Exhibit No.: _____
Issue: Weather Normalized Sales
Witness: Henry E. Warren
Sponsoring Party: MoPSC
Type of Exhibit: Rebuttal
Case No.: GR-99-315

MISSOURI PUBLIC SERVICE COMMISSION

UTILITY OPERATIONS DIVISION

REBUTTAL TESTIMONY

OF

HENRY E. WARREN, PhD

CASE NO. GR-99-315

Jefferson City, Missouri
August, 1999

****Denotes Highly Confidential Information****

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REBUTTAL TESTIMONY

OF

HENRY E. WARREN

LACLEDE GAS COMPANY

CASE NO. GR-99-315

Q. Please state your name and business address.

A. My name is Henry E. Warren and my business address is P. O. Box 360, Jefferson City, Missouri.

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

A. I am employed by the Missouri Public Service Commission (PSC or Commission) as a Regulatory Economist in the Gas Department of the Utility Operations Division.

Q. Are you the Henry E. Warren that filed Direct Testimony in GR-99-315 in the matter of Laclede Gas Company's tariff to revise natural gas rate schedules.

A. Yes, I am.

Q. What is the purpose of your rebuttal Testimony?

A. I will address the Rebuttal Testimony of Company witness Ms Patricia A. Krieger on the weather normalization of gas sales.

Q. Do you wish to comment on parts of the Direct Testimony of Ms Krieger?

A. Yes, first, I wish to comment on the method Ms Krieger uses to attempt to determine a portion of customer use. In her Direct Testimony beginning on page 24, Lines 7-25 she states,

> "This use per customer is based upon the July and August use per customer. The months of July and August do not reflect any space-heating load. This two-month use is multiplied by six to produce an annual figure, and the product of this multiplication is finally multiplied by a factor of 1.35 (135%) to calculate the annual usage which does not vary with temperature. It is necessary to increase the 12 months of summer usage by 35% to reflect the fact that customers' "base" usage in winter months exceeds their usage during the summer. This increase is separate from any space-heating requirement and is not a function of the number of degree days experienced. Rather, it arises in large part from the necessity of heating water from lower starting temperatures during the winter. The seasonal increase in water heating load has been supported over the years by special studies of Laclede customers wherein monthly use has been analyzed and patterned."

August, of the test year by 8.1 (= 6 x 1.35) to estimate the 12 month usage. Is this an accurate.

Q. Ms Krieger multiplies the therms used in the two summer months, July and adjustment to obtain test year water heating therms?

A. No, this method assumes a constant adjustment between water heating in July and August of the test year and total water heating use for the test year. It does not accurately measure the water heating use in the test year or normal annual water heating use. The company conducted a study in 1991 in which monthly estimated therms for water heating are related to water temperatures at the St. Louis County Water plant. For that year the estimated difference between the test period of July and August annualized (2 months multiplied by 6 = 12 months) and the total for the year was estimated to be 1.35. However, due to variations in summer temperatures and winter temperatures this relationship is not constant. Also, this method assumes an average hot water use per customer that is above values found in end-use studies by the Gas Research Institute (GRI) and the U.S. Department of Energy (DOE). GRI and DOE conducted end-use studies where they observed typical households and the amounts of gas used for specific purposes such as water heating, space heating, cooking, etc.

I prepared a Report in 1994, entitled *Evaluation of Selected Methodologies for Quantifying Gas Use for Residential and Commercial Water Heating,* (Warren, 1994). Using the findings in the Report and the water heating degree days computed by Staff Witness Mr. Dennis Patterson for the 1998 test year (28,634) it was found that water heating use and other base load is estimated to be 252.6 therms. Ms Krieger estimates that the residential customers in the Laclede Division use 323.2 therms, in the St. Charles Division 326.4 therms, in the Midwest Division 281.9 therms, and in the Missouri Natural Division 210.6 therms. So, in the two largest divisions that contain over 90% of the residential customers, the water heating estimates are over 25% above that which is indicated by end-use analysis. Consequently, the amount of therms set aside as not sensitive to heating degree days (HDD) is overstated. Staff witness James A. Gray addresses this in his Rebuttal Testimony on p. 9.

Q. Ms Krieger refers to "special studies of Laclede customers" conducted by the Company. Are these end-use surveys of Laclede customers?

A. No, these are not end-use surveys of Laclede's customers, but are only analysis of usage from monthly customers bills selected on the basis of usage patterns.

Q. Would an end-use survey of Laclede's customers give an improved estimate of water heating use by Laclede customers?

A. Yes, it would. An end-use survey would give verifiable information on the gas usage of Laclede's customers. As was stated in the Report,

> "In the Laclede study monthly usage per customer (therms/month) is used rather than adjusting the reported usage to the days in the read cycles. The analysis in this report adjusts usage for any period to therms/day for consistency and comparison. The NAF (Normalization Adjustment Factor) method applies the NAFH (Heating Rate NAF) ratio to all customers usage during the test year (April 91 – March 92) as an estimate of their non-space heating usage. This method does not make use of information on water

temperature, surveys of water heating use, gas water heating saturation, gas water heater efficiency, or demographics on customers (i.e. household size or housing stock characteristics).

This method assumes that the annual use for water heating is proportional to the therms billed in the months of July, August, and September. The Laclede application of this method assumes that the proportional pattern of hot water use is constant between years (i.e. it is assumed that the NAFH ratio from the subset is applicable to all customers in subsequent years." (Warren, p. 18).

Q. Was your Report prepared as a result of a Commission order dated August 21, 1992 in Case No. GR-92-165?

A. Yes, page 8 the order states,

"Laclede has also agreed:
...(b) To provide data on water heating usage by random sampling from extreme winter and summer years, and to work with Staff to determine appropriate procedures for estimating and normalizing monthly water heating use;"

Q. Has the Company complied fully with this order?

A. I do not believe that the Company has fully complied with the order. In Case No. GR-92-165 the Company used the same method for adjusting for non-space heating use as they did in this case. The purpose of the order was for Staff and the Company to participate in the development of a method for making adjustments to revenue that would be a function of test year weather and normal weather. I have attached Schedule 1 to this Rebuttal Testimony to convey this point.

Q. Did the Company furnish any data for the analysis you did in your report?

A. Yes, the Company furnished data based on a screening of its bills that supposedly identifies water-heating customers that are not space heating customers. As I said in the Report, an end-use study is the only way to verify any estimate of how much gas is used for a particular purpose.

Q. Did you provide copies of your Report to the Company?

A. Yes, I did.

Q. Did you receive any written comments or suggestions on the Report from the Company?

A. No, I did not.

Q. What would you recommend to fully implement the Commission's order?

A. As I recommended in the Report, an end-use study by an independent entity such as GRI within two years of this case could provide results that would be mutually useful.

Q. Do you wish to comment on another part of Ms Krieger's Direct Testimony?

A. Yes, Ms Krieger states on p. 22 lines 4-12 of her Direct Testimony,

> "Had a company's rates been set on a 10-year normal level of degree days during this decade, instead of a 30-year normal, an overall earnings shortfall would have been reduced by approximately two-thirds. Even though an overall earnings shortfall would still have existed over a relatively long span of years, a normal based on more recent data (recognizing the global warming trend) would have been the better predictor of future near-term periods."
>
> Note: NOAA is the U. S. National Oceanic and Atmospheric Administration.

The purpose of adjusting weather sensitive revenues to normal HDD is not to predict next year's HDD. The time period that rates will be in effect is not limited to one year. Some other Missouri gas company's rates have been in effect for periods up to ten years. The normal period was chosen to be consistent with the national and international scientific agencies that determine the appropriate period for climatological normals that will have desirable statistical properties for a broad range of applications, NOAA and the World Meteorological Organization. Staff witness Mr. Dennis Patterson elaborates upon this concept in his Direct Testimony.

Q. Ms Krieger refers to an "earnings shortfall" that she perceives the company could have avoided if her 10-year normal had been adopted in previous rate cases. If the Company has quantified global climate trends and how they affect annual weather in its service territory as portrayed by Ms Krieger could they benefit financially from this information even though it was not incorporated in the revenue normalization?

A. Yes, the Company could apply Ms Krieger's analysis on the supply side of their economic activity. The Company could use this methodology, which Ms Krieger says is superior for determining next year's weather, to arrange gas supply plans, system capacity plans, and hedging. The Commission allowed the Company to implement an *Experimental Price Stabilization Fund* and a *Gas Supply Incentive Plan*. These plans would allow the Company to utilize any superior information it has on future weather patterns to arrange supplies and deliveries of gas and hedge in the market. Under these plans the Company and its customers share in the profits from financial gain in these activities.

Q. Are you aware of how Laclede uses weather data in planning its gas supply?

A. Yes, I was assigned to do some analysis of daily HDD extremes in Case No. GR-94-150. This was an Actual Cost Adjustment (ACA) case. I reviewed how Laclede used daily HDD for the heating season in its analysis.

Q. In that case did Laclede limit its use of weather data on HDD to the most recent ten heating seasons for planning its supply and delivery of gas?

A. No, Laclede used heating seasons from years further back than the most recent ten years for its supply analysis. Thus, its use of weather data for supply planning is not symmetric with the weather data used for determining the revenue requirement. This unresolved discrepancy has far reaching implications for future purchases of gas.

Q. In Case No. GR-94-150 did you review the **_____ _____** (Plan)? (Schedules 2-1 and 2-2)

A. Yes, I reviewed the Plan portions of which are attached to my Rebuttal Testimony as Schedule 2-1 and Schedule 2-2 the process of developing peak demands for extreme daily HDD.

Q. What are some of the historical heating seasons the Company used as its **_____**?

A. The Company uses the heating season of **_____ _____** In attached Schedules 2-3 and 2-4 the Company states:

> **_____
> _____
> _____
> _____**

Attached Schedule 2-5 contains the daily **_____ _____** The Company also analyzed the heating seasons of **_____ _____** This is shown in attached Schedule 2-6.

Q. Do you find incongruence between the Company's proposed time frame for weather normalization of revenues and the years considered relevant for their **_____ _____**?

A. Yes, the Company considers heating seasons as remote as **_____ _____** while it contends that the most recent 10 year period contain sufficient weather variation for normalizing revenues for weather. There seems to be a lack of symmetry in the Company's expectations.

Q. Has the Company changed its **_____** since Case No. GR-94-150?

A. As far as I know, it has not changed.

Q. Are you sponsoring any testimony related to the Company's **_____** or ACA in this case?

A. No, I am not. I am referring to my experience in doing analysis of HDD extremes in Case No. GR-94-150.

Q. Do you have any other items to address at this time?

A. Yes, in my Direct Testimony I stated that I would update Schedules 3-6 attached to my Direct Testimony to reflect revisions to test year therm adjustments by Staff Witness James A. Gray. I have updated Schedule 3, 4, 5, and 6 and attached them to this Rebuttal Testimony. These are designated Revised Schedule 3 (Laclede Division), Revised Schedule 4 (Missouri Natural and Franklin County Division), Revised Schedule 5 (Midwest Division), and Revised Schedule 6 (St. Charles Division). Also, in my Direct Testimony Schedule 3 contains Missouri Natural and Franklin County Division information. It should have contained Laclede Division information. This change is also in my Revised Schedule 3 attached to this Rebuttal Testimony.

Q. Does this conclude your Rebuttal Testimony?

A. Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Laclede Gas Company's Tariff to Revise Natural Gas Rate Schedules	))))	Case No. GR-99-315

AFFIDAVIT OF HENRY E. WARREN

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

Henry E. Warren, is, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Direct Testimony in question and answer form, consisting of 8 pages to be presented in the above case; that the answers in the foregoing Direct Testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true and correct to the best of his knowledge and belief.

Henry E Warren

HENRY E. WARREN

Subscribed and sworn to before me this 5th day of June 1999.

Sharon S. Wiles

Notary Public

SHARON S WILES
NOTARY PUBLIC STATE OF MISSOURI
COLE COUNTY
MY COMMISSION EXP. AUG. 23,2002

My Commission Expires: _____

is obtained within 21 days of the date that the charge is billed; a limit of three charges in any 12-month period; an explanatory notice to the customer; and a waiver of the charge when the customer does not control access to the meter. The parties also proposed to eliminate the $5 charge for meter reading by appointment.

Laclede has also agreed:

(a) To determine which customers have gas space heating load and to include those who do in future weather normalization;

(b) To provide data on water heating usage by random sampling from extreme winter and summer years, and to work with Staff to determine appropriate procedures for estimating and normalizing monthly water heating use; and

(c) To provide Staff by April 1, 1993, or before Laclede's next general rate case, whichever occurs first, with all actuarial data necessary to perform a study of Laclede's depreciation rates for all Primary Plant Accounts.

The Commission finds these proposals to be reasonable. Improving service to customers is in the public interest and these proposals are reasonable methods of improving service to Laclede's customers.

The Commission has reviewed the Stipulation agreed to by the parties and finds that its provisions, except the provision concerning the classification of a residential customer's usage, are reasonable. The Commission further finds that the Stipulation, excluding the provision concerning the classification of a residential customer's usage, is just and reasonable and should be approved.

Conclusions of Law

The Missouri Public Service Commission has arrived at the following conclusions of law:

SCHEDULE 2-1

DEEMED TO BE

HIGHLY CONFIDENTIAL

IN ITS ENTIRETY

SCHEDULE 2-2

DEEMED TO BE

HIGHLY CONFIDENTIAL

IN ITS ENTIRETY

SCHEDULE 2-3

DEEMED TO BE

HIGHLY CONFIDENTIAL

IN ITS ENTIRETY

SCHEDULE 2-4

DEEMED TO BE

HIGHLY CONFIDENTIAL

IN ITS ENTIRETY

SCHEDULE 2-5

DEEMED TO BE

HIGHLY CONFIDENTIAL

IN ITS ENTIRETY

SCHEDULE 2-6

DEEMED TO BE

HIGHLY CONFIDENTIAL

IN ITS ENTIRETY

Laclede Gas Company, Case No. GR-99-315
Laclede Division
GENERAL SERVICE CLASS

ADJUSTMENTS TO 1998 TEST YEAR VOLUMES

	GENERAL SERVICE CLASS (RESIDENTIAL) TY			Adjustment Therms
		Units by Monthly Category of Bills (Therms)		
Month	Customers	Bills under 65	Bills over 65	Total Therms
Jan 98	480,570	0	16,474,821	16,474,821
Feb	481,536	0	18,701,664	18,701,664
Mar	481,811	1,728	39,969	41,698
Apr	480,504	1,806,690	3,835,261	5,641,951
May	477,483	3,014,833	1,759,458	4,774,292
Jun	474,800	331,409	92,703	424,112
Jul	472,952	463,557	109,524	573,081
Aug	472,120	150,305	17,034	167,340
Sep	470,910	1,868,289	539,583	2,407,872
Oct	470,699	3,649,239	1,761,342	5,410,581
Nov	474,074	2,053,732	4,877,642	6,931,374
Dec 98	477,215	317,270	16,338,964	16,656,234
ANNUAL	5,714,674	13,657,054	64,547,965	78,205,019
NOV-APR	2,875,710	4,179,421	60,268,322	64,447,743
MAY-OCT	2,838,964	9,477,633	4,279,644	13,757,277

	GENERAL SERVICE CLASS (COMMERCIAL) TY			Adjustment Therms
		Units by Monthly Category of Bills (Therms)		
Month	Customers	Bills under 65	Bills over 65	Total Therms
Jan 98	29,763	164,312	5,478,698	5,643,010
Feb	29,847	155,669	6,003,452	6,159,121
Mar	29,859	6,544	278,272	284,816
Apr	29,708	80,903	1,782,347	1,863,250
May	29,435	146,626	1,371,327	1,517,953
Jun	29,242	25,696	167,703	193,399
Jul	29,125	20,745	130,740	151,484
Aug	29,037	7,626	39,237	46,863
Sep	28,975	99,535	615,775	715,310
Oct	29,027	192,961	1,616,602	1,809,563
Nov	29,358	105,078	2,211,017	2,316,096
Dec 98	29,638	133,989	5,626,236	5,760,225
ANNUAL	353,014	1,139,685	25,321,405	26,461,091
NOV-APR	178,173	646,496	21,380,022	22,026,518
MAY-OCT	174,841	493,189	3,941,384	4,434,573

	GENERAL SERVICE CLASS (INDUSTRIAL) TY			Adjustment Therms
		Units by Monthly Category of Bills (Therms)		
Month	Customers	Bills under 65	Bills over 65	Total Therms
Jan 98	1,735	7,071	1,065,575	1,072,646
Feb	1,735	5,606	1,080,605	1,086,212
Mar	1,731	497	124,212	124,709
Apr	1,728	2,748	329,084	331,831
May	1,715	6,458	247,901	254,359
Jun	1,708	2,084	40,748	42,832
Jul	1,705	732	15,453	16,185
Aug	1,692	255	4,687	4,942
Sep	1,688	4,602	94,403	99,005
Oct	1,694	11,300	310,730	322,030
Nov	1,704	6,081	390,892	396,973
Dec 98	1,710	4,844	1,117,271	1,122,116
ANNUAL	20,545	52,279	4,821,561	4,873,839
NOV-APR	10,343	26,847	4,107,640	4,134,487
MAY-OCT	10,202	25,432	713,921	739,352

Laclede Gas Company, Case No. GR-99-315
Missouri Natural and Franklin County Divisions
GENERAL SERVICE CLASS

ADJUSTMENTS TO 1998 TEST YEAR VOLUMES

	GENERAL SERVICE CLASS (RESIDENTIAL) TY	Adjustment Therms		
		Units by Monthly Category of Bills (Therms)		
Month	Customers	Bills under 65	Bills over 65	Total Therms
Jan 98	26,645	917	665,090	666,007
Feb	26,696	34,713	719,061	753,775
Mar	26,656	2,022	11,813	13,835
Apr	26,564	99,803	122,162	221,965
May	26,312	139,233	57,254	196,487
Jun	25,990	19,375	3,078	22,453
Jul	25,773	27,145	1,815	28,960
Aug	25,618	8,102	498	8,600
Sep	25,510	92,241	11,561	103,802
Oct	25,680	170,108	48,440	218,548
Nov	26,298	118,992	163,574	282,566
Dec 98	26,627	88,488	571,082	659,570
ANNUAL	314,369	801,139	2,375,428	3,176,568
NOV-APR	159,486	344,935	2,252,782	2,597,717
MAY-OCT	154,883	456,204	122,647	578,851

	GENERAL SERVICE CLASS (COMMERCIAL) TY	Adjustment Therms		
		Units by Monthly Category of Bills (Therms)		
Month	Customers	Bills under 65	Bills over 65	Total Therms
Jan 98	3,603	9,060	312,648	321,707
Feb	3,607	11,474	348,108	359,582
Mar	3,608	414	9,745	10,158
Apr	3,589	8,837	98,060	106,897
May	3,535	14,153	77,769	91,922
Jun	3,503	2,233	11,683	13,916
Jul	3,476	2,350	12,511	14,860
Aug	3,463	670	3,898	4,568
Sep	3,458	8,632	43,385	52,017
Oct	3,490	13,257	92,826	106,083
Nov	3,578	11,805	125,168	136,972
Dec 98	3,626	11,796	308,176	319,972
ANNUAL	42,536	94,681	1,443,975	1,538,656
NOV-APR	21,611	53,385	1,201,905	1,255,290
MAY-OCT	20,925	41,296	242,071	283,366

	GENERAL SERVICE CLASS (INDUSTRIAL) TY	Adjustment Therms		
		Units by Monthly Category of Bills (Therms)		
Month	Customers	Bills under 65	Bills over 65	Total Therms
Jan 98	108	442	41,124	41,566
Feb	109	425	47,133	47,558
Mar	113	(12)	(1,845)	(1,857)
Apr	115	90	15,046	15,136
May	117	216	11,024	11,241
Jun	117	7	203	209
Jul	117	14	532	546
Aug	117	5	173	179
Sep	117	100	4,328	4,429
Oct	117	149	12,542	12,691
Nov	121	66	16,321	16,387
Dec 98	122	373	47,877	48,250
ANNUAL	1,390	1,876	194,458	196,334
NOV-APR	688	1,384	165,655	167,040
MAY-OCT	702	492	28,803	29,294

Laclede Gas Company, Case No. GR-99-315
Midwest Division
GENERAL SERVICE CLASS

ADJUSTMENTS TO 1998 TEST YEAR VOLUMES

	GENERAL SERVICE CLASS (RESIDENTIAL) TY			Adjustment Therms
		Units by Monthly Category of Bills (Therms)		
Month	Customers	Bills under 65	Bills over 65	Total Therms
Jan 98	14,212	0	334,119	334,119
Feb	14,264	27,496	355,532	383,028
Mar	14,294	932	4,532	5,464
Apr	14,279	52,376	69,322	121,698
May	14,275	73,528	26,577	100,105
Jun	14,257	12,553	2,566	15,119
Jul	14,284	14,054	1,971	16,025
Aug	14,292	3,432	416	3,848
Sep	14,336	45,801	7,589	53,390
Oct	14,414	92,556	22,678	115,234
Nov	14,554	61,620	77,302	138,922
Dec 98	14,670	71,814	297,467	369,280
ANNUAL	172,131	456,160	1,200,070	1,656,231
NOV-APR	86,273	214,237	1,138,274	1,352,511
MAY-OCT	85,858	241,923	61,797	303,720

	GENERAL SERVICE CLASS (COMMERCIAL) TY			Adjustment Therms
		Units by Monthly Category of Bills (Therms)		
Month	Customers	Bills under 65	Bills over 65	Total Therms
Jan 98	734	1,905	79,293	81,198
Feb	736	2,480	91,775	94,255
Mar	738	(84)	(2,530)	(2,613)
Apr	744	2,311	28,278	30,589
May	737	3,335	21,179	24,514
Jun	731	177	982	1,160
Jul	728	509	2,892	3,402
Aug	724	145	744	889
Sep	720	1,863	10,983	12,845
Oct	726	3,224	23,593	26,817
Nov	734	2,283	31,065	33,348
Dec 98	743	2,914	82,129	85,043
ANNUAL	8,795	21,063	370,382	391,446
NOV-APR	4,429	11,810	310,010	321,819
MAY-OCT	4,366	9,254	60,373	69,626

	GENERAL SERVICE CLASS (INDUSTRIAL) TY			Adjustment Therms
		Units by Monthly Category of Bills (Therms)		
Month	Customers	Bills under 65	Bills over 65	Total Therms
Jan 98	2	37	2,633	2,670
Feb	2	25	1,882	1,907
Mar	2	4	385	389
Apr	2	5	910	915
May	2	2	193	195
Jun	2	4	154	158
Jul	2	0	32	33
Aug	2	0	4	4
Sep	2	1	52	53
Oct	2	7	504	512
Nov	3	8	759	767
Dec 98	3	20	3,900	3,920
ANNUAL	26	113	11,409	11,522
NOV-APR	14	99	10,469	10,568
MAY-OCT	12	15	939	954

Laclede Gas Company, Case No. GR-99-315
St. Charles Division
GENERAL SERVICE CLASS

ADJUSTMENTS TO 1998 TEST YEAR VOLUMES

	GENERAL SERVICE CLASS (RESIDENTIAL) TY			Adjustment Therms
		Units by Monthly Category of Bills (Therms)		
Month	Customers	Bills under 65	Bills over 65	Total Therms
Jan 98	66,253	0	1,768,606	1,768,606
Feb	66,451	61,932	1,967,110	2,029,042
Mar	66,687	2,082	15,888	17,970
Apr	66,813	234,336	369,293	603,629
May	66,823	362,209	176,674	538,882
Jun	66,867	45,780	9,758	55,539
Jul	66,980	64,949	13,414	78,363
Aug	67,231	18,003	2,629	20,632
Sep	67,377	240,912	43,969	284,881
Oct	67,721	467,963	144,158	612,121
Nov	68,362	318,255	449,762	768,017
Dec 98	68,874	243,628	1,643,510	1,887,139
ANNUAL	806,439	2,060,049	6,604,771	8,664,820
NOV-APR	403,440	860,233	6,214,169	7,074,402
MAY-OCT	402,999	1,199,816	390,602	1,590,418

	GENERAL SERVICE CLASS (COMMERCIAL) TY			Adjustment Therms
		Units by Monthly Category of Bills (Therms)		
Month	Customers	Bills under 65	Bills over 65	Total Therms
Jan 98	3,309	9,731	406,475	416,206
Feb	3,320	11,708	478,735	490,443
Mar	3,318	(234)	(8,604)	(8,838)
Apr	3,320	10,114	150,110	160,224
May	3,310	13,852	110,881	124,732
Jun	3,309	1,823	10,942	12,766
Jul	3,299	2,254	14,002	16,256
Aug	3,281	466	2,883	3,349
Sep	3,264	8,442	50,548	58,990
Oct	3,278	16,533	121,783	138,315
Nov	3,389	11,221	160,489	171,710
Dec 98	3,445	14,359	467,185	481,543
ANNUAL	39,842	100,268	1,965,429	2,065,696
NOV-APR	20,101	56,898	1,654,390	1,711,288
MAY-OCT	19,741	43,370	311,039	354,409

	GENERAL SERVICE CLASS (INDUSTRIAL) TY			Adjustment Therms
		Units by Monthly Category of Bills (Therms)		
Month	Customers	Bills under 65	Bills over 65	Total Therms
Jan 98	36	756	51,236	51,992
Feb	36	952	65,314	66,266
Mar	36	(97)	(7,215)	(7,313)
Apr	35	103	21,265	21,368
May	34	84	13,968	14,052
Jun	34	(21)	(631)	(652)
Jul	34	9	514	523
Aug	34	3	212	215
Sep	34	54	5,838	5,892
Oct	34	118	14,648	14,767
Nov	34	142	21,131	21,274
Dec 98	35	598	55,992	56,589
ANNUAL	416	2,701	242,272	244,973
NOV-APR	212	2,454	207,722	210,176
MAY-OCT	204	247	34,550	34,797