) means and standard deviations of average temperature. This modification improved consistency of the estimated degree day totals by eliminating month-by-month 'steps' in the inputs. For first-order stations, where daily data sets are largely devoid of missing values, monthly degree day totals were derived directly from daily values.

### Computation of First-Order Monthly Degree Day Totals:

Based on comments from the climate research community and energy groups, monthly degree day totals were derived directly from daily average temperature values for first-order sites for the 1971-2000 period. Appendix A lists the first-order stations subjected to direct computation. These stations are also identified with an asterisk '\*' in the HDD/CDD section of the monthly normals (CLIM81) PDF publication.

The computation of first-order monthly degree day totals began with the computation of average daily temperatures for the 1971-2000 period (with a precision of 0.5 degree Fahrenheit). Daily HDD/CDD (base 65) values were then computed with a precision of 0.5. The summation of these daily degree day values yielded 360 monthly totals for the 1971-2000 period. From the respective 30 monthly totals for a given month, the preliminary monthly degree day normal was computed using a simple average.

Monthly average temperature normals were computed based on a sequential record adjusted for inhomogeneities (due to changes in station locations, instrumentation, time of observation, surrounding environment, observing practice, sensor drift, *etc.*). Such adjustments yielded a time series and normals representative of the observing practices as of the end of the normals period (*i.e.*, December 2000), since these are the conditions under which future observations will likely be compared. This adjustment was not accounted for in the preliminary monthly degree day normals, so they were subsequently adjusted for compatibility with the monthly average temperatures.

Daily normals of temperature, degree days, and precipitation were interpolating based upon the monthly normals. Each element was interpolated independently using a cubic spline fit function (Greville, 1967). To eliminate discontinuities between December 31 and January 1, the spline interpolation was performed on a series of 24 monthly values (included a repetition of values for the six months preceding and following the twelve monthly values). The resultant smooth curve of daily values for an element averaged or totaled up to the respective monthly normal.

Given the independent computation of each element, adjustments were performed on the daily data to remove spurious inflection points caused by rounding and to ensure adherence to functional relationships among the elements. Adjustments were based upon achieving climatologically reasonable inflection points, daily consistency between elements, monthly consistency between daily and monthly values by element, and close adherence of temperature and degree day values to the formula  $T - 65 + H - C = 0$ , where  $T$  = mean temperature,  $H$  = heating degree days, and  $C$  = cooling degree days. The preliminary degree day normals were adjusted in the context of these consistency checks to arrive at the final degree day normal for a given month.

In limited cases, preliminary degree day normals, when spline fit, resulted in daily values of 1 that were separated from the major rise and fall of non-zero daily degree day values over the course of a heating/cooling degree day season. These spurious daily degree day values are indicated with a '-99' (or an asterisk in non-digital printouts). Their presence assures consistency between the monthly total and the sum of the daily total (when values are considered equal to 1).

An example of the computation of first-order monthly degree day normals is shown in Table 1. The monthly average temperature values for both Buffalo, New York and Erie, Pennsylvania were adjusted for inhomogeneities, with an average adjustment of +0.1 and +1.0 degrees Fahrenheit, respectively. With positive average temperature adjustments, the expected adjustments to the preliminary monthly degree day normals would be downward for HDD and upward for CDD. This is the case here, as the preliminary HDD annual total of 6697 is adjusted downward by a modest 5 degree days to 6692 at Buffalo, while the preliminary CDD annual total of 539 is adjusted upward just 9 degree days to 548. With a larger average temperature adjustment at Erie, the adjustments to the preliminary degree days are more pronounced, from 6402 downward to 6243 for HDD and from 571 upward to 620 for CDD.

In evaluating the degree day adjustments on a month-by-month basis, it should be noted that the magnitude of the average temperature adjustment generally, but not strictly, correlates to the magnitude of the degree day adjustment. The variability is due to the constraint of assuring daily consistency between elements as well as day-to-day consistency within elements in the daily normals.

The computation of degree days for first-order stations for the 1971-2000 normals brings together the benefits of direct computation of values (versus estimation) with the need for degree day totals that are consistent with the homogeneity-adjusted monthly

temperatures. As data sets are refined and improved, there is an expectation that homogeneity adjustments will be performed on the daily data itself, eliminating the two-step process inherent in the present methodology.

**Table 1. Degree Day Computations for Buffalo, NY and Erie, PA.**

Normals Computations, 1971-2000 BUFFALO NIAGARA INTL AP New York COOP: 301012							Normals Computations, 1971-2000 ERIE INTERNATIONAL AP Pennsylvania COOP: 362682						
Heating Degree Days							Heating Degree Days						
Month	UnrdMean	AdjustMean	MeanDiff	Computed	Adjustment	Official	Month	UnrdMean	AdjustMean	MeanDiff	Computed	Adjustment	Official
01	24.4	24.5	-0.1	1257	-1	1256	01	26.1	26.9	0.8	1207	-11	1196
02	25.8	25.9	-0.1	1108	2	1110	02	27.2	28.2	1.0	1069	-23	1046
03	34.2	34.3	-0.1	954	7	961	03	35.4	36.5	1.1	919	-19	900
04	45.3	45.3	0.0	595	-1	594	04	45.6	46.8	1.2	585	-18	567
05	57.2	57.0	0.2	268	0	268	05	56.8	58.1	1.3	285	-25	260
06	66.1	65.8	0.3	66	-1	65	06	66.0	67.4	1.4	75	-17	58
07	71.1	70.8	0.3	9	-1	8	07	70.8	72.1	1.3	13	-9	4
08	69.4	69.1	0.3	22	-1	21	08	69.8	70.9	1.1	18	-3	15
09	61.7	61.5	0.2	150	-1	149	09	63.0	64.0	1.0	123	-7	116
10	50.9	50.7	0.2	440	2	442	10	52.4	53.3	0.9	397	-11	386
11	40.4	40.2	0.2	739	-2	737	11	42.2	42.9	0.7	686	-7	679
12	29.9	29.8	0.1	1089	-8	1081	12	32.0	32.7	0.7	1025	-9	1016
Annual			0.1	6697	-0.4	6692	Annual			1.0	6402	-13.3	6243
Cooling Degree Days							Cooling Degree Days						
Month	UnrdMean	AdjustMean	MeanDiff	Computed	Adjustment	Official	Month	UnrdMean	AdjustMean	MeanDiff	Computed	Adjustment	Official
01	24.4	24.5	-0.1	0	0	0	01	26.1	26.9	0.8	0	0	0
02	25.8	25.9	-0.1	0	0	0	02	27.2	28.2	1.0	0	0	0
03	34.2	34.3	-0.1	0	0	0	03	35.4	36.5	1.1	1	0	1
04	45.3	45.3	0.0	3	1	4	04	45.6	46.8	1.2	5	0	5
05	57.2	57.0	0.2	27	1	28	05	56.8	58.1	1.3	31	-1	30
06	66.1	65.8	0.3	100	1	101	06	66.0	67.4	1.4	106	9	115
07	71.1	70.8	0.3	199	4	203	07	70.8	72.1	1.3	194	14	208
08	69.4	69.1	0.3	156	2	158	08	69.8	70.9	1.1	165	18	183
09	61.7	61.5	0.2	50	0	50	09	63.0	64.0	1.0	63	8	71
10	50.9	50.7	0.2	4	0	4	10	52.4	53.3	0.9	6	1	7
11	40.4	40.2	0.2	0	0	0	11	42.2	42.9	0.7	0	0	0
12	29.9	29.8	0.1	0	0	0	12	32.0	32.7	0.7	0	0	0
Annual			0.1	539	0.8	548	Annual			1.0	571	4.1	620

**References:**

Greville, T.N.E., 1967: "Spline functions, interpolation, and numerical quadrature," *Mathematical Methods for Digital Computers*, Vol. II, A. Ralston and H.S. Wilf (eds.), pp.156-168, Wiley, New York.

Thom, H.C.S., 1954: "The rational relationship between heating degree days and temperature," *Monthly Weather Review*, Vol. 82, pp. 1-6.

Thom, H.C.S., 1966: "Normal degree days above any base by the universal truncation coefficient," *Monthly Weather Review*, Vol. 94, pp. 461-465.

Appendix A. Stations with Directly Computed Monthly Degree Day Totals

(COOP ID/ WBAN ID/ Name / State Abbreviation)

010831	13876	BIRMINGHAM INTL AP	AL	154954	93821	LOUISVILLE STANDIFORD AP	KY
014064	03856	HUNTSVILLE INTL AP	AL	156110	03816	PADUCAH BARKLEY RGNL AP	KY
015478	13894	MOBILE RGNL AP	AL	160549	13970	BATON ROUGE RYAN AP	LA
015550	13895	MONTGOMERY DANNELLY AP	AL	165078	03937	LAKE CHARLES AP	LA
023010	03103	FLAGSTAFF PULLIAM AP	AZ	166660	12916	NEW ORLEANS INTL AP	LA
026481	23183	PHOENIX SKY HRBR INTL AP	AZ	168440	13957	SHREVEPORT AP	LA
028820	23160	TUCSON INTL AP	AZ	171175	14607	CARIBOU MUNICIPAL AP	ME
029439	23194	WINSLOW AP	AZ	176905	14764	PORTLAND INTL AP	ME
032574	13964	FORT SMITH RGNL AP	AR	180465	93721	BALTIMORE-WASHINGTON AP	MD
034248	13963	LITTLE ROCK ADAMS AP	AR	190736	14753	BLUE HILL OBS MILTON	MA
040442	23155	BAKERSFIELD KERN CO AP	CA	190770	14739	BOSTON LOGAN INTL AP	MA
040822	23157	BISHOP AP	CA	200164	94849	ALPENA COLLINS AP	MI
043257	93193	FRESNO YOSEMITE INTL	CA	202103	94847	DETROIT METRO AP	MI
045085	23129	LONG BEACH AP	CA	202846	14826	FLINT BISHOP INTL AP	MI
045114	23174	LOS ANGELES INTL AP	CA	203333	94860	GRAND RAPIDS INTL AP	MI
045115	93134	LOS ANGELES DOWNTOWN USC	CA	203936	94814	HOUGHTON LAKE ROSCOMMON	MI
047740	23188	SAN DIEGO LINDBERGH AP	CA	204641	14836	LANSING CAPITAL CITY AP	MI
047769	23234	SAN FRANCISCO INTL AP	CA	205712	14840	MUSKEGON COUNTY AP	MI
047946	23273	SANTA MARIA AP	CA	207366	14847	SAULT STE MARIE AP	MI
048558	23237	STOCKTON AP	CA	212248	14913	DULUTH INTL AP	MN
050130	23061	ALAMOSA BERGMAN FIELD	CO	214026	14918	INTL FALLS AP	MN
051778	93037	COLORADO SPRINGS MNPL AP	CO	215435	14922	MINNEAPOLIS INTL AP	MN
053488	23066	GRAND JUNCTION WALKER AP	CO	217294	14926	ST CLOUD MUNICIPAL AP	MN
056740	93058	PUEBLO AP	CO	224472	03940	JACKSON THOMPSON AP	MS
060806	94702	BRIDGEPORT SIKORSKY AP	CT	225776	13865	MERIDIAN KEY AP	MS
063456	14740	HARTFORD BRADLEY INTL AP	CT	229003	93862	TUPELO RGNL AP	MS
079595	13781	WILMINGTON NEW CASTLE AP	DE	231791	03945	COLUMBIA RGNL AP	MO
082158	12834	DAYTONA BEACH INTL AP	FL	237455	13994	ST LOUIS INTL AP	MO
083186	12835	FORT MYERS (PAGE AP)	FL	237976	13995	SPRINGFIELD REG AP	MO
083326	12816	GAINESVILLE RGNL AP	FL	240807	24033	BILLINGS INTL AP	MT
084358	13889	JACKSONVILLE INTL AP	FL	243558	94008	GLASGOW INTL AP	MT
084570	12836	KEY WEST INTL AP	FL	243751	24143	GREAT FALLS INTL AP	MT
085663	12839	MIAMI INTL AP	FL	243996	94012	HAVRE CITY CO AP	MT
086997	13899	PENSACOLA RGNL AP	FL	244055	24144	HELENA AP	MT
088758	93805	TALLAHASSEE MUNICIPAL AP	FL	244558	24146	KALISPELL GLACIER PK AP	MT
088788	12842	TAMPA INTL AP	FL	245745	24153	MISSOULA INTL AP	MT
089525	12844	WEST PALM BEACH INTL AP	FL	253395	14935	GRAND ISLAND CTR NE AP	NE
090435	13873	ATHENS BEN EPPS AP	GA	254795	14939	LINCOLN AP	NE
090451	13874	ATLANTA HARTSFIELD AP	GA	255995	14941	NORFOLK AP	NE
090495	03820	AUGUSTA BUSH FIELD AP	GA	256065	24023	NORTH PLATTE RGNL AP	NE
092166	93842	COLUMBUS METRO AP	GA	256255	14942	OMAHA EPPLEY AP	NE
095443	03813	MACON MIDDLE GA RGNL AP	GA	257665	24028	SCOTTSBLUFF AP	NE
097847	03822	SAVANNAH MUNICIPAL AP	GA	258760	24032	VALENTINE MILLER AP	NE
101022	24131	BOISE AIR TERMINAL	ID	262631	23154	ELY	NV
105241	24149	LEWISTON AP	ID	264436	23169	LAS VEGAS AP	NV
107211	24156	POCATELLO RGNL AP	ID	266779	23185	RENO CANNON INTL AP	NV
111549	94846	CHICAGO OHARE INTL AP	IL	269171	24128	WINNEMUCCA MUNICIPAL AP	NV
115751	14923	MOLINE QUAD CITY AP	IL	271683	14745	CONCORD MUNICIPAL AP	NH
116711	14842	PEORIA GTR PEORIA AP	IL	280311	93730	ATLANTIC CITY AP	NJ
117382	94822	ROCKFORD AP	IL	286026	14734	NEWARK INTL AP	NJ
118179	93822	SPRINGFIELD CAPITAL AP	IL	290234	23050	ALBUQUERQUE INTL AP	NM
122738	93817	EVANSVILLE INTL AP	IN	300042	14735	ALBANY INTL AP	NY
123037	14827	FORT WAYNE BAER AP	IN	300687	04725	BINGHAMTON BROOME CO AP	NY
124259	93819	INDIANAPOLIS INTL AP	IN	301012	14733	BUFFALO NIAGARA INTL	NY
128187	14848	SOUTH BEND RGNL AP	IN	305801	94728	NEW YORK CITY CENTRAL PK	NY
132203	14933	DES MOINES AP	IA	305803	94789	NEW YORK JFK INTL AP	NY
132367	94908	DUBUQUE AP	IA	305811	14732	NEW YORK LA GUARDIA AP	NY
137708	14943	STOIX CITY AP	IA	307167	14768	ROCHESTER MONROE CO AP	NY
138706	94910	WATERLOO MUNICIPAL AP	IA	308383	14771	SYRACUSE HANCOCK INTL AP	NY
141767	13984	CONCORDIA BLOSSER AP	KS	310300	03812	ASHEVILLE RGNL AP	NC
142164	13985	DODGE CITY RGNL AP	KS	311458	93729	CAPE HATTERAS NWS BLDG	NC
143153	23065	GOODLAND RENNER AP	KS	311690	13881	CHARLOTTE DGLAS INTL AP	NC
148167	13996	TOPEKA BILLARD MNCPL AP	KS	313630	13723	GREENSBORO RGNL AP	NC
148830	03928	WICHITA MID-CONTINENT AP	KS	317069	13722	RALEIGH DURHAM AP	NC
151855	93814	CINCINNATI COVINGTON AP	KY	319457	13748	WILMINGTON NEW HANVR AP	NC
154746	93820	LEXINGTON BLUE GRASS AP	KY	320819	24011	BISMARCK MUNICIPAL AP	ND

322859	14914	FARGO HECTOR AP	ND	411136	12919	BROWNSVILLE AP	TX
323616	14916	GRAND FORKS INTL AP	ND	412015	12924	CORPUS CHRISTI INTL AP	TX
329425	94014	WILLISTON SLOULIN AP	ND	412244	13960	DALLAS LOVE AP	TX
330058	14895	AKRON CANTON AP	OH	412360	22010	DEL RIO INTL AP	TX
331657	14820	CLEVELAND HOPKNS INTL AP	OH	412797	23044	EL PASO INTL AP	TX
331786	14821	COLUMBUS INTL AP	OH	414300	12960	HOUSTON BUSH INTL AP	TX
332075	93815	DAYTON INTL AP	OH	415411	23042	LUBBOCK RGNL AP	TX
334865	14891	MANSFIELD LAHM AP	OH	415890	23023	MIDLAND INTL AP	TX
338357	94830	TOLEDO EXPRESS AP	OH	417174	12917	PORT ARTHUR AP BEAUMONT	TX
339406	14852	YOUNGSTOWN MUNICIPAL AP	OH	417943	23034	SAN ANGELO MATHIS AP	TX
346661	13967	OKLAHOMA CITY AP	OK	417945	12921	SAN ANTONIO INTL AP	TX
348992	13968	TULSA INTL AP	OK	419364	12912	VICTORIA RGNL AP	TX
350328	94224	ASTORIA CLATSOP CO AP	OR	419419	13959	WACO RGNL AP	TX
352709	24221	EUGENE MAHLON SWEET AP	OR	419729	13966	WICHITA FALLS SHEPPRD AP	TX
355429	24225	MEDFORD AP	OR	427598	24127	SALT LAKE CITY INTL AP	UT
356546	24155	PENDLETON MUNICIPAL AP	OR	431081	14742	BURLINGTON INTL AP	VT
356751	24229	PORTLAND INTL AP	OR	445120	13733	LYNCHBURG MUNICIPAL AP	VA
357500	24232	SALEM MCNARY AP	OR	446139	13737	NORFOLK INTL AP	VA
360106	14737	ALLEN TOWN LEHIGH VLY AP	PA	447201	13740	RICHMOND BYRD INTL AP	VA
362682	14860	ERIE AP	PA	447285	13741	ROANOKE WOODRUM AP	VA
366889	13739	PHILADELPHIA INTL AP	PA	448903	93738	WASHINGTON DULLES INTL	VA
366993	94823	PITTSBURGH INTL AP	PA	448906	13743	WASHINGTON REAGAN NTL AP	VA
369705	14777	WILKES BRE SCTN AP AVOCA	PA	456114	24227	OLYMPIA AP	WA
369728	14778	WILLIAMSPORT LYCOMING AP	PA	456858	94240	QUILLAYUTE AP	WA
376698	14765	PROVIDENCE GREEN AP	RI	457473	24233	SEATTLE TACOMA AP	WA
381544	13880	CHARLESTON INTL AP	SC	457938	24157	SPOKANE AP	WA
381939	13883	COLUMBIA METRO AP	SC	459465	24243	YAKIMA MUNICIPAL AP	WA
383747	03870	GRNVL SPART AP GREER	SC	460582	03872	BECKLEY AP	WV
390020	14929	ABERDEEN RGNL AP	SD	461570	13866	CHARLESTON YEAGER AP	WV
394127	14936	HURON AP	SD	462718	13729	ELKINS AP	WV
396937	24090	RAPID CITY RGNL AP	SD	464393	03860	HUNTINGTON TRI STATE	WV
397667	14944	SIoux FALLS AP	SD	473269	14898	GREEN BAY STRBL INTL AP	WI
401094	13877	BRISTOL TRI CITY AP	TN	474370	14920	LA CROSSE MUNICIPAL AP	WI
401656	13882	CHATTANOOGA AP	TN	474961	14837	MADISON DANE CO AP	WI
404950	13891	KNOXVILLE AP	TN	475479	14839	MILWAUKEE MITCHELL AP	WI
405954	13893	MEMPHIS INTL AP	TN	481570	24089	CASPER NATRONA CO AP	WY
406402	13897	NASHVILLE INTL AP	TN	481675	24018	CHEYENNE MUNICIPAL AP	WY
406750	03841	OAK RIDGE ATDD	TN	485390	24021	LANDER AP	WY
410016	13962	ABILENE MUNICIPAL AP	TX	488155	24029	SHERIDAN AP	WY
410211	23047	AMARILLO INTL AP	TX				
410428	13958	AUSTIN CITY (CAMP MABRY)	TX				

**Greater Cincinnati - Covington, KY - Heating Degree Days  
Most Recent 10 Years**

NOAA 30 Normal HDD - 1971-2000 = 5148 HDD

Year	HDD	Higher	Lower
1995	5321	Higher	
1996	5632	Higher	
1997	5330	Higher	
1998	4322		Lower
1999	4750		Lower
2000	5187	Higher	
2001	4672		Lower
2002	4940		Lower
2003	5182	Higher	
2004	4847		Lower

Years Higher than NOAA 30 Year Normal = 5

Years Lower than NOAA 30 Year Normal = 5

Data Source: ULH&P Response to AG-DR-01-115 and AG-DR-01-194

Greater Cincinnati - Covington, KY - Heating Degree Days

	30 Year		10 Year		10 Year		10 Year		10 Year		10 Year		10 Year	
	1971 - 2000 HDD	1975 - 2004 HDD	1987 - 1996 HDD	1988 - 1997 HDD	1989 - 1998 HDD	1990 - 1999 HDD	1991 - 2000 HDD	1992 - 2001 HDD	1993 - 2002 HDD	1994 - 2003 HDD	1995 - 2004 HDD	1996 - 2005 HDD	1997 - 2006 HDD	1998 - 2007 HDD
1971	4819													
1972	5474													
1973	4784													
1974	4953													
1975	4713	4713												
1976	5522	5522												
1977	5699	5699												
1978	6031	6031												
1979	5670	5670												
1980	5805	5805												
1981	5486	5486												
1982	4854	4854												
1983	5392	5392												
1984	5239	5239												
1985	5126	5126												
1986	4867	4867												
1987	4745	4745	4745											
1988	5418	5418	5418	5418										
1989	5316	5316	5316	5316	5316									
1990	4171	4171	4171	4171	4171	4171	4171							
1991	4581	4581	4581	4581	4581	4581	4581	4581						
1992	4898	4898	4898	4898	4898	4898	4898	4898						
1993	5326	5326	5326	5326	5326	5326	5326	5326	5326					
1994	4939	4939	4939	4939	4939	4939	4939	4939	4939	4939				
1995	5321	5321	5321	5321	5321	5321	5321	5321	5321	5321	5321			
1996	5632	5632	5632	5632	5632	5632	5632	5632	5632	5632	5632	5632		
1997	5330	5330	5330	5330	5330	5330	5330	5330	5330	5330	5330	5330	5330	
1998	4322	4322	4322	4322	4322	4322	4322	4322	4322	4322	4322	4322	4322	
1999	4750	4750	4750	4750	4750	4750	4750	4750	4750	4750	4750	4750	4750	
2000	5187	5187	5187	5187	5187	5187	5187	5187	5187	5187	5187	5187	5187	
2001	4672	4672	4672	4672	4672	4672	4672	4672	4672	4672	4672	4672	4672	
2002	4940	4940	4940	4940	4940	4940	4940	4940	4940	4940	4940	4940	4940	
2003	5182	5182	5182	5182	5182	5182	5182	5182	5182	5182	5182	5182	5182	
2004	4847	4847	4847	4847	4847	4847	4847	4847	4847	4847	4847	4847	4847	
<b>Average</b>	<b>5146</b>	<b>5133</b>	<b>5035</b>	<b>5093</b>	<b>4984</b>	<b>4927</b>	<b>5029</b>	<b>5038</b>	<b>5042</b>	<b>5028</b>	<b>5018</b>	<b>5182</b>	<b>4847</b>	

Data Source: ULH&P Response to AG-DR-01-115 and AG-DR-01-194

## CALCULATION OF FORECASTED FIRM TRANSPORTATION GROWTH RATE

Volumes (MCF) (1)	2000	2001	2002	2003	2004
FT - Commercial	146637	152917	156266	174,709	170,295
FT - Industrial	921962	1026726	824796	972,018	1,084,169
FT - Other	127604	118676	135969	141,435	150,709
	<u>1,196,203</u>	<u>1,298,319</u>	<u>1,117,031</u>	<u>1,288,162</u>	<u>1,405,173</u>
Growth Rate		<b>8.54%</b>	<b>-13.96%</b>	<b>15.32%</b>	<b>9.08%</b>
Gas Prices (Henry Hub) (2)					
Average for Year (\$/MCF)	\$4.31	\$3.96	\$3.36	\$5.50	\$5.91
Growth Rate		<b>-8.12%</b>	<b>-15.15%</b>	<b>63.69%</b>	<b>7.45%</b>

Sources:

- (1) ULH&P Schedule I-5, Page 1 of 1
- (2) Wall Street Journal / Haver Analysis - Federal Reserve Bank of St. Louis



**CALCULATION OF WEATHER ADJUSTMENT FACTOR FOR HISTORIC TEST YEAR - FIRM TRANSPORTATION VOLUMES**

Historic Test Year - November 2003 - October 2004													
	Nov-03	Dec-03	Jan-04	Feb-04	Mar-04	Apr-04	May-04	Jun-04	Jul-04	Aug-04	Sep-04	Oct-04	Total
Covington HDD	502	923	1148	895	605	346	67	2	2	12	20	264	4786
	Heating Degree Days												
ULH&P Schedule M-2.2 (Filing)	4950												
	FT Volumes												
KyStaff-DR-02-051a - Page 1 of 14	5200												
	1,001,111												
	1,027,669												
Difference from Filing	250												
MCF / HDD	106.23												
Historic Test Year - Nov-03 - Oct-04 (After ULH&P Non-HDD Adjustments)	4786												
30 Year Normal - 1975-2004	5133												
HDD Correction to 30 Year Normal	1.0375												

## CALCULATION OF FORECASTED FIRM TRANSPORTATION VOLUMES

Volumes (1)	2003	2004	Growth Rate
FT - Commercial	174,709	170,295	
FT - Industrial	972,018	1,084,169	
FT - Other	141,435	150,709	
	1,288,162	1,405,173	9.08%
Historic Test Year ending Oct. 31, 2004 (2)			1,364,056
Weather Normalization Adjustment Factor (3)			1.0375
<u>WN Historic Test Year</u>			<u>1,415,172</u>
Annual Growth Rate			9.08%
23 Month Growth Rate			17.41%
Forecast FT Volume 12 Months ending Sept 30, 2006			1,661,556

Sources:

- (1) ULH&P Schedule I-5, Page 1 of 1
- (2) ULH&P WPFR-9v, Page 5 of 31
- (3) Exhibit DHBK- 7

**CALCULATION OF REVENUE IMPACT OF FORECASTED FIRM TRANSPORTATION VOLUMES**

LINE NO.	RATE CODE (A)	CLASS / DESCRIPTION (B)	CUSTOMER BILLS (2) (C)	SALES (1) (D)	MOST CURRENT RATES (J)	CURRENT REVENUE LESS GAS COST REVENUE (K)
				(MCF)	(\$/MCF)	(\$)
1		FT - LARGE				
2		FIRM TRANSPORTATION - LARGE				
3		CUSTOMER CHARGE:	660		\$330.00	217,800
4		COMMODITY CHARGE:				
5		ALL CONSUMPTION		1,661,556	1.7140	2,847,907
6		TOTAL FT - LARGE	660	1,661,556		3,065,707
7		FT REVENUES AS FILED - SCHEDULE M-2.2				1,916,874
8		REVENUE ADJUSTMENT FOR CORRECTED FORECAST FIRM TRANSPORTATION VOLUMES				1,148,833

(1) REFLECTS NORMALIZED VOLUMES - FROM TESTIMONY OF DAVID BROWN KINLOCH.  
(2) BASED ON NUMBER OF CUSTOMERS AT END OF HISTORIC TEST YEAR.  
- FROM ULH&P RESPONSE TO AG-DR-02-048C(ii), ATTACHMENT, PAGE 1 OF 1.

Office of the Attorney General  
Allocation Factors Cost of Service Study  
Twelve Months Ended October 31 2004  
Case No. 2005-0042

Peak & Average - Peak Day (K203)

	Total Annual Mcf	Max Ann. Mcf - Peak Day*366)	104672 * 366=	14,326,332	40,863,900	35.059%	
	Load Factor (Ann Mcf / Max Ann Mcf)	(1)	(2)	(3)	(4)	(5)	(6)
Class of Service	Annual Usage (2) (Mcf)	System Peak Day (Mcf / Day)(1)	Avg Daily Mcf (Mcf / Day)	Avg Daily Mcf (Ratio)	Excess Daily Mcf (Mcf / Day)	Excess Daily Mcf (Ratio)	
Residential	7,363,676.4	69,132.0	20,119.0	51.399%	49,013.0	64.461%	
General Service	4,009,881.0	31,918.0	10,956.0	27.990%	20,962.0	27.569%	
Firm Transportation	1,661,556.0	10,600.0	4,540.0	11.598%	6,060.0	7.970%	
Interruptible Transportation	1,291,218.3		3,528.0	9.013%		0.000%	
<b>Total</b>	<b>14,326,331.7</b>	<b>111,650.0</b>	<b>39,143.0</b>	<b>100.000%</b>	<b>76,035.0</b>	<b>100.000%</b>	
	(7)	(8)	(9)	(10)	(11)		
	Avg Daily Mcf (Ratio)	Weighted Avg. Daily Mcf (Ratio)	Excess Daily Mcf (Ratio)	Weighted Excess Daily Mcf (Ratio)	Peak & Avg. Demand (Ratio)		
Residential	51.399%	18.020%	64.461%	41.862%	59.8816%		
General Service	27.990%	9.813%	27.569%	17.904%	27.7166%		
Firm Transportation	11.598%	4.066%	7.970%	5.176%	9.2419%		
Interruptible Transportation	9.013%	3.160%	0.000%	0.000%	3.1599%		
<b>Total</b>	<b>100.000%</b>	<b>35.059%</b>	<b>100.000%</b>	<b>64.941%</b>	<b>100.000%</b>		

- (1) Includes Firm Customer Coincident Peak Demands  
(2) Reflects Forecasted Test Year Volumes.

Peak & Average - Peak Day (Exclud. Firm Trans., Interruptible) (K205)

	Total Annual Mcf	Max Ann. Mcf - Peak Day*366)	98285 * 366=	11,373,557	36,984,300	30.752%	
	Load Factor (Ann Mcf / Max Ann Mcf)	(1)	(2)	(3)	(4)	(5)	(6)
Class of Service	Annual Usage (Mcf) (2)	System Peak Day (Mcf / Day)(1)	Avg Daily Mcf (Mcf / Day)	Avg Daily Mcf (Ratio)	Excess Daily Mcf (Mcf / Day)	Excess Daily Mcf (Ratio)	
Residential	7,363,676.4	69,132.0	20,119.0	64.743%	49,013.0	70.044%	
General Service	4,009,881.0	31,918.0	10,956.0	35.257%	20,962.0	29.956%	
Firm Transportation	0.0	0.0	0.0	0.000%	0.0	0.000%	
Interruptible Transportation	0.0	0.0	0.0	0.000%	0.0	0.000%	
<b>Total</b>	<b>11,373,557.4</b>	<b>101,050.0</b>	<b>31,075.0</b>	<b>100.000%</b>	<b>69,975.0</b>	<b>100.000%</b>	
	(7)	(8)	(9)	(10)	(11)		
	Avg Daily Mcf (Ratio)	Weighted Avg. Daily Mcf (Ratio)	Excess Daily Mcf (Ratio)	Weighted Excess Daily Mcf (Ratio)	Peak & Avg. Demand (Ratio)		
Residential	64.743%	19.910%	70.044%	48.504%	68.414%		
General Service	35.257%	10.842%	29.956%	20.744%	31.586%		
Firm Transportation	0.000%	0.000%	0.000%	0.000%	0.000%		
Interruptible Transportation	0.000%	0.000%	0.000%	0.000%	0.000%		
<b>Total</b>	<b>100.000%</b>	<b>30.752%</b>	<b>100.000%</b>	<b>69.248%</b>	<b>100.000%</b>		

- (1) Includes Firm Customer Coincident Peak Demands  
(2) Reflects Forecasted Test Year Volumes.

**Office of the Attorney General**  
**Allocation Factors For Cost of Service Study**  
**Twelve Months Ended October 31 2004**  
**Case No. 2005-0042**

**Volumes by Class at 5133 Degree Days**

Degree Days		RS	GS	FT	IT	TOTAL
4950		7,151,018	3,913,164	1,001,111	1,286,076	13,351,369
5200		7,441,535	4,045,291	1,027,669	1,293,101	13,807,596
5133	13,685,327	7,363,676	4,009,881	1,020,551	1,291,218	13,685,327
Projected FT Volume				1,661,556		
Forecasted Test Year Volumes		7,363,676	4,009,881	1,661,556	1,291,218	14,326,332
Ratio to ULH&P Test Year		1.02974	1.02472	1.65971	1.00400	1.07302

Office of the Attorney General  
Daily Demand Analysis  
For the Twelve Months Ended October 31 2004  
Case No. 2005-0042

Month	Days	ULH&P System Peak Day	Monthly Mcf (1)	AG Adjusted Monthly Mcf	Avg Daily Usage	ULH&P Coin		Coin Peak Day Demand	ULH&P Diversified Class		Class Max. Non-Coin Peak Day Dem	ULH&P Non-Coin Class		ULH&P Non-Coin Peak Day Dem
						Peak Day L. F.	Peak Day F.		Peak Day L. F.	Peak Day F.		Peak Day L. F.	Peak Day F.	
Nov 03	30	11/24/03	509,112	524,252	17,475	47,2792	36,961	47,2792	36,961	43,8331	39,867	43,8331	39,867	
Dec	31	12/17/03	1,013,495	1,043,635	33,666	76,2002	44,181	73,9076	45,551	68,4844	49,159	68,4844	49,159	
Jan 04	31	01/30/04	1,401,049	1,442,714	46,539	67,3188	69,132	67,3188	69,132	63,8448	72,894	63,8448	72,894	
Feb	29	02/15/04	1,366,140	1,406,767	48,509	74,8531	64,806	74,0696	65,491	67,2588	72,123	67,2588	72,123	
Mar	31	03/21/04	1,064,463	1,096,118	35,359	53,8938	65,609	53,8938	65,609	51,5904	68,538	51,5904	68,538	
Apr	30	04/13/04	666,408	686,226	22,874	36,8630	62,051	36,8630	62,051	34,7373	65,849	34,7373	65,849	
May	31	05/03/04	318,458	327,928	10,578	29,5906	35,748	28,1761	37,542	24,5886	43,020	24,5886	43,020	
Jun	30	06/03/04	182,258	187,678	6,256	105,4067	5,935	81,5518	7,671	46,8184	13,362	46,8184	13,362	
Jul	31	07/27/04	139,240	143,381	4,625	98,6925	4,686	87,4353	5,290	50,9355	9,080	50,9355	9,080	
Aug	31	08/10/04	125,500	129,232	4,169	96,5794	4,317	85,3919	4,882	53,4808	7,795	53,4808	7,795	
Sept	30	09/16/04	136,854	140,924	4,697	106,5168	4,410	83,7900	5,606	49,2420	9,539	49,2420	9,539	
Oct	31	10/16/04	7,151,018	7,363,676	7,575	37,0779	20,430	37,0779	20,430	33,4068	22,675	33,4068	22,675	

Month	Days	ULH&P System Peak Day	Monthly Mcf (1)	AG Adjusted Monthly Mcf	Avg Daily Usage	ULH&P Coin		Coin Peak Day Demand	ULH&P Diversified Class		Class Max. Non-Coin Peak Day Dem	ULH&P Non-Coin Class		ULH&P Non-Coin Peak Day Dem
						Peak Day L. F.	Peak Day F.		Peak Day L. F.	Peak Day F.		Peak Day L. F.	Peak Day F.	
Nov 03	30	11/24/03	284,904	291,946	9,732	55,1877	17,634	55,1877	17,634	45,8143	21,242	45,8143	21,242	
Dec	31	12/17/03	558,079	571,872	18,447	76,0204	24,266	74,4302	24,784	64,6136	28,550	64,6136	28,550	
Jan 04	31	01/30/04	711,438	729,022	23,517	73,6790	31,918	73,6790	31,918	56,1193	41,905	56,1193	41,905	
Feb	29	02/15/04	692,060	709,165	24,454	77,7636	31,447	71,8911	34,015	59,5663	41,053	59,5663	41,053	
Mar	31	03/21/04	571,401	585,524	18,888	62,1461	30,393	60,7139	31,110	51,4218	36,732	51,4218	36,732	
Apr	30	04/13/04	351,402	360,087	12,003	45,7912	26,212	45,7912	26,212	37,3689	32,120	37,3689	32,120	
May	31	05/03/04	180,683	185,149	5,973	51,1268	11,683	51,1268	11,683	41,3593	14,442	41,3593	14,442	
Jun	30	06/03/04	119,604	122,560	4,085	86,2175	4,738	84,9667	4,808	66,4462	6,148	66,4462	6,148	
Jul	31	07/27/04	96,896	99,291	3,203	82,1905	3,897	81,7396	3,919	64,9885	4,929	64,9885	4,929	
Aug	31	08/10/04	92,226	94,505	3,049	90,1059	3,384	84,6322	3,603	66,8755	4,559	66,8755	4,559	
Sept	30	09/16/04	105,434	108,040	3,601	93,0043	3,872	91,7740	5,017	57,4480	6,268	57,4480	6,268	
Oct	31	10/16/04	157,537	161,431	5,207	70,0870	7,429	65,1603	7,991	44,9583	11,582	44,9583	11,582	
			3,921,664	4,018,591										

(1) Mcf Sales for the Forecasted Test Period - 12 months Ending September 2006

Office of the Attorney General  
Daily Demand Analysis  
For the Twelve Months Ended October 31 2004  
Case No. 2005-0042

Rate FT, Firm Transportation		ULH&P System		Monthly Mcf (1)	AG Adjusted Monthly Mcf	Avg Daily Usage	ULH&P Coin		Coin Peak Demand	ULH&P Diversified Class		Class Max. Non-Coin		ULH&P Non-Coin Class		ULH&P Non-Coin Class	
Month	Days	Peak Day	Peak Day				ULH&P Peak Day	F. L. F.		ULH&P Peak Day	L. F.	Peak Day	L. F.	Peak Day	L. F.	Peak Day	L. F.
Nov 03	30	11/24/03		75,230	124,860	4,162	67,3984	6,175	67,3984	6,175	63,9632	6,175	63,9632	6,507	6,507		
Dec	31	12/17/03		126,188	209,436	6,756	87,1881	7,749	82,6827	8,171	70,9177	8,171	70,9177	9,527	9,527		
Jan 04	31	01/30/04		160,580	266,517	8,597	81,1051	10,600	81,1051	10,600	75,2019	10,600	75,2019	11,432	11,432		
Feb	29	02/15/04		162,172	269,159	9,281	93,1193	9,967	84,6689	10,962	78,2121	10,962	78,2121	11,866	11,866		
Mar	31	03/21/04		132,602	220,081	7,099	110,5667	6,421	72,5634	9,783	65,7954	9,783	65,7954	10,790	10,790		
Apr	30	04/13/04		90,510	150,221	5,007	89,3599	5,603	80,7602	6,200	71,1516	6,200	71,1516	7,037	7,037		
May	31	05/03/04		54,904	91,125	2,940	91,9543	3,197	88,0733	3,338	73,0683	3,338	73,0683	4,024	4,024		
Jun	30	06/03/04		39,977	66,350	2,212	90,5605	2,443	90,1250	2,454	83,1906	2,454	83,1906	2,659	2,659		
Jul	31	07/27/04		37,182	61,711	1,991	93,2997	2,134	85,9154	2,311	77,5171	2,311	77,5171	2,568	2,568		
Aug	31	08/10/04		35,725	59,293	1,913	95,2934	2,007	82,7605	2,311	77,8689	2,311	77,8689	2,457	2,457		
Sept	30	09/16/04		37,199	61,740	2,058	108,5803	1,895	84,4813	2,436	76,2375	2,436	76,2375	2,699	2,699		
Oct	31	10/16/04		48,842	81,064	2,615	87,5050	2,988	83,6844	3,125	73,4405	3,125	73,4405	3,561	3,561		
				1,001,111	1,661,556												

Rate IT, Interruptible Transportation		ULH&P System		Monthly Mcf (1)	AG Adjusted Monthly Mcf	Avg Daily Usage	ULH&P Coin		Coin Peak Demand	ULH&P Diversified Class		Class Max. Non-Coin		ULH&P Non-Coin Class		ULH&P Non-Coin Class	
Month	Days	Peak Day	Peak Day				ULH&P Peak Day	F. L. F.		ULH&P Peak Day	L. F.	Peak Day	L. F.	Peak Day	L. F.	Peak Day	L. F.
Nov 03	30	11/24/03		108,387	108,820	3,627	86,9008	4,174	73,3916	4,942	53,6166	4,942	53,6166	6,765	6,765		
Dec	31	12/17/03		119,720	120,199	3,877	85,2639	4,547	71,9445	5,389	56,4115	5,389	56,4115	6,873	6,873		
Jan 04	31	01/30/04		123,003	123,495	3,984	89,6509	4,444	82,5785	4,825	72,8999	4,825	72,8999	5,470	5,470		
Feb	29	02/15/04		125,515	126,017	4,345	91,8338	4,731	83,4682	5,206	74,0218	5,206	74,0218	5,870	5,870		
Mar	31	03/21/04		118,136	118,608	3,826	95,3786	4,011	76,3041	5,014	62,3387	5,014	62,3387	6,056	6,056		
Apr	30	04/13/04		112,790	113,241	3,775	84,9551	4,449	78,3557	4,818	62,3387	4,818	62,3387	6,056	6,056		
May	31	05/03/04		100,833	101,236	3,266	75,5532	4,323	74,6205	4,377	58,2133	4,377	58,2133	5,211	5,211		
Jun	30	06/03/04		95,952	96,336	3,211	93,6256	3,430	82,3914	3,897	61,6201	3,897	61,6201	5,211	5,211		
Jul	31	07/27/04		94,367	94,744	3,056	81,6738	3,742	73,7499	4,144	58,1656	4,144	58,1656	5,215	5,215		
Aug	31	08/10/04		95,678	96,061	3,099	76,2961	4,062	73,5741	4,062	59,4218	4,062	59,4218	5,456	5,456		
Sept	30	09/16/04		97,054	97,442	3,248	90,0489	3,607	73,5741	4,415	59,5279	4,415	59,5279	5,456	5,456		
Oct	31	10/16/04		94,641	95,019	3,065	115,7745	2,647	75,8297	4,042	57,4595	4,042	57,4595	5,334	5,334		
				1,286,076	1,291,218												

(1) Mcf Sales for the Forecasted Test Period - 12 months Ending September 2006

Office of the Attorney General  
Daily Demand Analysis  
For the Twelve Months Ended October 31 2004  
Case No. 2005-0042

Month	Days	ULH&P System Peak Day	Monthly		Avg Daily Usage	ULH&P Coin		Coin Peak Day Demand	ULH&P Diversified Class		Class Max.		ULH&P Non-Coin Class		ULH&P Non-Coin Class Peak Day Dem	
			Mcf (1)	Mcf (1)		ULH&P Peak Day L. F.	ULH&P Peak Day L. F.		ULH&P Peak Day L. F.	ULH&P Peak Day L. F.	ULH&P Peak Day L. F.	ULH&P Peak Day L. F.				
Total																
Nov 03	30	11/24/03	977,633	1,049,878	34,996	64,944	65,712	64,944	65,712	64,944	65,712	64,944	65,712	64,944	65,712	74,381
Dec	31	12/17/03	1,817,482	1,945,141	62,746	80,743	83,895	80,743	83,895	80,743	83,895	80,743	83,895	80,743	83,895	94,109
Jan 04	31	01/30/04	2,396,070	2,561,747	82,637	116,094	116,475	116,094	116,475	116,094	116,475	116,094	116,475	116,094	116,475	131,701
Feb	29	02/15/04	2,345,887	2,511,107	86,589	110,951	115,674	110,951	115,674	110,951	115,674	110,951	115,674	110,951	115,674	130,912
Mar	31	03/21/04	1,886,602	2,020,331	65,172	106,434	111,516	106,434	111,516	106,434	111,516	106,434	111,516	106,434	111,516	121,299
Apr	30	04/13/04	1,221,110	1,309,774	43,659	98,315	99,281	98,315	99,281	98,315	99,281	98,315	99,281	98,315	99,281	111,062
May	31	05/03/04	654,878	705,438	22,757	54,951	56,940	54,951	56,940	54,951	56,940	54,951	56,940	54,951	56,940	67,096
Jun	30	06/09/04	437,791	472,924	15,764	16,546	18,830	16,546	18,830	16,546	18,830	16,546	18,830	16,546	18,830	27,380
Jul	31	07/27/04	367,685	399,127	12,875	14,459	15,670	14,459	15,670	14,459	15,670	14,459	15,670	14,459	15,670	21,831
Aug	31	08/10/04	349,129	379,091	12,230	13,770	14,858	13,770	14,858	13,770	14,858	13,770	14,858	13,770	14,858	20,026
Sept	30	09/16/04	376,541	408,145	13,604	13,784	17,474	13,784	17,474	13,784	17,474	13,784	17,474	13,784	17,474	23,962
Oct	31	10/16/04	529,061	572,336	18,462	33,494	35,588	33,494	35,588	33,494	35,588	33,494	35,588	33,494	35,588	43,152
			13,359,869	14,335,042												



Office of the Attorney General  
Allocation Factors Cost of Service Study  
House Regulators and Installations ( Account 2830, 2840)  
For the Period Ended October 2004  
Case No. 2006-0042

	Account 2830	Residential	Commercial	Industrial
1" or less Reg. & Relief Valves (R.V.) (100% Res)	1,205,983.81	1,205,983.81		
1 1/4" & 1 1/2" (100% Com)	415,631.91		415,631.91	
2" & 2" Relief Valves (50% Com & 50% Ind)	309,443.33		154,721.67	154,721.67
Greater Than 2" & R. V. (10% Com & 90% Ind)	311,809.30		31,180.93	280,628.37
All Other	10,878.83	5,849.55	2,917.70	2,111.58
	<u>2,253,747.18</u>	<u>1,211,833.36</u>	<u>604,452.21</u>	<u>437,461.62</u>
Account 2840	1,552,615.83	834,841.53	416,501.04	301,273.26
Regulator Installations				
Total Accounts 2830 & 2840	3,806,363.01	2,046,674.89	1,020,953.25	738,734.88
	100.00%	53.77%	26.82%	19.41%

	Year End Customers	Non-Residential Customers	Residential Costs	Commercial Costs	Industrial Costs	Total Costs	Ratio Alloc (K417)
Customers RS	83,852	0	2,046,674.89			2,046,675	53.770%
GS-Comm'l	6,058	6,436		1,016,059	622,232		
GS-Indust'l	235	235					
GS-OPA	378					1,638,291	43.041%
Total GS	<u>6,671</u>	<u>6,671</u>					
FT-Comm'l	17			3,789			
FT-Indust'l	31	24			82,082		
FT-OPA	7	31				85,871	2.256%
Total FT	<u>55</u>	<u>55</u>					
IT - Com	5	7		1,105			
IT - Indust	13	13			34,421		
IT - OPA	2					35,526	0.933%
Total IT	<u>20</u>	<u>20</u>					
Total Customers	<u>90,598</u>	<u>6,746</u>	<u>2,046,675</u>	<u>1,020,953</u>	<u>738,735</u>	<u>3,806,363</u>	
Total Commercial and OPA		6,467					
Total Industrial		279					

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**Total Annual Firm MCF Sales**

<u>Rate Class</u>	<u>MCF (a)</u>	<u>Ratio (K201)</u>
RS - Residential	7,363,676.4	56.491%
GS - General Service	4,009,881.0	30.762%
FT - Firm Transportation	1,661,556.0	12.747%
IT - Inter. Transportation	0.0	0.000%
<b>Total</b>	<b>13,035,113.4</b>	<b>100.000%</b>

**Peak & Avg. Demand - Peak Day**

<u>Rate Class</u>	<u>MCF</u>	<u>Ratio (K203)</u>	<u>MCF</u>	<u>Ratio (K205)</u>
RS - Residential	59.862	59.881%	68.414	68.414%
GS - General Service	27.717	27.717%	31.586	31.586%
FT - Firm Transportation	9.242	9.242%	-	0.000%
IT - Inter. Transportation	3.160	3.160%	-	0.000%
<b>Total</b>	<b>100.000</b>	<b>100.000%</b>	<b>100.000</b>	<b>100.000%</b>

**Total Annual MCF Sales**

<u>Rate Class</u>	<u>MCF (a)</u>	<u>Ratio (K300)</u>
RS - Residential	7,363,676.4	51.399%
GS - General Service	4,009,881.0	27.990%
FT - Firm Transportation	1,661,556.0	11.598%
IT - Inter. Transportation	1,291,218.3	9.013%
<b>Total</b>	<b>14,326,331.7</b>	<b>100.000%</b>

**Total Purchased MCF Sales**

<u>Rate Class</u>	<u>MCF (a)</u>	<u>Ratio (K301)</u>
RS - Residential	7,363,676.4	64.744%
GS - General Service	4,009,881.0	35.256%
FT - Firm Transportation	0.0	0.000%
IT - Inter. Transportation	0.0	0.000%
<b>Total</b>	<b>11,373,557.4</b>	<b>100.000%</b>

(a) Forecasted Test Year Volumes

Office of the Attorney General  
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**Total Customers (K401)**

Rate Class	Customers	Ratio (K401)
RS - Residential	83,852	92.554%
GS - General Service	6,671	7.363%
FT - Firm Transportation	55	0.061%
IT - Inter. Transportation	20	0.022%
<b>Total</b>	<b>90,598</b>	<b>100.000%</b>

**Weighted Customers - Services**

Rate Class	Customers	Weight Fac.	Weighted Customers	Ratio (K403)
RS - Residential	83,852	1.00	83,852	92.130%
GS - General Service	6,671	1.02	6,776	7.445%
FT - Firm Transportation	55	3.20	176	0.193%
IT - Inter. Transportation	20	10.55	211	0.232%
<b>Total</b>	<b>90,598</b>		<b>91,015</b>	<b>100.000%</b>

**Customer Accounting Expense Allocation Factor - (K405)**

	Act 901	Acct 902	Acct 903	Acct 905	Total	Ratio
Res	88,617	513,116	1,282,491	18,805	1,903,029	91.280%
GS	7,876	46,910	113,264	1,704	169,754	8.142%
FT	54	337	8,367	12	8,770	0.421%
IT	21	151	3,088	4	3,264	0.157%
<b>Total</b>	<b>96,568</b>	<b>560,514</b>	<b>1,407,210</b>	<b>20,525</b>	<b>2,084,817</b>	<b>100.000%</b>

**Customer Accounting Uncollectible Expense Allocation Factor - (K406)**

	(Acct 904)	Ratio
Res	1,998,071	96.060%
GS	81,959	3.940%
FT	0	0.000%
IT	0	0.000%
<b>Total</b>	<b>2,080,030</b>	<b>100.000%</b>

**Customer Service & Information Allocation Factor - (K407)**

	Act 907	Acct 908	Acct 909	Acct 910	Total	Ratio
Res	0	60,863	0	73,328	134,191	41.926%
GS	0	5,515	0	87,573	93,088	29.084%
FT	52,768	39	0	20,277	73,082	22.833%
IT	19,449	15	0	242	19,706	6.157%
<b>Total</b>	<b>72,215</b>	<b>66,432</b>	<b>0</b>	<b>181,420</b>	<b>320,067</b>	<b>100.000%</b>

**Sales Expense Allocation Factor - (K408)**

	Act 911	Acct 912	Acct 913	Total	Ratio
Res	47,201	434	3,542	51,177	91.545%
GS	4,321	40	321	4,682	8.375%
FT	31	0	2	33	0.059%
IT	11	0	1	12	0.021%
<b>Total</b>	<b>51,564</b>	<b>474</b>	<b>3,866</b>	<b>55,904</b>	<b>100.000%</b>

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Combined Customer Accounting Expense Allocation Factor - (K409)

	<u>Total</u>	<u>Ratio</u>
Res	4,086,468	89.995%
GS	349,483	7.696%
FT	81,885	1.803%
IT	22,982	0.506%
<b>Total</b>	<b>4,540,818</b>	<b>100.000%</b>

Meter Cost Allocator

<u>Rate Class</u>	<u>Meter Cost Per Study</u>	<u>Ratio (K413)</u>
RS - Residential	3,712,863.54	67.823%
GS - General Service	1,490,411.22	27.265%
FT - Firm Transportation	160,509.02	2.936%
IT - Inter. Transportation	102,550.52	1.876%
<b>Total</b>	<b>5,466,334.30</b>	<b>100.000%</b>

House Regulators & Installations

<u>Rate Class</u>	<u>Cost (K417)</u>	<u>Ratio</u>
RS - Residential	2,046,675	53.770%
GS - General Service	1,638,291	43.041%
FT - Firm Transportation	85,871	2.256%
IT - Inter. Transportation	35,526	0.933%
<b>Total</b>	<b>3,806,363</b>	<b>100.000%</b>

Large Industrial Measuring & Regulating Stations

<u>Rate Class</u>	<u>Mcf Sales (K595)</u>	<u>Ratio</u>
GS - Industrial	463,421	14.721%
FT - Firm Transportation	1,364,056	43.331%
IT - Inter. Transportation	1,320,505	41.948%
<b>Total</b>	<b>3,147,982</b>	<b>100.000%</b>

Combination of Weighted Customer & Demand Allocation Factor

<u>Rate Class</u>	<u>Customers Ratio (K401)</u>	<u>Customer Ratio 22%</u>	<u>Peak &amp; Avg. (Peak Day) Ratio (K203)</u>	<u>Demand Ratio 78%</u>	<u>Customer / Demand Ratio (K415)</u>
RS - Residential	92.554%	0.204	59.881%	0.46707	67.069%
GS - General Service	7.363%	0.016	27.717%	0.21619	23.239%
FT - Firm Transportation	0.061%	0.000	9.242%	0.07209	7.222%
IT - Inter. Transportation	0.022%	0.000	3.160%	0.02465	2.470%
<b>Total</b>	<b>100.000%</b>		<b>100.000%</b>		<b>100.000%</b>

OFFICE OF THE ATTORNEY GENERAL  
COST OF SERVICE STUDY - PEAK & AVG - PEAK DAY  
TWELVE MONTHS ENDING SEPTEMBER 30, 2006  
GAS CASE NO: 2005-00042

ITEM	ALLO	TOTAL GAS	RESIDENTIAL	GENERAL SERV	FT FIRM TRANS	IT INTERRUPT TRANS	TOTAL AT ISSUE
<b>SUMMARY OF RESULTS</b>							
Schedule 1							
<b>NET INCOME COMPUTATION</b>							
GP11		277,747,000	202,241,958	55,870,644	14,310,769	5,323,629	277,747,000
DR11		(87,230,000)	(65,134,472)	(16,386,160)	(4,122,898)	(1,586,470)	(87,230,000)
RB71		(22,997,020)	(16,091,272)	(5,200,390)	(1,256,500)	(446,858)	(22,997,020)
RB91		167,519,980	121,016,214	34,284,094	8,929,371	3,290,301	167,519,980
GCAP		165,719,193	119,715,545	33,916,090	8,832,893	3,254,725	165,719,193
<b>CAPITALIZATION ALLOC TO GAS OPER</b>							
OM31		111,090,622	74,000,885	35,807,250	913,041	369,446	111,090,622
DE41		8,840,365	6,371,444	1,822,437	472,293	174,191	8,840,365
LS91		3,132,820	2,262,951	642,057	165,919	61,893	3,132,820
OP61		123,063,807	82,635,280	38,271,744	1,551,263	605,530	123,063,807
IB79		5,568,494	3,220,761	1,752,605	461,104	134,024	5,568,494
JB79		1,421,860	821,313	448,132	118,111	34,304	1,421,860
LO33		(362,024)	(265,629)	(71,390)	(18,166)	(6,849)	(362,024)
OPEX		129,692,137	86,411,725	40,401,101	2,112,302	767,009	129,692,137
RC51		14,561,745	9,034,760	4,114,802	1,080,520	331,663	14,561,745
CO27		(794,792)	(530,297)	(241,785)	(17,112)	(5,599)	(794,792)
CS05		143,459,090	94,916,188	44,274,118	3,175,710	1,093,074	143,459,090
R602		143,459,100	94,916,194	44,274,118	3,175,715	1,093,073	143,459,100
XREV		10	6	0	5	(1)	10
<b>EXCESS REVENUES</b>							
RETE		14,561,751	9,034,763	4,114,802	1,080,523	331,663	14,561,751
R0RE		0.087870	0.075470	0.121320	0.122330	0.101900	0.08787
RORA		0.087870	0.075469	0.121323	0.122330	0.101902	0.08787
REOE		0.11200	0.08920	0.17350	0.17530	0.13780	0.11200
AROE		0.11200	0.11200	0.11200	0.11200	0.11200	0.11200
R600		133,853,135	87,044,527	42,740,480	3,065,707	1,002,421	133,853,135
RHJD		9,605,955	7,871,661	1,533,638	110,003	90,653	9,605,955
RHJP		0.07176	0.09043	0.09588	0.09688	0.09043	0.07176
RIRD		9,605,984	7,871,668	1,533,638	110,008	90,652	9,605,984
RIRP		0.07176	0.09043	0.09588	0.09688	0.09043	0.07176

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COST OF SERVICE STUDY - PEAK & AVG - PEAK DAY  
TWELVE MONTHS ENDING SEPTEMBER 30, 2006  
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ITEM	ALLO	TOTAL GAS	RESIDENTIAL	GS GENERAL SERV	FT FIRM TRANS	IT INTERRUPT TRANS	TOTAL AT ISSUE
Schedule 2							
GROSS GAS PLT IN SERVICE							
PRODUCTION PLANT	P100	1,966,000	1,345,019	620,981	0	0	1,966,000
PRODUCTION PLANT	P121	1,966,000	1,345,019	620,981	0	0	1,966,000
TRANSMISSION PLANT							
TRANSMISSION PLANT	T100	0	0	0	0	0	0
TRANSMISSION PLANT IN SERVICE	T121	0	0	0	0	0	0
TOTAL PROD & TRANS PLANT							
PT21		1,966,000	1,345,019	620,981	0	0	1,966,000
DISTRIBUTION PLANT							
SYSTEM M&R - (2780, 2781)	D100	2,681,000	1,605,409	743,093	247,778	84,720	2,681,000
DIST REG - 2782	D102	656,000	392,818	181,824	60,628	20,730	656,000
LARGE IND M&R - (2850, 2851)	D104	469,000	0	69,042	203,222	196,736	469,000
MAINS - (2761, 2762, 2763, 2765, 2767, 2768)	D106	148,473,000	99,579,357	34,503,640	10,722,720	3,667,263	148,473,000
SERVICES - (2801, 2802, 2803, 2804, 2806-2807)	D108	65,600,000	60,437,280	4,883,920	126,608	152,192	65,600,000
MTRS & MTR INST (2810, 2811, 2820, 2821)	D110	17,200,000	11,682,756	4,689,580	504,992	322,672	17,200,000
LAND, R OF W STRUCT & IMPROV, OTH, SL	D112	1,017,000	608,990	281,882	93,981	32,137	1,017,000
HOUSE REG & INSTALL (2830-2831, 2840-2841)	D114	5,771,000	3,103,067	2,483,896	130,194	53,843	5,771,000
GAS DISTRIBUTION - COMPLETED NOT CLASS	D118	22,572,000	15,138,815	5,245,507	1,630,150	567,528	22,572,000
DISTRIBUTION PLANT IN SERVICE	D141	264,439,000	192,548,492	53,082,384	13,720,283	5,087,841	264,439,000
TOTAL TRANS & DIST PLANT	TD21	264,439,000	192,548,492	53,082,384	13,720,283	5,087,841	264,439,000
TOTAL GROSS PTD PLANT	PD21	266,405,000	193,893,511	53,703,368	13,720,283	5,087,841	266,405,000
GENERAL & INTANGIBLE PLANT							
PRODUCTION PLANT	G100	73,000	47,263	25,737	0	0	73,000
PRODUCTION PLANT COMMODITY	G102	75,000	48,558	26,442	0	0	75,000
DISTRIBUTION PLANT	G104	1,181,000	803,930	263,304	79,056	34,710	1,181,000
CUSTOMER ACCOUNTING	G106	558,000	520,022	36,047	1,406	525	558,000
CUSTOMER SERVICE & INFORMATION	G108	105,000	44,022	30,538	23,975	6,465	105,000
SALES	G110	14,000	12,816	1,173	8	3	14,000
GEN & INTANG PLANT IN SERVICE	G121	2,006,000	1,476,611	383,241	104,445	41,703	2,006,000
COMMON & OTHER PLANT							
PRODUCTION PLANT	C100	343,000	222,072	120,928	0	0	343,000
PRODUCTION PLANT COMMODITY	C102	347,000	224,662	122,338	0	0	347,000
DISTRIBUTION PLANT	C104	5,498,000	3,742,599	1,225,779	388,036	161,586	5,498,000
CUSTOMER ACCOUNTING	C106	2,596,000	2,419,316	167,702	6,542	2,440	2,596,000
CUSTOMER SERVICE & INFORMATION	C108	488,000	204,599	141,990	111,425	30,046	488,000
SALES	C110	64,000	58,588	5,361	38	13	64,000
COMMON & OTHER PLT IN SERVICE	C121	9,336,000	6,871,836	1,784,038	486,041	194,085	9,336,000
GROSS GAS PLT IN SERVICE							
GP11		277,747,000	202,241,958	55,870,644	14,310,769	5,323,629	277,747,000

OFFICE OF THE ATTORNEY GENERAL  
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ITEM	ALLO	TOTAL GAS	RESIDENTIAL	GENERAL SERV	FT TRANS	INTERRUPT TRANS	IT	TOTAL AT ISSUE
Schedule 3								
DEPRECIATION RESERVE								
PRODUCTION PLANT	P150	1,039,000	710,821	328,179	0	0	0	1,039,000
PRODUCTION PLANT	K205	1,039,000	710,821	328,179	0	0	0	1,039,000
TOTAL PROD DEPREC RESERVE	P171							
TRANSMISSION PLANT								
TRANSMISSION PLANT	T163	0	0	0	0	0	0	0
TRANSMISSION PLANT	T171	0	0	0	0	0	0	0
TOTAL TRANS DEPREC RESERVE	T171							
DISTRIBUTION PLANT								
SYSTEM M&R - (2780, 2781)	D150	1,441,000	862,885	399,402	133,177	45,636	0	1,441,000
DIST REG - 2782	D152	514,000	307,789	142,465	47,504	16,242	0	514,000
LARGE IND M&R - (2850, 2851)	D154	257,000	0	37,893	111,361	107,806	0	257,000
MAINS - (2761, 2762, 2763, 2765, 2767, 2768)	D156	41,033,000	27,520,423	9,535,659	2,963,403	1,013,515	0	41,033,000
SERVICES - (2801, 2802, 2803, 2804, 2805-2807)	D158	24,972,000	23,066,704	1,899,165	48,196	57,995	0	24,972,000
MTRS & MTR INST (2810, 2811, 2820, 2821)	D160	4,065,000	2,761,071	1,108,322	119,348	76,259	0	4,065,000
LAND, R OF W STRUCT & IMPROV, OTH, SL	D162	453,000	271,261	125,568	41,866	14,315	0	453,000
HOUSE REG & INSTALL (2830-2831, 2840-2841)	D164	976,000	524,795	420,080	22,019	9,106	0	976,000
GAS DISTRIBUTION - RWIP	D168	6,669,000	4,891,712	1,318,995	333,383	124,910	0	6,669,000
TOTAL DIST DEPREC RESERVE	D181	80,380,000	60,146,640	14,947,479	3,820,267	1,465,624	0	80,380,000
GENERAL & INTANGIBLE PLANT								
PRODUCTION PLANT	G150	37,000	23,955	13,045	0	0	0	37,000
DISTRIBUTION PLANT	G152	37,000	23,955	13,045	0	0	0	37,000
CUSTOMER ACCOUNTING	G154	588,000	400,263	131,095	39,361	17,281	0	588,000
CUSTOMER SERVICE & INFORMATION	G156	277,000	258,148	17,894	698	260	0	277,000
SALES	G158	52,000	21,801	15,124	11,873	3,202	0	52,000
TOTAL GEN DEPREC RESERVE	G171	998,000	734,531	150,769	51,936	20,744	0	998,000
COMMON & OTHER PLANT								
PRODUCTION PLANT	C150	176,000	113,949	62,051	0	0	0	176,000
DISTRIBUTION PLANT	C152	179,000	115,892	63,108	0	0	0	179,000
CUSTOMER ACCOUNTING	C154	2,835,000	1,929,841	632,063	189,775	83,321	0	2,835,000
CUSTOMER SERVICE & INFORMATION	C156	1,338,000	1,246,935	86,436	3,372	1,298	0	1,338,000
SALES	C158	252,000	105,653	73,292	57,539	15,516	0	252,000
TOTAL COM & OTHER PLT RESERVE	C171	33,000	30,210	2,764	19	7	0	33,000
TOTAL COM & OTHER PLT RESERVE	C171	4,813,000	3,542,480	918,713	250,705	100,102	0	4,813,000
TOTAL DEPRECIATION RESERVE	DR11	87,230,000	65,134,472	16,386,160	4,122,898	1,586,470	0	87,230,000

OFFICE OF THE ATTORNEY GENERAL  
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ITEM	ALLO	TOTAL	RS	GS	FT	IT	TOTAL
	Schedule 4	GAS	RESIDENTIAL	GENERAL SERV	FIRM TRANS	INTERRUPT TRANS	AT ISSUE
<b>NET GAS PLANT</b>							
PRODUCTION PLANT	P121	1,966,000	1,345,019	620,981	0	0	1,966,000
TOTAL PROD DEPRC RESERVE	P171	(1,039,000)	(710,821)	(328,179)	0	0	(1,039,000)
<b>NET PRODUCTION PLANT</b>	P221	927,000	634,198	292,802	0	0	927,000
<b>TRANSMISSION PLANT</b>							
TRANSMISSION PLANT IN SERVICE	T121	0	0	0	0	0	0
TOTAL TRANS DEPRC RESERVE	T171	0	0	0	0	0	0
<b>NET TRANSMISSION PLANT</b>	T221	0	0	0	0	0	0
<b>DISTRIBUTION PLANT</b>							
DISTRIBUTION PLANT IN SERVICE	D141	264,439,000	192,548,492	53,082,384	13,720,283	5,087,841	264,439,000
TOTAL DIST DEPRC RESERVE	D191	(80,380,000)	(60,146,640)	(14,947,479)	(3,820,257)	(1,465,624)	(80,380,000)
<b>NET DISTRIBUTION PLANT</b>	D241	184,059,000	132,401,852	38,134,905	9,900,026	3,622,217	184,059,000
<b>NET PTD PALNT</b>	NT31	184,966,000	133,036,050	38,427,707	9,900,026	3,622,217	184,966,000
<b>NET TRANS &amp; DIST PLANT</b>	NT21	184,059,000	132,401,852	38,134,905	9,900,026	3,622,217	184,059,000
<b>GENERAL &amp; INTANGIBLE PLANT</b>							
GEN & INTANG PLANT IN SERVICE	G121	2,006,000	1,476,611	383,241	104,445	41,703	2,006,000
TOTAL GEN & INTG DEPRC RESERVE	G171	(998,000)	(734,531)	(190,789)	(51,936)	(20,744)	(998,000)
<b>NET GENERAL &amp; INTANG PLANT</b>	G221	1,008,000	742,080	192,452	52,509	20,959	1,008,000
<b>COMMON &amp; OTHER PLANT</b>							
COMMON & OTH PLT IN SERVICE	C121	9,336,000	6,871,836	1,784,038	486,041	194,085	9,336,000
TOTAL COM & OTH DEPRC RESERVE	C171	(4,813,000)	(3,542,480)	(919,713)	(250,705)	(100,102)	(4,813,000)
<b>NET COMMON &amp; OTHER PLANT</b>	C221	4,523,000	3,329,356	864,325	235,336	93,983	4,523,000
<b>NET GAS PLANT IN SERVICE</b>	NP21	190,517,000	137,107,486	39,464,484	10,187,871	3,737,159	190,517,000



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ITEM	ALLO	TOTAL	RS	GS	FT	IT	TOTAL
	Schedule 5	GAS	RESIDENTIAL	GENERAL SERV	FIRM TRANS	INTERRUPT TRANS	AT ISSUE
<b>RATE BASE</b>							
<b>RATE BASE ADJUSTMENTS</b>							
<b>SUBTRACTIVE ADJUSTMENTS</b>							
B200	NP29	28,270,453	20,345,115	5,659,051	1,511,621	554,666	28,270,453
B202	NP29	3,775,446	2,717,038	782,461	201,873	74,074	3,775,446
B221		32,045,899	23,062,153	6,641,512	1,713,484	628,740	32,045,899
<b>TOTAL ACCOUNT 282</b>							
B222	K411	(3,017,383)	(2,220,845)	(576,622)	(157,085)	(62,731)	(3,017,383)
B224	K301	6,319,819	4,091,704	2,228,115	0	0	6,319,819
B243		3,302,436	1,870,759	1,651,493	(157,085)	(62,731)	3,302,436
<b>TOTAL ACCOUNT 283</b>							
B244	NP29	2,721,042	1,958,225	563,936	145,494	53,387	2,721,042
B246	NP29	33,782	24,312	7,001	1,806	663	33,782
B285		2,754,824	1,982,537	570,937	147,300	54,050	2,754,824
<b>TOTAL ACCOUNT 285</b>							
B287		38,103,159	26,915,449	8,663,942	1,703,709	620,059	38,103,159
<b>TOTAL SUBTRACTIVE ADJUSTMENTS</b>							
<b>ADDITIVE ADJUSTMENTS</b>							
V200	K411	2,103,355	1,548,174	401,951	109,501	43,729	2,103,355
V221		2,103,355	1,548,174	401,951	109,501	43,729	2,103,355
<b>TOTAL ACCOUNT 190</b>							
OTHER		0	0	0	0	0	0
V233		0	0	0	0	0	0

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	ITEM	ALLO	TOTAL	RS	GS	FT	IT	TOTAL
	Schedule 5 2		GAS	RESIDENTIAL	GENERAL SERV	FIRM TRANS	INTERRUPT TRANS	AT ISSUE
<b>RATE BASE</b>								
<b>CONSTRUCTION WORK IN PROGRESS</b>								
PRODUCTION - CWIP	V234	P129	0	0	0	0	0	0
DISTRIBUTION - CWIP	V236	D149	3,744,000	2,746,224	740,488	187,163	70,125	3,744,000
COMMON - CWIP (GAS)	V238	C129	376,000	276,758	71,850	19,575	7,817	376,000
GENERAL - CWIP	V240	G129	0	0	0	0	0	0
<b>TOTAL RATE BASE CWIP</b>	V255		4,120,000	3,022,982	812,338	206,738	77,942	4,120,000
<b>TOTAL ADDITIVE ADJUSTMENTS</b>	V289		6,223,355	4,571,156	1,214,269	316,239	121,671	6,223,355
<b>NET ORIGINAL COST RATE BASE</b>	RB21		158,637,196	114,763,193	31,834,831	8,800,401	3,238,771	158,637,196
<b>WORKING CAPITAL</b>								
<b>PLANT MATERIALS &amp; SUPPLIES</b>								
GAS ENRICHER LIQUID	W642	K205	677,245	463,330	213,915	0	0	677,245
OTHER SUPPLIES	W644	NP29	232,273	167,157	48,139	12,420	4,557	232,273
<b>TOTAL PLANT MATS. &amp; SUPPLIES</b>	W659		909,518	630,487	262,054	12,420	4,557	909,518
<b>TOTAL MATERIALS &amp; SUPPLIES</b>	W661		909,518	630,487	262,054	12,420	4,557	909,518
<b>PREPAYMENTS</b>								
KY. PSC MAINTENANCE TAX	W674	K901	105,675	68,720	33,743	2,420	792	105,675
<b>TOTAL PREPAYMENTS</b>	W687		105,675	68,720	33,743	2,420	792	105,675
<b>CASH WORKING CAPITAL</b>								
<b>TOTAL GAS, PP &amp; OTHER</b>	W705		0	0	0	0	0	0
<b>AUTO CALC (O&amp;M-GAS COST)/8</b>	W711		2,405,078	1,816,690	428,077	114,130	46,181	2,405,078
<b>TOTAL WORKING CASH</b>	W721		2,405,078	1,816,690	428,077	114,130	46,181	2,405,078
<b>MISCELLANEOUS WORKING CAPITAL</b>								
GAS STORED UNDERGROUND	W730	K205	5,462,513	3,737,124	1,725,389	0	0	5,462,513
<b>TOTAL MISC WORK CAPITAL</b>	W747		5,462,513	3,737,124	1,725,389	0	0	5,462,513
<b>TOTAL WORKING CAPITAL</b>	WC71		8,882,784	6,253,021	2,449,263	128,970	51,530	8,882,784
<b>PRELIMINARY SUMMARY</b>								
<b>TOTAL SUBTRACTIVE ADJUSTMENTS</b>	B287		(38,103,159)	(26,915,449)	(8,863,942)	(1,703,709)	(620,059)	(38,103,159)
<b>TOTAL ADDITIVE ADJUSTMENTS</b>	V289		6,223,355	4,571,156	1,214,269	316,239	121,671	6,223,355
<b>TOTAL WORKING CAPITAL</b>	WC71		8,882,784	6,253,021	2,449,263	128,970	51,530	8,882,784
<b>TOTAL RATE BASE ADJUSTMENTS</b>	RB71		(22,997,020)	(16,091,272)	(5,200,390)	(1,268,500)	(446,858)	(22,997,020)
<b>RATE BASE CALCULATION</b>								
NET GAS PLANT IN SERVICE	NP21		190,517,000	137,107,486	39,484,484	10,187,871	3,737,159	190,517,000
<b>TOTAL RATE BASE ADJUSTMENTS</b>	RB71		(22,997,020)	(16,091,272)	(5,200,390)	(1,268,500)	(446,858)	(22,997,020)
<b>TOTAL RATE BASE</b>	RB91		167,519,980	121,016,214	34,284,094	8,929,371	3,290,301	167,519,980
<b>TOTAL RATE BASE</b>	RB91		167,519,980	121,016,214	34,284,094	8,929,371	3,290,301	167,519,980
<b>CAPITALIZATION ALLOC TO GAS OPER</b>	RORA		165,719,193	119,715,545	33,916,090	8,832,833	3,254,725	165,719,193
<b>TOTAL RATE OF RETURN ALLOWABLE</b>	RC51		0.0878700000	0.0754690000	0.1213230000	0.1223300000	0.1019020000	0.0878700000
<b>RETURN ON CAPITALIZATION</b>	RC51		14,561,745	9,034,760	4,114,802	1,080,520	331,863	14,561,745

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O&M EXPENSES							
Schedule 6							
PRODUCTION O&M							
COMMODITY RELATED O&M							
P300	K301	86,063,889	55,721,204	30,342,685	0	0	86,063,889
P302	K301	359,575	232,803	126,772	0	0	359,575
P341		86,423,464	55,954,007	30,469,457	0	0	86,423,464
TOTAL ENERGY RELATED							
DEMAND RELATED PROD O&M							
P362	K301	5,786,111	3,746,160	2,039,951	0	0	5,786,111
P391		5,786,111	3,746,160	2,039,951	0	0	5,786,111
TOTAL DEMAND RELATED							
OTHER THAN COMIDEM RELATED							
PRODUCTION EXPENSES							
P400	K205	59,198	40,500	18,698	0	0	59,198
P402	K205	(5,852)	(4,004)	(1,848)	0	0	(5,852)
P441		53,346	36,496	16,850	0	0	53,346
TOTAL PROD OTHER THAN COMIDEM							
TOTAL PRODUCTION O&M							
P451		92,262,921	59,736,663	32,526,258	0	0	92,262,921
TRANSMISSION O & M							
T318		0	0	0	0	0	0
T341		0	0	0	0	0	0
TOTAL TRANSMISSION O & M							
DISTRIBUTION O & M							
D300	K300	465,649	239,339	130,335	54,006	41,989	465,649
D302	K667	1,313,352	971,171	248,289	69,516	24,376	1,313,352
D304	K203	90,071	53,936	24,985	8,324	2,846	90,071
D306	K415	1,855,310	1,244,338	431,155	133,990	45,826	1,855,310
D308	K697	366,859	235,296	115,502	10,103	5,958	366,859
D310	K415	1,118,215	749,976	259,862	80,757	27,620	1,118,215
D312	K403	334,969	308,608	24,938	646	777	334,969
D314	D249	249,268	179,308	51,646	13,408	4,906	249,268
D316	K595	32,898	0	4,844	14,255	13,799	32,898
D318	D149	(297,515)	(218,227)	(58,843)	(14,873)	(5,572)	(297,515)
D341		5,529,076	3,763,746	1,232,693	370,132	162,505	5,529,076
TOTAL DISTRIBUTION O & M							
CUSTOMER ACCOUNTING							
C300	K405	2,450,027	2,236,384	199,481	10,315	3,847	2,450,027
C302	K406	1,467,819	1,409,987	57,832	0	0	1,467,819
C304	K406	168,015	161,395	6,620	0	0	168,015
C317		4,085,861	3,807,766	263,933	10,315	3,847	4,085,861
TOTAL CUSTOMER ACCT EXPENSE							

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O&M EXPENSES							
Schedule 6 2							
CUSTOMER SERVICE & INFORMATION							
C320	K407	395,741	165,918	115,097	90,360	24,366	395,741
C322	K407	(72,070)	(30,216)	(20,951)	(16,456)	(4,437)	(72,070)
C331		323,671	135,702	94,136	73,904	19,929	323,671
SALES							
S300	K408	129,728	118,759	10,865	77	27	129,728
S302	K408	(50,526)	(46,253)	(4,232)	(30)	(11)	(50,526)
S317		79,202	72,506	6,633	47	16	79,202
ADMINISTRATIVE & GENERAL							
A300	K302	317,537	205,586	111,951	0	0	317,537
A302	K303	320,522	207,519	113,003	0	0	320,522
A304	K304	5,082,252	3,459,591	1,133,088	340,206	149,367	5,082,252
A306	K305	2,399,290	2,235,995	154,894	6,046	2,255	2,399,290
A308	K306	450,962	189,070	131,156	102,988	27,766	450,962
A310	K307	58,993	54,005	4,941	35	12	58,993
A312		8,629,556	6,351,766	1,649,135	449,256	179,400	8,629,556
A314	K411	65,000	47,843	12,422	3,384	1,351	65,000
A316	K411	(28,622)	(21,067)	(5,470)	(1,490)	(595)	(28,622)
A318	K411	143,957	105,960	27,510	7,494	2,993	143,957
A337		8,809,891	6,484,502	1,683,597	456,643	183,149	8,809,891
OM31		111,090,622	74,000,885	35,807,250	913,041	369,446	111,090,622

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	ITEM	ALLO	TOTAL	RS	GS	FT	IT	TOTAL
		Schedule 7	GAS	RESIDENTIAL	GENERAL SERV	FIRM TRANS	INTERRUPT TRANS	AT ISSUE
DEPRECIATION EXPENSE								
PRODUCTION DEPRECIATION	P460	P229	34,000	23,261	10,739	0	0	34,000
PRODUCTION DEPRECIATION	P481		34,000	23,261	10,739	0	0	34,000
TOTAL PRODUCTION DEPREC EXP.								
TRANSMISSION DEPRECIATION								
TOTAL TRANSMISSION DEP. EXP.	T481		0	0	0	0	0	0
DISTRIBUTION DEPRECIATION								
DISTRIBUTION DEPRECIATION	D460	D249	8,552,000	6,151,796	1,771,889	460,012	168,303	8,552,000
DISTRIBUTION DEPRECIATION	D462		(545,635)	(392,497)	(113,050)	(29,350)	(10,738)	(545,635)
DISTRIBUTION DEPRECIATION EXP ADJ	D481		8,006,365	5,759,299	1,658,839	430,662	157,565	8,006,365
TOTAL DIST. DEPREC EXP.								
GENERAL DEPRECIATION								
GENERAL DEPRECIATION	G460	G229	116,000	85,399	22,147	6,042	2,412	116,000
GENERAL DEPRECIATION	G476		0	0	0	0	0	0
GENERAL DEPRECIATION EXP ADJ	G481		116,000	85,399	22,147	6,042	2,412	116,000
TOTAL GENERAL DEPREC EXP.								
COMMON AND OTHER DEPRECIATION								
COMMON DEPRECIATION	C460	C229	684,000	503,485	130,712	35,589	14,214	684,000
COMMON DEPRECIATION	C476		0	0	0	0	0	0
COMMON DEPRECIATION EXP ADJ	C481		684,000	503,485	130,712	35,589	14,214	684,000
TOTAL COM & OTHER DEPREC EXP.								
TOTAL DEPRECIATION EXPENSE	DE41		8,940,365	6,371,444	1,822,437	472,293	174,191	8,940,365

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ITEM	ALLO	TOTAL	RS	GS	FT	IT	TOTAL
	Schedule 8	GAS	RESIDENTIAL	GENERAL SERV	FIRM TRANS	INTERRUPT TRANS	AT ISSUE
<b>OTHER TAXES &amp; MISC EXPENSES</b>							
<b>TAXES OTHER THAN INC &amp; REV</b>							
REAL ESTATE & PROPERTY TAX							
L500	NP29	2,550,000	1,835,132	528,488	136,349	50,031	2,550,000
L502	NP29	(53,805)	(38,721)	(11,151)	(2,877)	(1,056)	(53,805)
L521		2,496,195	1,796,411	517,337	133,472	48,975	2,496,195
<b>TOTAL REAL EST &amp; PROP TAX</b>							
<b>MISCELLANEOUS TAXES</b>							
PAYROLL & HIGHWAY	K411	620,000	456,351	118,482	32,277	12,890	620,000
L562	K411	(7,248)	(5,335)	(1,385)	(377)	(151)	(7,248)
L564	K901	(454)	(296)	(145)	(10)	(3)	(454)
L581		612,298	450,720	116,952	31,890	12,736	612,298
<b>TOTAL MISCELLANEOUS TAXES</b>							
<b>MISCELLANEOUS EXPENSES</b>							
KYPSO ON INCREASE	K901	24,327	15,820	7,768	557	182	24,327
L581		24,327	15,820	7,768	557	182	24,327
<b>TOTAL MISCELLANEOUS EXPENSES</b>							
<b>TOTAL OTHER TAX &amp; MISC EXPENSE</b>							
		3,132,820	2,262,951	642,057	185,919	61,893	3,132,820
<b>PRELIMINARY SUMMARY</b>							
OM31		111,090,622	74,000,685	35,807,250	913,041	369,446	111,090,622
DE41		8,840,365	6,371,444	1,822,437	472,293	174,191	8,840,365
L591		3,132,820	2,262,951	642,057	185,919	61,893	3,132,820
OP81		123,063,807	82,635,280	38,271,744	1,551,253	605,530	123,063,807
<b>TOTAL OP EXP EXC IT &amp; REV TAX</b>							

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ITEM	ALLO	TOTAL GAS	RS RESIDENTIAL	GS GENERAL SERV	FT FIRM TRANS	IT INTERRUPT TRANS	TOTAL AT ISSUE
INCOME TAX BASED ON RETURN							
FEDERAL INCOME TAX DEDUCTIONS							
AUTOMATIC INTEREST CALCULATION							
Y751	RB89	3,864,743	2,791,890	790,958	205,891	75,904	3,864,743
Y783		3,864,743	2,791,890	790,958	205,891	75,904	3,864,743
TOTAL INTEREST EXPENSE							
OTHER DEDUCTIONS							
Y790	DE49	5,393,820	3,867,488	1,111,936	288,138	106,258	5,393,820
Y792	NP29	(86,000)	(69,087)	(19,896)	(5,133)	(1,884)	(96,000)
Y794	K301	78,000	50,500	27,500	0	0	78,000
Y796	NP29	11,812	8,500	2,448	632	232	11,812
Y823		5,387,632	3,877,401	1,121,988	283,637	104,606	5,387,632
NET DEDUCTIONS AND ADDITIONS							
Y871		9,252,375	6,669,291	1,912,946	489,628	180,510	9,252,375
FEDERAL INCOME TAX ADJUSTMENTS							
FED PROV DEF INC TAX (410.1)							
Z750	DE49	1,731,000	1,247,583	356,846	92,470	34,101	1,731,000
Z752	NP29	(24,000)	(17,272)	(4,874)	(1,283)	(471)	(24,000)
Z754	K301	28,000	18,128	9,872	0	0	28,000
Z781		1,735,000	1,248,439	361,744	91,187	33,630	1,735,000
TOTAL FED PROV DEF IT (410.1)							

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	ITEM	ALLO	TOTAL	RS	GS	FT	IT	TOTAL
		Schedule 9 2	GAS	RESIDENTIAL	GENERAL SERV	FIRM TRANS	INTERRUPT TRANS	AT ISSUE
<b>INCOME TAX BASED ON RETURN</b>								
FED PROV DEF INC TAX (411.1)	Z811		0	0	0	0	0	0
TOTAL FED PROV DEF IT (411.1)	Z811							
<b>PRELIMINARY SUMMARY</b>								
TOTAL FED PROV DEF IT (410.1)	Z781		1,735,000	1,248,439	361,744	91,187	33,630	1,735,000
TOTAL FED PROV DEF IT (411.1)	Z811		0	0	0	0	0	0
TOTAL AMORTIZED ITC & ALLOC SERV CO CR	Z815		0	0	0	0	0	0
TOTAL FEDERAL TAX ADJUSTMENTS	Z863		1,735,000	1,248,439	361,744	91,187	33,630	1,735,000
<b>FEDERAL INCOME TAX COMPUTATION</b>								
RETURN ON CAPITALIZATION	RC51		14,561,745	9,034,760	4,114,802	1,080,520	331,663	14,561,745
NET DEDUCTIONS AND ADDITIONS	Y871		(9,252,375)	(6,669,291)	(1,912,946)	(489,628)	(180,510)	(9,252,375)
TOTAL FEDERAL TAX ADJUSTMENTS	Z863		1,735,000	1,248,439	361,744	91,187	33,630	1,735,000
TOTAL STATE PROV DEF IT (410.1 & 411.1)	Z911		437,000	314,605	90,807	23,076	8,512	437,000
AFUDC OFFSET	Z933		(362,024)	(265,629)	(71,380)	(18,168)	(6,849)	(362,024)
BASE FOR FIT COMPUTATION	I865		7,119,346	3,662,884	2,583,027	686,989	186,446	7,119,346
<b>FIT FACTOR K190/(1-K190)</b>								
PRELIM FED INCOME TAX	I867		0.53846	0.53846	0.53846	0.53846	0.53846	0.53846
TOTAL FEDERAL TAX ADJUSTMENTS	I869		3,833,494	1,972,322	1,390,861	369,917	100,384	3,833,494
NET FED INCOME TAX ALLOWABLE	Z863		1,735,000	1,248,439	361,744	91,187	33,630	1,735,000
	I879		5,668,494	3,220,761	1,752,605	461,104	134,024	5,668,494



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ITEM	ALLO	TOTAL	RS	GS	FT	IT	TOTAL
	Schedule 93	GAS	RESIDENTIAL	GENERAL SERV	FIRM TRANS	INTERRUPT TRANS	AT ISSUE
<b>INCOME TAX BASED ON RETURN</b>							
FEDERAL INCOME TAX PAYABLE		3,833,494	1,972,322	1,390,861	369,917	100,394	3,833,494
PRELIM FEDERAL INCOME TAX	1869	3,833,494	1,972,322	1,390,861	369,917	100,394	3,833,494
NET FED INCOME TAX PAYABLE	1869						
<b>STATE INCOME TAX</b>							
<b>DEDUCTIONS IN ADDITION TO Y871</b>							
DEDUCTIONS IN ADD TO Y871	Y911	0	0	0	0	0	0
<b>STATE INCOME TAX ADJUSTMENTS</b>							
<b>STATE PROV DEF INC TAX (410.1)</b>							
LIB DEPRECIATION	Z890	444,000	320,004	91,531	23,718	8,747	444,000
AMORT OF LOSS ON REACQUIRED DEBT	Z892	(12,000)	(8,636)	(2,487)	(642)	(235)	(12,000)
DEFERRED FUEL COST - PGA	Z898	5,000	3,237	1,763	0	0	5,000
TOT STATE PROV DEF IT (410.1)	Z915	437,000	314,605	90,807	23,076	8,512	437,000
<b>STATE PROV DEF INC TAX (411.1)</b>							
TOT STATE PROV DEF IT (411.1)	Z939	0	0	0	0	0	0
<b>OTHER SIT ADJUSTMENTS</b>							
OTHER SIT ADJUSTMENTS	Z841	0	0	0	0	0	0
TOTAL STATE INC TAX ADJUSTMENT	Z961	437,000	314,605	90,807	23,076	8,512	437,000



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ITEM	ALLO	TOTAL	RS	GS	FT	IT	TOTAL
	Schedule 40	GAS	RESIDENTIAL	GENERAL SERV	FIRM TRANS	INTERRUPT TRANS	AT ISSUE
<b>COST OF SERVICE COMPUTATION</b>							
OTHER OPERATING REVENUES		0	0	0	0	0	0
LATE PAYMENT CHARGES	K901	19,000	17,565	1,399	12	4	19,000
MISC SERVICE REVENUE	Q002	29,849	27,626	2,198	18	7	29,849
BAD CHECK & RECONNECTION CHARGES	Q004	0	0	0	0	0	0
OTHER MISC REV	K401	657,936	427,855	210,086	15,067	4,928	657,936
REVENUE TRANSP OF GAS ASSOC COS	Q008	88,007	57,231	28,102	2,015	659	88,007
INTERDEPARTMENTAL	K901	794,792	530,297	241,785	17,112	5,598	794,792
<b>TOTAL OTHER OPERATING REVS</b>	<b>Q027</b>						
OP61		123,063,807	82,635,280	38,271,744	1,551,253	605,530	123,063,807
RC51		14,561,745	9,034,760	4,114,802	1,080,520	331,663	14,561,745
IB79		5,568,494	3,220,761	1,752,605	461,104	134,024	5,568,494
J979		1,421,860	821,313	448,132	118,111	34,304	1,421,860
Q027		(794,792)	(530,297)	(241,785)	(17,112)	(5,598)	(794,792)
<b>SUBTOTAL B</b>	<b>CS03</b>	<b>143,821,114</b>	<b>95,181,817</b>	<b>44,345,498</b>	<b>3,193,876</b>	<b>1,059,923</b>	<b>143,821,114</b>
<b>TOTAL OTHER OPERATING REVENUES</b>	<b>Q027</b>	<b>794,792</b>	<b>530,297</b>	<b>241,785</b>	<b>17,112</b>	<b>5,598</b>	<b>794,792</b>
<b>LESS: REVS EXCL FROM REV TAX CALC</b>	<b>REXC</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>OTHER OPERATING REVS TO BE TAXED</b>	<b>OORT</b>	<b>794,792</b>	<b>530,297</b>	<b>241,785</b>	<b>17,112</b>	<b>5,598</b>	<b>794,792</b>
<b>AFUDC OFFSET</b>	<b>L032</b>	<b>(362,024)</b>	<b>(285,629)</b>	<b>(71,380)</b>	<b>(18,166)</b>	<b>(6,849)</b>	<b>(362,024)</b>
<b>OTHER DEDUCTION COST TO SERVICE</b>	<b>L033</b>	<b>(362,024)</b>	<b>(285,629)</b>	<b>(71,380)</b>	<b>(18,166)</b>	<b>(6,849)</b>	<b>(362,024)</b>
<b>TOTAL GAS COST OF SERVICE</b>	<b>CS05</b>	<b>143,459,090</b>	<b>94,916,188</b>	<b>44,274,118</b>	<b>3,175,710</b>	<b>1,093,074</b>	<b>143,459,090</b>
<b>PROPOSED REVENUES</b>	<b>R602</b>	<b>143,459,100</b>	<b>94,916,194</b>	<b>44,274,118</b>	<b>3,175,715</b>	<b>1,093,073</b>	<b>143,459,100</b>
<b>TOTAL GAS COST OF SERVICE</b>	<b>CS05</b>	<b>(143,459,090)</b>	<b>(94,916,188)</b>	<b>(44,274,118)</b>	<b>(3,175,710)</b>	<b>(1,093,074)</b>	<b>(143,459,090)</b>
<b>EXCESS REVENUES</b>	<b>XREV</b>	<b>10</b>	<b>6</b>	<b>0</b>	<b>5</b>	<b>(1)</b>	<b>10</b>
<b>COMPOSITE TAX RATE</b>	<b>CTAX</b>	<b>0.40363</b>	<b>0.40363</b>	<b>0.40363</b>	<b>0.40363</b>	<b>0.40363</b>	<b>0.40363</b>
<b>EXCESS TAX</b>	<b>XTAX</b>	<b>4</b>	<b>3</b>	<b>0</b>	<b>2</b>	<b>(1)</b>	<b>4</b>
<b>EXCESS RETURN</b>	<b>XRET</b>	<b>6</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>(0)</b>	<b>6</b>



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ITEM	ALLO	RS	GS	FT	IT	TOTAL
	Schedule 12	RESIDENTIAL	GENERAL SERV	FIRM TRANS	INTERRUPT TRANS	AT ISSUE
		TOTAL GAS				
<b>INCOME TAX BASED ON REVENUES</b>						
NET INCOME COMPUTATION		143,459,090	44,274,118	3,175,710	1,093,074	143,459,090
TOTAL GAS COST OF SERVICE	CS05	794,792	241,785	17,112	5,598	794,792
TOTAL OTHER OPERATING REVENUES	Q077	530,297				530,297
TOTAL GAS REVENUE	CS07	144,253,882	44,515,903	3,192,822	1,088,672	144,253,882
TOTAL OP EXP EX INC & REV TAX	OP61	(123,063,807)	(38,271,744)	(1,551,253)	(605,530)	(123,063,807)
FIRM SERVICE REVENUE TAX	RTXP	0	0	0	0	0
NET INCOME	NI01	21,190,075	6,244,159	1,641,569	493,142	21,190,075
<b>ADJUSTMENTS TO NET INCOME</b>						
TOTAL INTEREST EXPENSE	Y763	(3,864,743)	(790,958)	(205,991)	(75,904)	(3,864,743)
TOTAL OTHER DEDUCTIONS	Y823	(5,387,632)	(1,121,988)	(283,637)	(104,606)	(5,387,632)
PRELIMINARY TAXABLE INCOME	T101	11,937,700	4,331,213	1,151,941	312,632	11,937,700
<b>STATE INCOME TAX COMPUTATION</b>						
PRELIMINARY TAXABLE INCOME (INCL AFUDC)	T101	11,937,700	4,331,213	1,151,941	312,632	11,937,700
DEDUCTIONS IN ADD TO Y871	Y911	0	0	0	0	0
STATE TAXABLE INCOME	S101	11,937,700	4,331,213	1,151,941	312,632	11,937,700
<b>STATE INCOME TAX PAYABLE</b>						
STATE INCOME TAX RATE	K192	0.08250	0.08250	0.08250	0.08250	0.08250
PRELIM SIT = S101 * K192	ST01	984,860	357,325	95,035	25,792	984,860
OTHER SIT ADJUSTMENTS	Z955	0	0	0	0	0
STATE INCOME TAX PAYABLE	SP01	984,860	357,325	95,035	25,792	984,860
<b>SIT ALLOWABLE</b>						
STATE INCOME TAX PAYABLE	SP01	984,860	357,325	95,035	25,792	984,860
TOTAL STATE PROV DEF IT(410.1)	Z911	437,000	90,807	23,076	8,512	437,000
TOTAL STATE PROV DEF IT(411.1)	Z933	0	0	0	0	0
NET STATE INC TAX ALLOWABLE	SA01	1,421,860	448,132	118,111	34,304	1,421,860

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ITEM	ALLO	TOTAL	RS	GS	FT	IF	TOTAL
	Schedule 12 2	GAS	RESIDENTIAL	GENERAL SERV	FIRM TRANS	INTERRUPT TRANS	AT ISSUE
<b>INCOME TAX BASED ON REVENUES</b>							
<b>FEDERAL INCOME TAX COMPUTATION</b>							
T101		11,937,700	6,141,914	4,331,213	1,151,941	312,632	11,937,700
PRELIMINARY TAXABLE INCOME (INCL AFUDC)		(984,860)	(506,709)	(357,325)	(95,055)	(25,792)	(984,860)
STATE INC TAX PAYABLE		10,952,840	5,635,206	3,973,888	1,056,906	286,840	10,952,840
NET FEDERAL TAXABLE INCOME		0.35000	0.35000	0.35000	0.35000	0.35000	0.35000
FEDERAL INCOME TAX RATE		3,833,494	1,972,322	1,390,861	369,917	100,394	3,833,494
PRELIMINARY FIT = F101 * K190		1,735,000	1,248,439	361,744	91,187	33,630	1,735,000
TOTAL FED PROV DEF IT (410.1)		0	0	0	0	0	0
Z803		5,568,494	3,220,761	1,752,605	461,104	134,024	5,568,494
NET FED INC TAX ALLOWABLE							
FA01		3,833,494	1,972,322	1,390,861	369,917	100,394	3,833,494
FEDERAL INCOME TAX PAYABLE		3,833,494	1,972,322	1,390,861	369,917	100,394	3,833,494
PRELIM FIT							
FED INC TAX PAYABLE							
<b>PRELIMINARY SUMMARY</b>							
N101		21,552,099	13,076,834	6,315,539	1,659,735	499,991	21,552,099
NET INCOME (EXCL AFUDC OFFSET)		(5,568,494)	(3,220,761)	(1,752,605)	(461,104)	(134,024)	(5,568,494)
NET FED INC TAX ALLOWABLE		(1,421,860)	(821,313)	(448,132)	(118,111)	(34,304)	(1,421,860)
NET STATE INC TAX ALLOWABLE		14,561,745	9,034,760	4,114,802	1,080,520	331,663	14,561,745
OVERALL RETURN EARNED-SCH 12		0.08787	0.07547	0.12132	0.12233	0.10190	0.08787
RORX							
RATE OF RETURN EARNED-SCH 12							

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ALLOCATORS	ITEM	TOTAL GAS	RS RESIDENTIAL	GS GENERAL SERV	FT FIRM TRANS	IT INTERRUPT TRANS	TOTAL AT ISSUE
	DEMAND ENERGY & SPEC. ASSIGN						
	FIRM MCF SALES	13,035,113	7,363,676	4,009,881	1,661,556	0	13,035,113
	RATIO TO TOTAL GAS	1.00000	0.56491	0.30762	0.12747	0.00000	1.00000
	DEM PK DAY INCL IT (PK & AVG)	100,00000	59,88100	27,71700	9,24200	3,16000	100,00000
	RATIO TO TOTAL GAS	1.00000	0.59881	0.27717	0.09242	0.03160	1.00000
	DEM PK DAY EXCL FT, IT & (PK & AVG)	100,00000	68,41400	31,58600	0,00000	0,00000	100,00000
	RATIO TO TOTAL GAS	1.00000	0.68414	0.31586	0.00000	0.00000	1.00000
	TOTAL ANNUAL MCF SALES	14,326,331	7,363,676	4,009,881	1,661,556	1,291,218	14,326,331
	RATIO TO TOTAL GAS	1.00000	0.51359	0.27990	0.11598	0.09013	1.00000
	PURCHASED MCF SALES	11,373,557	7,363,676	4,009,881	0	0	11,373,557
	RATIO TO TOTAL GAS	1.00000	0.64744	0.35256	0.00000	0.00000	1.00000
	PRODUCTION-DEMAND O&M	5,786,111	3,746,160	2,039,951	0	0	5,786,111
	RATIO TO TOTAL GAS	1.00000	0.64744	0.35256	0.00000	0.00000	1.00000
	PRODUCTION-COMMODITY O&M	86,423,464	55,994,007	30,469,457	0	0	86,423,464
	RATIO TO TOTAL GAS	1.00000	0.64744	0.35256	0.00000	0.00000	1.00000
	DISTRIBUTION PLANT O & M	5,529,076	3,763,746	1,232,693	370,132	162,505	5,529,076
	RATIO TO TOTAL GAS	1.00000	0.68072	0.22295	0.06694	0.02939	1.00000
	CUSTOMER ACCOUNTING	4,085,861	3,807,766	263,933	10,315	3,847	4,085,861
	RATIO TO TOTAL GAS	1.00000	0.93194	0.06460	0.00252	0.00084	1.00000
	CUSTOMER SERVICE & INFORMATION	323,671	136,702	94,136	73,904	19,929	323,671
	RATIO TO TOTAL GAS	1.00000	0.41926	0.29084	0.22833	0.06157	1.00000
	SALES	79,202	72,506	6,633	47	16	79,202
	RATIO TO TOTAL GAS	1.00000	0.91546	0.08376	0.00059	0.00020	1.00000
	TOTAL CUSTOMERS	90,598	83,852	6,671	55	20	90,598
	RATIO TO TOTAL GAS	1.00000	0.92554	0.07363	0.00061	0.00022	1.00000
	WTD CUSTOMERS - SERVICES	91,015	83,862	6,776	176	211	91,015
	RATIO TO TOTAL GAS	1.00000	0.92130	0.07445	0.00193	0.00232	1.00000
	CUST ACCTG EXPENSE	2,084,817	1,903,029	169,754	8,770	3,264	2,084,817
	RATIO TO TOTAL GAS	1.00000	0.91280	0.08142	0.00421	0.00157	1.00000
	UNCOLLECTIBLE EXP	2,080,030	1,596,071	91,959	0	0	2,080,030
	RATIO TO TOTAL GAS	1.00000	0.76680	0.03940	0.00000	0.00000	1.00000
	CUST SERVICE & INFORMATION EXP	320,067	134,191	93,088	73,062	19,706	320,067
	RATIO TO TOTAL GAS	1.00000	0.41926	0.29084	0.22833	0.06157	1.00000
	CUSTOMER SALES EXPENSE	55,904	51,177	4,662	33	12	55,904
	RATIO TO TOTAL GAS	1.00000	0.91545	0.08375	0.00059	0.00021	1.00000
	COMBINED CUST ACCTG EXP	4,540,818	4,086,468	349,483	81,695	22,962	4,540,818
	RATIO TO TOTAL GAS	1.00000	0.89985	0.07696	0.01803	0.00506	1.00000
	A&G FACTOR	8,629,566	6,361,766	1,649,135	449,255	179,400	8,629,566
	RATIO TO TOTAL GAS	1.00000	0.73605	0.19110	0.05206	0.02079	1.00000
	METER COSTS	5,466,334	3,712,864	1,490,411	160,509	102,550	5,466,334
	RATIO TO TOTAL GAS	1.00000	0.67923	0.27265	0.02936	0.01876	1.00000

Schedule 13

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ALLOCATORS	ITEM	TOTAL GAS	RESIDENTIAL	GS	FT	IT	TOTAL
			GENERAL SERV	FIRM TRANS	INTERRUPT TRANS	IT	TOTAL
							AT ISSUE
	Schedule 13.2						
	CUSTOMER-DEMAND PK & AVG DAY(22%-78%:						
	RATIO TO TOTAL GAS	100.000	67.069	23.239	7.222	2.470	100.000
	K415	1.00000	0.67069	0.23239	0.07222	0.02470	1.00000
	WEIGHTED CUST - REGULATORS	3,806,363	2,046,675	1,638,291	85,871	35,526	3,806,363
	RATIO TO TOTAL GAS	1.00000	0.53770	0.43041	0.02256	0.00933	1.00000
	A & G PROD-DEMAND EXCL REG EXP	317,537	205,886	111,951	0	0	317,537
	RATIO TO TOTAL GAS	1.00000	0.64744	0.35256	0.00000	0.00000	1.00000
	A & G PROD-COMMODITY EXCL REG EXP	320,522	207,519	113,003	0	0	320,522
	RATIO TO TOTAL GAS	1.00000	0.64744	0.35256	0.00000	0.00000	1.00000
	A & G PROD-DISTRIBUTION EXCL REG EXP	5,082,252	3,459,591	1,133,088	340,206	149,367	5,082,252
	RATIO TO TOTAL GAS	1.00000	0.68072	0.22295	0.06694	0.02939	1.00000
	A & G PROD-CUST ACCTG EXCL REG EXP	2,399,290	2,235,995	154,994	6,046	2,285	2,399,290
	RATIO TO TOTAL GAS	1.00000	0.93194	0.06460	0.00252	0.00054	1.00000
	A & G PROD-CUST SERV & INFO EXCL REG E	450,962	189,070	131,158	102,868	27,766	450,962
	RATIO TO TOTAL GAS	1.00000	0.41926	0.29084	0.22833	0.06157	1.00000
	A & G PROD-SALES EXCL REG EXP	58,993	54,005	4,941	38	12	58,993
	RATIO TO TOTAL GAS	1.00000	0.91545	0.08376	0.00059	0.00020	1.00000
	LARGE CUSTOMERS	6,746	0	6,671	55	20	6,746
	RATIO TO TOTAL GAS	1.00000	0.00000	0.98888	0.00815	0.00296	0.99999
	ASSIGN 100% TO TRANSPORTATION	69	0	0	50	19	69
	RATIO TO TOTAL GAS	1.00000	0.00000	0.00000	0.72464	0.27536	1.00000
	GS INDUST, FT IT TRANSP	3,147,982	0	463,421	1,364,056	1,320,505	3,147,982
	RATIO TO TOTAL GAS	1.00000	0.00000	0.14721	0.43331	0.41948	1.00000
	ASSIGN 100% TO GS OTHER	1	0	0	0	1	1
	RATIO TO TOTAL GAS	1.00000	0.00000	0.00000	0.00000	1.00000	1.00000
	PLANT ACCTS 2761-2763, 2765 & 2801- 2803	148,068,000	109,489,510	27,992,736	7,837,729	2,748,025	148,068,000
	RATIO TO TOTAL GAS	1.00000	0.73946	0.18905	0.05293	0.01856	1.00000
	PLANT ACCTS 2810, 2811, 2820, 2821, 2830, 28	17,930,000	11,499,957	5,645,074	493,819	291,150	17,930,000
	RATIO TO TOTAL GAS	1.00000	0.64138	0.31484	0.02754	0.01624	1.00000
	PRESENT REVENUES	133,853,135	87,044,527	42,740,480	3,065,707	1,002,421	133,853,135
	RATIO TO TOTAL GAS	1.00000	0.65030	0.31931	0.02290	0.00749	1.00000
	DSM REV & COST ALLOC - RESIDENTIAL	1	1	0	0	0	1
	RATIO TO TOTAL GAS	1.00000	1.00000	0.00000	0.00000	0.00000	1.00000
	PRESENT REVENUES	133,853,135	87,044,527	42,740,480	3,065,707	1,002,421	133,853,135
	R602	143,459,100	94,916,194	44,274,118	3,175,715	1,093,073	143,459,100
	PROPOSED INCREASE	9,605,964	7,871,668	1,533,638	110,008	90,652	9,605,964
	REVENUE NOT TO BE INCLUDED IN REVENUE TAX CALC						
	GOVERNMENTAL	0	0	0	0	0	0
	INTERDEPARTMENTAL	0	0	0	0	0	0
	OTHER PROD GAS ASSC COS 4469-5	0	0	0	0	0	0
	RENTAL ASSOC. COS 4469-4,5,6	0	0	0	0	0	0
	NP29	0	0	0	0	0	0
	NP29	0	0	0	0	0	0
	REXC	0	0	0	0	0	0
	TOTAL	0	0	0	0	0	0



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ALLOCATORS	ITEM	TOTAL GAS	RS RESIDENTIAL GENERAL	GS GENERAL SERV	FT FIRM TRANS	IT INTERRUPT TRANS	TOTAL AT ISSUE
Schedule 13.3							
<b>WEIGHTED ALLOCATORS</b>							
<b>SPECIAL ALLOCATOR INFO FOR K667</b>							
	MAINS GROSS PLANT	148,473,000	99,579,357	34,503,640	10,722,720	3,687,283	148,473,000
	SERVICES GROSS PLANT	65,600,000	60,437,280	4,883,920	126,608	152,192	65,600,000
	MAINS ACCUM RESERVE	(41,033,000)	(27,520,423)	(9,535,659)	(2,963,403)	(1,013,515)	(41,033,000)
	SERVICE ACCUM RESERVE	(24,972,000)	(23,066,704)	(1,889,165)	(46,196)	(57,935)	(24,972,000)
	<b>TOTAL</b>	<b>148,068,000</b>	<b>109,489,510</b>	<b>27,992,736</b>	<b>7,837,729</b>	<b>2,748,025</b>	<b>148,068,000</b>
<b>SPECIAL ALLOCATOR INFO FOR K697</b>							
	MTRS & MTR INST PLANT	17,200,000	11,682,746	4,689,580	504,992	322,672	17,200,000
	HOUSE REG & INST PLANT	5,771,000	3,103,087	2,483,886	130,184	53,843	5,771,000
	MTRS & MTR INST ACCUM RES	(4,085,000)	(2,761,071)	(1,108,322)	(119,348)	(76,259)	(4,085,000)
	HOUSE REG & INST ACCUM RES	(976,000)	(524,795)	(420,080)	(22,019)	(9,106)	(976,000)
	<b>TOTAL</b>	<b>17,930,000</b>	<b>11,489,957</b>	<b>5,645,074</b>	<b>493,819</b>	<b>291,150</b>	<b>17,930,000</b>
<b>GROSS GAS PLANT IN SERVICE</b>							
	WTD GROSS PROD PLANT RATIOS	1.00000	0.68414	0.31586	0.00000	0.00000	1.00000
	WTD GROSS TRANS PLANT RATIOS	1.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	WTD GROSS P & T PLT RATIOS	1.00000	0.68414	0.31586	0.00000	0.00000	1.00000
	WTD GROSS DIST PLANT RATIOS	1.00000	0.73350	0.19778	0.04989	0.01873	1.00000
	WTD GROSS TRANS & DIST RATIOS	1.00000	0.72814	0.20074	0.05188	0.01924	1.00000
	WTD GROSS PTD PLT RATIOS	1.00000	0.72781	0.20159	0.05150	0.01810	1.00000
	WTD GROSS G & I PLT RATIOS	1.00000	0.73609	0.19105	0.05207	0.02079	1.00000
	WTD GROSS C & O PLANT RATIOS	1.00000	0.73606	0.19109	0.05208	0.02079	1.00000
	WTD GROSS PLANT RATIOS	1.00000	0.72815	0.20116	0.05152	0.01917	1.00000
	WTD DISTR ACCUM RESERVE	1.00000	0.74828	0.18586	0.04753	0.01823	1.00000
	WTD TOTAL DEPRC RES RATIOS	1.00000	0.74670	0.18785	0.04726	0.01819	1.00000
<b>NET GAS PLANT</b>							
	WTD NET PROD PLANT RATIOS	1.00000	0.68414	0.31586	0.00000	0.00000	1.00000
	WTD NET TRANS PLANT RATIOS	1.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	WTD NET DIST PLANT RATIOS	1.00000	0.71934	0.20719	0.05379	0.01968	1.00000
	WTD NET TRANS & DIST RATIOS	1.00000	0.71934	0.20719	0.05379	0.01968	1.00000
	WTD NET G & I PLT RATIOS	1.00000	0.73620	0.19092	0.05209	0.02079	1.00000
	WTD NET C & O PLANT RATIOS	1.00000	0.73609	0.19110	0.05203	0.02078	1.00000
	WTD NET PLANT RATIOS	1.00000	0.71966	0.20725	0.05347	0.01962	1.00000

OFFICE OF THE ATTORNEY GENERAL  
COST OF SERVICE STUDY - PEAK & AVG - PEAK DAY  
TWELVE MONTHS ENDING SEPTEMBER 30, 2006  
GAS CASE NO.: 2006-00042

ALLOCATORS	ITEM	TOTAL GAS	RS RESIDENTIAL GENERAL	GS GENERAL SERV	FT FIRM TRANS	IT INTERRUPT TRANS	TOTAL AT ISSUE
Schedule 13.4							
RATE BASE ADJUSTMENTS							
WORKING CAPITAL							
	W669	1.00000	0.69321	0.28812	0.01366	0.00501	1.00000
	W689	1.00000	0.65030	0.31931	0.02290	0.00749	1.00000
	W719	1.00000	0.75536	0.17799	0.04745	0.01920	1.00000
	W729	1.00000	0.75536	0.17799	0.04745	0.01920	1.00000
	W749	1.00000	0.68414	0.31586	0.00000	0.00000	1.00000
	W779	1.00000	0.70395	0.27573	0.01452	0.00580	1.00000
RATE BASE							
	R829	1.00000	0.72342	0.20088	0.05548	0.02042	1.00000
	R899	1.00000	0.72240	0.20466	0.05330	0.01964	1.00000
	CW29	1.00000	0.73373	0.19717	0.05018	0.01892	1.00000
WEIGHTED RATIOS							
O & M EXPENSES							
	P349	1.00000	0.64744	0.35256	0.00000	0.00000	1.00000
	T349	1.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	D349	1.00000	0.68072	0.22295	0.06894	0.02939	1.00000
	C319	1.00000	0.93194	0.06460	0.00252	0.00094	1.00000
	S319	1.00000	0.91546	0.08375	0.00059	0.00020	1.00000
	A339	1.00000	0.73605	0.19110	0.05206	0.02079	1.00000
	OM39	1.00000	0.66613	0.32232	0.00822	0.00333	1.00000
DEPRECIATION EXPENSES							
	P489	1.00000	0.68415	0.31585	0.00000	0.00000	1.00000
	T489	1.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	D489	1.00000	0.71934	0.20719	0.05379	0.01968	1.00000
	G489	1.00000	0.73620	0.19092	0.05209	0.02079	1.00000
	C489	1.00000	0.73609	0.19110	0.05203	0.02078	1.00000
	DE49	1.00000	0.72073	0.20815	0.05342	0.01970	1.00000
OTHER TAXES & MISC EXPENSES							
	L529	1.00000	0.71966	0.20725	0.05347	0.01962	1.00000
	L589	1.00000	0.73611	0.19101	0.05208	0.02080	1.00000
	L599	1.00000	0.72233	0.20495	0.05298	0.01976	1.00000
	OP69	1.00000	0.67148	0.31099	0.01261	0.00492	1.00000
INCOME TAXES							
	CS09	1.00000	0.66162	0.30862	0.02214	0.00762	1.00000
OPERATING EXPENSES							
	P459	1.00000	0.64746	0.35254	0.00000	0.00000	1.00000
	T349	1.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	D349	1.00000	0.68072	0.22295	0.06894	0.02939	1.00000
	C331	1.00000	0.41926	0.25064	0.22933	0.06157	1.00000

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OFFICE OF THE ATTORNEY GENERAL  
COST OF SERVICE STUDY - PEAK & AVG - PEAK DAY  
TWELVE MONTHS ENDING SEPTEMBER 30, 2006  
GAS CASE NO: 2005-00042

ITEM	ALLO	TOTAL GAS	RESIDENTIAL	GENERAL SERV	FIRM TRANS	FT	INTERRUPT TRANS	IT	TOTAL AT ISSUE
SUMMARY OF RESULTS									
Schedule 1									
NET INCOME COMPUTATION									
GP11		277,747,000	202,241,958	55,870,644	14,310,769		5,323,629		277,747,000
DR11		(87,230,000)	(65,134,472)	(16,386,160)	(4,122,898)		(1,586,470)		(87,230,000)
RB71		(22,997,020)	(16,091,272)	(5,200,390)	(1,258,558)		(446,858)		(22,997,020)
RB91		167,519,980	121,016,214	34,284,094	8,929,371		3,290,301		167,519,980
GCAP		165,719,193	119,715,545	33,916,090	8,632,833		3,254,725		165,719,193
CAPITALIZATION ALLOC TO GAS OPER									
OPERATING EXPENSES									
OM31		111,090,622	74,000,885	35,807,250	913,041		369,446		111,090,622
DE41		8,840,365	6,371,444	1,822,437	472,293		174,191		8,840,365
L591		3,132,820	2,262,951	642,057	165,919		61,893		3,132,820
OP61		123,063,807	82,635,280	38,271,744	1,551,253		605,530		123,063,807
I879		5,568,494	3,529,863	1,457,774	436,767		144,089		5,568,494
J979		1,421,860	900,724	372,387	111,859		36,890		1,421,860
LO33		(362,024)	(265,629)	(71,380)	(18,166)		(6,849)		(362,024)
OPEX	CW29	129,692,137	86,800,238	40,030,525	2,081,713		779,660		129,692,136
TOTAL OPERATING EXPENSE									
RC51		14,561,745	9,608,807	3,567,260	1,035,923		350,355		14,561,745
QO27		(794,792)	(530,297)	(241,785)	(17,112)		(5,598)		(794,792)
CS05		143,459,090	95,878,748	43,356,000	3,099,824		1,124,417		143,459,089
TOTAL GAS COST OF SERVICE									
R602		133,853,135	87,044,527	42,740,480	3,065,707		1,002,421		133,853,135
XREV		(9,605,955)	(8,934,221)	(615,520)	(34,217)		(121,996)		(9,605,954)
EXCESS REVENUES									
RETE		8,832,993	4,340,298	3,200,179	1,014,917		277,600		8,832,994
RORE		0,053300	0,036260	0,094360	0,114900		0,085290		0,053300
RORA		0,087870	0,081211	0,105179	0,117213		0,107645		0,087870
REOE		0,048500	0,017110	0,123900	0,161700		0,107200		0,048500
AROE		0,112000	0,112000	0,112000	0,112000		0,112000		0,112000
ALLOWED RETURN ON COMMON EQUITY									
R600		133,853,135	87,044,527	42,740,480	3,065,707		1,002,421		133,853,135
R1JD		9,605,955	8,934,221	615,520	34,217		121,996		9,605,954
R1JP		0,07176	0,10149	0,01440	0,01116		0,12170		0,07176
R1RD		0	0	0	0		0		0
R1RP		0,00000	0,00000	0,00000	0,00000		0,00000		0,00000
REVENUE INCREASE JUSTIFIED									
PER UNIT PRES REV									
REVENUE INCREASE REQUESTED									
PER UNIT PRES REV									

OFFICE OF THE ATTORNEY GENERAL  
COMPUTATION OF THE RATE INCREASE AMOUNT BY RATE CLASS  
ULH&P SUBSIDY EXCESS METHODOLOGY  
TWELVE MONTHS ENDING SEPTEMBER 30, 2006  
GAS CASE NO. 2005-00042

Line No.	Rate Class	Capitalization (A)	Present Revenues (B)	Net Operating Income (C)	Present ROR (D)	Gross Revenues At Average ROR (E)	Subsidy () Excess (F)	50% Reduction In Subsidy () Excess (G)	Rate Increase (H)	Proposed Revenues (I)	Proposed Percent Increase (J)	ROR At Proposed Rates (K)	Proposed Increase Reflecting Subsidy/Excess Adj (L)	Percent of Total Increase
				(C) / (A)	(C) / (A)			(F) * 50%		(B)-(I)+(J)	(J)	(K)	(L)	
1	Rate RS	119,715,545	87,044,527	4,340,298	0.036255000	90,466,295	(3,421,768)	(1,710,884)	6,939,342	95,694,753	9.938%	7.93470%	8,650,226	90.05%
2	Rate GS	33,916,090	42,740,480	3,200,179	0.094356000	40,405,676	2,334,804	1,167,402	1,965,555	43,539,033	1.868%	10.83970%	798,553	8.31%
3	Rate FT-L	8,832,833	3,065,707	1,014,917	0.114903000	2,153,331	912,376	456,188	511,997	3,121,516	1.820%	11.86710%	56,809	0.58%
4	Rate IT	3,254,725	1,002,421	277,600	0.085291000	827,833	174,588	87,294	188,661	1,103,788	10.112%	10.38650%	101,367	1.06%
5	Total	165,719,193	133,853,135	8,832,994	0.053300974	133,853,135	0	0	9,605,955	143,459,090	7.177%	8.7870%	9,605,955	100.00%

Avg. Present Rate of Return 5.3300974%

Tax Complement 0.596375

OFFICE OF THE ATTORNEY GENERAL  
COMPUTATION OF THE RATE INCREASE AMOUNT BY RATE CLASS  
AG REVENUE ALLOCATION METHODOLOGY  
TWELVE MONTHS ENDING SEPTEMBER 30, 2006  
GAS CASE NO: 2005-00042

Line No.	Rate Class	Capitalization (A)	Present Revenues (B)	Net Operating Income (C)	Present ROR (D) / (A)	Rate Increase on Revenues (E)	Present Revenue Percent (F)	Increase to Classes Under ROR (G)	Below ROR Percent (H)	Proposed Rate Increase (I) $2(E)/3 + (G)/3$	Percent of Total Increase (J)	Proposed Revenues (K) (B)+(I)	Proposed Percent Increase (L)	ROR At Proposed Rates (M)
1	Rate RS	119,715,545	87,044,527	4,340,298	0.036255000	6,246,743	65.0%	9,496,590	98.9%	7,330,025	76.31%	94,374,553	8.421%	7.27700%
2	Rate GS	33,916,090	42,740,480	3,200,179	0.094356000	3,067,268	31.9%	0	0.0%	2,044,839	21.29%	44,785,319	4.784%	13.03120%
3	Rate FT-L	8,832,833	3,065,707	1,014,917	0.114903000	220,015	2.3%	0	0.0%	146,676	1.53%	3,212,383	4.784%	12.48060%
4	Rate IT	3,254,725	1,002,421	277,600	0.085291000	71,939	0.7%	109,364	1.1%	84,414	0.88%	1,086,835	8.421%	10.07590%
5	Total	165,719,193	133,853,135	8,832,994	0.053300974	9,605,955	100.0%	9,605,955	100.0%	9,605,955	100.00%	143,459,090	7.177%	8.78700%

Avg. Present Rate of Return 5.3300974%

Tax Complement 0.596375

OFFICE OF THE ATTORNEY GENERAL  
 COST OF SERVICE STUDY - PEAK & AVG - PEAK DAY BY FUNCTION  
 TWELVE MONTHS ENDING SEPTEMBER 30, 2008  
 GAS CASE NO: 2006-00042

SUMMARY OF RESULTS	ITEM	ALLO	RS	RESIDENTIAL	PRODUCTION /		PRODUCTION /		DISTRIBUTION		DISTRIBUTION		DISTRIBUTION	
					DEMAND	COMMODITY	DEMAND	COMMODITY	LAND, STRUCT & EQUIP	DEMAND	LAND, STRUCT & EQUIP	DEMAND	LAND, STRUCT & EQUIP	DEMAND
Schedule 1														
NET INCOME COMPUTATION														
	GP11		202,241,958	1,614,354	273,220	2,668,777	0	91,593,037	0	91,593,037	0	25,833,911	0	25,833,911
	DR11		(65,134,472)	(848,726)	(139,847)	(1,539,719)	0	(24,822,051)	0	(24,822,051)	0	(7,001,056)	0	(7,001,056)
	RB71		(16,091,272)	4,165,752	(3,824,673)	(1,402,218)	0	(9,945,520)	0	(9,945,520)	0	(2,813,209)	0	(2,813,209)
	RB91		121,016,214	4,931,380	(3,691,300)	988,840	0	56,825,466	0	56,825,466	0	16,019,646	0	16,019,646
	GCAP	KRATE_BASE	119,715,545	4,877,211	(3,651,324)	978,076	0	56,214,828	0	56,214,828	0	15,847,944	0	15,847,944
OPERATING EXPENSES														
	OM31		74,000,885	4,078,523	57,208,664	109,108	0	3,357,602	0	3,357,602	0	899,487	0	899,487
	DE41		6,371,444	42,301	19,280	52,086	0	3,008,649	0	3,008,649	0	848,608	0	848,608
	L591		2,262,951	25,494	26,779	18,164	0	991,723	0	991,723	0	279,247	0	279,247
	OP61		82,635,280	4,146,318	57,254,723	179,358	0	7,357,974	0	7,357,974	0	2,027,342	0	2,027,342
	IB79		3,220,761	136,495	(100,519)	25,609	0	1,514,724	0	1,514,724	0	427,019	0	427,019
	J979		821,313	35,039	(27,249)	6,540	0	386,860	0	386,860	0	109,060	0	109,060
	LO33		(265,629)	(786)	(794)	(3,445)	0	(118,298)	0	(118,298)	0	(33,366)	0	(33,366)
	OPEX	KNET_CWIP	86,411,725	4,317,066	57,126,161	208,062	0	9,141,260	0	9,141,260	0	2,530,055	0	2,530,055
RETURN ON CAPITALIZATION														
	RC51		9,034,760	368,028	(275,562)	73,814	0	4,242,477	0	4,242,477	0	1,196,028	0	1,196,028
	QO27		(530,297)	(29,017)	(351,916)	(1,920)	0	(92,554)	0	(92,554)	0	(10,071)	0	(10,071)
	CS06		94,916,188	4,656,077	56,498,683	279,956	0	13,291,183	0	13,291,183	0	3,716,012	0	3,716,012
PROPOSED REVENUES														
	R602		94,916,194	4,893,063	56,454,711	392,167	0	18,927,332	0	18,927,332	0	2,909,101	0	2,909,101
	XREV		6	201,188	(43,972)	112,211	0	5,636,149	0	5,636,149	0	(806,911)	0	(806,911)
EXCESS REVENUES														
	RETE		9,034,763	515,729	(301,786)	140,734	0	7,603,735	0	7,603,735	0	714,806	0	714,806
	RORF		0,075,470	0,105,830	0,082,650	0,143,890	0,000,000	0,135,260	0,000,000	0,135,260	0,000,000	0,045,100	0,000,000	0,045,100
	RORA		0,075,469	0,075,469	0,075,469	0,075,469	0,075,469	0,075,469	0,075,469	0,075,469	0,075,469	0,075,469	0,075,469	0,075,469
	RECE		0,089,200	0,144,75	0,102,40	0,214,94	0,000,000	0,199,08	0,000,000	0,199,08	0,000,000	0,033,39	0,000,000	0,033,39
	AROE		0,112,00	0,112,00	0,112,00	0,112,00	0,112,00	0,112,00	0,112,00	0,112,00	0,112,00	0,112,00	0,112,00	0,112,00
ALLOWED RETURN ON COMMON EQUITY														
	R600		87,044,527	4,640,800	56,264,349	306,604	0	14,797,776	0	14,797,776	0	1,609,702	0	1,609,702
	R1JD		7,871,881	15,277	234,334	(26,848)	0	(1,506,583)	0	(1,506,583)	0	2,106,310	0	2,106,310
	R1JP		0,090,43	0,003,29	0,004,16	(0,086,91)	0,000,000	(0,101,81)	0,000,000	(0,101,81)	0,000,000	1,306,51	0,000,000	1,306,51
	R1RD		7,871,886	252,263	190,362	85,563	0	4,129,566	0	4,129,566	0	1,289,389	0	1,289,389
	R1RP		0,090,43	0,054,36	0,003,38	0,279,07	0,000,000	0,279,07	0,000,000	0,279,07	0,000,000	0,807,23	0,000,000	0,807,23

OFFICE OF THE ATTORNEY GENERAL  
 COST OF SERVICE STUDY - PEAK & AVG - PEAK DAY BY FUNCTION  
 TWELVE MONTHS ENDING SEPTEMBER 30, 2008  
 GAS CASE NO: 2005-00042

ITEM	ALLO	RS	SERVICES	METERS	CUSTOMER	CUSTOMER	CUSTOMER	CUSTOMER	CUSTOMER	BLANK
		RESIDENTIAL	CUSTOMERS	CUSTOMERS	ACCOUNTING	INFO SYSTEMS	SALES			
SUMMARY OF RESULTS										
Schedule 1										
NET INCOME COMPUTATION										
GP11		202,241,958	61,864,345	15,134,951	2,939,338	248,621	71,404	0		
DR11		(65,134,472)	(25,273,488)	(3,840,429)	(1,505,088)	(127,454)	(36,619)	0		
R871		(16,091,272)	(5,271,627)	(1,536,316)	3,175,077	74,020	25,442	0		
R891		121,016,214	31,319,230	9,758,206	4,609,332	195,187	60,227	0		
GCAP	KRATE_BASE	119,715,545	30,982,383	9,653,862	4,559,965	192,742	59,858	0		
OPERATING EXPENSES										
OM31		74,000,885	1,529,452	1,796,931	4,560,732	331,646	128,740	0		
DE41		6,371,444	1,662,030	508,514	207,428	17,521	5,027	0		
L591		2,262,951	557,104	167,138	177,972	15,036	4,284	0		
OP81		82,635,280	3,748,586	2,472,583	4,946,132	364,203	138,061	0		
I879		3,220,761	826,910	260,541	123,394	5,019	1,569	0		
J979		821,313	211,187	66,549	31,641	1,284	402	0		
LO33	KNET_CWIP	(265,929)	(79,899)	(19,548)	(8,561)	(725)	(207)	0		
OPEX		86,411,725	4,706,784	2,780,125	5,092,606	369,781	139,825	0		
RETURN ON CAPITALIZATION										
RC51		9,034,760	2,338,209	728,567	344,136	14,546	4,517	0		
QC27		(530,297)	(19,547)	(9,868)	(14,048)	(956)	(370)	0		
CS05		94,916,188	7,025,448	3,498,824	5,422,694	383,341	143,972	0		
PROPOSED REVENUES										
R602		94,916,184	5,647,096	2,851,378	4,058,786	284,646	106,723	0		
XREV		6	(1,378,350)	(647,446)	(1,363,908)	(98,695)	(37,249)	0		
TOTAL RETURN EARNED										
RETE		9,034,763	1,516,196	342,446	(469,265)	(44,313)	(17,697)	0		
R0RE		0,075,470	0,048,940	0,035,470	(0,102,910)	(0,229,910)	(0,295,650)	0,000,000		
RORA		0,075,469	0,075,469	0,075,469	0,075,469	0,075,469	0,075,469	0,075,469		
REOE		0,08920	0,04045	0,01569	(0,23861)	(0,47199)	(0,59280)	0,00000		
AROE		0,11200	0,11200	0,11200	0,11200	0,11200	0,11200	0,11200		
ALLOWED RETURN ON COMMON EQUITY										
R600		87,044,527	3,124,727	1,577,763	2,245,862	157,504	59,053	0		
R1JD		7,871,881	3,900,719	1,921,081	3,176,832	225,837	84,819	0		
R1JP		0,09043	1,24834	1,21759	1,41453	1,43385	1,43801	0,00000		
R1RD		7,871,888	2,522,389	1,273,815	1,812,924	127,142	47,870	0		
R1RP		0,09043	0,80723	0,80723	0,80723	0,80723	0,80724	0,00000		

OFFICE OF THE ATTORNEY GENERAL  
COST OF SERVICE STUDY - PEAK & AVG - PEAK DAY BY FUNCTION  
TWELVE MONTHS ENDING SEPTEMBER 30, 2008  
GAS CASE NO: 2006-00042

	ITEM	ALLO	RS	TOTAL DISTRIBUTION	TOTAL AT ISSUE	ALL OTHER	PRODUCTION		DISTRIB
							DEMAND	COMMODITY	
<b>SUMMARY OF RESULTS</b>									
<b>NET INCOME COMPUTATION</b>									
	GP11		202,241,958	200,354,384	202,241,958	0	1,614,354	273,220	94,261,814
	DR11		(65,134,472)	(64,146,999)	(65,134,472)	0	(848,726)	(139,847)	(26,361,770)
	RB71		(16,091,272)	(16,432,351)	(16,091,272)	0	4,165,752	(3,824,673)	(10,085,738)
	RB81		121,016,214	119,776,134	121,016,214	0	4,931,380	(3,691,300)	57,814,306
	GCAP	KRATE_BASE	119,715,545	118,489,658	119,715,545	0	4,877,211	(3,651,324)	57,192,904
	OM31		74,000,885	12,713,698	74,000,885	0	4,078,523	57,208,664	3,466,710
	DE41		6,371,444	6,309,863	6,371,444	0	42,301	19,280	3,060,735
	L691		2,262,951	2,210,678	2,262,951	0	25,494	26,779	1,009,887
	OP61		82,685,280	21,234,239	82,685,280	0	4,146,318	57,264,723	7,537,332
	IB79		3,220,761	3,184,785	3,220,761	0	136,495	(100,519)	1,540,333
	J879		821,313	813,523	821,313	0	35,039	(27,249)	393,400
	LO33	KNET_CWIP	(265,629)	(264,049)	(265,629)	0	(786)	(794)	(121,743)
	OPEX		86,411,725	24,968,498	86,411,725	0	4,317,066	57,126,161	9,349,322
	RC51		9,034,760	8,942,294	9,034,760	0	368,028	(275,562)	4,316,291
	QO27		(530,297)	(149,364)	(530,297)	0	(29,017)	(351,916)	(94,474)
	CS05		94,916,188	33,761,428	94,916,188	0	4,656,077	56,498,683	13,571,139
	R602		94,916,194	35,177,229	96,525,003	0	4,893,063	56,454,711	19,319,499
	XREV		6	(331,286)	1,758	0	201,188	(43,972)	5,748,360
	RETE		9,034,763	9,621,389	9,919,875	0	515,729	(301,786)	7,744,469
	RORE		0,075470	0,079580	0,080390	0,000000	0,105830	0,082650	0,135410
	RORA		0,075469	0,075469	0,075469	0,075469	0,075469	0,075469	0,075469
	REOE		0,08920	0,09649	0,09798	0,000000	0,14475	0,10240	0,19935
	AROE		0,11200	0,11200	0,11200	0,11200	0,11200	0,11200	0,11200
	R600		87,044,527	23,876,991	84,784,140	2,260,387	4,640,800	56,264,349	15,104,380
	RUD		7,871,681	8,882,437	10,132,048	(2,280,387)	15,277	234,334	(1,533,241)
	RUP		0,09043	0,41385	0,11950	(1,000000)	0,00329	0,00416	(0,10151)
	RIRD		7,871,688	11,288,238	11,740,863	0	252,283	190,382	4,215,119
	RIRP		0,09043	0,47315	0,13848	0,000000	0,05436	0,00338	0,27907



OFFICE OF THE ATTORNEY GENERAL  
COST OF SERVICE STUDY - PEAK & AVG - PEAK DAY BY FUNCTION  
TWELVE MONTHS ENDING SEPTEMBER 30, 2006  
GAS CASE NO: 2005-00042

	ITEM	ALLO	RS		IUTION		TOTAL		TOTAL	CUSTOMER
			RESIDENTIAL	CUSTOMER	Cust Acctg	DISTRIBUTION	AT ISSUE	w/o Mains		
<b>SUMMARY OF RESULTS</b>										
Schedule 1										
<b>NET INCOME COMPUTATION</b>										
	GP11		202,241,958	106,092,570	3,259,363	200,354,384		202,241,958		
	DR11		(65,134,472)	(37,784,129)	(1,669,156)	(64,146,899)		(65,134,472)		
	RB71		(16,091,272)	(6,346,613)	3,274,539	(16,432,351)		(16,091,272)		
	RB81		121,016,214	61,961,828	4,864,746	119,776,134		121,016,214		
	GCAP	KRATE_BASE	119,715,545	61,296,754	4,812,565	118,489,658		119,715,545		45,448,810
<b>OPERATING EXPENSES</b>										
	OM31		74,000,885	9,246,988	5,021,118	12,713,698		74,000,885		
	DE41		6,371,444	3,249,128	229,976	6,309,863		6,371,444		
	L691		2,262,951	1,200,791	197,302	2,210,678		2,262,951		
	OP61		82,635,280	13,696,907	5,448,396	21,234,239		82,635,280		
	I678		3,220,761	1,644,452	129,982	3,184,785		3,220,761		
	J678		821,313	420,123	33,327	813,523		821,313		
	LO33	KNET_CWIP	(285,629)	(142,306)	(9,493)	(264,049)		(285,629)		
	OPEX		86,411,725	15,619,176	5,602,212	24,968,498		86,411,725		13,089,121
<b>RETURN ON CAPITALIZATION</b>										
	RC51		9,034,760	4,626,003	363,199	8,942,294		9,034,760		
	QO27		(530,297)	(54,890)	(15,404)	(149,364)		(530,297)		
	CS05		94,916,188	20,190,289	5,950,007	33,761,428		94,916,188		
<b>PROPOSED REVENUES</b>										
	R602		94,916,194	15,857,730	4,450,155	35,177,229		96,525,003		
	XREV		6	(5,194,427)	(1,499,852)	(331,286)		1,758		
<b>EXCESS REVENUES</b>										
	RETE		9,034,763	1,963,163	(531,275)	9,621,389		9,919,875		
	RORE		0,075470	0,031500	(0,110390)	0,079580		0,081220		
	RORA		0,075469	0,075469	0,075469	0,075469		0,075469		
	ROEE		0,08920	0,00809	(0,25235)	0,09649		0,09950		
	AROE		0,11200	0,11200	0,11200	0,11200		0,11200		
<b>ALLOWED RETURN ON COMMON EQUITY</b>										
	R600		87,044,527	8,774,611	2,462,419	23,878,991		84,784,140		
	R1JD		7,871,661	11,415,678	3,487,588	9,882,437		10,132,048		
	R1JP		0,09043	1,30099	1,41633	0,41385		0,11950		
	R1RD		7,871,666	7,063,119	1,887,736	11,289,238		11,740,863		
	R1RP		0,09043	0,80723	0,80723	0,47315		0,13848		





OFFICE OF THE ATTORNEY GENERAL  
COST OF SERVICE STUDY - PEAK & AVG - PEAK DAY BY FUNCTION  
TWELVE MONTHS ENDING SEPTEMBER 30, 2006  
GAS CASE NO: 2005-00042

ITEM	ALLO	RS	TOTAL	TOTAL	TOTAL	ALL	PRODUCTION			DISTRIBUTION	
							RESIDENTIAL	DISTRIBUTION	AT ISSUE	OTHER	DEMAND
Schedule 6											
<b>O&amp;M EXPENSES</b>											
<b>PRODUCTION O&amp;M</b>											
COMMODITY RELATED O&M											
P300	KPROD_COM	55,721,204	0	55,721,204	0	0	0	55,721,204	0	0	0
P302	KPROD_COM	232,803	0	232,803	0	0	0	232,803	0	0	0
P341		55,954,007	0	55,954,007	0	0	0	55,954,007	0	0	0
<b>TOTAL ENERGY RELATED</b>											
P352	KPROD	3,746,160	0	3,746,160	0	0	0	3,746,160	0	0	0
P391		3,746,160	0	3,746,160	0	0	0	3,746,160	0	0	0
<b>DEMAND RELATED PROD O&amp;M</b>											
ANNUALIZED GAS COST - DEMAND											
<b>TOTAL DEMAND RELATED</b>											
<b>OTHER THAN ENDEIM RELATED</b>											
P400	KPROD	40,500	0	40,500	0	0	0	40,500	0	0	0
P402	KPROD	(4,004)	0	(4,004)	0	0	0	(4,004)	0	0	0
P441		36,496	0	36,496	0	0	0	36,496	0	0	0
<b>TOTAL PROD OTHER THAN ENDEIM</b>											
P451		59,736,663	0	59,736,663	0	0	0	59,736,663	0	0	0
<b>TOTAL PRODUCTION O&amp;M</b>											
<b>TRANSMISSION O &amp; M</b>											
T318		0	0	0	0	0	0	0	0	0	0
T341		0	0	0	0	0	0	0	0	0	0
<b>TOTAL TRANSMISSION O &amp; M</b>											
<b>DISTRIBUTION O &amp; M</b>											
LOAD DISPATCH, RENTS											
D300	KNET_PLNT_DIST	239,339	239,338	239,339	0	0	0	1	0	120,823	118,515
D302	KDIST_MA_D	971,171	971,171	971,171	0	0	0	0	0	757,513	213,658
D304	KDIST_STR_D	53,936	53,936	53,936	0	0	0	0	0	53,936	0
D308	KMTRS_CUS	1,244,339	1,244,339	1,244,339	0	0	0	0	0	0	1,244,339
D308	KMTRS_CUS	235,296	235,296	235,296	0	0	0	0	0	0	235,296
D310	KDIST_MA_D	749,976	749,976	749,976	0	0	0	0	0	584,981	164,995
D312	KSERV_CUS	308,608	308,608	308,608	0	0	0	0	0	0	308,608
D314	KNET_PLNT_DIST	179,308	179,308	179,308	0	0	0	0	0	90,519	88,789
D316	KDIST_LRIND_D	0	0	0	0	0	0	0	0	0	0
D318	KDIST_PLNT_DIST	(218,227)	(218,227)	(218,227)	0	0	0	0	0	(110,165)	(108,062)
D341	KNET_PLNT_DIST	3,763,746	3,763,745	3,763,746	0	0	0	1	0	1,497,607	2,266,138
<b>TOTAL DISTRIBUTION O &amp; M</b>											
<b>CUSTOMER ACCOUNTING</b>											
TOT CUST ACCT EXP EXCLUD UNCOLL EXP											
C300	KGUST_ACCTG	2,236,384	2,236,384	2,236,384	0	0	0	0	0	0	2,236,384
C302	KFUNC_REV	1,409,987	397,138	1,409,987	0	0	0	77,153	935,696	251,189	145,949
C304	KFUNC_REV	161,395	45,458	161,395	0	0	0	8,832	107,105	28,752	16,706
C317		3,807,766	2,678,980	3,807,766	0	0	0	65,985	1,042,801	279,941	2,399,039
<b>TOTAL CUSTOMER ACCT EXPENSE</b>											

OFFICE OF THE ATTORNEY GENERAL  
COST OF SERVICE STUDY - PEAK & AVG - PEAK DAY BY FUNCTION  
TWELVE MONTHS ENDING SEPTEMBER 30, 2006  
GAS CASE NO: 2006-00042

O&M EXPENSES	ITEM	ALLO	RS		TOTAL	TOTAL	CUSTOMER
			RESIDENTIAL	Cust Acctg			
Schedule 8							
PRODUCTION O&M							
COMMODITY RELATED GAS COST - COMMODITY	P300	KPROD_COM	56,721,204	0	0	55,721,204	
PURCHASED GAS & OTHER	P302	KPROD_COM	232,803	0	0	232,803	
TOTAL ENERGY RELATED	P341		56,954,007	0	0	55,954,007	
DEMAND RELATED PROD O&M	P352	KPROD	3,746,160	0	0	3,746,160	
ANNUALIZED GAS COST - DEMAND	P391		3,746,160	0	0	3,746,160	
TOTAL DEMAND RELATED							
OTHER THAN ENDEMI RELATED	P400	KPROD	40,500	0	0	40,500	
PRODUCTION EXPENSES	P402	KPROD	(4,004)	0	0	(4,004)	
ELIM OTHER THAN ULH&P PORTION	P441		36,496	0	0	36,496	
TOTAL PROD OTHER THAN ENDEMI							
TOTAL PRODUCTION O&M	P451		59,736,663	0	0	59,736,663	
TRANSMISSION O & M	T318		0	0	0	0	
TRANSMISSION O & M	T341		0	0	0	0	
TOTAL TRANSMISSION O & M							
DISTRIBUTION O & M	D300	KNET_PLNT_DIST	239,339	0	239,338	239,339	
LOAD DISPATCH, RENTS	D302	KDIST_MA_D	971,171	0	971,171	971,171	
MAINS & SERVICES OPER	D304	KDIST_STR_D	53,936	0	53,936	53,936	
M & R STATION	D308	KMTRS_CUS	1,244,339	0	1,244,339	1,244,339	
CUSTOMER INST & OTHER	D308	KMTRS_CUS	235,296	0	235,296	235,296	
METERS & HOUSE REG	D310	KDIST_MA_D	749,976	0	749,976	749,976	
MAINS	D312	KSERV_CUS	308,608	0	308,608	308,608	
SERVICES	D314	KNET_PLNT_DIST	179,308	0	179,308	179,308	
SUPV, ENG & OTHER	D316	KDIST_LRGIND_D	0	0	0	0	
M & R, INDUSTRIAL	D318	KNET_PLNT_DIST	(218,227)	0	(218,227)	(218,227)	
ELIMIN OTHER THAN ULH&P PORTION	D341		3,763,746	0	3,763,746	3,763,746	Customer Related
TOTAL DISTRIBUTION O & M							Uncollectible
CUSTOMER ACCOUNTING	C300	KCUST_ACCTG	2,236,384	2,236,384	2,236,384	2,236,384	
TOT CUST ACCT EXP EXCLUD UNCOLL EXP	C302	KFUNC_REV	1,409,987	40,961	397,138	1,409,987	119,173
UNCOLLECTIBLE EXP	C304	KFUNC_REV	161,395	4,688	45,458	161,395	13,641
ANNUALIZED UNCOLL EXP ADJ	C317		3,807,766	2,282,033	2,676,980	3,807,766	132,814
TOTAL CUSTOMER ACCT EXPENSE							

Office of the Attorney General  
Case No. 2005-00042  
Residential Service  
Customer Charge / Minimum Bill Rationale  
Twelve Months Ending September 30, 2006

<u>Line No.</u>	<u>Description</u>	<u>Amount</u>
1	Capitalization allocated to Gas Operations	<u>\$45,448,810</u>
2	Operating Expenses excluding Mains	\$13,089,121
3	Less Customer Assigned Uncollectibles	<u>(\$132,814)</u>
4	Customer Operating Expenses	\$12,956,307
5	Return at 7.312%	<u>\$3,323,388</u>
6	Operating Expense plus Return	\$16,279,695
7	Less Total Other Operating Revenues	<u>(\$118,309)</u>
8	Customer Cost Component (Revenue Requirement)	<u>\$16,161,386</u>
9	Total Residential Customers	88,099
10	Annual Revenue / Customer	\$183.45
11	Monthly Revenue / Customer	\$15.29
12	Current Customer Charge	\$8.30
13	Difference	\$6.99
14	1/3 of Difference	\$2.33
15	<b><u>Proposed Monthly Customer Charge</u></b>	<b><u>\$10.63</u></b>

OFFICE OF THE ATTORNEY GENERAL  
 COST OF SERVICE STUDY - PEAK & AVG - PEAK DAY BY FUNCTION  
 TWELVE MONTHS ENDING SEPTEMBER 30, 2008  
 GAS CASE NO: 2008-00042

ITEM	ALLO	GENERAL SERV	PRODUCTION / PROCUREMENT		PRODUCTION / PROCUREMENT		DISTRIBUTION LAND, STRUCT & EQUIP		DISTRIBUTION LAND, STRUCT & EQUIP		DISTRIBUTION MANS		DISTRIBUTION MANS	
			DEMAND	COMMODITY	DEMAND	COMMODITY	DEMAND	COMMODITY	DEMAND	COMMODITY	DEMAND	COMMODITY	DEMAND	COMMODITY
<b>SUMMARY OF RESULTS</b>														
<b>NET INCOME COMPUTATION</b>														
GP11		55,870,644	767,646	148,780	1,311,622	0	0	31,874,078	8,990,125					
DR11		(16,386,160)	(403,275)	(76,153)	(755,292)	0	0	(6,653,958)	(2,440,859)					
RB71		(5,200,390)	1,924,434	(2,148,222)	(67,700)	1	1	(3,440,060)	(971,928)					
RB91		34,284,094	2,288,805	(2,075,595)	488,630	1	1	19,780,060	5,577,338					
GCAP		33,916,090	2,263,899	(2,053,280)	483,304	0	0	19,567,888	5,517,470					
<b>CAPITALIZATION ALLOC TO GAS OPER</b>														
OM31		35,807,250	2,175,263	30,631,603	59,670	1	1	1,156,837	323,750					
DE41		1,822,437	21,105	10,500	25,979	0	0	1,052,950	296,977					
L691		642,057	13,222	14,507	9,260	0	0	352,555	99,139					
OP61		38,271,744	2,209,590	30,656,610	94,909	1	1	2,562,342	719,866					
I879		1,752,605	119,233	(107,259)	24,608	0	0	1,010,750	284,994					
J979		448,132	30,622	(28,333)	6,302	0	0	258,875	72,993					
L033		(71,380)	(429)	(433)	(1,667)	0	0	(40,537)	(11,434)					
OPEX		40,401,101	2,359,016	30,520,585	124,152	1	1	3,791,430	1,066,419					
<b>TOTAL OPERATING EXPENSE</b>														
RC51		4,114,802	274,663	(249,110)	58,636	0	0	2,374,035	669,396					
QO27		(241,785)	(15,652)	(175,497)	(1,212)	(5)	(5)	(42,113)	(2,359)					
CS05		44,274,118	2,618,027	30,095,978	181,576	(4)	(4)	6,123,352	1,733,456					
<b>TOTAL OTHER OPERATING REVENUES</b>														
<b>TOTAL GAS COST OF SERVICE</b>														
R802		44,274,118	3,316,711	30,296,333	209,461	1,773	1,773	7,287,567	1,021,607					
XREV		0	698,684	200,355	27,885	1,777	1,777	1,164,215	(711,849)					
<b>PROPOSED REVENUES</b>														
<b>EXCESS REVENUES</b>														
RETE		4,114,802	691,340	(129,623)	75,266	1,060	1,060	3,068,344	244,967					
R0RE		0,121,320	0,305,980	0,063,130	0,155,730	0,000,000	0,000,000	0,156,810	0,044,380					
RORA		0,121,323	0,121,323	0,121,323	0,121,323	0,121,323	0,121,323	0,121,323	0,121,323					
REOE		0,17350	0,51171	0,06652	0,23670	0,00000	0,00000	0,23688	0,03207					
AROE		0,11200	0,11200	0,11200	0,11200	0,11200	0,11200	0,11200	0,11200					
<b>TOTAL RETURN EARNED</b>														
R600		42,740,480	2,702,951	30,296,784	208,951	706	706	7,269,827	407,316					
R1JD		1,533,638	(84,924)	(200,806)	(27,375)	(710)	(710)	(1,146,475)	1,326,140					
R1JP		0,03568	(0,03142)	(0,00663)	(0,13101)	(1,00567)	(1,00567)	(0,15770)	3,25580					
R1RD		1,533,638	613,760	(451)	510	1,067	1,067	17,740	614,291					
R1RP		0,03568	0,22707	(0,00001)	0,00244	1,51133	1,51133	0,00244	1,50814					

OFFICE OF THE ATTORNEY GENERAL  
COST OF SERVICE STUDY - PEAK & AVG - PEAK DAY BY FUNCTION  
TWELVE MONTHS ENDING SEPTEMBER 30, 2008  
GAS CASE NO: 2005-00042

ITEM	ALLO	GS	SERVICES CUSTOMERS	METERS CUSTOMERS	CUSTOMER ACCOUNTING	CUSTOMER SERVICE & INFO SYSTEMS	CUSTOMER SALES	BLANK
<b>SUMMARY OF RESULTS</b>								
<b>NET INCOME COMPUTATION</b>								
GP11		55,870,644	5,020,931	7,374,711	203,749	172,468	6,534	0
DR11		(16,366,160)	(2,050,744)	(1,809,784)	(104,329)	(88,416)	(3,350)	0
RB71		(5,200,390)	(423,036)	(775,148)	647,953	51,004	2,312	0
RB81		34,284,084	2,547,151	4,789,779	747,373	135,056	5,496	0
GCAP	KRATE_BASE	33,916,090	2,519,965	4,738,417	739,371	133,629	5,427	0
<b>OPERATING EXPENSES</b>								
OM31		35,807,250	141,033	721,326	357,930	228,153	11,684	0
DE41		1,822,437	135,949	251,984	14,379	12,154	460	0
L691		642,057	46,350	83,866	12,336	10,429	393	0
OP81		38,271,744	323,332	1,057,176	384,645	250,736	12,537	0
IB79		1,752,805	129,537	244,991	38,695	6,778	276	0
J979		448,132	33,177	62,749	9,937	1,739	71	0
LO33	KNET_CWIP	(71,380)	(6,386)	(9,379)	(593)	(503)	(19)	0
OPEX		40,401,101	479,660	1,355,537	432,684	288,750	12,865	0
<b>RETURN ON CAPITALIZATION</b>								
RC51		4,114,802	305,730	574,879	89,703	16,212	658	0
QO27		(241,785)	(1,078)	(2,595)	(806)	(446)	(22)	0
CS05		44,274,118	784,312	1,927,821	521,581	274,516	13,501	0
<b>PROPOSED REVENUES</b>								
R602		44,274,118	466,475	1,123,268	348,235	193,133	9,555	0
XREV		0	(317,837)	(604,553)	(173,346)	(81,383)	(3,946)	0
<b>EXCESS REVENUES</b>								
RETE		4,114,802	116,180	95,064	(13,676)	(32,323)	(1,695)	0
RORE		0.121320	0.046100	0.020060	(0.018500)	(0.241890)	(0.312330)	0.000000
RORA		0.121323	0.121323	0.121323	0.121323	0.121323	0.121323	0.121323
ROEE		0.17350	0.03523	(0.01262)	(0.08349)	(0.49401)	(0.62346)	0.000000
AROE		0.11200	0.11200	0.11200	0.11200	0.11200	0.11200	0.11200
<b>PRESENT REVENUES</b>								
R600		42,740,480	185,984	447,848	138,842	77,003	3,810	0
R1JD		1,533,638	598,328	1,479,973	382,739	197,513	9,691	0
R1PJ		0.03588	3.21709	3.30463	2.75665	2.56500	2.54357	0.000000
R1RD		1,533,638	280,491	675,420	209,393	116,130	5,745	0
R1RP		0.03588	1.50815	1.50815	1.50815	1.50815	1.50787	0.000000



OFFICE OF THE ATTORNEY GENERAL  
COST OF SERVICE STUDY - PEAK & AVG - PEAK DAY BY FUNCTION  
TWELVE MONTHS ENDING SEPTEMBER 30, 2008  
GAS CASE NO: 2006-00042

SUMMARY OF RESULTS	ITEM	ALLO	GS GENERAL SERV	TOTAL DISTRIBUTION	TOTAL AT ISSUE	ALL OTHER	PRODUCTION		DISTRIBUTION	
							DEMAND	COMMODITY	DEMAND	CUSTOMER
Schedule 1										
NET INCOME COMPUTATION										
GROSS GAS PLANT IN SERVICE	GP11		55,870,644	54,954,218	55,870,644	0	767,646	148,780	33,185,700	21,768,518
TOTAL DEPRECIATION RESERVE	DR11		(16,386,160)	(15,906,732)	(16,386,160)	0	(403,275)	(76,153)	(9,409,250)	(6,497,482)
TOTAL RATE BASE ADJUSTMENTS	RB71		(5,200,390)	(4,976,602)	(5,200,390)	0	1,924,454	(2,148,222)	(3,507,760)	(1,468,842)
TOTAL RATE BASE	RB91		34,284,094	34,070,884	34,284,094	0	2,286,805	(2,075,595)	20,268,690	13,802,194
CAPITALIZATION ALLOC TO GAS OPER	GCAP	KRATE_BASE	33,916,090	33,705,471	33,916,090	0	2,263,899	(2,053,280)	20,051,192	13,654,279
OPERATING EXPENSES										
TOTAL O&M EXPENSE	OM31		35,807,250	3,000,384	35,807,250	0	2,175,263	30,631,603	1,216,507	1,783,877
TOTAL DEPRECIATION EXPENSE	DE41		1,822,437	1,790,832	1,822,437	0	21,105	10,500	1,078,929	711,903
TOTAL OTHER TAX & MISC EXPENSE	L591		642,057	614,328	642,057	0	13,222	14,507	361,815	252,513
TOTAL OP EXP EXC INC & R TAX	OP81		38,271,744	5,405,544	38,271,744	0	2,209,590	30,656,610	2,657,251	2,748,293
NET FED INCOME TAX EXP ALLOWABLE	IB79		1,752,605	1,740,629	1,752,603	2	119,293	(107,259)	1,035,358	705,271
NET STATE INCOME TAX EXP ALLOWABLE	J979		448,132	445,843	448,132	0	30,622	(28,333)	265,177	180,866
AFUDC OFFSET	LO33	KNET_CWIP	(71,380)	(70,518)	(71,380)	0	(429)	(433)	(42,204)	(28,314)
TOTAL OPERATING EXPENSE	OPEX		40,401,101	7,521,498	40,401,099	2	2,359,016	30,520,565	3,915,582	3,605,916
RETURN ON CAPITALIZATION	RC61		4,114,802	4,089,249	4,114,802	0	274,663	(249,110)	2,432,671	1,656,578
TOTAL OTHER OPERATING REVENUES	QO27		(241,785)	(50,636)	(241,785)	0	(15,652)	(175,497)	(43,325)	(7,311)
TOTAL GAS COST OF SERVICE	CS06		44,274,118	11,560,111	44,274,116	2	2,618,027	30,095,978	6,304,928	5,255,183
PROPOSED REVENUES	R602		44,274,118	10,661,074	44,274,118	0	3,316,711	30,296,333	7,497,028	3,164,046
EXCESS REVENUES	XREV		0	(899,037)	2	(2)	698,684	200,355	1,192,100	(2,091,137)
TOTAL RETURN EARNED	RETE		4,114,802	3,553,087	4,114,804	(1)	691,340	(129,623)	3,143,610	409,477
RATE OF RETURN EARNED ON CAP	RORE		0.121320	0.105420	0.120020	0.000000	0.305390	0.063130	0.156780	0.029990
TOTAL RATE OF RETURN ALLOWABLE	RORA		0.121323	0.121323	0.121323	0.000000	0.121323	0.121323	0.121323	0.121323
RETURN EARNED ON COMMON EQUITY	REDE		0.17350	0.14424	0.17107	0.000000	0.51171	0.06652	0.23862	0.00562
ALLOWED RETURN ON COMMON EQUITY	AROE		0.11200	0.11200	0.11200	0.11200	0.11200	0.11200	0.11200	0.11200
PRESENT REVENUES	R600		42,740,480	8,740,287	41,740,022	1,000,458	2,702,951	30,296,784	7,478,778	1,261,509
REVENUE INCREASE JUSTIFIED	R1JD		1,533,638	2,819,824	2,534,094	(1,000,456)	(84,924)	(200,806)	(1,173,850)	3,993,674
PER UNIT PRES REV	R1JP		0.03588	0.32262	0.06071	(1,000,000)	(0.03142)	(0.00663)	(0.15698)	3.16579
REVENUE INCREASE REQUESTED	R1RD		1,533,638	1,920,787	2,534,096	(1,000,458)	613,760	(451)	18,250	1,902,537
PER UNIT PRES REV	R1RP		0.03588	0.21976	0.06071	(1,000,000)	0.22707	(0.00001)	0.00244	1.50814

OFFICE OF THE ATTORNEY GENERAL  
COST OF SERVICE STUDY - PEAK & AVG - PEAK DAY BY FUNCTION  
TWELVE MONTHS ENDING SEPTEMBER 30, 2006  
GAS CASE NO: 2005-00042

ITEM	ALLO	GS	Cust Acctg	TOTAL	TOTAL	CUSTOMER
	ALLO	GENERAL SERV		DISTRIBUTION	AT ISSUE	w/o Mains
<b>SUMMARY OF RESULTS</b>						
<b>NET INCOME COMPUTATION</b>						
GP11		55,870,644	382,751	54,954,218	55,870,644	
DR11		(16,386,160)	(196,095)	(15,906,732)	(16,386,160)	
RB71		(5,200,390)	701,269	(4,976,602)	(5,200,390)	
RB91		34,284,094	887,925	34,070,884	34,284,094	
GCAP	KRATE_BASE	33,916,090	878,427	33,705,471	33,916,090	8,136,809
<b>CAPITALIZATION ALLOC TO GAS OPER</b>						
<b>OPERATING EXPENSES</b>						
OM31		35,807,250	597,767	3,000,384	35,807,250	
DE41		1,822,437	26,993	1,790,832	1,822,437	
L591		642,057	23,158	614,328	642,057	
OP61		38,271,744	647,918	5,405,544	38,271,744	
IB79		1,752,605	45,749	1,740,629	1,752,603	
J979		448,132	11,747	445,843	448,132	
LO33	KNET_CWIP	(71,380)	(1,115)	(70,518)	(71,380)	
OPEX		40,401,101	704,299	7,521,498	40,401,099	2,539,496
<b>RETURN ON CAPITALIZATION</b>						
RC51		4,114,802	106,573	4,089,249	4,114,802	
QO27		(241,785)	(1,274)	(50,636)	(241,785)	
CS06		44,274,118	809,598	11,560,111	44,274,116	
<b>PROPOSED REVENUES</b>						
R602		44,274,118	550,923	10,661,074	44,274,118	
XREV		0	(258,675)	(899,037)		2
<b>EXCESS REVENUES</b>						
RETE		4,114,802	(48,359)	3,553,087	4,114,804	
RORR		0.121320	(0.055050)	0.105420	0.121320	
RORA		0.121323	0.121323	0.121323	0.121323	
REOE		0.17350	(0.15065)	0.14424	0.17346	
AROE		0.11200	0.11200	0.11200	0.11200	
<b>ALLOWED RETURN ON COMMON EQUITY</b>						
R600		42,740,480	219,655	8,740,287	41,740,022	
R1JD		1,533,638	589,943	2,819,824	2,534,094	
R1JP		0.03588	2.68577	0.32262	0.06071	
R1RD		1,533,638	331,268	1,920,787	2,534,096	
R1RP		0.03588	1.50813	0.21976	0.06071	
<b>REVENUE INCREASE JUSTIFIED</b>						
<b>PER UNIT PRES REV</b>						
<b>REVENUE INCREASE REQUESTED</b>						
<b>PER UNIT PRES REV</b>						

OFFICE OF THE ATTORNEY GENERAL  
COST OF SERVICE STUDY - PEAK & AVG - PEAK DAY BY FUNCTION  
TWELVE MONTHS ENDING SEPTEMBER 30, 2006  
GAS CASE NO: 2005-00042

ITEM	ALLO	GENERAL SERV	PRODUCTION /		DISTRIBUTION		DISTRIBUTION		DISTRIBUTION	
			PROCUREMENT	COMMODITY	LAND, STRUCT & EQUIP	LAND, STRUCT & EQUIP	LAND, STRUCT & EQUIP	LAND, STRUCT & EQUIP	LAND, STRUCT & EQUIP	LAND, STRUCT & EQUIP
Schedule 6										
<b>O&amp;M EXPENSES</b>										
<b>PRODUCTION O&amp;M</b>										
COMMODITY RELATED O&M										
P300	KPROD_COM	30,342,685	0	30,342,685	0	0	0	0	0	0
P302	KPROD_COM	126,772	0	126,772	0	0	0	0	0	0
P341		30,469,457	0	30,469,457	0	0	0	0	0	0
<b>DEMAND RELATED PROD O&amp;M</b>										
P352	KPROD	2,039,951	2,039,951	0	0	0	0	0	0	0
P381		2,039,951	2,039,951	0	0	0	0	0	0	0
<b>OTHER THAN ENDEM RELATED</b>										
P400	KPROD	18,698	18,698	0	0	0	0	0	0	0
P402	KPROD	(1,848)	(1,848)	0	0	0	0	0	0	0
P441		16,850	16,850	0	0	0	0	0	0	0
P451		32,526,258	2,056,801	30,469,457	0	0	0	0	0	0
<b>TRANSMISSION O &amp; M</b>										
T318		0	0	0	0	0	0	0	0	0
T341		0	0	0	0	0	0	0	0	0
<b>DISTRIBUTION O &amp; M</b>										
D300	KNET_PLNT_DIST	130,335	0	0	1,843	0	77,912	0	21,974	0
D302	KDIST_MA_D	248,289	0	0	0	0	193,665	0	54,624	0
D304	KDIST_STR_D	24,965	0	0	24,965	0	0	0	0	0
D306	KMTRS_CUS	431,155	0	0	0	0	0	0	0	0
D308	KMTRS_CUS	115,502	0	0	0	0	0	0	0	0
D310	KDIST_MA_D	259,862	0	0	0	0	202,692	0	57,170	0
D312	KSERV_CUS	24,938	0	0	0	0	0	0	0	0
D314	KNET_PLNT_DIST	51,646	0	0	730	0	30,873	0	8,708	0
D316	KDIST_LRIND_D	4,844	0	0	4,844	0	0	0	0	0
D318	KNET_PLNT_DIST	(58,843)	0	0	(832)	0	(35,175)	0	(9,921)	0
D341		1,232,693	0	0	31,550	0	469,967	0	132,555	0
<b>CUSTOMER ACCOUNTING</b>										
C300	TOT CUST ACCT EXP EXCLUD UNCOLL EXP	199,481	0	0	0	0	0	0	0	0
C302	UNCOLLECTIBLE EXP	57,632	3,744	41,977	290	1	10,073	0	564	0
C304	ANNUALIZED UNCOLL EXP ADJ	6,620	428	4,805	33	0	1,153	0	65	0
C317	TOTAL CUSTOMER ACCT EXPENSE	263,933	4,172	46,782	323	1	11,226	0	629	0

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GAS CASE NO: 2006-00042

ITEM	ALLO	GS	SERVICES	METERS	CUSTOMER	CUSTOMER	CUSTOMER	CUSTOMER	CUSTOMER	BLANK
	Schedule 6	GENERAL SERV	CUSTOMERS	CUSTOMERS	ACCOUNTING	INFO SYSTEMS	SALES			
<b>O&amp;M EXPENSES</b>										
<b>PRODUCTION O&amp;M</b>										
COMMODITY RELATED O&M										
ANNUALIZED GAS COST - COMMODITY	P300	30,342,685	0	0	0	0	0	0	0	0
PURCHASED GAS & OTHER	P302	126,772	0	0	0	0	0	0	0	0
TOTAL ENERGY RELATED	P341	30,469,457	0	0	0	0	0	0	0	0
<b>DEMAND RELATED PROD O&amp;M</b>										
ANNUALIZED GAS COST - DEMAND	P362	2,039,951	0	0	0	0	0	0	0	0
TOTAL DEMAND RELATED	P381	2,039,951	0	0	0	0	0	0	0	0
<b>OTHER THAN EN/DEM RELATED</b>										
PRODUCTION EXPENSES	P400	18,698	0	0	0	0	0	0	0	0
ELIM OTHER THAN ULH&P PORTION	P402	(1,848)	0	0	0	0	0	0	0	0
TOTAL PROD OTHER THAN EN/DEM	P441	16,850	0	0	0	0	0	0	0	0
<b>TOTAL PRODUCTION O&amp;M</b>	P451	32,526,258	0	0	0	0	0	0	0	0
<b>TRANSMISSION O &amp; M</b>										
TRANSMISSION O & M	T318	0	0	0	0	0	0	0	0	0
TOTAL TRANSMISSION O & M	T341	0	0	0	0	0	0	0	0	0
<b>DISTRIBUTION O &amp; M</b>										
LOAD DISPATCH, RENTS	D300	130,335	9,922	18,684	0	0	0	0	0	0
MAINS & SERVICES OPER	D302	248,289	0	0	0	0	0	0	0	0
M & R STATION	D304	24,965	0	0	0	0	0	0	0	0
CUSTOMER INST & OTHER	D308	431,155	0	431,155	0	0	0	0	0	0
METERS & HOUSE REG	D310	115,502	0	115,502	0	0	0	0	0	0
MAINS	D312	259,862	0	0	0	0	0	0	0	0
SERVICES	D314	24,938	24,938	0	0	0	0	0	0	0
SUPV, ENG & OTHER	D316	51,646	3,932	7,403	0	0	0	0	0	0
M & R, INDUSTRIAL	D318	4,844	0	0	0	0	0	0	0	0
ELIMIN OTHER THAN ULH&P PORTION	D341	(58,843)	(4,480)	(8,435)	0	0	0	0	0	0
TOTAL DISTRIBUTION O & M		1,232,693	34,312	564,309	0	0	0	0	0	0
<b>CUSTOMER ACCOUNTING</b>										
TOT CUST ACCT EXP EXCLUD UNCOLL EXP	C300	199,481	0	0	199,481	0	0	0	0	0
UNCOLLECTIBLE EXP	C302	57,882	258	621	193	106	5	0	0	0
ANNUALIZED UNCOLL EXP ADJ	C304	6,620	30	71	22	12	1	0	0	0
TOTAL CUSTOMER ACCT EXPENSE	C317	263,933	288	692	199,696	118	6	0	0	0

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 TWELVE MONTHS ENDING SEPTEMBER 30, 2008  
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ITEM	ALLO	GS GENERAL SERV	TOTAL DISTRIBUTION	TOTAL AT ISSUE	ALL OTHER	PRODUCTION		DISTRIBUTION	
						DEMAND	COMMODITY	DEMAND	CUSTOMER
<b>O&amp;M EXPENSES</b>									
Schedule 6									
<b>PRODUCTION O&amp;M</b>									
P300	KPROD_COM	30,342,685	0	30,342,685	0	0	0	0	0
P302	KPROD_COM	126,772	0	126,772	0	0	0	0	0
P341		30,469,457	0	30,469,457	0	0	0	0	0
<b>DEMAND RELATED PROD O&amp;M</b>									
P352	KPROD	2,039,951	0	2,039,951	0	2,039,951	0	0	0
P381		2,039,951	0	2,039,951	0	2,039,951	0	0	0
<b>OTHER THAN ENDEM RELATED</b>									
P400	KPROD	18,698	0	18,698	0	18,698	0	0	0
P402	KPROD	(1,848)	0	(1,848)	0	(1,848)	0	0	0
P441		16,850	0	16,850	0	16,850	0	0	0
P451		32,526,258	0	32,526,258	0	2,066,801	30,469,457	0	0
<b>TRANSMISSION O &amp; M</b>									
T318		0	0	0	0	0	0	0	0
T341		0	0	0	0	0	0	0	0
<b>DISTRIBUTION O &amp; M</b>									
D300	KNET_PLNT_DIST	130,335	130,335	130,335	0	0	0	79,755	50,580
D302	KDIST_MA_D	248,289	248,289	248,289	0	0	0	193,665	54,624
D304	KDIST_STR_D	24,965	24,965	24,965	0	0	0	24,965	0
D306	KMTRS_CUS	431,155	431,155	431,155	0	0	0	0	431,155
D308	KMTRS_CUS	115,502	115,502	115,502	0	0	0	0	115,502
D310	KDIST_MA_D	259,862	259,862	259,862	0	0	0	202,692	57,170
D312	KSERV_CUS	24,938	24,938	24,938	0	0	0	0	24,938
D314	KNET_PLNT_DIST	51,646	51,646	51,646	0	0	0	31,603	20,043
D316	KDIST_LRIND_D	4,844	4,844	4,844	0	0	0	0	4,844
D318	KNET_PLNT_DIST	(58,843)	(58,843)	(58,843)	0	0	0	(36,007)	(22,836)
D341		1,232,693	1,232,693	1,232,693	0	0	0	501,517	731,176
<b>CUSTOMER ACCOUNTING</b>									
C300	KCUST_ACCTG	199,481	199,481	199,481	0	0	0	0	199,481
C302	KFUNC_REV	57,832	12,111	57,832	0	3,744	41,977	10,363	1,748
C304	KFUNC_REV	6,620	1,387	6,620	0	428	4,805	1,186	201
C317		263,933	212,979	263,933	0	4,172	46,782	11,549	201,430
<b>TOTAL DISTRIBUTION O &amp; M</b>									
<b>TOTAL TRANSMISSION O &amp; M</b>									
<b>TOTAL PRODUCTION O&amp;M</b>									

OFFICE OF THE ATTORNEY GENERAL  
COST OF SERVICE STUDY - PEAK & AVG - PEAK DAY BY FUNCTION  
TWELVE MONTHS ENDING SEPTEMBER 30, 2006  
GAS CASE NO: 2005-00042

ITEM	ALLO	GS		TOTAL DISTRIBUTION	TOTAL AT ISSUE	CUSTOMER w/o Mains
		GENERAL SERV	Cust Acctg			
<b>O&amp;M EXPENSES</b>						
Schedule 6						
<b>PRODUCTION O&amp;M</b>						
P300	KPROD_COM	30,342,685	0	0	30,342,685	
P302	KPROD_COM	126,772	0	0	126,772	
P341		30,469,457	0	0	30,469,457	
<b>DEMAND RELATED PROD O&amp;M</b>						
P352	KPROD	2,039,951	0	0	2,039,951	
P391		2,039,951	0	0	2,039,951	
<b>OTHER THAN ENDEM RELATED</b>						
P400	KPROD	18,698	0	0	18,698	
P402	KPROD	(1,848)	0	0	(1,848)	
P441		16,850	0	0	16,850	
P451		32,526,258	0	0	32,526,258	
<b>TRANSMISSION O &amp; M</b>						
T318		0	0	0	0	
T341		0	0	0	0	
<b>DISTRIBUTION O &amp; M</b>						
D300	KNET_PLINT_DIST	130,335	0	130,335	130,335	
D302	KDIST_MA_D	248,289	0	248,289	248,289	
D304	KDIST_STR_D	24,965	0	24,965	24,965	
D308	KMTRS_CUS	431,155	0	431,155	431,155	
D308	KMTRS_CUS	115,502	0	115,502	115,502	
D310	KDIST_MA_D	259,862	0	259,862	259,862	
D312	KSERV_CUS	24,938	0	24,938	24,938	
D314	KNET_PLINT_DIST	51,646	0	51,646	51,646	
D316	KDIST_LRGINDD	4,844	0	4,844	4,844	
D318	KNET_PLINT_DIST	(58,843)	0	(58,843)	(58,843)	
D341		1,232,693	0	1,232,693	1,232,693	Customer Related
<b>CUSTOMER ACCOUNTING</b>						
C300	KCUST_ACCTG	199,481	199,481	199,481	199,481	Uncollectible
C302	KFUNC_REV	57,832	304	12,111	57,832	1,183
C304	KFUNC_REV	6,620	35	1,387	6,620	136
C317		263,933	189,820	212,979	263,933	1,319

Office of the Attorney General  
Case No. 2005-00042  
General Service  
Customer Charge / Minimum Bill Rationale  
Twelve Months Ending September 30, 2006

<u>Line No.</u>	<u>Description</u>	<u>Amount</u>
1	Capitalization allocated to Gas Operations	<u>\$8,136,809</u>
2	Operating Expenses	\$2,539,496
3	Less Customer Assigned Uncollectibles	<u>(\$1,319)</u>
4	Customer Operating Expenses	\$2,538,177
5	Return at 7.312%	<u>\$594,994</u>
6	Operating Expense plus Return	\$3,133,171
7	Less Total Other Operating Revenues	<u>(24,958)</u>
8	Customer Cost Component (Revenue Requirement)	<u>\$3,108,213</u>
9	Total General Service Customers	6,849
10	Annual Revenue / Customer	\$453.82
11	Monthly Revenue / Customer	\$37.82
12	Current Customer Charge	\$15.35
13	Difference	\$22.47
14	1/3 of Difference	\$7.49
15	<b><u>Proposed Monthly Customer Charge</u></b>	<b><u>\$22.84</u></b>

**OFFICE OF THE ATTORNEY GENERAL**  
**CALCULATION OF RECONNECTION CHARGE**  
**GAS CASE NO: 2005-00042**

**Current Reconnection Charge**

Gas Only =	\$15.00
Gas and Electric =	\$21.00
Current Reconnection Revenues =	\$7,000

**AG Overall Proposed Rate Increase 2.715%**

**Proposed Reconnection Charge**

Gas Only =	\$15.41
Gas and Electric =	\$21.57
Proposed Reconnection Revenues =	\$7,190



**278.183 Surcharge to recover costs of compliance with environmental requirements for coal combustion wastes and by-products -- Environmental compliance plan, review and adjustment.**

- (1) Notwithstanding any other provision of this chapter, effective January 1, 1993, a utility shall be entitled to the current recovery of its costs of complying with the Federal Clean Air Act as amended and those federal, state, or local environmental requirements which apply to coal combustion wastes and by-products from facilities utilized for production of energy from coal in accordance with the utility's compliance plan as designated in subsection (2) of this section. These costs shall include a reasonable return on construction and other capital expenditures and reasonable operating expenses for any plant, equipment, property, facility, or other action to be used to comply with applicable environmental requirements set forth in this section. Operating expenses include all costs of operating and maintaining environmental facilities, income taxes, property taxes, other applicable taxes, and depreciation expenses as these expenses relate to compliance with the environmental requirements set forth in this section.
- (2) Recovery of costs pursuant to subsection (1) of this section that are not already included in existing rates shall be by environmental surcharge to existing rates imposed as a positive or negative adjustment to customer bills in the second month following the month in which costs are incurred. Each utility, before initially imposing an environmental surcharge pursuant to this subsection, shall thirty (30) days in advance file a notice of intent to file said plan and subsequently submit to the commission a plan, including any application required by KRS 278.020(1), for complying with the applicable environmental requirements set forth in subsection (1) of this section. The plan shall include the utility's testimony concerning a reasonable return on compliance-related capital expenditures and a tariff addition containing the terms and conditions of a proposed surcharge as applied to individual rate classes. Within six (6) months of submittal, the commission shall conduct a hearing to:
  - (a) Consider and approve the plan and rate surcharge if the commission finds the plan and rate surcharge reasonable and cost-effective for compliance with the applicable environmental requirements set forth in subsection (1) of this section;
  - (b) Establish a reasonable return on compliance-related capital expenditures; and
  - (c) Approve the application of the surcharge.
- (3) The amount of the monthly environmental surcharge shall be filed with the commission ten (10) days before it is scheduled to go into effect, along with supporting data to justify the amount of the surcharge which shall include data and information as may be required by the commission. At six (6) month intervals, the commission shall review past operations of the environmental surcharge of each utility, and after hearing, as ordered, shall, by temporary adjustment in the surcharge, disallow any surcharge amounts found not just and reasonable and reconcile past surcharges with actual costs recoverable pursuant to subsection (1) of this section. Every two (2) years the commission shall review and evaluate past operation of the surcharge, and after hearing, as ordered, shall disallow improper expenses, and to

the extent appropriate, incorporate surcharge amounts found just and reasonable into the existing base rates of each utility.

- (4) The commission may employ competent, qualified independent consultants to assist the commission in its review of the utility's plan of compliance as specified in subsection (2) of this section. The cost of any consultant shall be included in the surcharge approved by the commission.
- (5) The commission shall retain all jurisdiction granted by this section and KRS 278.020 to review the environmental surcharge authorized by this section and any complaints as to the amount of any environmental surcharge or the incorporation of any environmental surcharge into the existing base rate of any utility.

**Effective:** July 14, 1992

**History:** Created 1992 Ky. Acts ch. 102, sec. 1, effective July 14, 1992.