

CASE

NUMBER:

99-070

JOHN N. HUGHES
Attorney at Law
Professional Service Corporation
124 WEST TODD STREET
FRANKFORT, KENTUCKY 40601

Telephone:
(502) 227-7270

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September 3, 1999

RECEIVED

SEP 03 1999

PUBLIC SERVICE
COMMISSION

Ms. Helen Helton
Executive Director
Kentucky Public Service Commission
730 Schenkel Lane
Frankfort, KY 40602

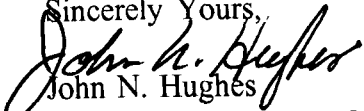
Re: Case No. 99-070

Dear Ms. Helton:

Please file the Responses of Western Kentucky Gas Company to the Commission's Second Request for Information, the Attorney General's First Request for Information and its Petition for Confidentiality for certain of the responses. Items 181 and 182 of the Attorney General's request are not complete. They require a search of archived information and will be filed as soon as available.

Thank you for your assistance, and if there are any questions about this matter or if additional information is needed, please contact me.

Sincerely Yours,


John N. Hughes
Attorney for Western Kentucky
Gas Company

cc: Intervenors

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RE

SEP 03 1999

SEP 03 1999 PUBLIC SERVICE
COMMISSION

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

PUBLIC SERVICE
COMMISSION

IN THE MATTER OF:

**RATE APPLICATION OF WESTERN KENTUCKY
GAS COMPANY**

Case No. 99-070

**PETITION FOR CONFIDENTIALITY OF CERTAIN INFORMATION
PROVIDED IN RESPONSE TO THE STAFF'S
SECOND REQUEST FOR INFORMATION**

Comes now Western Kentucky Gas Company ("Western"), pursuant to 807 KAR 5:001, Section 7, and all other applicable law, and for its Petition for Confidentiality, states as follows:

In Item No. 47 (c) of the Staff's Second Request for Information, Western was requested to provide a breakdown, by customers, of the adjusted volumes and revenues for "Total Special Contracts". This information is set forth in the two page Schedule to KPSC DR 47(c), a copy of which is attached as Exhibit "A".

Exhibit "A" reveals volume and discount levels for each special contract industrial customer for whom a discount has been negotiated, disclosure of all of which is necessary in order to provide the calculations requested by the Commission.

Pursuant to KRS 61.878(1)(c) the following documents are eligible for confidential

treatment:

"Upon and after July 15, 1992, records confidentially disclosed to an agency or required by an agency to be disclosed to it, generally recognized as confidential or proprietary which if openly disclosed would permit an unfair commercial advantage to competitors of the entity that disclosed the records ---".

This is the same standard adopted by the Commission pursuant to 807 KAR 5:0001, Section 7. Company specific details concerning volumes and confidentially negotiated discounts with private enterprises are generally recognized as confidential and proprietary. Disclosure of details pertaining to a particular customer's volume and discount, are likely to cause substantial competitive harm to Western. Knowledge of these facts will provide Western's competitors with a substantial advantage in future business negotiations with Western's customers. Western's competitors would have a clear advantage in competing for these customers since knowledge of a existing Western discounts would enable them to slightly undercut Western's charges. On the other hand, Western's unregulated competitors are not required to make public similar information.

Accordingly, the value of the information is derived by not being readily ascertainable by Western's competitors who would have a clear economic advantage upon disclosure. Negotiations concerning the discounts were maintained with strict confidentiality. None of this information is posted or otherwise generally made available within the company or without. Only those employees of Western who have a legitimate need to know have knowledge of the information contained in Exhibit "A".

Additionally, disclosure of this information would put Western at a disadvantage in future negotiations of special contracts with other industrial customers. There would be little room for

bargaining when a potential customer knows exactly what discounts Western has negotiated with other industrial customers. This likewise would put Western at an unfair commercial disadvantage.

WHEREFORE, Western respectfully request that the attached be treated a confidential. One copy of the attached response has been submitted with the confidential portions highlighted for review and consideration by the Commission. Redacted copies of these documents have been submitted with Western's filing.


Respectfully submitted this 3rd day of September, 1999.

Douglas Walther
Atmos Energy Corporation
P.O. Box 650205
Dallas, TX 75265

SHEFFER - HUTCHINSON - KINNEY
Mark R. Hutchinson
115 E. Second St.
Owensboro, KY 42303

John N. Hughes
124 West Todd Street
Frankfort, KY 40601

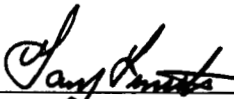
Attorneys for Western
Kentucky Gas Company

By:  _____

VERIFICATION

I, Gary Smith, being duly sworn under oath, state that I am Vice President of Marketing of Western Kentucky Gas Company, and that the foregoing statements are true of my own


knowledge except as to those matters therein stated on information and belief, and as to those matters I believe them to be true.



Gary Smith

STATE OF KENTUCKY
COUNTY OF DAVIESS

SUBSCRIBED AND SWORN to before me by Gary Smith on this the 3rd day of September, 1999.




Notary Public - State of Ky. at Large
My Commission: Sept. 26, 2001

CERTIFICATE OF SERVICE

I hereby certify that on the 3rd day of September, 1999, the original of this Petition, together with fifteen (15) copies, was filed with the Kentucky Public Service Commission, 730 Schenkel Lane, Frankfort, Kentucky 40602, and a true copy thereof mailed by first class mail to the following named person:

Hon. David Spenard
Assistant Attorney General
Office of Rate Intervention
1024 Capitol Center Drive
Frankfort, Kentucky 40601



Mark R. Hutchinson

Western Kentucky Gas Company
 Summary of Revenue at Present Rates
 Test Year Ending 12/31/2000
 Special Contracts

CONFIDENTIAL
 DR Item 47 (c)
 Schedule 1 of 2

Line No.	Description (a)	Service Type (b)	Reference Period - Twelve Months Ending 9/30/98				Forward-looking Adjustments To Test Year		Total Test Year Volumes (i)	Percent Margin (j)	Percent Revenue (k)
			Volume As Metered (c)	Contract Adj. Bills and Volumes (d)	Weather Adj. Volumes (f)	Total Volumes (e)	Customer Growth Forecast (g)	Conservation & Efficiency Adjustments (h)			
1	SPECIAL CONTRACTS:										
2											
3	Customer A										
4											
5											
6											
7											
8	Customer B										
9											
10											
11											
12											
13											
14											
15											
16	Customer C										
17											
18											
19	Customer D										
20											
21	Customer E										
22											
23	Customer F										
24											
25											
26	Customer G										
27											
28											
29	Customer H										
30											
31	Customer I										
32											
33											
34											
35											
36	[] Overrun and Sales Volumes, as										

Western Kentucky Gas Company
 Summary of Revenue at Present Rates
 Test Year Ending 12/31/2000
 Special Contracts

CONFIDENTIAL
 DR Item 47 (c)
 Schedule 2 of 2

Line No.	Description	Service Type	Reference Period - Twelve Months Ending 9/30/98				Forward-looking Adjustments			Present Revenue
			As Metered Volumes	Contract Adj. Bills and Volumes	Weather Adj. Volumes	Total Volumes	Customer Growth Forecast	To Test Year Conservation & Efficiency Adjustments	Total Test Year Volumes	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
1	SPECIAL CONTRACTS:									
2										
3	Customer J									
4										
5	Customer K									
6										
7	Customer L									
8										
9	Customer M									
10										
11	Customer M									
12										
13										
14										
15	Special Contracts Total									
16										
17										
18										
19										
20										
21										
22										
23										
24										
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26										
27										
28										
29										
30										
31										
32										
33										
34										
35										
36	[1] Overrun and Sales Volumes,									

Western Kentucky Gas Company
 Summary of Revenue at Present Rates
 Test Year Ending 12/31/2000
 Special Contracts - REDACTED COPY

CONFIDENTIAL
 DR Item 47 (c)
 Schedule 2 of 2

Line No.	Description (a)	Service Type (b)	Reference Period - Twelve Months Ending 9/30/98				Forward-looking Adjustments		Total Test Year Volumes (i)	Present Margin (j)	Present Revenue (k)
			Contract Adj. Volumes (c)	Bills and Weather Adj. Volumes (d)	Total Volumes (e)	Customer Growth Forecast (g)	Conservation & Efficiency Adjustments (h)				
1	SPECIAL CONTRACTS:										
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15	Special Contracts Total		13,230,373	101,730	13,332,103	-	-	13,332,103	#	1,692,428	
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											
26											
27											
28											
29											
30											
31											
32											
33											
34											
35											

36 [1] Overrun and Sales Volumes, as billed, included with tariff service volumes on Exhibit GLS-1, Volume 2 of 10, of the Application. Contract Adj. moves the Volumes to applicable special contract rate.



COMMONWEALTH OF KENTUCKY
PUBLIC SERVICE COMMISSION
730 SCHENKEL LANE
POST OFFICE BOX 615
FRANKFORT, KENTUCKY 40602
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(502) 564-3940
Fax (502) 564-1582

Ronald B. McCloud, Secretary
Public Protection and
Regulation Cabinet

Helen Helton
Executive Director
Public Service Commission

Paul E. Patton
Governor

September 3, 1999

Mark R. Hutchinson, Esq.
Sheffer, Hutchinson & Kinney
115 East Second Street
Owensboro, Kentucky 42303

John N. Hughes, Esq.
124 West Todd Street
Frankfort, Kentucky 40601

David E. Spenard, Esq.
Assistant Attorney General
1024 Capital Center Drive
Frankfort, Kentucky 40601-8204

Robert M. Watt, Jr., Esq.
J. Mel Camenisch, Jr., Esq.
201 E. Main Street, Suite 1000
Lexington, Kentucky 40507-1380

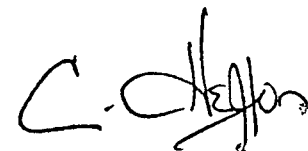
Re: Case No. 99-070
Western Kentucky Gas Company

Gentlemen:

Attached is a copy of a memorandum that is being filed into the record in the above-referenced case.

Sincerely,


Helen C. Helton
Executive Director



alm
Attachment



AN EQUAL OPPORTUNITY EMPLOYER M/F/D

TO: MAIN CASE FILE
APPLICATION OF WESTERN KENTUCKY GAS COMPANY
FOR ADJUSTMENT OF RATES
CASE NO. 99-070

FROM: ANITA MITCHELL
STAFF ATTORNEY

DATE: September 3, 1999

The U.S. Agency for International Development and United States Energy Association sponsored a managerial exchange visit between the Kentucky Public Service Commission ("Commission") and the Armenian Energy Regulatory Commission ("Armenian Delegation") in Frankfort, Kentucky, August 7-19, 1999. The exchange visit included a tour by the Armenian Delegation of Western Kentucky Gas Company ("Western") on Thursday, August 12, 1999. Three staff members of the Commission, Ralph Dennis, Neal Fitch and Dawn McGee, accompanied the Armenian Delegation to Western Kentucky Gas Company. These staff members have not been, and will not be, involved in the Application for Adjustment of Rates filed by Western on June 23, 1999.

cc All Parties of Record



COMMONWEALTH OF KENTUCKY
PUBLIC SERVICE COMMISSION

730 SCHENKEL LANE
POST OFFICE BOX 615
FRANKFORT, KY. 40602
(502) 564-3940

September 1, 1999

To: All parties of record

RE: Case No. 99-070

We enclose one attested copy of the Commission's Order in
the above case.

Sincerely,

A handwritten signature in cursive script that reads "Stephanie J. Bell".

Stephanie Bell
Secretary of the Commission

SB/sa
Enclosure

William J. Senter
V.P. Rates & Regulatory Affairs
Western Kentucky Gas Company
2401 New Hartford Road
Owensboro, KY 42303 1312

Honorable Mark R. Hutchinson
Attorney at Law
Sheffer Hutchinson Kinney
115 East Second Street
Owensboro, KY 42303

Honorable John N. Hughes
Attorney for Western KY Gas
124 West Todd Street
Frankfort, KY 40601

Mr. Douglas Walther
Atmos Energy Corporation
P.O. Box 650205
Dallas, TX 75265

Honorable David E. Spenard
Assistant Attorney General
1024 Capital Center Drive
Frankfort, KY 40601 8204

Hon. Robert M. Watt,
Hon. J. Mel Camenisch, Jr.
STOLL, KEENON & PARK, LLP
201 E. Main Street, Suite 1000
Lexington, KY 40507 1380

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF WESTERN)
KENTUCKY GAS COMPANY FOR AN)
ADJUSTMENT OF RATES) CASE NO. 99-070

O R D E R

This matter arises upon the motion of WBI Southern, Inc. ("WBI Southern"), filed August 17, 1999, for full intervention. It appears to the Commission that WBI Southern has a special interest which is not otherwise adequately represented, and that such intervention is likely to present issues and develop facts that will assist the Commission in fully considering the matter without unduly complicating or disrupting the proceedings. The Commission also recognizes that a procedural schedule was established in this proceeding by Order dated July 2, 1999. The Commission, being otherwise sufficiently advised, finds that WBI Southern should be granted full rights of a party in this proceeding accepting the procedural schedule as it now stands.

IT IS HEREBY ORDERED that:

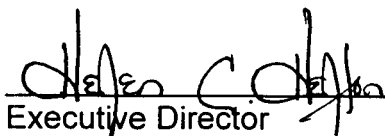
1. The motion of WBI Southern to intervene is granted.
2. WBI Southern shall be entitled to the full rights of a party and shall be served with the Commission's Orders and with filed testimony, exhibits, pleadings, correspondence, and all other documents submitted by parties after the date of this Order.

3. Should WBI Southern file documents of any kind with the Commission in the course of these proceedings, it shall also serve a copy of said documents on all other parties of record.

Done at Frankfort, Kentucky, this 1st day of September, 1999.

By the Commission

ATTEST:


Executive Director

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:)
THE APPLICATION OF WESTERN) Case No. 99-070
KENTUCKY GAS COMPANY)
FOR AN ADJUSTMENT OF RATES)

AUG 18 1999

PUBLIC SERVICE
COMMISSION

INITIAL REQUEST FOR INFORMATION
BY THE ATTORNEY GENERAL

Comes now the Attorney General of the Commonwealth of Kentucky, by and through his Office of Rate Intervention, and submits this Initial Request for Information by the Attorney General.

(1) In each case where a request seeks data provided in response to a staff request, reference to the appropriate request item will be deemed a satisfactory response.

(2) Please identify the company witness who will be prepared to answer questions concerning each request.

(3) These requests shall be deemed continuing so as to require further and supplemental responses if the company receives or generates additional information within the scope of these requests between the time of the response and the time of any hearing conducted hereon.

(4) If any request appears confusing, please request clarification directly from the Office of Attorney General.

(5) To the extent that the specific document, workpaper or information as requested does not exist, but a similar document, workpaper or information does exist, provide the similar document, workpaper, or information.

(6) To the extent that any request may be answered by way of a computer printout, please identify each variable contained in the printout which would not be self evident to a person not familiar with the printout.

(7) If the company has objections to any request on the grounds that the requested information is proprietary in nature, or for any other reason, please notify the Office of the Attorney General as soon as possible.

(8) For any document withheld on the basis of privilege, state the following: date; author; addressee; indicated or blind copies; all persons to whom distributed, shown, or explained; and, the nature and legal basis for the privilege asserted.

(9) In the event any document called for has been destroyed or transferred beyond the control of the company state: the identity of the person by whom it was destroyed or transferred, and the person authorizing the destruction or transfer; the time, place, and method of destruction or transfer; and, the reason(s) for its destruction or transfer. If destroyed or disposed of by operation of a retention policy, state the retention policy.

Initial Request for Information by the Attorney General

1. Provide the average daily amount of outstanding short-term debt for the fiscal years 1995, 1996, 1997, 1998, and 1999.
2. Provide the average daily interest amount charged on the average daily amount of outstanding short-term debt for the fiscal years 1995, 1996, 1997, 1998, and 1999.

Questions for Donald A. Murry

3. Refer to page 2 , lines 9-11 of your pre-filed testimony. You state that you were Vice-president and Corporate Economist and manager of the Washington office for Stone & Webster from 1978 to early 1981. On page 1, lines 12 & 13, you state that you have been a Professor of Economics at the University of Oklahoma from 1974 to present. Please explain the apparent conflict in the overlapping years.
4. Refer to page 1, lines 11 and 12. You state that you were on the faculty of the University of Missouri-St. Louis from 1964-74. On page 2, lines 8 and 9 you indicate that you were with the FPC in 1971-72. Please explain the overlap in years in 1971-72.
5. Please provide a listing of docket numbers or case numbers for every proceeding in which you have appeared or filed testimony since January 1, 1995.
6. Refer to page 6 line 20 of your pre-filed testimony. Please explain and provide an example how the 6.10 percent cost rate for short-term debt was calculated.
7. Refer to page 18 lines 5-7 of your pre-filed testimony. You indicate that you considered the need to raise capital in the future rather than making a floatation cost adjustment when you evaluated the DCF results.
 - a. What did you consider to be Western Kentucky Gas Company's need to raise capital in the future?
 - b. How did you use your consideration when you made your final recommendation?
8. Refer to page 19, beginning at line 10. You indicate that you used a method to adjust for "size bias" because Atmos is smaller than three of the companies you selected for comparison purposes. At the bottom of page 19, you indicate that the CAPM results are 11.68%. On the next page, when you adjust for size bias, you results are 11.31%. Please explain.
9. Refer to Schedule DAM-17. Please explain, and provide an example using data for Atmos Energy Corporation, how the size premium shown in the next to the last column was calculated.

10. Refer to Schedule DAM-17. Please provide citations for all published financial or economic research in refereed journals that indicate the justification or need for a size bias adjustment in the CAPM and which supports the method that you used.
11. Refer to Schedule DAM-17. Please cite and provide the a copy of the page or pages for the source of the 8.00% equity risk premium shown in the fourth column from the right hand side of the Schedule.
12. Refer to Schedule DAM-16. Please cite and provide a copy of the page or pages for the source of the 15.30% Market Total Return shown in the first column of the Schedule.
13. Refer to Schedule DAM-16. Please provide citations for all published financial or economic research in refereed journals that indicate that long-term corporate bonds should be used to determine the risk premium for use in the CAPM.
14. Refer to Schedule DAM-16. Please provide citations for all published financial or economic research in refereed journals that indicate that a different interest rate proxy should be used to determine a risk premium required by CAPM than the rate added back to the risk premium to determine the required cost of equity. (This is in reference to your use a long-term corporate bonds return to determine the risk premium and the Aaa Corporate Bonds Return to determine the cost of equity.)
15. Refer to page 20, line 7. You indicate that you considered the financial market's assessment of the shifting risks between the interstate transmission companies and the local distribution companies. What were your considerations in this regard and how did you quantify them?
16. Refer to page 20, line 7. You indicate that you considered the financial market's assessment of the shifting risks between the interstate transmission companies and the local distribution companies. Please provide copies of all studies that you have done, or have read, that indicates how the financial market assesses the shift of risk between the interstate transmission companies and the local gas distribution companies.
17. The capital structure, which contains 50.24% equity, 40.36% long-term debt, and 9.40% short-term debt, is different from the current capital structure of Atmos. The 9/30/99 13-month average capital structure contains 42.7% equity, 44.5% long-term debt and 12.8% short-term debt. Which of these capital structures do you believe the financial market assesses when evaluating the risk of Atmos -- the actual one or some hypothetical one? Please explain your answer.

18. Refer to page 20, line 2 of your pre-filed testimony. Here you indicate that the cost of equity for Atmos is 11.31% as shown in Schedule DAM-17. Your analysis shows:

	Atmos		Moody's Companies	
	<u>High</u>	<u>Low</u>	<u>High</u>	<u>Low</u>
Schedule DAM-6	8.62%	7.63%	7.62%	6.39%
Schedule DAM-7	9.13%	7.68%	7.90%	6.71%
Schedule DAM-8	9.09%	8.97%	7.63%	7.49%
Schedule DAM-9	15.77%	14.78%	10.95%	9.72%
Schedule DAM-10	15.77%	12.28%	10.29%	8.40%
Schedule DAM-11	16.28%	14.83%	11.23%	10.03%
Schedule DAM-12	16.28%	12.33%	10.57%	8.71%
Schedule DAM 13	16.25%	16.12%	10.95%	10.81%
Schedule DAM-14	16.25%	13.62%	10.29%	9.49%

- a. Why did you ignore all of the data in your DCF analysis I informing your recommendation?
 - b. Why did you ignore all of the data from your Moody's companies in the DCF analysis in forming your recommendation?
 - c. Why did you ignore all of the DCF analysis and your finding on page 20 at line 7 to make a recommendation for the cost of equity from 12.0% to 12.5% in Schedule DAM-22?
19. Refer to page 20, line 5 where you state that, "if Western Kentucky were raising capital on its own." Under what circumstances could Western Kentucky Gas Company, as a division of Atmos, raise capital on its own?

Questions for John R. Reddy

20. Refer to page 4 line 5 of your testimony where you refer to Atmos peer companies. Please provide the names of the companies that you consider to be Atmos peer companies.
21. Refer to page 4 line 5 of your testimony where you refer to Atmos peer companies. What criteria did you use to select Atmos peer companies?
22. Refer to page 4, lines 5 and 6 of your testimony. You indicate that a 50%debt and 50% equity structure is consistent with the objective of maintaining an "A" credit rating on senior debt. Please provide a copy of the rating agency criteria which indicates that a 50/50 capital structure will assist in maintaining an "A" rated bond.

23. Refer to page 5, lines 1-4 of your testimony. You describe a reserve of \$20 million (\$13 million after tax) to account for merger and integration costs associated with the United Cities merger.
 - a. Do you anticipate that the entire amount of the reserve will be used the merger costs?
 - b. Please provide the projected timetable for costing the reserve in an amount/quarter/fiscal year format.
24. Refer to page 5, lines 5-8 of your testimony. You indicate that warmer than normal weather has reduced retained earnings. Refer to page 26 of Atmos Energy Corporation Annual Report which shows the consolidated statement of shareholders equity. Please indicate where the weather related losses caused a reduction to retained earnings.
25. Refer to page 6, lines 12-16 and to page 4, line 3 of your testimony. Please reconcile the stated 50% debt and 50% equity capital structure objective with the summary of the projected capital structures shown on lines 11- 17 of page 6.
26. Reference Mr. Gruber's testimony at page 6, lines 20-21. Please provide budgeted and forecasted O&M expenses for whatever time periods such estimates exist. Please also provide 1999 actual O&M.
27. Reference Mr. Gruber's testimony at page 7, line 19.
 - a. Explain exactly how, in Mr. Gruber's opinion, industrial margins subsidize residential rates.
 - b. Quantify the amount of alleged subsidization that Mr. Gruber believes exists in the proposed test year. (And any other recent actual time period that Mr. Gruber may have in mind.) Please provide workpapers detailing the requested quantification.
28. Please provide the number of industrial customers for each year 1990 through present. Indicate basis of customer count (average, year-end, number of meters, etc.)
29. Reference Mr. Gruber's testimony at page 8, line 13. Provide the numerical support relied on by Mr. Gruber for his testimony that Western has experienced successively declining revenues since the 1995 rate case.
30. Reference Mr. Gruber's testimony at page 20, lines 16-17. Please provide a copy of the referenced Commission rules pertaining to distribution main extension, service line and meter for new customers.

31. Reference Mr. Gruber's testimony at page 7, lines 4-5.
- a. Does Mr. Gruber believe the Company's proposed Weather Normalization Adjustment provides benefits to customers? If so, please both describe the nature of the benefits and please quantify the typical or range of benefit to be received by residential customers.
 - b. In Mr. Gruber's opinion, must the WNA be offered on a mandatory, rather than optional basis? If so, please explain with specificity why a voluntary WNA would not be reasonable and why a mandatory WNA is reasonable.
32. Reference Mr. Gruber's testimony at page 20, lines 18-19. In Kentucky, is the Company required to provide 100 feet of main, a service line and a meter, at no cost to the customer, for each and every customer who requests gas service? If yes, please explain what it is that requires the Company to provide universal gas service to all requestors in the Company's Kentucky service area.
33. Reference Mr. Gruber's testimony at page 22, lines 11-12.
- a. Please clarify whether Mr. Gruber's use of the term energy refers to the energy component of service or to the delivered price of energy. If other, please explain.
 - b. Please explain how the Commission's approval of the Company's residential proposals in this case will ensure that energy prices will be kept lower than they otherwise would be.
 - c. What would residential energy prices otherwise be, in Mr. Gruber's opinion?
 - d. How much lower will residential energy prices be, in Mr. Gruber's opinion, if the Company's proposals are approved by the Commission?
 - e. Will the proposed Premises Charge help or hinder Western in competing with electricity in the new homes' space heating market? Explain.
34. Reference Mr. Hack's testimony at page 2, lines 15-16. Please provide gas delivery interruption experience on the Company's system, for gas otherwise reaching the Company's city gates, for the last ten years:
- a. Dates of interruptions;
 - b. Volumes interrupted;
 - c. Number of customers interrupted and class in which such interrupted customers are housed; and

- d. Reason for interruptions.
35. Reference Mr. Smith's testimony at page 3, lines 21-25. Please provide copy of source information and workpapers detailing the calculation of the referenced 1.5 percent and 0.5 percent growth rates.
36. Reference Mr. Smith's testimony at pages 3-4, lines 28-30, and 1-2, respectively.
- a. Please provide new customer additions attributable to new residential developments for each year 1990 through estimated 2000.
- b. Please provide new customer additions due to "number of nearby conversion candidates" for each year 1990 through estimated 2000.
- c. Please provide gas service saturation data indicating the percent of new residential construction that utilizes gas service.
37. Reference Mr. Smith's testimony at page 14, lines 8-10. Please provide the basis of Mr. Smith's testimony. Include all numerical support relied on by Mr. Smith, and please include all workpapers leading to the numerical support relied on by Mr. Smith.
38. Reference Mr. Smith's testimony at page 14, lines 23-25. Please provide workpapers detailing the calculation of the \$1,600,000 amount of annual margin reduction related to the effects of energy efficiency improvements and conservation in core markets.
39. Reference Mr. Smith's testimony at page 14, lines 26-30. Explain why the Company would add unprofitable customers when such additions are inconsistent with the Company's Distribution Main Extensions Rules and Regulations that require "... the potential consumption and revenue will be of such amount and permanence as to warrant the capital expenditure involved to make the investment economically feasible."
40. Please provide:
- new customer usage;
 - estimated service commencement costs;
 - equipment requirements (i.e., footage of main/service lines, etc.); and
 - other information that is routinely provided to management responsible for approving new customer service.
41. Reference Mr. Smith's testimony at pages 16-17, lines 20-30 and 1-12, respectively.
- a. Please provide the volumes Mr. Smith believes are at risk from physical bypass.
- b. Please provide the volumes Mr. Smith believes are at risk from shifts in production to sister plants outside of western Kentucky.

- c. Please provide the volumes Mr. Smith believes are at risk from alternate fuel competition. What alternate fuels?
 - d. Please provide the delivered gas price that Mr. Smith believes is necessary to compete with each alternate fuel identified in c. above.
42. Reference Mr. Smith's testimony at page 17, lines 26-27. Please provide the amount of stranded costs associated with the loss of the referenced customers. If Mr. Smith believes there are no costs stranded that were necessary to provide service to the referenced customers, please provide Mr. Smith's explanation for this.
43. For the ten largest Company construction projects to provide service to new customers (as opposed to construction projects related to maintenance) since 1995, please provide the information provided to managers responsible for the approval of such projects.
44. Reference Mr. Smith's testimony at page 18, lines 4-18.
- a. Provide Mr. Smith's understanding of the market saturation, or market share, of new residential and small commercial construction served by gas.
 - b. Explain how the proposed Premises Charge (for example, see Ives' testimony at page 10, lines 9-18) is consistent with aggressively marketing gas and addressing electric competition for new residential construction.
45. Reference Mr. Smith's testimony at page 16, lines 1-2. Please provide the amount of subsidy provided by industrial customers to residential customers. Please also provide workpapers depicting the calculation of the subsidy amount Mr. Smith is addressing in this part of his testimony.
46. Reference Mr. Smith's testimony at page 16, lines 12-13. Explain how the Company's non-industrial customers are not going to participate in the "suffering" from the loss of industrial revenues under the Company's proposal to shift this revenue loss to non-industrial customers in this rate proceeding.
47. Reference Mr. Smith's testimony at page 19, lines 6-7. Please provide the residential fair share amount that Mr. Smith believes residential customers should pay and the amount that residential customers actually pay. The difference between these two amounts should equal the amount Mr. Smith believes is "well less" than the residential fair amount. If the reader is mistaken, please provide residential fair share amount, actual share amount, and the amount by which residential payments are less than the fair share amount to data in the Company's case, if possible.
48. Reference Mr. Smith's testimony at page 16, lines 4-5. Please provide Mr. Smith's understanding of the amount of the Company's total cost of service that is associated with the significant portion of Western's annual deliveries to industrial sales and transportation customers. Tie the provided amount to data in the Company's filing.

49. Reference Mr. Smith's testimony at page 19, lines 19-27. For winters that are 10 percent colder than normal and those that are 10 percent warmer than normal, please provide the dollar amounts that a typical residential customer would save or pay to the Company, respectively, under operation of the proposed Weather Normalization Adjustment clause. The answer to this question may be provided by whomever Western feels is the most appropriate person to respond. Provide workpapers detailing the calculation of the requested customer impacts.
50. Reference Mr. Smith's testimony at page 22, lines 7-8. Using test year costs and proposed revenues, please provide class amounts of revenues and costs that demonstrate that Western's proposed rates eliminate or lessen existing cross-class subsidies.
51. Reference Mr. Smith's testimony at page 25, lines 19-22.
- a. If different from the answer to the immediately preceding question, class revenues and class cost responsibilities contained in Mr. Peterson's study, and any other specific contents of Mr. Peterson's study, that were relied upon as a guide for the realignment of class revenue responsibilities.
- b. Please quantify the amount of class revenue responsibilities the Company proposes to effectuate through its proposals in this case.
52. Please explain the circumstances under which the Company would extend its mains and incur other costs in order to connect a gas cooking only customer. Have there been any such hook-ups since the Company's last rate case? If so, how many?
53. Same question as immediately above, but this time dealing with hooking up a gas cooking only customer from an existing main.
54. Please provide that portion of proposed tariff that details Western's proposed Margin Loss Recovery Rider.
55. In Mr. Smith's opinion, would the statement "... any contribution made by a major customer to the Company's fixed costs is better than none ..." be true of only major customers? Or of all customers? Explain.
56. Reference Mr. Smith's testimony at page 30, lines 28-30. Please provide the referenced incremental costs, both conceptually and quantitatively, for Western.
57. Reference Mr. Smith's testimony at page 31, lines 4-5.
- a. Please provide Mr. Smith's opinion as to what constitutes an over assignment of fixed joint and common costs to the industrial class.
- b. Is there such an over assignment in this case? If so, please explain why, and the amount of such over assignment, in Mr. Smith's opinion.

58. Please provide the Atmos companies Margin Loss Recovery tariff provisions in their Tennessee, Georgia and South Carolina's operations.
59. Reference Mr. Smith's testimony at page 31, lines 18-23. How would the margin from a new industrial customer affect a margin loss adjustment? Explain.
60. Reference Mr. Smith's testimony at page 35, lines 6-13.
 - a. Please indicate Mr. Smith's opinion as to the dollar amount for a typical residential heating customer that results in the referenced harm to the customer.
 - b. Please provide the dollar amount for a typical residential heating customer that results in the referenced substantial harm.
61. Please provide Western's affiliate, United Cities Gas Company, Tennessee and Georgia's WNA tariff.
62. Reference Mr. Ives' testimony at page 3, line 7. What is a cross-class subsidy in the allocation of costs? Explain, and provide the numerical amount of claimed cross-class subsidy in the allocation of costs.
63. Reference Mr. Ives' testimony at page 3, lines 28-29. Is Mr. Ives saying here that Mr. Smith is proposing rates that would shift revenue responsibility to the residential class? If not, explain how Mr. Smith is proposing to increase the share of costs allocated to the residential class.
64. Reference Mr. Ives' testimony at page 5, lines 9-11. Does Mr. Ives believe that Western administers its current new customers hook-up program so that the new potential consumption and revenue warrants the capital expenditures and makes the investment economically feasible? If yes, please explain the logic Mr. Ives uses in reaching his conclusion.
65. Reference Distribution Mains Study, Sheet 7 of 9 (shows minimum system and zero-intercept data).
 - a. Explain how it is that the two methods, which are supposed to reveal the customer component of distribution mains can indicate that 78.32 percent of mains costs are customer related on the one hand, and that 22.64 percent of mains costs are customer related on the other hand.
 - b. Please provide the study and workpapers that support the \$49,014,175 customer amount of mains.
 - c. Please provide the set of data points that were regressed to determine the slope in $Y = A + B * X$ relationship between pipe size and cost.

- d. Provide all measures of goodness of statistical fit that are calculated in the software package used to regress pipe size and cost.
66. Explain the Company's understanding of the theory of how the minimum system concept and the zero-intercept concept reveal the customer component of distribution mains.
67. Explain why the Company chose to use the zero-intercept method of determining customer costs of distribution mains rather than the zero-intercept method.
68. Reference Mr. Ives' testimony at page 6, lines 3-5. Explain how new residential hook-ups that result in monetary loss to the Company are consistent with Mr. Ives' testimony at page, 5, lines 9-11.
69. Reference Mr. Ives' testimony at page 6, lines 7-10. Please provide a numerical example showing for a given amount of revenue from the proposed charge at Mr. Ives' choosing, the amount that would be credited to plant, the amount that would become a tax expense, the amount of tax expense, and the amount that become return.
70. Reference Exhibit DMI-2, Schedule 1 of 2. Please provide information in the same format that is limited to facility investment related only to, or changes between the two-time period solely because, facility investments associated with new customer additions.
71. Reference Exhibit DMI-3, Schedule 1. Presumably, since Western's customers are already responsible for the costs of services from the curb or property line to the gas-using structure, the \$906.94 services cost per customer is the cost of the service line from the main to the curb, cub box, or property line. Please explain why it is that the cost of services is about 2.7 times the cost of mains, per customer, as shown on this exhibit.
72. Explain why the "return on investment" portion of the proposed premises charge needs to be gross-up for income taxes.
73. If Western is not going to depreciate the Excess Investment (Ives' testimony, page 10, line 12), for either book and/or tax purposes, please explain why not.
74. Assume, in a two-person world, person A owns the only house and refuses to sell to person B, necessitating that person B build a new house. Further assume that the cost of extending utility service to the new house costs \$100 more than the embedded cost of utility facilities to the already existing house. In Mr. Ives' opinion, who has caused the utility to incur the extra \$100 cost? Please explain.
75. Reference Mr. Ives' testimony at page 13, lines 1-2. Is the 10 percent amount a 10 percent per year amount? Or is it a 10 percent of the initial premises charge amount? Other. Please explain, and provide a numerical example within and a numerical example without the 10 percent range.

76. Reference Mr. Ives' testimony at page 18, lines 16-20. Please provide workpapers detailing the \$15.44/year and the \$2.4 million amounts.
77. Reference DMI-5, Schedule 1 of 2. Provide workpapers detailing the derivation of each the Return of Excess Investment charges and each of the Carry Cost on Excess Investment charges (6, in total) shown in the Demand Charge for Month section of this schedule.
78. Reference DMI-5, Schedule 1 of 2. Please show how the annual revenue provided by this rate is sufficient each year, and no more than sufficient, to recover total excess investment, return, taxes on return, and, apparently, taxes on recovery of excess investment.
79. If a new hook-up was subject to the proposed premises' charge for 14 years, was sold but vacant for one year, what would be the premises charge responsibility of the new owners? One year? None? Other? Explain.
80. How and when would new owners of a re-sold residence subject to a premises charge find out about the applicability of such a charge?
81. Are potential investors aware that Western currently does not have a premises charge? If so, explain how such information has not been factored into their decisions as to whether to invest in Western, other utilities, or any other business.
82. Reference Exhibit DMI-5, Schedule 1 of 2. Please provide the capitalized O&M expense included in the \$858.15 total excess investment.
83. Please provide a demonstration that the proposed pricing scheme for the total excess investment produces the same cost to ratepayers as would tradition Kentucky regulatory treatment of these same excess investment costs.
84. For the traditional regulatory treatment assume the total excess investment is allowed into rate base. Qualifying for recovery and return and associated taxes. If the costs to the ratepayer are different, please explain why the costs are different, and provide the annual and total costs to ratepayers under your proposed regulatory scheme for total excess investment and under the traditional regulatory scheme.
85. Please provide depreciation rates for mains, services, meters and regulators, all of the types included on Exhibit DMI-1, Schedule 1.
86. Assume a mains extension project to hook-up a new customer costs \$750.00. Consistent with Western's Distribution Mains Extension Rules and Regulations, suppose \$500.00 is incurred at no cost to the customer, and Western charges the customer for the extra \$250 cost, plus another, say, \$125 for income taxes. Please provide a balance sheet indicating how the Company's plant accounts would appear before and after this project. Please include account numbers affected by this project.

87. Please provide the amounts of contribution in aid of construction booked in 1998.
88. Reference Exhibit DMI-3, Schedule 1. Are the total cost of installed units amounts gross plant amounts? Plant amounts net of CIAC? Other? Explain. If the amounts are not gross plant amounts, please provide the itemized additions (by amounts and description) that are necessary to convert the referenced amounts to gross plant amounts.
89. Normally, constant capital cost recovery implies a diminishing stream of revenue requirements (costs) over time. Normally, a constant annual payment implies an increasing recovery of capital costs. Your Total Excess Investment cost recovery scheme embodied in your proposed Premises Charge is characterized by both constant prices and constant capital cost recovery. Explain conceptually on how you derived your constant payment/constant cost recovery Premises Charge(s). If the arithmetic of this requested derivation has already been included as part of a response to some other OAG question, please reference that response. If not otherwise provided, please provide the workpapers showing the requested derivation.
90. Please provide storage injections and withdrawals on a daily basis for 1998.
91. Reference FR 10(9)(v), page 5. Please describe the \$2,009,995 "Other" plant on line 19. Indicate the accounts that house this plant.
92. Reference FR 10 (9)(v), page 6. Please describe the \$332,431 A&G, line 3. Indicate the accounts that house this expense.
93. Reference FR 10(9)(v), pages 10, 11, 12 and 13. Please provide workpapers showing the derivation of the 2 percent, 98 percent, 64 percent, and 36 percent splits in the various accounts. Explain why the referenced percents are utilized.
94. Wherever the Design Day Factor B is utilized in total on in part (as with the P&A factor), please explain why the Design B factor is believed to be appropriate and why the Design A factor was not used.
95. Reference FR 10(9)(v), page 19. Please indicate the sources of numbers that total to each individual cost shown in column (a).
96. It appears that the Distribution Mains investment is classified customer/demand on the basis of the reported "Regression Minimum" zero-intercept results reported on Sheet 7 of 9 on schedules following your filed class cost of service study. Please confirm this understanding, or explain the basis of your distribution mains customer/demand split, if this understanding is not correct. Provide workpapers if the C/D split is other than as understood and explained herein.
97. Reference page 10, lines 23-27, of Mr. Smith's testimony. Please provide the analysis performed by the Company to determine the appropriate weights for each station.

98. Reference page 10, line 29 through page 11, line 2 of Mr. Smith's testimony. Please provide a copy of the referenced report for each of the five stations listed on page 10, lines 23-27.
99. Please provide the actual annual heating degree days observed during the period 1961-1990 for each of the five stations listed on page 10, lines 23-27.
100. Reference page 36 of Mr. Smith's testimony. Please provide illustrative examples complete with calculations separately showing the WNA for the residential heating- and man-heating customers under conditions 10 percent colder and warmer than normal.
101. Reference P.S.C. Seventy-First Sheet No. 5. Please explain the basis for the different Expected Gas Cost Component for the various sales rates. Provide copies of documents which show how the various rates are derived and on what basis the differences are justified.
102. Reference Mr. Smith's testimony on page 3, lines 3-13. Please provide the average margin per customer by customer class under present and proposed rates.
103. Reference Mr. Smith's testimony at page 16, lines 1-2. Please define subsidy as that term is used by Mr. Smith.
104. Please explain the circumstances under which Western's discount policy would result in increasing a discount. What economic or other factors have to change to in order for Western to agree to a higher discount?
105. Explain which of the circumstances requested in the immediately preceding question changed so that Western's response was to increase discounts by \$800,000? (Mr. Smith's testimony, page 14, line 20.)
106. Please explain the circumstances under which Western's discount policy would result in decreasing a discount.
107. (Reference Mr. Smith's testimony, page 16, line 20.)
 - a. Cite any reference material that supports Mr. Smith's statement.
 - b. Define margin component as that term is used by Mr. Smith. Please quantify, if possible.
 - c. Please provide the number of Western's special contract customers for which the referenced statement applies. As part of this response, please provide any numerical documentation of how gas costs represent a major component of the special contract customer's costs.

- d. Indicate the impact of the \$800,000 increased discount on the earned return of the affected customer operations in Kentucky.
 - e. Specifically, provide gas costs as a percent of total costs for each customer afforded a discount.
 - f. For each customer who received a portion of the \$800,000 increased discount, what would the result have been of denying the discount?
108. (Reference Mr. Smith's testimony, page 17, line 15.) Please provide the tariff sheets applicable to the 13 referenced customers.
109. What is the pipe diameter size of the smallest mains that Western, as a practical matter, installs today?
110. How many customers are served from mains of the size requested in the question immediately above?
111. Reference Mr. Smith's testimony at page 20, lines 13-15. Cite any authoritative text that supports Mr. Smith's contention that prices that produce above average and below average returns on allocated embedded costs of service are uneconomic price signals.
112. Reference Mr. Smith's testimony, pages 29-31. By way of illustrating your proposed Margin Loss Recovery Rider, assume the following for an industrial customer in a test year.
- Deliveries 100,000 Mcf
Margin 15¢/Mcf
- a. In a post-test year, assume deliveries to this customer are 80,000 Mcf and the margin had to be discounted to 10¢/Mcf to avoid bypass. Show the calculations producing the lost margins for this customer.
 - b. In a post-test year, assume deliveries to this customer are 200,000 Mcf, and margin had to be discounted to 10¢/Mcf to avoid bypass. Show the calculations producing the lost margins for this customer.
113. Reference Mr. Peterson's testimony at page 4, lines 16-21.
- a. Please provide the footage amount and cost amount of each of the six-inch and eight-inch mains additions that were excluded from your study.
 - b. Explain exactly how the inclusion of the cost per foot of the excluded 6- and 8-inch pipes would distort the distribution mains' regression analysis.

114. Reference Mr. Peterson's testimony, page 11, lines 3-14.
- a. Did Mr. Peterson or Western investigate the use of the minimum system methodology for use in this proceeding? If no, why not.
 - b. If the answer to a. is yes, please provide any assembled minimum system cost data, any calculations, and any results of any study of the minimum system methodology performed on the Western system.
115. For the ten largest company construction projects to provide service to new customers (as opposed to construction projects related to maintenance) since 1995, please provide the information provided to managers responsible for the approval of such projects.
116. Did Mr. Peterson or the Company investigate whether a curvilinear relationship between unit cost and pipe diameter produced a statistically better relationship than a linear relationship? If not, why not? If yes, please provide the study and its results.
117. Please have Mr. Peterson describe, based on his understanding of Western's operations and his understanding of local distribution company operations in general, the basic service that the Company provides to its end user sales and transportation customers.
118. Please provide a map of the Western natural gas distribution system. Please annotate the map to locate pipeline interconnections, and any LNG or propane or other peak shaving facilities.
- 119.
- a. Please provide a listing of all allocation factors and their numerical values.
 - b. Separately for each demand factor, explain what each factor is (e.g., peak demand on design day excluding transmission customers, etc.) and how that factor differs from other demand allocation factors.
 - c. Separately for each customer allocation factor, explain what each factor is and how that factor differs from other customer allocation factors.
120. For each demand allocator, please state the basis for the amounts of interruptible customer demands included in the allocator. If the interruptible customer demands used to determine the demand allocators are less than the actual interruptible demands during recent peak demands, explain why the smaller demands have been used.
121. Please identify the probability of design peak day occurrence for the Company's design peak day criteria. Include supporting workpapers and documentation.
122. Please provide a detailed supply and requirements schedule for the Company's three most recent annual peak days, including the 1996-97 winter season. The schedules should include deliveries to meet demands by source (i.e., FTS, contract storage service, on-

system storage, propane, etc. by pipeline rate schedule) and requirements by customer class. Separately identify deliveries and requirements for transportation customers. Also provide the Company's daily sendout sheet for each peak day and the applicable weather data.

123. Please provide a summary identifying the salient features of each of the following currently in effect. Salient features include contract party, effective term and applicable contract entitlements (daily, annual, seasonal, etc.).
 - a. All firm transportation and no-notice agreements by type. Indicate whether the capacity is available at the Company's city gate to meet design day requirements or is upstream capacity. Identify the applicable downstream pipeline for each upstream arrangement.
 - b. All storage, gathering and exchange agreements. Indicate if each agreement provides design day capacity at the city gate or requires separate transportation (identify) service to effectuate delivery. Include any on-system storage and peak shaving facilities used by the Company.
 - c. Please reconcile the capacity entitlements identified in subparts a and b with the design day entitlements provided in response to the previous question.
124. Please provide a detailed description of the Company's meter testing and change-out program.
125. Please identify the bill preparation time required for each rate schedule/customer class reflected in the Company's cost of service study. Include copies of any analyses or studies conducted by the Company examining this issue.
126. For each rate schedule/customer class reflected in the Company's cost of service study, please:
 - a. identify the number of meters in service;
 - b. identify the number of times each month the meters of the various rate schedules/customer classes are physically read (i.e., daily, bi-monthly with estimated readings on alternating months); and
 - c. provide copies of any analyses or studies prepared by the Company examining meter reading time requirements by the various classes of customers served.
127. Please provide copies of any analyses, studies or documents which identify the frequency of billing inquiries by customer class and the time required to address those inquiries.

128. Please identify:
- a. the O&M account in which costs associated with the Company's account representatives are reflected;
 - b. total expenses associated with account representatives; and
 - c. the number of representatives servicing or assigned to each particular customer class.
129. Please provide actual and weather normalized sales volumes and number of customers by rate schedule for each month from January 1998 through that most recently available. Include supporting normalization workpapers and documentation.
130. Please provide actual and weather normalized transportation volumes and number of customers by rate schedule for each month from January 1998 through that most recently available. Include supporting normalization workpapers and documentation.
131. Please provide copies of any studies conducted by the Company which examine the effect of transportation customer imbalances on system sales customers' gas costs.
132. Please provide a schedule separately identifying all interruptions of transportation or retail sales service on the Western system since 1994 due to capacity constraints on Western's distribution system. Identify the length of interruption, the volumes interrupted, the rate schedule of the interrupted customers, and the area in which interruptions occurred if the interruption was local rather than general on the Western system.
133. Please explain how often most of Western's transportation customers generally revise their nominations for deliveries into Western's system by class. Hourly, daily, monthly?
134. Please identify the monthly quantity of standby service reserved by transportation customers during the period January 1996 to present.
135. Please provide all workpapers, calculations, documentation and studies relied upon or utilized to develop each allocation factor reflected in the Company's cost of service study. Include copies of all computer files on Lotus 1-2-3, Quattro or Excel format.
136. Please provide a copy of the Company's cost of service study on computer diskette in Lotus 1-2-3, Quattro or Excel format.
137. Please provide copies of all studies and analyses prepared by the Company which examine usage per customer for new homes and converting customers, and the usage per customer for new homes and converting customers with that of present customers.

138. List all the different pressures utilized by Western in the operation of its system, and explain the operation of Western's system with respect to change in gas pressures and the reason for the changes in gas pressures.
139. For 1966, 1997 and 1998, please provide the following information regarding Western's distribution (gas delivery) system:
 - a. The highest peak day and each classes' contribution to that peak day;
 - b. The non-coincident peak (NCP) by the class and time of occurrence;
 - c. The highest three-day peak and each classes' contribution to that three-day peak;
 - d. Western's design peak day;
 - e. The amount of firm and interruptible load by rate class in the CP and NCP data; and
 - f. A reconciliation of these factors with the demand allocators utilized in Western's gas cost of service study.
140. Explain why the GRI R&D Unit charge is not applicable to T-3 and T-4 carriage service, as proposed.
141. Will application of the Waiver Provision discretion included in the GRI tariff cause the unit charge to increase for other customers subject to the charge? Explain.
142. Why is the DSM surcharge proposed to be applicable only to residential customers?
143. If a cost basis is claimed for the application of the DSM surcharge only to the residential rate class, please explain how a residential customer who does not participate in the DSM program is anymore responsible for the incurrence of the DSM costs than a customer in any other class.
144. As detailed as possible, describe costs that are incurred by or on behalf of the collaborative process. (Mark's testimony, page 20, lines 5-6.)
145. Please provide workpapers detailing the actual and estimated expenses shown on Exhibit MM-2.
146. With regard to Mr. Smith's testimony on pages 10-11, please provide all workpapers and supporting documentation showing:
 - a. The development of the weighting percentages assigned to the five NOAA First Order Weather Stations.
 - b. The derivation of the composite normal of 4340 HDDs.

147. Please provide a copy of any memoranda, studies, or other written documents which discuss the selection of the appropriate NOAA Stations for purposes of calculating HDDs, the time period to be utilized in defining normal HDDs, and other considerations researched and assessed by Western in consideration of proposing a WNA.
148. Please explain in detail how the Company proposes to calculate base load (BL) and the heat sensitive factor (HSF) for purposes of its WNA.
149. Please state whether the Company is proposing to determine normal degree days (NDDs) for WNA purposes in the same manner as discussed on pages 10-11 of Mr. Smith's testimony. If not, please explain in detail how Western intends to calculate NDDs for WNA purposes.
150. Please identify each rate schedule and billing classification for which Western is proposing to develop a separate Weather Normalization Adjustment Factor (WNA factor).
151. Please provide workpapers showing the calculation of the Base Load (BL) for each separate billing classification to which a WNA factor would have applied had the WNA been in effect during the winter of 1998-99.
152. Please provide workpapers showing the calculation of the heat sensitive factor (HSF) for each separate billing classification to which a WNA factor would have applied had the WNA been in effect during the winter of 1998-99.
153. Please provide workpapers showing the calculation of the weighted average rate (R) of temperature sensitive sales for each separate billing classification to which a WNA factor would have applied had the WNA been in effect during the winter of 1998-99. Show the calculation at both present and proposed rates.
154. Please indicate whether it is correct that the same WNA factor would apply to all customers within a given billing classification regardless of their individual usage or other characteristics. If not, please explain.
155. Please indicate whether it is correct that the WNA factor will apply to all consumption of each customer in a given month. If not, please explain how the WNA factor will be applied.
156. Please state whether the Company has prepared a "backcast" or similar analysis showing the affect which the WNA would have had on monthly revenues during the winter of 1998-99, had it been in place. If yes, please provide a copy of the analysis including all workpapers and supporting documentation. If not, please explain why not and explain how the company verified the reasonableness and accuracy of its proposed WNA.

157. For each billing classification to which a WNA factor would have applied had the WNA been in effect during the winter 1998-99, please provide comparison of the actual consumption in each month versus the amount predicted by the formula $(BL + (HSF \times ADD))$ included in the company's WNA factor.
158. Please provide a copy of the tariffs of the United City Gas Company affiliates in Tennessee and Georgia which address those companies' WNA programs.
159. Please explain any differences between the WNA which the Company has proposed and the WNAs in effect for its United Cities Gas Company affiliates in Tennessee and Georgia.
160. Please identify each of the companies affiliates in other states, indicate whether they have previously sought approval of a WNA or similar mechanism, and state whether such a mechanism was approved, and, if approved, when.
161. Please identify the incremental or decremental revenues which the United Cities Gas Company affiliates in Tennessee and in Georgia have realized in each winter heating season since those Companies have implemented their WNAs.
162. With reference to page 8, line 13, of Mr. Gruber's testimony, please provide evidence of the declining trend in revenues since 1995.
163. With reference to four business initiatives discussed beginning on page 12 of Mr. Gruber's testimony, please provide the following:
 - a. The dates on which each initiative was or will be implemented.
 - b. The total projected (actual, if implemented) investment required for each initiative.
 - c. The annual operating costs included in the forecasted year associated with each initiative (separately list one-time or start-up costs).
 - d. The savings to be derived from each of these initiatives. Differentiate the annual savings from one-time (non-recurring) savings, and identify the savings reflected in the forecasted test year.
 - e. Discuss how the costs and savings from these initiative have been reflected in the cost of service.
164. With reference to page 16, lines 10 through 18 of Mr. Gruber's testimony:
 - a. Please provide a listing identifying and describing each of the IT projects, the implementation date, the required investment, the total investment through the most recent date available, and the annual and one-time savings and costs.

- b. With respect to the Y2K and the Oracle expenditures, please identify the forecasted test year amounts and explain how the investment, the annual costs and annual savings have been reflected in the cost of service.
165. With respect to the positions eliminated as a result of the Atmos/United Cities merger as discussed on pages 19 and 20 of Mr. Gruber's testimony, were there any costs that are being amortized over more than one period? If so, please identify the costs, the amount included in the forecasted test year cost of service, and the date(s) on which the amortization will end.
166. With reference to the Gas Meter Performance Control Program discussed on page 19 of Mr. Gruber's testimony, please identify the "gains" from the program and explain how they have been reflected in the cost of service.
167. Please provide copies of all contracts and/or corporate documents between WKG and Shared Services that cover the provision of products and services and the allocation of costs between the two entities.
168. With reference to lines 1 through 7 of Mr. Fischer's testimony, please provide the list of services that Shared Services currently provides to WKG, and the list of services that Shared Services is expected to provide during the rate effective period.
169. Please provide a workpaper that provides the actual annual charges from Shared Services to WKG from the inception of Shared Services in 1997 through 1998, and the monthly charges for 1999 through the most recent date available. Please indicate any portion of these charges that are charged to non-O&M accounts.
170. According to page 7, lines 18 and 19 of Mr. Fischer's testimony, over the next 2 to 3 years increased emphasis will be placed on Shared Services' productivity and improving the quality and prices of its products. Please state what goals or targets have been established for productivity and the quality and pricing of products and services. Also indicate how achievement of these goals has been reflected in the cost of service for WKG.
171. With reference to the testimony of Ms. Buchanan at page 4, lines 26 through 30, please provide a workpaper showing the derivation of the capitalization factor used to derive the level of depreciation expense.
172. With reference to the discussion on the O&M budgeting process and preparation in Ms. Adams' testimony:
- a. Please explain how contingencies are handled in the O&M budget preparation. How are the amounts for contingencies derived and monitored? Provide the level of contingencies included in forecasted test year.

- b. In those instances where year-to-date costs and the remaining months' proposed O&M budgets are used as guidelines for the forecasted test year costs, as stated on page 4 of Ms. Adams' testimony, please explain exactly how those amounts are used. Were escalation or inflation rates applied to a base year amount? If so, for the forecasted test year, provide the escalation rates, the base year amounts, and explain how the escalation rates are derived?

173. With reference to page 8, line 22 through page 9, line 8 of Ms. Adams' testimony:

- a. Please provide a workpaper which separately shows the derivation of the \$400,000 increase to fill vacant positions, and the \$290,000 attributable to the 4 percent wage increase.
- b. For the last five completed fiscal years, please provide an analysis that shows the proposed labor increase included in the O&M budgets and the actual increase granted for each year.
- c. For the last five completed fiscal years, please provide an analysis that shows the proposed benefits percentage included in the O&M budgets and the actual benefits percentage for each year.

174. With reference to the discussion on O&M budget control and monitoring beginning on page 5 of Ms. Adams' testimony:

- a. During the year, are O&M budgets ever revised after being adopted? If so, please explain the process of revising the budget. Indicate the criteria that would justify a revision to the adopted O&M budget.
- b. Is there a threshold below which O&M budget variances are evaluated in the manner similar to instances where actual costs exceed the budget by more than 5 percent? If so, please indicate the level of decrease which will trigger such an evaluation.

175. Please provide supporting documentation that shows the FY 1999 O&M budget as of March 1999 being on target as stated on page 6, line 20 of Ms. Adams' testimony.

176. Please provide copies of all monthly and quarterly O&M budget variance analyses, including variance explanations, for FY 1999 to date. Please provide additional reports as they become available.

177. Please provide copies of the quarterly O&M budget variance reports explanations for each year presented in the chart on page 6 of Ms. Adams' testimony.

178. Please disclose any changes to WKG budgeting (O&M and capital) and accounting policies that became effective during 1998 and after.

179. With reference to Ms. Adams' testimony at page 7, lines 7 and 8:
- a. Is WKG self-insured for employee medical coverage? If so, please explain how medical insurance costs are recorded and include an explanation of the use of the reserve.
 - b. If medical costs are accrued monthly, please explain how the accrual amount is determined. Include any workpapers that quantify the forecasted test year amount.
 - c. Please identify the level of medical costs included in the forecasted test year cost of service, and explain how they were determined. Include any workpapers that quantify the forecasted test year amount.
180. With reference to page 7, lines 23 through 25 of Ms. Adams' testimony, please explain why the September 2000 amounts were used for the first three months of the 2001 fiscal year instead of using the zero based approach of budgeting.
181. Please provide workpaper that presents the following annual data for contract labor for FY 1994 through the forecasted test year. Provide actual monthly data for the available months during the base period.
- a. Number of contractors;
 - b. Total contract labor payroll broken down by O&M, capital and non-O&M accounts; and
 - c. Contract labor overtime payroll broken down by O&M, capital and non-O&M accounts.
182. With reference to the discussion on labor beginning on page 8, line 22 of Ms. Adams' testimony:
- a. Please explain why there would be an increase in O&M payroll costs if the employees hired are replacing contractors who were performing mostly construction activities.
 - b. According to page 8, lines 28 to 30 of Ms. Adams' testimony, the Company "did not budget to reflect a full complement of employees for FY 1999 because we were substituting contract labor for Western's own employees." In response to KPSC 1-69e, it is stated that "[n]one of our planned positions to be filled were previously held by contractors." Please explain the apparent inconsistency in the two statements.
 - c. When did the Company begin its practice of using contractors instead of employees?

- d. Please provide the date on which the Company plans to begin hiring employees to replace contractors.
 - e. Please explain how the costs of contractors were removed from the cost of service. Include in your response the amount removed and documentation supporting that amount.
183. Please provide a statement that describes the Company's planned use of contractor labor for the forecasted period. Indicate the level of contractor employees and the related O&M and non-O&M costs for the forecasted period, and the amount of contractor labor that the Company plans to eliminate.
184. With reference to the communications expense included in the forecasted test year:
- a. Please provide workpapers and other documentation supporting the \$300,000 increase.
 - b. Please provide an explanation of the reason communications expense was under-budgeted in FY 1999.
 - c. When will the mobile data terminals (MDT) be installed on the Company's vehicles? Are the MDTs replacing other equipment currently being used? If so, please identify the equipment being replaced and show how their costs were removed from the cost of service.
 - d. Please provide an analysis that compares the budgeted communications expense with the actual expense for FY 1999 to date.
185. With reference to the \$250,000 increase in uncollectibles, presented on page 9, line 19 of Ms. Adams' testimony, please provide documentation supporting the \$250,000 increase.
186. With reference to page 10, lines 3 and 4 of Ms. Adams' testimony, please provide the basis for the 4 percent overall wage increase and supporting documentation for the 23 percent benefits factor.
187. With reference to page 10, lines 22 through 23, please provide the annual level of savings associated with Gas Meter Performance Control Program. Include in your response documentation showing the derivation of the savings amount.
188. With reference to page 13, lines 13 through 15 of Ms. Adams' testimony, please be specific as to the cost elements that cause the \$172,000 increase in the Shared Services' budget.

189. With reference to the discussion on the capital budgeting process in Mr. Doggette's testimony:
- a. Please explain how contingencies are handled in the preparation of the capital budget. How are the amounts for contingencies derived and monitored?
 - b. Please provide the level of contingencies included in the FY 1999, 2000 and 2001 capital budgets.
 - c. For the FY 1999, 2000 and 2001 capital budgets, please provide a breakdown of the growth and non-growth portions of expenditures.
 - d. What is the overall capital spending goal for FY 1999-2001? Please explain how the capital spending goal is derived.
190. With reference to the discussion in Mr. Doggette's testimony relative to the control and monitoring of capital expenditures:
- a. Please explain whether the spending on any capital projects is affected when other capital projects exceed their approved funding levels. If so, please explain fully how spending on capital projects is interrelated.
 - b. In instances where projects are delayed during a given fiscal year, are the approved funds available for use on other projects? If so, is there a separate approval process for the shifting of funds? Please explain.
 - c. Please explain the decrease in the capital budget between FY 1997 and FY 1998.
191. Please provide copies of all monthly and quarterly budget variance reports on the FY 1999 capital budget available to date. Please provide additional reports as they become available.
192. Please provide copies of the quarterly capital budget variance reports with explanations for each year presented in the chart on page 8 of Mr. Doggette's testimony.
193. Please explain why a zero-based approach was not used to develop the forecasted test year capital budget.
194. Please explain how the Shared Services' capital budget is incorporated in the capital budget presented in Exhibit DHD-1.
195. With respect to the development of the Shared Services' capital budget:
- a. Please provide copies of FY 1999, FY 2000 and FY 2001 capital budgets.

- b. Please provide backup documentation and explain how the budgets for FY 2000 and FY 2001 were derived. If the budgets for those years were developed in a manner similar to the budgets presented in Exhibit DHD-1, provide rates (and supporting documents) used for overheads, maintenance and improvements, price increase.
 - c. Please discuss all areas where the controls and monitoring of Shared Services' capital budget differ from WKG's capital budgeting practices.
196. For Fiscal Year 1999 most recent date during 1999, please provide an analysis that shows the capital budget, the actual expenditures and the budget variance explanations.
197. Please provide the following with respect to WKG's pension expense:
- a. The pension plan actuarial study used to support the base period pension expense credit amount of \$2,032,245.
 - b. The most recent actuarial study for the pension plan.
 - c. Supporting documentation showing the derivation of the \$2,032,245 credit and budget credit to pension expense of \$853,000.
198. With reference to page 7, lines 4 through 7, of Mr. Burman's testimony, does he agree that as a result of those events WKG's customers have prepaid the Company's current pension obligation? If no, please explain.
199. Does Mr. Burman agree that by setting the pension expense to zero, WKG will keep all benefits of the pension plan overfunded position? If no, please explain.
200. Please provide the level of pension expense included in the cost of service of the Company's last base rate case.
201. With reference to FR 10(10)(b)2.2, sheets 4 through 6, please explain why the plant in service schedules for the forecasted period do not include any amounts for retirements. Explain how retirements have been reflected for the forecasted period.
202. With reference to FR 10(10)(d)2.2:
- a. Please explain the cause of the reduction in marketing program expenditures in Adj. 4.
 - b. Please explain the cause of the increase in communication costs and identify what the other minor adjustments are as presented in Adj. 5.
 - c. Please explain the cause of the decrease in outside services in Adj. 6.

203. With reference to FR 10(10)(d)2.3, please explain the details relating to the PSC assessment for 1997 which is being paid in 1999. Why is the 1997 assessment being paid in 1999? Are there any interest and penalties related to the 1997 assessment? If so, please provide the forecasted test year amounts and state whether they have been removed from the cost of service.
204. With reference to FR 10(10)(f):
- a. Please confirm whether the membership dues on Schedule F-1 are included in the cost of service.
 - b. Please show how the charitable contributions, country club dues, and employee activity costs on Schedules F-2.1, 2.2 and 2.3 were removed from the cost of service.
 - c. The DSM amount and informational advertising amount on Schedule F-3 are slightly different when compared to the amounts presented on Schedule D-2.2 (Adj. 4 and Adj. 7). Are they supposed to be the same? What accounts for the difference?
 - d. Please show how the selling expense in footnote 5 on Schedule F-3 has been removed from the cost of service.
205. Please provide workpapers and supporting documentation for the adjustments presented on Schedules D-2.1, 2.2 and 2.3. Reconcile the amounts presented Schedule on D-2.2 with the amounts discussed on pages 8 and 9 of Ms. Adams' testimony.
206. With reference to FR 10(10)(g), please provide workpapers and supporting documentation for the amounts in the Base Period and Forecasted Period columns on Schedules G-2 and G-3. Please reconcile the total payroll amount with the total amount shown in ADJ1 on D-2.2. Are the officers' amounts on Schedule G-3 included in the total payroll on Schedule G-1?
207. With reference to FR 10(10)(b)5, please provide workpapers and documentation supporting the derivation of the deferred credits and accumulated deferred income tax balance.
208. Please explain how the Company handled postretirement benefits other than pension (SFAS No. 106) expenses for ratemaking purposes. Explain any differences between the ratemaking and financial accounting treatment. Please provide the level of SFAS No. 106 expense included in the forecasted test year cost of service.
209. Please provide the actuarial study supporting the base year SFAS No. 106 expense and the most recent SFAS No. 106 actuarial study.

210. Please provide a copy of the Company's uncollectibles accounting policy. How is the level of uncollectibles determined? Is it based upon a percentage of accounts receivable or a percentage of sales?
211. For FY 1994 through FY 1998, please provide the following:
- a. Billed revenues subject to uncollectibles;
 - b. Uncollectibles written-off;
 - c. Recoveries of uncollectibles; and
 - d. Uncollectibles expense.
212. Please provide the level of any gains or losses received or anticipated on the sale of utility property during the based period through the end of the forecasted test year. Include a description of the property, the dates and the amounts.
213. Please provide the level of fines and penalties included in the cost of service for the forecasted period.
214. Please identify and provide the level of payments other than membership dues to industry organizations that is included in the forecasted test year cost of service. Include a statement of purpose for each payment.
215. Please provide the level of dues paid to the American Gas Association (AGA) and other organizations that are associated with lobbying activities. Indicate whether these costs have been excluded from the cost of service.
216. Please provide the level of direct lobbying on behalf of WKG or Atmos Energy Corp. that is included in the forecasted test year cost of service.
217. Please list all self-funded or accrued reserves for claims such as injuries and damage, insurance, pensions, etc., and provide the following for the base and forecasted test years:
- a. the level of monthly or annual accruals;
 - b. actual funds paid out;
 - c. the end of period balance; and
 - d. explain how such reserves have been handled for ratemaking purposes.
218. Please separately provide a list of deferred debits and deferred credits for WKG at of the end of the base period and the forecasted test year.

219. Please describe all plans the Company may have concerning early retirement, employee severance or corporate restructuring.
220. Please provide a copy of all incentive or bonus compensation plans and provide the level of such expense included in the cost of service.
221. With reference to the response to KPSC 1-3,
- a. Please explain whether the future test year expense level for OPEB includes both the pay-as-you-go amount and the accrued (actuarially determined) amount.
 - b. Please provide a worksheet showing the OPEB expense previously allowed in rates; the annual level of total OPEB expense incurred or to be incurred for each year subsequent to rate recovery; the balance in the OPEB reserve account as the end of the future test year related to Western.
222. With reference to the response to KPSC 1-8, FY 98 included \$2.2 million of capitalized start-up costs related to service improvements.
- a. Please explain how startup costs were removed from the capital budgeting process, given that a "bottoms up" approach was not used.
 - b. Please describe the type of costs that are included in the "various" category totaling \$652,000.
223. With reference to the response to KPSC 1-9(b), please explain why it is appropriate to use number of customers in determining Western's share for the information technology strategy and Shared Services costs.
224. According to Mr. Gruber's testimony beginning on page 12 through page 15, he discusses four initiatives -- the Customer Information System, the Centralized Customer Support Center, the Information Technology Infrastructure and the Business Process Change. He states that those costs are separate from IT costs associated with the Oracle/Orbit system conversion. Please clarify what the IT strategy costs presented in the response to KPSC 1-9(b) are. Specifically, are those costs related to only the four initiatives? Do they include the Oracle/Orbit conversion? Do they include only the Information Technology Infrastructure portion of the four initiatives as mentioned on pages 12 through 15 of Mr. Gruber's testimony?
225. With reference to the response to KPSC 1-10, please provide the amounts for Atmos A&G allocation, Western business unit allocation and the total capital budget for FY 96, 97 and 98.
226. With reference to the response to KPSC 1-10, please show the derivation 36.25 percent and provide the similar amount and calculation for FY 96, 97 and 98.

227. With reference to the response to KPSC 1-16, please explain how Mr. Marks is aware of the Commission's "understanding" of the process to which Western agreed. Provide any documents that delineates the Commission's understanding.
228. With reference to the response to KPSC 1-22, please provide a copy of the results (quantification) of the AEG evaluation of the impact of Detroit Edison's low income program on uncollectibles.
229. Did Western receive an Order from the Commission authorizing the deferral and recovery of the costs associated with WKG CARES pilot program? If so, please provide a cite for such an authority. If not, please explain why Western did not seek such an order.
230. If there is not an Order authorizing deferral and recovery of WKG CARES pilot cost, is it Western's position that a Commission authorization to defer costs is not necessary? Please explain and provide instances where deferral and recovery was allowed without a previous Commission Order authorizing such treatment of costs.
231. With reference to the response to KPSC 1-27,
- a. Please provide a breakdown of the components (weatherization, settlement of arrearages, etc.) of the costs for each year presented in the response to KPSC 1-27(a & c).
 - b. If any pilot costs were incurred and expensed during the base period or included in the forecasted test year, please provide the amounts and state the nature of the costs.
232. With reference to the response to KPSC 1-28,
- a. Does the amounts in the "Expenditures Amount" column represent the actual cost at completion? If not, please explain what those amounts represent.
 - b. For categories other than Retirements & Salvage and Reimbursements, please explain what the other negative costs represent.
233. With reference to the response to KPSC 1-34,
- a. Please explain how the "WKG %" and "WKG \$" for April 1999 through September 1999 were determined, given that the amounts for that period are projected.
 - b. According to the response to KPSC 1-34(b), the "WKG %" for the forecasted test year was determined using the approved WKG allocation percentage as set forth in each SSU's contract with the business units.
 - i. Please provide documentation showing the derivation of the allocation percentages for both the base and forecasted test periods.

- ii. Are the allocation percentages for the forecasted test year the same as used for the April 1999 to September 1999 period? Please explain any differences.
 - iii. If not previously addressed, please explain why the allocation percentages differ for the base period and the forecasted period.
234. With respect to the response to KPSC 1-40(c), please explain how the KPSC fees are administered. Does the rate assessed change annually? Is the PSC fee a fixed amount assessed on the Company? Why does the tax liability as a percentage of revenues vary from year-to-year?
235. With reference to the response KPSC 1-46, please explain the nature of the following items:
- a. Gilliland Rent I & II
 - b. Alliance Gas
 - c. Ten Alliance Gas
 - d. CIS Project
 - e. Oracle Database Maint
 - f. Monster Board - Internet
 - g. Amer Gas Coaling Ctr.
 - h. Southern Gas Association
 - i. American Gas Association
 - j. National Bank of Texas
 - k. Int of Gas Tech

If any items above are for organization membership, please explain what requires prepayment of membership fees.

236. With reference to the response to KPSC 1-63, were any Y2K costs deferred? If so, please provide the level costs included in the forecasted test year expenses and cite the Commission Order authorizing the deferral of the Y2K expenses.

237. With reference to the response to KPSC 1-69a, when does Western expect to have the vacant positions filled?
238. With reference to the response to KPSC 1-70, do the positions and number of employees listed include contractors employees? If so, please provide the amounts excluding contractors.
239. With reference to the response to KPSC 1-71, please show the derivation the forecasted year amount of \$126,168. Include in your response a reconciliation of the \$126,168 to the \$300,000 presented on page 9 of Ms. Adams' testimony.
240. With reference to the response to KPSC 1-77, please provide:
- a. the derivation of the 9,000 average number of meters tested; and
 - b. the source of the \$49.82 and \$24.09 for changing and testing.
241. With reference to Schedule C-2.2, please explain:
- a. the negative amounts recorded during the base period in Account No. 8140;
 - b. the higher level of expenses recorded in Account No. 8560 during October 1998 and September 1999;
 - c. the higher level of expenses recorded in Account No. 8810 from April 1999 through September 1999;
 - d. the higher level of expenses recorded in Account No. 8910 from May 1999 through September 1999;
 - e. the higher level of expenses recorded in Account No. 8940 from March 1999 through September 1999;
 - f. the decreased level of expenses recorded in Account No. 9030 from April 1999 through September 1999;
 - g. the negative expense recorded in Account No. 9040 during November 1998 and June 1999;
 - h. the 37 percent increase in Account 8200 during the forecasted period;
 - i. the 104 percent increase in Account 8210 during the forecasted period;
 - j. the 53 percent increase in Account 8250 during the forecasted period;
 - k. the 142 percent increase in Account 8340 during the forecasted period;

- l. the 220 percent increase in Account 8350 during the forecasted year;
- m. the 167 percent increase in Account 8360 during the forecasted year;
- n. the 54 percent decrease in Account No. 8500 during the test year;
- o. the 334 percent increase in Account No. 8620 during the forecasted test year;
- p. the 192 percent increase in Account No. 8650 during the forecasted test year;
- q. the 23 percent increase in Account No. 8780 during the forecasted test year;
- r. the 39 percent increase in Account No. 8800 during the forecasted test year;
- s. the 118 percent increase in Account No. 8870 during the forecasted test year;
- t. the 339 percent increase in Account No. 8920 during the forecasted test year;
- u. the 78 percent decrease in Account no. 9030 during the forecasted test year;
- v. the 63 percent decrease in Account No. 9100 during the forecasted test year; and
- w. the 70 percent decrease in Account No. 9250 during the forecasted test year.

242. With reference to FR 10(9)(u) Schedule 3, page 3,

- a. It is indicated that the Business Process Initiatives (BPI) amortization was not budgeted in the forecast period. Please explain what the BPI is, and why the amortization was not included in the forecast period. Were BPI costs included directly on Western books during forecast period? If so, why.
- b. Please explain the cause of the increase in lease expense. Provide the expected increase amount and workpapers supporting the derivation of the increase.
- c. Please explain the nature of technology project, the amount included in the forecasted period, and why those costs are no longer capitalized.
- d. Please identify and explain the nature of the projects that were deferred during the first half of the base period. Include the forecast year amount associated with each project.
- e. Please explain why transfer agent fees are not capitalized during the forecast period.
- f. Please provide a listing of positions to be filled, the annual expenses related to those positions and the forecasted period amount.

- g. If the functions of the positions to be filled were being handled by contractors, please provide the number of contractor and the level costs associated with during the base period. If those positions were not filled with contractors, please explain how those job functions were handled.
 - h. Please provide the number employees and the number of authorized positions for the Shared Services Unit for 1994 through 1999 year-to-date. Use the format of the response to KPSC 1-70. Include a column showing the level of contractor labor.
 - i. Please provide an explanation of the variance related to Treasury, Risk Management and Purchasing.
243. With reference to page 7, line 28 through page 8, line 3, please provide a workpaper supporting the conclusion about FY 1999 growth. Also, please update the analysis through the most recent date available.

Respectfully submitted,

A.B. CHANDLER III
ATTORNEY GENERAL

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Assistant Attorney General
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(502) 696.5457

CERTIFICATE OF SERVICE AND FILING

Counsel hereby certifies that an original and ten (10) photocopies of the foregoing Initial Request for Information by the Attorney General were served and filed by hand delivery to the Hon. Helen C. Helton, Executive Director, Public Service Commission, 730 Schenkel Lane, Frankfort, Kentucky 40601; furthermore, it was served by mailing a true and correct copy of the same, first class postage prepaid, to William J. Senter, Western Kentucky Gas, 2401 New Hartford Road, Owensboro, KY 42303 1312, Mark R. Hutchinson, Sheffer, Hutchinson & Kinney, 115 East Second Street, Owensboro, KY 42303, John N. Hughes, 124 West Todd Street, Frankfort, KY 40601, and Douglas Walther, Atmos Energy Corporation, P.O. Box 650205, Dallas, TX 75265, all on this 19th day of August, 1999.

David Edward Speman
Assistant Attorney General

99-070_IR1



COMMONWEALTH OF KENTUCKY
PUBLIC SERVICE COMMISSION

730 SCHENKEL LANE
POST OFFICE BOX 615
FRANKFORT, KY. 40602
(502) 564-3940

August 19, 1999

To: All parties of record

RE: Case No. 99-070

We enclose one attested copy of the Commission's Order in
the above case.

Sincerely,

Stephanie J. Bell
Stephanie Bell
Secretary of the Commission

SB/sa
Enclosure

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COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF WESTERN)
KENTUCKY GAS COMPANY FOR) CASE NO. 99-070
AN ADJUSTMENT OF RATES)

O R D E R

IT IS ORDERED that Western Kentucky Gas Company ("Western") shall file with the Commission the original and 15 copies of the following information, with a copy to all parties of record. The information requested herein is due no later than September 3, 1999. Each copy of the data requested should be placed in a bound volume with each item tabbed. When a number of sheets are required for an item, each sheet should be appropriately indexed, for example, Item 1(a), Sheet 2 of 6. Include with each response the name of the witness who will be responsible for responding to questions relating to the information provided. Careful attention should be given to copied material to ensure that it is legible. Where information requested herein has been previously provided, in the format requested herein, reference may be made to the specific location of said information in responding to this information request. When applicable, the information requested herein should be provided for total company operations and jurisdictional operations, separately.

1. Refer to the response to Item 1 of the Commission's July 16, 1999 Order. Provide the following information concerning WKG Storage, Inc. and Western Kentucky Energy Services, Inc.:

- a. Describe the nature of the affiliate's business operations.
- b. Indicate when the affiliate was established.
- c. Indicate whether any of Western's assets, liabilities, capital, or personnel were transferred to either affiliate.

2. Concerning transactions between Western, Atmos Energy Corporation ("Atmos"), and any other Atmos regulated divisions or non-regulated affiliated subsidiaries:

- a. For the base period and the five previous fiscal years, provide a schedule showing the total dollar value of affiliated party transactions between (1) Western and Atmos and (2) Western and all other Atmos affiliates. The schedule should separately identify the affiliate and the total dollar value of that affiliate's transactions for each of the periods requested.
- b. For the base period and the five previous fiscal years, provide a description of any transaction between Western and Atmos, or Western and an Atmos affiliate, where the dollar value of the transaction equaled or exceeded \$100,000. Identify which entity was the provider and which was the acquirer. Also, explain in detail how the value of the transaction was determined (cost, fair market value, etc.).
- c. Does Western attempt to estimate the dollar level of its affiliate transactions in its budgeting process? If yes, explain in detail how the estimate is determined. If no, explain why this is not done.

d. For the base period and the five previous fiscal years, provide an analysis comparing the total dollar value of affiliated transactions Western incorporated in its fiscal year budget to the actual amount expended. Include an explanation for any differences between budgeted and actual amounts that exceeded 5 percent.

e. For the forecasted period, provide the total dollar amount of affiliated transactions incorporated into the budget. Explain how Western determined that amount.

3. Refer to the response to Item 3 of the Commission's July 16, 1999 Order. Provide the accounting entries Western normally would make to its books to record its post-retirement employee benefits ("OPEB") during a fiscal year. Identify the account numbers and titles used, as well as a description of each transaction.

4. For the forecasted period, the base period, and the five previous fiscal years, provide the following information concerning Western's OPEBs. In addition, explain how the items requested below were determined for the base and forecasted periods.

- a. The amount of OPEB claims incurred and funded.
- b. The amount of OPEB claims actuarially determined.
- c. The amount of the OPEB liability recorded for each period.

5. Concerning Western's OPEBs, provide citations to the applicable generally accepted accounting principles that support Western's accounting treatment.

6. Refer to the response to Item 3, Sheet 5 of 5, of the Commission's July 16, 1999 Order and the reference to the response to Item 59(b). The response to Item 59(b) appears to deal exclusively with the impacts of weather on Western's customers'

gas usage. Explain how the average decline in Mcf/year/customer, which apparently is based on this weather-related impact analysis, is indicative of the effects of conservation on Western's gas sales.

7. Refer to the response to Item 9 of the Commission's July 16, 1999 Order. Western has indicated that the approach used to develop the capital budgets submitted in its application was not consistent with the approach normally used. Western has also indicated that it has not performed any analysis or review to determine if the "baseline" forecast approach produces a result similar to the usual "bottom up" approach. Explain in detail how the results of the baseline forecasting approach can be considered reasonable without some verification that the results from this approach are similar to the normal capital budgeting approach utilized by Western.

8. Refer to the response to Item 9(f) of the Commission's July 16, 1999 Order. Explain in detail why an allocation factor based on Western's percentage of customers to the total Atmos customer count is appropriate.

9. Refer to the response to Item 10 of the Commission's July 16, 1999 Order. Western was requested to provide the workpapers and assumptions used to determine that the projected increase in maintenance and improvements should be 36.25 percent for the FY 2000 capital budget. The response does not adequately satisfy the request.

a. Provide the originally requested workpapers and assumptions for the 36.25 percent factor.

b. For the base period and the 10 previous fiscal years, provide an analysis of the actual increase or decrease experienced by Western for maintenance

and improvements. The analysis should compare the oldest fiscal year to the following year, and continue year-to-year comparisons through the base period.

10. Refer to the response to Item 12 of the Commission's July 16, 1999 Order.

a. Provide the actual capital ratios for Atmos as of April 30, 1999 and June 30, 1999.

b. Provide the actual capital ratios for Atmos as of July 31, 1999; August 31, 1999; and September 30, 1999. This information will be due on December 1, 1999.

11. Refer to the response to Item 13 of the Commission's July 16, 1999 Order.

a. Explain in detail why, if Atmos's objective is to maintain a capital structure comprised of approximately 50 percent equity and 50 percent debt, it is using a 5-year financial plan which results in equity levels significantly above 50 percent by FY 2002 and FY 2003.

b. Describe the changes in the assumptions for the 5-year financial plan that would be necessary to yield equity percentages for FY 2002 and FY 2003 that are closer to the stated goal of 50 percent.

12. For each of the items listed below, provide the percentage that Western's operations represent compared to the total regulated Atmos operations. This information is to be provided as of the end of the forecasted period, the base period, and the five previous fiscal years.

- a. Total number of customers.
- b. Total number of employees.
- c. Total gas throughput in Mcf.

- d. Total revenues from gas sales and transportation.
- e. Total purchased gas costs.
- f. Total other operating and maintenance expenses.
- g. Total net operating income.
- h. Total net income.

13. Refer to the response to Item 14 of the Commission's July 16, 1999 Order.

a. Concerning Item 14(a), provide Western's definition of "normal weather conditions."

b. For FY 1999 to date and the previous 10 fiscal years, indicate whether Atmos experienced normal weather conditions.

c. In how many jurisdictions does an Atmos business unit have in operation a Weather Normalization Adjustment ("WNA") tariff similar to the one proposed in this proceeding? Indicate the percentage of Atmos's total regulated operations impacted by this mechanism. The percentage should be based on total gas sales revenues.

d. In how many jurisdictions does Atmos plan to propose, within the next two fiscal years, a WNA tariff similar to the one proposed in this proceeding? Indicate the percentage of Atmos's total regulated operations that would be impacted if the proposals were adopted. The percentage should be based on total gas sales revenues.

e. Indicate the status of the proposed Universal Shelf Offering discussed in the response to Item 14(b).

f. Concerning the response to Item 14(d), Atmos has completed five major acquisitions within the past 12 years. Explain in detail why it would not be reasonable to have modeled one additional acquisition in the current 5-year financial plan.

g. Concerning the responses to Items 14(e) and 14(f), it is stated that these items are dependent upon the reasonableness of other assumptions contained in the 5-year financial plan. Does Atmos perform any sensitivity analysis during the development of the 5-year financial plan to evaluate the reasonableness of the assumptions used? If yes, describe this analysis. If no, explain in detail why such an analysis is not performed.

14. Refer to the response to Item 15 of the Commission's July 16, 1999 Order. For the first nine months of FY 1999 and the five previous fiscal years, provide the base stock capital growth associated with the Employee Stock Ownership Plan, the Direct Stock Purchase Plan, and the UCG Plan. Provide the number of shares issued and the dollar increase in Atmos's equity balances associated with these plans.

15. Refer to the response to Item 20(a) of the Commission's July 16, 1999 Order.

a. For each of the recommendations listed in the Executive Summary of the "Process and Impact Evaluation of Western Kentucky Gas WKG CARES Program" ("Evaluation Report"), describe in detail the actions taken by the Western collaborative in response to those recommendations.

b. On page 2 of the Evaluation Report, it is recommended that written contracts be designed and implemented with each of the participating community

assistance program ("CAP") agencies. Explain in detail why written contracts were not already part of the process when WKG CARES was first established.

c. On page 5 of the Evaluation Report, it is stated that net per-participant energy savings had been estimated as 16.8 Mcf. It is also stated that the savings related to participants in the program covered the period from November 1996 to September 1997. Explain in detail why the actual level of achieved savings was not calculated or presented in the report. In addition, explain why a full year of program activity was not utilized.

d. On page 12 of the Evaluation Report is a listing of the nine efficiency measures included in the WKG CARES program. Explain why the following programs were included in WKG CARES, even though they failed three of the four standard demand side management ("DSM") cost/benefit screening tests conducted during pre-implementation.

- (1) Wall insulation.
- (2) Floor insulation.
- (3) Water heater replacement/repairs.
- (4) Duct insulation.
- (5) Repair/replace furnace.

e. Explain in detail how Western recorded the funding of WKG CARES during the Evaluation Report review period.

f. On page 17 of the Evaluation Report it is stated that at least 10 percent of all homes that have been weatherized using WKG CARES funds are

inspected. Explain why only 10 percent are inspected and how the level of inspections was determined.

g. Refer to page 30 of the Evaluation Report. A review of the information presented in Table IV.1 shows that while the Bluegrass Community Action Agency had approximately 3 percent of the total WKG CARES participants, it represented 10 percent of the home surveys. The Pennyrile Allied Community Action Agency had approximately 33 percent of the WKG CARES participants, but represented only 24 percent of the home surveys. Explain in detail why these situations occurred and why the home survey sampling approach did not result in a distribution of the home survey that more closely matched the actual participant distributions by CAP agency.

h. If the home surveys were conducted in conjunction with an evaluation of WKG CARES, explain why it was necessary to include questions concerning customer satisfaction with Western as the customer's service provider.

i. On page 38 of the Evaluation Report is a continuation of bullet point observations from the home surveys. Reconcile the last two bullet points on page 38 with the results shown on Table IV.4 on page 33.

j. Beginning on page 42 of the Evaluation Report is a discussion of how a statistical billing analysis was used to estimate the change in annual Mcf consumption for a sample of program participants and non-participants. Explain in detail why the evaluation did not compare actual customer usage prior to, during, and after the program review period to determine the actual energy savings.

k. Explain how the data used in the Princeton Scorekeeping Methodology ("PRISM") was weather normalized. Specifically state what time period was used to determine "normal" weather.

l. Western has stated in its data responses that the winters of 1996 and 1997 were generally normal. If that is the case, explain why the data for the PRISM analysis had to be weather normalized.

m. Provide a schedule showing the actual Mcf usage for each of the 114 participants and the 112 non-participants for these time periods: November 1995 through October 1996; November 1996 through September 1997; and April 1997 through March 1998. Reference numbers should be used rather than customer names. The data should not be weather normalized.

n. Define the phrase "naturally-occurring reduction in consumption" as it is used on page 55 of the Evaluation Report. Also, explain in detail why such an adjustment was needed in the development of the net energy savings.

o. Explain what the phrase "environmental damage associated with the consumption of natural gas" means as it is used on page 55 of the Evaluation Report.

p. Explain why an environmental damage factor for natural gas obtained from the Minnesota Department of Public Service was included in the cost/benefit testing analysis. Include with the explanation a discussion of why a factor based on Minnesota's experience is applicable to Kentucky.

q. Provide the material referenced in Appendix A – Bill Stuffer of the Evaluation Report.

16. Refer to the response to Item 20(c) of the Commission's July 16, 1999 Order. The request asked why actual customer savings were not developed as part of the impact evaluation. The testimony cited in the response states that "net per-participant energy savings has been estimated" (emphasis added), while pages 45 through 48 of the Evaluation Report contain references to "estimated reads were combined with subsequent actual reads," "normalized annual consumption estimates were developed for each of the program participants," and "net energy savings estimates were developed." While the analysis may have started with actual consumption data, the Evaluation Report makes it clear that the reported customer savings were estimated. Provide the information originally requested.

17. Refer to the response to Item 27 of the Commission's July 16, 1999 Order. The response indicates that Western expensed all DSM pilot costs. However, the account numbers listed for the schedule of pilot program costs are all miscellaneous deferred debit accounts.

a. Indicate the account number(s) used to show these expenses on Western's income statement.

b. Provide a sample accounting entry made to Western's books to record a DSM pilot program cost.

c. Explain in detail why, if the DSM pilot costs were expensed, the accounts identified in this response are miscellaneous deferred debit accounts.

18. Refer to the response to Item 28 of the Commission's July 16, 1999 Order. Provide the same information as was supplied in this response for the capital projects for fiscal years 1989 through 1993 ("FY89-FY93 Period").

19. Provide the following information for each of the capital projects included in the response to Item 28 of the Commission's July 16, 1999 Order and the response Western will be providing for capital projects in the FY89-FY93 Period:

a. For each project included where the responses show a reference of "Deferred," explain why the project was deferred, when the project was next included in a capital projects budget, and when it was actually constructed.

b. For each project included where the responses show a budgeted amount and no expenditure amount, but was not referenced as deferred, explain why no expenditures were made on the project. Indicate when expenditures were made on those projects.

c. For each project included where the responses show expenditures but no budgeted amount, explain the situation that required capital expenditures where none were budgeted.

d. For each project included in the responses, prepare a schedule showing the month and year for the following dates:

(1) Budgeted project starting date.

(2) Budgeted project ending date.

(3) Actual project starting date.

(4) Actual project ending date.

e. Using the project information contained in the responses, prepare a summary by fiscal year that shows the following:

(1) The total number of capital projects.

(2) The number of capital projects that were completed ahead of schedule.

(3) The number of capital projects that were completed on schedule.

(4) The number of capital projects that were completed behind schedule.

20. Refer to the responses to Items 28 and 29 of the Commission's July 16, 1999 Order. The response to Item 28 indicates Western's historic capital projects completion percentage ranged between 80.2 percent and 112.4 percent. Given this historic information, explain in detail why it is reasonable to assume that all capital projects included in the forecasted test year capital budget will be completed by the end of the forecasted test year.

21. Refer to the response to Item 35 of the Commission's July 16, 1999 Order. The response provides the link between the capital budget projects shown in Volume 3 of 10, Tab 1, Exhibit DHD-1 with Volume 10 of 10, Tab 2, Schedule B-2.2. However, this link applies only to the grand totals from Exhibit DHD-1. A link between the additions to a particular plant account cannot readily be established.

a. For pages 1 through 4 of 6 of Exhibit DHD-1, provide a summary for each page listing the additions by plant account number, rather than budget categories. Retain the column titles showing the expenditure classifications for each page. Also show how the amounts for retirements and public works reimbursements are allocated to the particular plant accounts.

b. For any asset account shown on Schedule B-2.2, for either the base period or forecasted period, explain in detail why the addition shown does not match the plant account summary provided in response to part (a) above.

22. For each of the estimated months contained in the base period and for the entire forecasted period, explain in detail how it was determined when the particular amount of plant addition would be recognized in the plant account. Also, provide a schedule showing by month the amount of plant addition by plant account number.

23. Refer to the response to Item 37 of the Commission's July 16, 1999 Order.

a. Provide a detailed explanation as to how the accumulated depreciation amounts were allocated to the individual 300 series account numbers, for both the base and forecasted test periods. Include all assumptions, the basis for the allocations, calculations, and supporting workpapers used to determine the amounts. This should be done for both the original Schedule B-3 filed, as well as the revision included in the response to Item 37.

b. Provide a schedule showing Western's utility plant in service, accumulated depreciation, and proposed depreciation expense adjustment by classes of assets, for both the base and forecasted test periods. If any class of asset appears to be over-depreciated, include a detailed explanation for what has occurred or is occurring within that plant classification.

c. Explain in detail the nature of the errors made by Western when originally preparing Schedule B-3.

24. Refer to the response to Item 39(a) of the Commission's July 16, 1999 Order.

a. For each of the consultants listed in the response, provide a description of the areas of the rate case on which the consultant worked.

b. Describe the nature of the employee expenses that total \$13,274.

c. Describe the nature of the labor expense of \$452.

d. Provide a description of the services received from the Lukens Consulting Group, Inc. for the period April through June 1999.

e. Concerning the work performed by Utility and Economic Consulting, Inc., explain why entries for the following dates were determined to be related to this rate case: October 20, 1998 (entire day); November 20, 1998; December 18, 1998; December 23, 1998; March 1, 1999; and April 20, 1999.

f. Explain why the invoice from the law firm of Ward & Anderson, P.C. was included as a rate case expense.

25. Refer to the response to Item 43(c) of the Commission's July 16, 1999 Order.

a. Explain why there was a balance remaining in Western's FY 1998 overhead Account 1070.

b. Explain why it was appropriate to apply the remaining overhead balance from FY 1998 to FY 1999 capital expenditures.

c. Does Western anticipate that there will be a remaining balance in its overhead accounts for FY 1999? Explain the response.

d. For each of the 10 previous fiscal years, indicate whether Western had a balance remaining in its overhead accounts, and describe how any remaining balance was cleared.

26. Refer to the response to Item 45(c) of the Commission's July 16, 1999 Order. Explain what Western means by "recapitalized" and why the Division 09 annual reserve computation will be expensed.

27. Refer to the response to Item 46 of the Commission's July 16, 1999 Order. Explain why the PSC Assessment is considered by Western to be a prepayment. Also explain why Western believes it should be allowed to earn a return on its PSC Assessment.

28. Refer to the response to Item 46 of the Commission's July 16, 1999 Order. For each of the items listed below, describe the nature of the item and explain why Western believes it should be allowed to earn a return on the item.

- a. Division 09 – Alliance Gas.
- b. Division 09 – Tennessee Alliance Gas.
- c. Division 02 – American Gas Cooling Center.
- d. Division 02 – Southern Gas Association.
- e. Division 02 – American Gas Association.
- f. Division 02 – Nation Bank of Texas.
- g. Division 02 – Int. of Gas Tech.

29. Refer to Schedule DAM-5 of the Direct Testimony of Donald A. Murray. Provide the time period used to obtain the figures in the last three columns of the chart.

30. Refer to Schedule DAM-10 of the Direct Testimony of Donald A. Murray. This chart uses two separate estimates for Earnings Per Share ("EPS") growth rates. Explain why the Value Line EPS estimates are used to calculate the High cost of capital and the Standard & Poor's ("S&P") EPS estimates are used to calculate the Low cost of

capital, as opposed to using the exact method for calculating cost of capital used in Schedule DAM-9. (If the exact method were to be used, Schedule DAM-10 would have a High and Low cost of capital calculation using the Value Line EPS growth rate estimates and a separate but similar calculation using the S&P EPS growth rate estimates.)

31. Refer to Schedule DAM-15 of the Direct Testimony of Donald A. Murray. Explain why the figures comparing Discounted Cash Flow ("DCF") results for dividend and earnings growth do not come from sets of calculations consistent across time. In other words, explain why DCF results for Dividend growth rates come from Schedules DAM-6 and DAM-7 and why DCF results for Earnings growth rates come from Schedules DAM-10 and FSM-11.

32. Refer to Schedule DAM-16 of the Direct Testimony of Donald A. Murray.

- a. Explain the time period used for this table.
- b. Explain the source or derivation of the figures in column (1), Market Total Returns.
- c. Explain why Western used Long Term Corporate Bonds Return as a risk free rate in column (2), as opposed to a federal government bond rate.
- d. Explain why it is appropriate to use 6.10 percent in the calculation of the Cost of Equity in Schedule DAM-16, but not appropriate in the similar calculation in Schedule DAM-17.
- e. Explain why the Equity Risk Premium in column (3) is different from that used in column (3) in Schedule DAM-17.

f. Explain why Western uses the Long Term Bond return of 6.10 percent in the calculation of the Risk Premium, but uses the Aaa Corporate Bond Return to calculate the Cost of Equity.

33. Refer to Schedule DAM-17 of the Direct Testimony of Donald A. Murray.

a. Explain the time period used for this table. If it is not the same as the time period used in Schedule DAM-16, provide an explanation for why a different time period was used.

b. Explain the source of the Risk Free Return figure in column (1).

c. Explain the source and derivation of the Equity Risk Premium figures in column (3).

d. Comparing the Equity Risk Premiums in columns (3) of both Schedules DAM-16 and DAM-17, the difference between these sets of figures (1.20%) is greater than the difference between the Risk Free Returns, column (2) in Schedule DAM-16 (6.10 percent) and column (1) in Schedule DAM-17 (5.81 percent). This implies that a different Market Total Return figure is used in Schedule DAM-17 than that used in Schedule DAM-16. The implied Market Total Return in Schedule DAM-17 is 13.81 percent compared to 15.30 percent in Schedule DAM-16. If not explained previously, explain this apparent difference in usage of Market Total Returns.

e. Explain the source and derivation of the Size Premium, column (5). Also, explain why similar adjustments are made for some companies, and not others.

34. Refer to the Direct Testimony of Donald A. Murray. At page 19 of the testimony, Dr. Murray discusses the reasons for making an adjustment to the historical CAP-M calculation to account for Atmos's small size relative to other companies.

a. Explain why a size premium was added to all of the companies.

b. If investors attribute additional risk to relatively smaller companies and everything else being equal, shouldn't the Cost of Equity calculations be higher in Schedule DAM-17 than in Schedule DAM-16? Explain why the Cost of Equity declines with Western's size adjustment.

c. How common is the use of a size premium in other regulatory jurisdictions?

35. Refer to the response to Item 60(a) of the Commission's July 16, 1999 Order. In what ways should the Commission allow for the risk of short-term interest rate increase? By incrementally increasing the allowed return on equity? By adjusting the short-term interest cost? Explain thoroughly.

36. Western not being a stand-alone company explains, in part, the proposal to use Atmos's capital structure as the capital structure to be used to determine Western's cost of capital. If it is beneficial to Western to be part of the Atmos system and have Atmos raise capital for Western's operations, explain why the issue of whether or not Western would have a higher cost of capital as a stand-alone company is relevant.

37. By utility and jurisdiction, identify all Atmos operating divisions that presently have: (1) WNA tariffs; (2) Premises Charges; or (3) Margin Loss Recovery Mechanisms.

38. All other things being equal, explain whether reducing the volatility in revenues and earnings tends to lower the risk of a financial investment from the point of view of an investor.

39. Provide a definition and/or explanation that differentiates business risk from financial risk.

40. Refer to Schedule DAM-22 of the Direct Testimony of Donald A. Murray. Explain how Dr. Murray determined the recommended range on page 22 of his Direct Testimony using the variety of calculated returns on equity. Provide workpapers.

41. Refer to the Direct Testimony of John W. Hack at pages 2-3.

a. Provide the most recent Request for Proposal ("RFP") issued by the Gas Supply Department on behalf of Western and the list of potential vendors to whom it was sent.

b. Provide a thorough description of the bid selection process employed by Atmos/Western after receiving the responses to this most recent RFP.

42. Refer to the Testimony of John W. Hack at page 4 regarding Western's supply source arrangements.

a. The testimony refers to a "Natural Gas Sales, Transportation, and Storage Agreement" with Reliant Energy Services. Has there been any change in that arrangement since the time Mr. Hack's testimony was filed?

b. Provide a detailed description of any changes to that arrangement that have occurred since the filing of Mr. Hack's Testimony.

43. Refer to the Direct Testimony of Gary L. Smith at pages 34-38 and the response to Item 48 of the Commission's July 16, 1999 Order.

a. The reference to the WNA tariff of Columbia Gas of Kentucky ("Columbia") does not refer to the fact that the Commission initially approved Columbia's

WNA tariff as a three-year pilot. Was Western aware that Columbia's WNA tariff was implemented as a pilot program?

b. There are some differences between Western's proposed WNA tariff and Columbia's WNA tariff. Did Western give any consideration to proposing its WNA tariff as a pilot program?

c. Provide any reasons for why Western would be opposed to having its proposed WNA tariff implemented on a pilot basis.

44. Refer to the Direct Testimony of Gary L. Smith at pages 7-8.

a. The testimony indicates that "through March 1999, Western's total average monthly meters in service have increased by 2,132 over the same period in FY 1998." Does the number 2,132 represent all meters for all customer classes?

b. Provide a breakdown of the 2,132 increase in meters by customer classification.

c. Provide the comparable numbers reflecting the average increase in monthly meters in service, by customer class, for the periods ended December 1998 and June 1999.

45. Refer to the Testimony of Gary L. Smith at pages 11-12 and the response to Item 58 of the Commission's July 16, 1999 Order.

a. Provide a more detailed description and further explanation of the differences in the ways that Western uses its financial statistics and its marketing reports for purposes of tracking customer growth.

b. Provide a detailed explanation of how the revised forecasted growth of 1,700 residential customers shown in the testimony was derived.

c. Provide a summary of the analysis referred to on page 12 of the testimony for commercial and public authority customers that resulted in the revised growth rate of 230 for commercial customers.

46. Refer to Item 58(a) of the response to Commission's July 16, 1999 Order.

a. In the same format used in the response to Item 58(a), provide an update that includes two additional columns: one for fiscal year 1998 and one for the 12 months ended June 30, 1999.

b. The response included "actual sales and transportation volumes, by class, in Mcf"; however, the request was that the volumes be provided adjusted for normal weather. Provide a second version of the update requested in part (a.) with the volumes adjusted for normal weather for each of the five periods..

47. Refer to Exhibits GLS-1 and GLS-7 in the Direct Testimony of Gary L. Smith.

a. Explain the increase of \$84,884 in the negative revenue adjustment for "additional contract reformation" as shown on line 33 of the two exhibits. Provide any necessary calculations.

b. Provide the calculations, along with a narrative explanation, showing how the gas cost revenues of \$77,522,158 were derived.

c. Provide a breakdown, by customer, of the adjusted volumes of 13,332,103 Mcf and revenues of \$1,692,428 for "Total Special Contracts." This does not require identifying customers. Reference to Customer No. 1, No. 2, etc. will suffice.

48. Refer to Exhibits GLS-1, GLS-5, and GLS-7 of the Direct Testimony of Gary L. Smith.

a. Exhibits GLS-1 and GLS-7 show 6,281 as the increased number of commercial bills related to the customer growth forecast. Exhibit GLS-5, which summarizes the customer growth forecast adjustment, includes 6,210 as the increased number of commercial bills. Identify which is the correct number.

b. Provide the calculations, along with a narrative explanation, of how the Mcf volumes in Exhibit GLS-5 resulting from the customer growth forecast were derived for each customer class.

49. Refer to Exhibit GLS-6 of the Direct Testimony of Gary L. Smith. Provide the calculations, along with a narrative description, of how the Mcf volume reductions resulting from residential and commercial conservation and energy efficiency measures were derived.

50. Refer to the Direct Testimony of Gary L. Smith and the response to Item 59(b) of the Commission's July 16, 1999 Order.

a. Define what customer actions Western includes in its references to conservation effects.

b. Has Western conducted any surveys or studies in an attempt to determine the specific actions or measures customers have undertaken that have caused the decline in usage? If yes, provide the results and a narrative description of Western's analysis of the results. If no, explain why such surveys or studies have not been conducted.

c. Has Western attempted to quantify the impact of improved appliance efficiency and technological innovations in equipment when examining its declining sales volumes? If yes, provide the results of that analysis. If no, explain why Western has not considered the impacts of these factors.

d. Has Western been able to determine what portion of the decline in usage is due to normal occurrences such as: (1) newer, better insulated homes equipped with more efficient energy-using appliances accounting for a larger percentage of its total customer base; (2) naturally occurring replacement of older, less efficient appliances with newer, more efficient appliances; and (3) reduced usage per customer due to changing demographics, such as smaller household size and increases in multi-family residences as a percentage of total residences?

51. Refer to the response to Item 50 of the Commission's July 15, 1999 Order.

a. Many of the gas distribution companies regulated by the Commission that make quarterly Gas Cost Adjustment ("GCA") filings have tariff provisions that permit out-of-time filings when such filings are warranted. These provisions provide the flexibility to respond to significant gas supply cost changes. Would Western be able and agreeable to operating under a similar tariff provision?

b. While this rate application is pending, Western will continue to make monthly GCA filings, with the last filing prior to the end of the suspension period being due in early January of 2000 with rates to be effective February 1, 2000. Assuming this case stays on schedule, would Western be able to convert to a quarterly filing schedule after the conclusion of this proceeding with its first quarterly filing on April 1, 2000 for rates to be effective May 1, 2000? If not, explain why.

52. Refer to the response to Item 51 of the Commission's July 16, 1999 Order.

a. Provide copies of the orders from the Tennessee, Georgia, and South Carolina commissions in which the respective sharing ratios were established for another Atmos business unit.

b. The special contracts Western currently has produce average margins of less than \$.13 per Mcf. Discounts from tariff rates in the form of "additional contract reformation" exceed \$1 million. How much of Western's load (in Mcf) not already served at less than tariff rates is subject to competition or possible bypass? How much net revenue was generated from these loads during fiscal year 1998?

c. The proposed tariff rider does not include a starting point, or base amount, reflecting the margins, or net revenues, derived from the loads already served at less than tariff rates or those loads served at tariff rates that are subject to competition or possible bypass. If a base level, or starting point, from which to measure the "margin losses" is not included in the tariff, explain why such an omission will not result in an immediate loss calculation based on the proposed formula.

d. Based on the revenues from existing contracts, discounts and rate flexes, along with the revenues from loads that could be subject to less than tariff rates in the future, provide the total dollar amount of margins, or net revenues, for the forecast period that would reflect the type of base level, or starting point, described in part (c.) of this request.

e. Historically, between rate cases, Western's shareholders have been at risk for 100 percent of lost margins due to competition, bypass, etc. and Western, in response to competitive circumstances, has had to make rate concessions

in several instances. Explain how having shareholders at risk for only 10 percent of lost margins will provide Western an incentive to maximize the revenues from its special contract, alternative fuel, and potential bypass customers.

53. Refer to Item 52 of the response to the Commission's July 16, 1999 Order.

a. Under the transition schedules for the pipelines when would Western begin collecting Gas Research Institute (GRI) surcharges from its customers?

b. How does Western intend to notify the Commission that it will begin to make such collections?

c. GRI is involved in numerous research and development activities. Provide the most recent GRI annual report that details its activities and its levels of expenditures.

54. Refer to Item 54 of the response to the Commission's July 16, 1999 Order.

a. Explain how the amount of \$77.57 million in "Total Annual Residential Revenue, proposed margins," was reduced to \$61.66 million in "Approximate Residential Margins, 11 months."

b. Provide an explanation for the use of 11 months and 10 percent in the derivation of the estimate of \$308,304 as the amount to be generated annually from the proposed late payment charge.

55. Refer to the Direct Testimony of Daniel Ives and the response to Item 56 of the Commission's July 16, 1999 Order.

a. The specific items of plant involved in new service installations are mains, meters, services, and regulators. For which of these items does Western expect the economic life to be shorter than the physical life? Explain why.

b. For each of these four plant items, provide the lives Western is presently using for purposes of calculating its per books depreciation.

c. Provide the calculation used to derive the pre-tax rate of return shown on Exhibit DMI-5, Schedule 1 of 2.

d. Provide schedules, in the same formats as Exhibit DMI-5, Schedules 1 and 2, showing the carrying costs and resulting premises charges based on recovery periods of 240, 300, and 360 months.

e. Provide the calculations, along with a narrative explanation, of the "Facilities Adjustment Charge" of \$15.44 per year for all residential customers that Mr. Ives suggests Western be allowed to implement if the Commission rejects the proposed premises charge.

56. Refer to the Direct Testimony of David H. Doggette and the response to Item 57 of the Commission's July 16, 1999 Order.

a. The survey of banks in Exhibit DHD-2 was limited to eight local banks. Explain how these particular banks were selected for the survey.

b. Considering how widespread Western's service territory is, why was the survey limited to eight "local banks"?

c. The proposed returned check charge is based on the premise that Western incurs an administrative charge for processing bad checks similar to the

returned check charges imposed by the banks. What attempt has Western made to determine the actual level of costs it incurs to handle and process bad checks?

d. Has Western determined, or attempted to determine, the margin, or mark-up above their costs, that the banks include in their returned check charges?

e. The proposed Seasonal Turn-on Charge is not cost-based but is intended as a disincentive to customers disconnecting from the system on a seasonal basis. Explain why such a charge requires a higher "after hours" rate similar to those special charges that are cost-based.

57. Refer to the Direct Testimony of Betty L. Adams and the response to Item 67 of the Commission's July 16, 1999 Order. Refer to the response identified as DR 67(f), sheet 1 of 2, compared with the response identified as DR 67(g), Schedule C-2.1, Sheet 4 of 10. The base period amount of "Shared Services Billing" on DR 67(f) of \$10,003,000 does not correspond with Administrative Services Transferred on DR 67(g), Schedule C-2.1, Sheet 4 of 10, Account 922, in the amount of \$9,050,095. The amounts provided for the forecasted year on DR 67(f), Sheet 2 of 2, and DR 67(g), Schedule C-2.1, Sheet 9 of 10, Account 922 are in agreement. Explain and reconcile the differences in amounts for the base period.

58. Refer to Volume 10 of 10 of the Application, Tabs 3 and 5, the Direct Testimony of Rebecca M. Buchannan, and FR 10(10)(c)2, Schedule C-2, and FR 10(10)(e), Schedule E.

a. Explain why the State and Federal Income Tax on Schedule E for the base period is mathematically correct, but does not agree to the Income Taxes for Base Year Revenue and Expenses on Schedule C-2.

b. If FR 10(10)(c)2, Schedule C-2 as originally filed in the application would be different if presented on the basis of FERC accounts, resubmit Schedule C-2 based on FERC accounts.

c. Provide calculations to support the income tax for the columns titled Base Year Revenue & Expenses, Utility Budget Adjustments, SSU Billing Adjustments, Forecasted Revenue & Expenses, and Ratemaking Adjustments on FR 10(10)(c)2, Schedule C-2.

59. Refer to the Direct Testimony of Betty L. Adams and the response to Item 68 of the Commission's July 16, 1999 Order. Included with this response are comparisons of budget to actual year-to-date reports for FY 1998, 1997, 1996, 1995 and 1994 referenced as "RESP-10." These reports contain data for only 11 costs or "element groups."

a. Are the costs or "element groups" on these budget reports broken down further on other budget to actual comparison reports?

b. If yes, provide these reports for FY 1998 and for the months-to-date since then with a cumulative total beginning October 1998 through the most recently completed month of accounting records. Also, provide a brief explanation of all variances, both favorable and unfavorable, for the lesser of \$5,000 or 5 percent.

c. If yes, provide a schedule combining the year-to-date actual per the RESP-10, the Shared Services Billing, depreciation, and any other costs to determine operating and maintenance expense for FY 1998 and for the months-to-date with a cumulative total beginning October 1998 through the most recently completed month of accounting records.

d. If no, explain in detail how Western monitors the underlying account element data for accuracy in budgeting. Also, what form of variance analysis does Western use for management reporting? Provide this variance analysis for FY 1998, 1997, 1996, 1995, and 1994 or such periods as are referenced in subpart "b."

60. Refer to the Direct Testimony of Betty L. Adams and the response to Item 68 of the Commission's July 16, 1999 Order.

a. Since authorized employees have exceeded actual employees every year from 1994 through 1998, explain the basis for including 100 percent of authorized employees for rate-making purposes in the forecasted period.

b. What measures does Western propose to use in filling the 15 open positions that are shown when comparing the Testimony of Conrad E. Gruber and the response to Item 62 of the Commission July 16, 1999 Order, which reflects a total of 267 employees compared to the forecasted level of 282?

c. What are the expected benefits from the addition of the planned operating and maintenance employees that Western's customers will receive that they have not been receiving?

61. Refer to Volume 4 of 10 of the Application, Tab 4, FR 10(9)(m), and the Direct Testimony of Donald P. Berman. In the NARUC accounts individual elements of functional expense are shown in the chart of accounts at FR 10(9)(m) as follows: directors retirement benefits, service awards; employee incentives; meals & entertainment; membership fees; community relations & trade shows; and sports activities:

a. Are any amounts for the above individual elements of functional expenses included in the base period or forecasted period?

b. If yes, provide the amounts for both the base period and forecasted period as applicable, and explain why these types of expenses should be recoverable for rate-making purposes.

c. If no, explain why these types of expenses are included as "above the line accounts" in the chart of accounts.

62. Does Western's bottom-up budget process for the annual operating and maintenance budget include providing budgeting personnel with any reports comparing, for instance, the most recently completed fiscal year budgeted amounts and actual results, as well as the present operating budget, for a reference point in establishing a new budget?

a. If yes, provide such completed documentation from the "element group" account level for FY 1999, 1998, 1997, 1996 and 1995.

b. If no, explain in detail what reports management uses to evaluate the budget for accuracy of inputs, and provide documentation in the way of comparative reports from the "element group" account level for FY 1999, 1998, 1997, 1996 and 1995.

c. If no comparative reports are available from the budgetary input process, explain in detail how Western's budget process can be relied upon for accuracy, evaluation of trends and other analysis for periods past the immediate budget period.

63. Does Shared Service's bottom-up budget process for the annual operating budget include providing budgeting personnel any reports comparing, for instance, the

most recently completed fiscal year budgeted amounts and actual results, as well as the present operating budget, for a reference point in establishing a new budget?

a. If yes, provide such completed documentation from the most detailed account level for FY 1999, 1998, 1997, 1996 and 1995.

b. If no, explain in detail what reports management uses to evaluate the budget for accuracy of inputs, and provide documentation in the way of comparative reports from the most detailed account level for FY 1999, 1998, 1997, 1996 and 1995.

c. If no comparative reports are available from the budgetary input process explain in detail how Shared Service's budget process can be relied upon for accuracy, evaluation of trends and other analysis for periods past the immediate budget period.

64. Refer to the Direct Testimony of Betty L. Adams and the response to Item 72(a) of the Commission's July 16, 1999 Order.

a. Does Western's response that its billing system prior to June 1, 1999 did not provide accounts receivable aging mean that management did not otherwise have an aging schedule created for periodic evaluation of revenue collectibility?

(1) If yes, provide a detailed explanation of how Western determined the uncollectible accounts to write off?

(2) If no, provide any aging schedules created for the FY 1998 and 1997, with an explanation of any coding identifying customer classes.

(3) Provide a detailed explanation of Western's uncollectible account determination policy, with procedures on how accounts 60, 90, or 120 days and older are pursued for recovery.

b. Provide monthly accounts receivable aging schedules since June 1, 1999 and monthly uncollectibles written off for those months' activity.

c. Provide the calculation supporting the derivation of the 0.4 percent of revenue factor used in the gross revenue conversion factor at Volume 10 of 10 of the Application, Tab 8, FR 10(10)(h), Schedule H. Include support for the combination of uncollectibles and revenue from different customer classes in determining a composite factor.

65. Refer to the Direct Testimony of Betty L. Adams and the response to Item 83(a) of the Commission's July 16, 1999 Order.

a. Provide a summary of Shared Services "Combined Direct & Billed" total monthly expenses as allocated by division on the exhibit in the response to Item 83(a), "April's Financial Statements," bottom of the page marked "(32)." Prepare this summary for fiscal year 1998 and for the months since then with a cumulative total beginning October 1998 through the most recently completed month of accounting records.

b. Are any non-regulatory expenses allocated to regulated divisions or any regulatory expenses allocated to non-regulated divisions? If so, explain the reasons for the allocations and the allocation processes.

66. Refer to Volume 10 of the Application, Tab 3, FR 10(10)(c)2.1, and the Direct Testimony of Rebecca M. Buchannan.

a. For NARUC account 923, outside services employed, provide a schedule of actual and projected expenses by vendor that exceed \$7,500 directly paid or billed to Western, or allocated by Shared Services. Give a brief explanation of the service to be provided.

b. For NARUC account 925, injuries and damages, provide a schedule of actual and projected expenses beginning with total workers compensation, then by vendor, that exceed \$10,000 directly paid or billed to Western, or allocated by Shared Services. Give a brief explanation of the expenditure, other than the amount of workers compensation.

67. Refer to Volume 10 of the Application, Tab 4, FR 10(10)(d)2.2, Schedule D-2.2 and the Direct Testimony of Betty L. Adams. The explanation for "ADJ 1," budgeting adjustment, includes "an adjustment of the credit for pension due to FASB 87 in the base year." Is this a result of an accounting method change? If yes, explain the change. If no, is it similar to the "Ratemaking Adjustment" on FR 10(10)(c)2, Schedule C-2, in Volume 10 of the Application, in the amount of \$771,992 referenced to Schedule F-2.3? Are these adjustments duplicated in both the base period and forecasted period?

68. Refer to the Direct Testimony of Donald P. Berman. Provide Atmos's or Western's most recent actuarial report for its pension plan.

69. The response to Item 47(f) of the Commission's July 16, 1999 Order indicated that Western would require more time to prepare an adequate response. The supplemental response filed August 13, 1999 indicated that progress was being made, but that additional time would be required, and that substantial time and analyses had

been required to develop the cost-of-service study based upon the future test period. The Commission renews the original request and further requests that all underlying worksheets for the development of the forecasted inputs and other analyses discussed in the supplemental response be supplied no later than the due date of this request.

70. Refer to the Direct Testimony of Thomas H. Petersen and the response to Item 47(i) of the Commission's July 16, 1999 Order. Many of the notes describing the functionalization and classification processes within the model seem to represent assumptions based upon historic precedent and industry knowledge. What analysis has Western undertaken currently or during recent cases to validate that the assumptions used as inputs to the cost-of-service study are reasonable? Has Western completed any analyses to validate the sensitivity of these judgmental inputs? Provide any such analyses. If no analyses have been completed, how can the Commission be assured that the results of the cost-of-service model are reasonable?

71. Provide the summary pages of the cost-of-service model assuming the "minimum system" method had been incorporated rather than the "zero intercept" method for both the historic period and the forecasted period. Describe what changes are necessary to implement this change.

72. Provide a reconciliation of the volume units and dollar amounts used by the financial, rate design and cost-of-service witnesses for the unadjusted historic test period, the adjusted historic test period, and the forecasted test period.

73. Refer to the response to Item 47(g) of the Commission's July 16, 1999 Order. Provide a detailed breakdown of the amount for "Other Revenue" of \$1,094,414

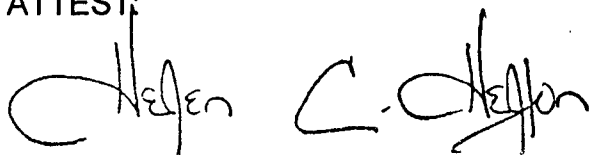
shown on Sheet 6 of 9 of the functional allocations attached to the cost-of-service analysis utilizing proposed rates.

74. Refer to the response to Item 47(e) of the Commission's July 16, 1999 Order. Western states that the allocation could be applied to differing numbers of customer classes and/or differing customer sizes within customer classes, albeit requiring significant analysis. Has Western completed such an analysis? If so, provide the results. If not, what assurances can be given that the current customer classifications are the most optimal?

Done at Frankfort, Kentucky, this 19th day of August, 1999.

By the Commission

ATTEST:

A handwritten signature in cursive script, appearing to read "Helen C. Shelton". The signature is written in dark ink and is positioned above a horizontal line.

Executive Director

JOHN N. HUGHES
Attorney at Law
Professional Service Corporation
124 WEST TODD STREET
FRANKFORT, KENTUCKY 40601

Telephone:
(502) 227-7270

Telecopier:
(502) 875-7059

August 18, 1999

RECEIVED
AUG 18 1999
PUBLIC SERVICE
COMMISSION

Ms. Helen Helton
Executive Director
Kentucky Public Service Commission
730 Schenkel Lane
Frankfort, KY 40602

Re: Case No. 99-070

Dear Ms. Helton:

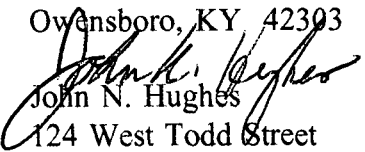
In an effort to continue to provide the Commission and Staff with the most current and detailed information available, Western is supplementing its responses to items 6, 10, 12, 19, 23, 24d, 25, 42c, and 71 to the Commission's initial data request. Copies of the responses have been mailed to the intervenors.

If there are any questions about this matter or if additional information is needed, please contact me.

Sincerely yours,

Douglas Walther
Atmos Energy Corporation
P.O. Box 650205
Dallas, TX 75265

Mark R. Hutchinson
SHEFFER - HUTCHINSON -
KINNEY
115 E. Second St.
Owensboro, KY 42303


John N. Hughes
124 West Todd Street
Frankfort, KY 40601

Attorneys for Western
Western Kentucky Gas Company

Western Kentucky Gas Company
Case No. 99-070
KPSC Data Request Dated July 16, 1999
Supplemental Response to DR Item 6
Witness: Gruber

Data Request:

Refer to the Application, Volume 2 of 10, Tab 1, the Testimony of Conrad E. Gruber. On pages 12 through 18 of the testimony is a discussion of Western's efficiency and productivity improvements. Explain in detail how the benefits of these efficiency and productivity improvements have been incorporated into Western's forecasted period. Include a dollar quantification of the improvements and identify where this quantification has been shown in the forecasted period.

Response:

Exhibits A, B and C show that Western's investment in the various efficiency and productivity improvements has already produced real and significant savings and will continue to produce savings well beyond the forecasted test period. Exhibit A, "WKG O&M Costs", presents a comparison of Western's total O&M spending for FY1998-FY2004. Exhibit B, "WKG O&M Cost Trend", plots the information in Exhibit A. Exhibit C, "Annual O&M Savings", quantifies the annual savings associated with these improvements.

Exhibit A shows that the total level of O&M spending for the seven year period is \$166.4M. It also shows that total O&M spending in FY2000 and beyond is projected by Western to remain steady at around \$24.3M.

Exhibit A also compares the O&M spending presented by Western in this application to two different projections of O&M costs assuming "business as usual" spending practices trended off of FY1997 actual spending. The first scenario projects Western's spending for FY1998-FY2004 using the actual and forecasted growth rates associated with Gross Domestic Product (source: Federal Reserve Bank of St. Louis). The second scenario reflects a more conservative growth rate of 3.5%, which approximates the average annual rate of growth in Western's O&M expenses from FY1995 to FY1997. In comparison to either scenario, Western's O&M spending as filed in this case is much less than either of the "business as usual" scenarios. Western calculates the difference between Western's filed O&M spending versus the "business as usual" scenarios as savings of \$32.1M (GDP Growth) or \$25.2M (3.5% Growth).

Benefits of Western's Service and Productivity Investments

The benefits of Western's efficiency and productivity improvements is discussed at length in Mr. Gruber's testimony. The primary benefit of the improvements is that Western has leveraged technology to produce O&M cost savings. Exhibit B shows that

Western has reduced its O&M costs in the short run (FY1998-FY1999) and will flatten its O&M costs over the long term (FY2000-FY2004). That is, O&M savings began in FY1998-FY1999 concurrent with the introduction of these improvements by Western.

Exhibit C indicates that, in comparison to the more conservative growth rate scenario, Western will have saved its customers \$5.1M, or approximately \$2.6M per year, prior to the inclusion of Western's investment in these programs in rate base. In the forecasted years, the annual O&M savings resulting from these improvements is projected to increase each year from FY2000 to FY2004.

Mr. Gruber's testimony on page 6 discusses that Western's O&M costs will have grown approximately $\frac{1}{2}$ of 1 percent per year from FY1994 to FY2000. As a result of the efficiency and productivity improvements begun by Western in FY1998 & FY1999, Western is projecting an even lower O&M cost growth rate of approximately 0.0% through FY2004.

WKG O&M Costs

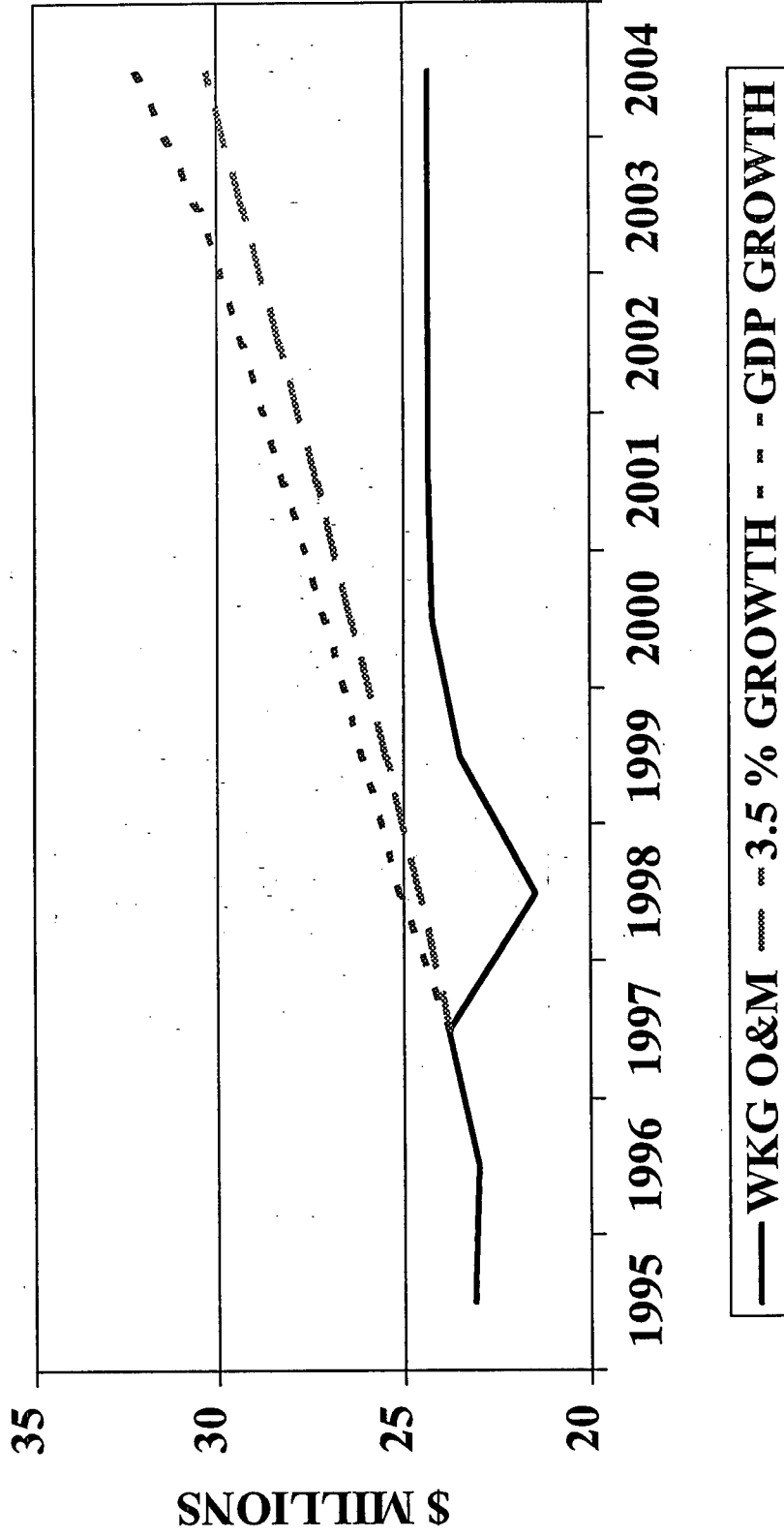
(\$ millions)

	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>TOTALS</u>
GDP Growth	23.8	25.1	26.1	27.1	28.2	29.3	30.5	32.2	198.5
3.5% Growth	23.8	24.6	25.5	26.4	27.3	28.3	29.3	30.3	191.6
WKG O&M COSTS	<u>23.8</u>	<u>21.5</u>	<u>23.5</u>	<u>24.2</u>	<u>24.3</u>	<u>24.3</u>	<u>24.3</u>	<u>24.3</u>	<u>166.4</u>
Savings from GDP	3.6 2.6 2.9 2.9 3.9 5.0 6.2 7.9								\$ 32.1
Savings from 3.5%	3.1 2.0 2.2 2.2 3.0 4.0 5.0 6.0								\$ 25.2

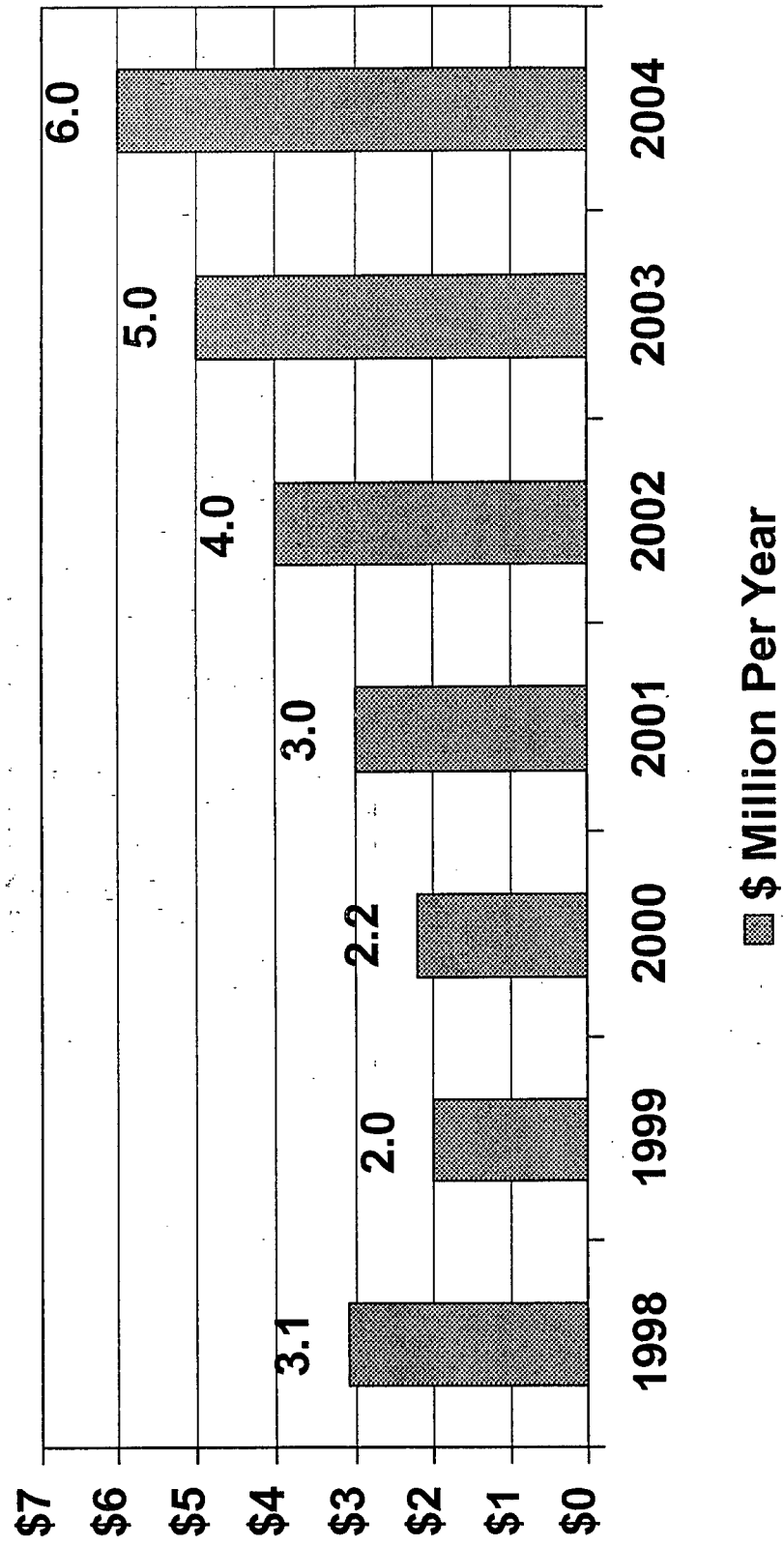
O&M SAVINGS VS 3.5% GROWTH \$25,200,000

O&M SAVINGS VS GDP GROWTH \$32,100,000

WKG O&M Cost Trend



Annual O&M Savings



Western Kentucky Gas Company
Case No. 99-070
KPSC Data Request Dated July 16, 1999
Supplemental Response to DR Item 10
Witness: David H. Doggette

Data Request:

Refer to the Application, Volume 2 of 10, Tab 5, Exhibit DHD-1, page 2 of 6. Provide the workpapers and assumptions used to determine that the projected overhead rate should be 50 percent and the projected increase in maintenance and improvements should be 36.25 percent for the FY 2000 capital budget. Include an explanation as to how these determinations were made.

Response:

The 50 percent overhead rate was based on a review of Atmos' Administrative & General (A&G) overhead dollars and Western's business unit overhead dollars for the FY 1999. The Atmos A & G allocation was \$1,106,000 and the Western business unit allocation was \$1,840,000. Which when added to Western's direct capital expenditures for FY 1999 results in a total capital budget of \$8,408,000. The FY 1999 overhead rate is therefore 53%, hence a similar rate of 50% was applied for overheads in FY 2000. Past prudent management practices during abnormal weather periods has afforded WKG the opportunity to defer but perhaps not avoid certain non-safety-related projects. Therefore, to maintain system integrity and reliability WKG foresees the need to increase our maintenance and system improvement spending to reflect current system requirements. The requirements are identified as:

Shelbyville Main Replacement - Direct costs: \$128,500

Bowling Green Main Replacement - Direct costs: \$52,000

Bowling Green State Street Replacement - Direct costs: \$70,000

Bowling Green State Street/Adams Street Replacement - Direct Costs: \$60,000

Owensboro Walnut Street Replacement - Direct costs: \$27,500

WKG also anticipates approximately \$63,000 of additional blanket retirements and approximately \$10,000 of additional transmission line leakage repair. The above-identified costs represents 36.25 percent of the FY 1999 system maintenance budget.

Western Kentucky Gas Company
Case No. 99-070
KPSC Data Request Dated July 16, 1999
Supplemental Response to DR Item 12
Witness: Reddy

Data Request:

Provide the actual capital ratios for Atmos as of June 30, 1999.

Response:

Atmos actual capital ratios as of June 30, 1999 are as follows:

	Amount	(\$000)	Percent
Long-term Debt*	<u>\$399,607</u>		43.85%
Short-term Debt	\$110,228		12.10%
Shareholders' Equity	<u>\$401,378</u>		<u>44.05%</u>
Total	<u>\$911,213</u>		<u>100.00%</u>

*Includes current maturities portion of long-term debt.

Western Kentucky Gas Company
Case No. 99-070
KPSC Data Request Dated July 16, 1999
Supplemental Response to DR Item 19
Witness: Marks

Data Request:

Refer to the Marks Testimony, page 8. It is stated that the TRC test measures the costs and benefits of a conservation measure from the broadest perspective as it represents the net benefit to society. Isn't it correct that the TRC calculates the net impact on a utility and its customer base as a whole, instead of as a net benefit to society? If no, provide documentation to support the contention that the focus of the TRC is the net benefit to society.

Response:

No. The supporting documentation is provided in the attachment to the response to DR 20 h.

The TRC Test is interpreted as the Societal Test without externalities. In fact, we chose in the evaluation report for the Collaborative to call the TRC test the "Societal Test excluding externality adder". I regret any confusion that this may have caused.

Western Kentucky Gas Company
Case No. 99-070
KPSC Data Request Dated July 16, 1999
Supplemental Response to DR Item 23
Witness: Marks

Data Request:

Provide copies of all program materials associated with WKG CARES, including the program parameters established regarding the allowable program measures.

Response:

See attachment to DR 18 entitled, "Pre-Implementation Benefit/Cost Screening Results."

Western Kentucky Gas Company
Case No. 99-070
KPSC Data Request Dated July 16, 1999
Supplemental Response to DR Item 24d
Witness: Marks

Data Request:

Provide the following information concerning WKG CARES:

d. Describe the extent to which WKG CARES programs are available, affordable, and useful to all customers.

Response:

The WKG CARES programs are available for use by low-income WKG customers. As noted in Exhibit MM-2, the proposed rate will cost about \$.25 per month for each residential customer. The prospective annual program expense of \$200,000 equates to spending which is less than 0.3% of the normalized annual bill for all residential customers. This amount seems affordable. That the programs are useful to all customers is demonstrated by the positive TRC benefit/cost ration. See Response to DR 20a - Appendix F on pages 4-5 in the attachment entitled "Process and Impact Evaluation of Western Kentucky Gas WKG CARES Program".

Western Kentucky Gas Company
Case No. 99-070
KPSC Data Request Dated July 16, 1999
Supplemental Response to DR Item 25
Witness: Smith & Marks

Data Request:

Given the provisions of KRS 278.285, explain in detail why Western waited until the filing of this rate proceeding to recover the costs for WKG CARES, which began in 1996.

Response:

KRS 278.285 provides no specific guidance regarding the time period over which DSM program costs may be collected. It merely provides that the issue may be addressed as part of a proceeding for approval of new rate schedules or in a separate proceeding which would be limited to a review of demand-side management and associated rate recovery issues.

This was Western's first DSM program. Western believed it was necessary for the program to produce data upon which to base a filing for rate recovery. Western indicated this intention in its letter responding to Mr. Mills in November 1996. The WKG CARES process and impact evaluation report was not available until the timeframe during which the decision to file this rate proceeding was made. The WKG CARES program began in late November 1996. The first full winter heating season to provide information for the process and impact evaluation report did not end until spring of 1998. The report was completed in July 1998 and presented to the Collaborative in September 1998. Since the decision to file this rate proceeding was made shortly thereafter, it was decided that this filing was the best way to address the issue of WKG CARES cost recovery.

Copies of the Mr. Mills' letter and Western's response from Mr. Boyd are attached.



Attachment to
Supplemental Response
to DR Item 25, 1 of 2

COMMONWEALTH OF KENTUCKY
PUBLIC SERVICE COMMISSION

730 SCHENKEL LANE
POST OFFICE BOX 615
FRANKFORT, KY. 40602
(502) 564-3940

October 30, 1996

NOV 1996
RECEIVED
J

Mr. Earl Fischer
President
Western Kentucky Gas Company
2401 New Hartford Road
P.O. Box 866
Owensboro, Kentucky 42302

Dear Mr. Fischer:

On October 20, 1995 the Commission approved a unanimous settlement agreement that resolved the issues in Case No. 95-010, Western's last general rate case. One of the provisions of that agreement was that Western would initiate a pilot DSM program directed toward its low income customers. Western agreed to work with a collaborative group and to fund the pilot program for three years at an amount up to \$450,000 per year. Western also agreed, that if feasible, the program would be initiated in time for the 1996 heating season.

It has been a year since the Commission's Order and the 1996 heating season is upon us. Also, Western has yet to file an application for cost recovery of DSM programs pursuant to KRS 278.285. We request, therefore, that you respond to this letter with a status report on Western's DSM activities and its DSM collaborative. The Commission is interested in the current status of Western's efforts to develop possible programs and whether a general timetable exists for when Western expects to have programs in place and/or make a filing with the Commission for recovery of DSM program costs.

Please respond within two weeks of receipt of this letter. If you have any questions regarding this request please contact Jeff Shaw of the Commission Staff at (502) 564-3940.

Sincerely,

Don Mills,
Executive Director

cc: Lee Allen Everett
Atmos Energy Corporation

November 15, 1996



Honorable Don Mills
Kentucky Public Service Commission
730 Schenkel Lane
Frankfort, KY 40602

RE: Your Inquiry dated October 20, 1995

Dear Mr. Mills:

Thank you for your interest in the progress of Western Kentucky Gas Company's ("Western") demand-side management ("DSM") activities. Western has been involved in DSM related activities contemplated in the unanimous settlement agreement in Case No. 95-010 since December of 1995. Our goal, which is consistent with the settlement agreement, has been to implement a menu of residential customer DSM programs in time for the 1996 heating season. We have succeeded in developing several programs, through the collaborative efforts of the settlement parties and we are on the threshold of implementing the program, which collectively are called the Community Action Residential Energy Service ("CARES") in mid November 1996. We believe benefits from this program could be realized by some customers as early as December 1, 1996, which corresponds to the beginning for the heating season. Attached is a progress report of our efforts.

Your letter noted that Western has not filed an application for cost recovery of DSM program costs pursuant to KRS 278.285 you are correct. We presently plan to wait until the "CARES" program produces some data upon which to base a filing. To assist in this effort the "CARES" Collaborative Executive Committee (which consists of representatives from the Attorney General's office, Kentucky Division of Energy, Kentucky Association for Community Action, Community Aid Legal Services and Western) retained the service of Hampton Strategies, Inc.. Hampton is an experienced expert in evaluating DSM programs, and is planning to evaluate the program data in the Spring of 1998. We intend to file for cost recovery at the appropriate time, based on Hampton's recommendations.

Incidentally, the CARES collaborative is pushing for a press release announcing the beginning of the program within the next ten (10) days. You or a member of your staff are welcome to attend future meetings of the Collaborative. Again, thank you for your interest. If you have any questions, please contact me directly at (972) 788-3754.

Sincerely,


Ben Boyd
Manager, Regulatory Affairs & Compliance

Enclosures

Western Kentucky Gas Company
Case No. 99-070
KPSC Data Request Dated July 16, 1999
Supplemental Response to DR Item 42c
Witness: Buchanan

Data Request:

42. Refer to the Application, Volume 10 of 10, Tab 15, Summary of Factors schedule, referenced as "WP Factors." Concerning the calculation of the Residual Factor:

c. Explain why it is reasonable to base the Residual Factor on the Western to Atmos ratios for Gross Direct PP&E, Average Number of Customers, and Total O&M Expense.

Response:

c. The residual factor used by Atmos is a modified Massachusetts formula. It is used to allocate the General Plant related items (plant and accumulated depreciation) of Division 02 General Office to the business units of Atmos. The three part allocator alleviates the inequities that can occur if only one of the components is used as an allocator. Gross plant, average customers and O&M expenses are a better reflection of the types of functions provided by the General Office (also known as Shared Services). The General Plant assets of Division 02 are used in conjunction with providing these "shared services" to the business units. (Some examples of the functions performed by the General Office Division 02 are Gas Control, Billing & Remittance, and Investor Relations. A complete listing of the Shared Services functions is provided in FR 10(9)(u), Volume 9, tab 2).

For an extensive discussion of allocations and the use of a residual factor, please refer to the direct testimony of Mr. Arthur L. Litke who testified on behalf of Western Kentucky Gas Company in Case No. 90-013. A copy of Mr. Litke's testimony is attached as "Attachment to DR Item 42c, pages 1-17".

Attachment to DR Item 42c, pages 1-17.

BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

IN THE MATTER)	
)	CASE NO. 90-013
RATE ADJUSTMENT OF)	
WESTERN KENTUCKY GAS COMPANY))	

TESTIMONY OF ARTHUR L. LITKE

1 Q. Please state your name, employment, and business address.
 2 A. My name is Arthur L. Litke and I am Senior Vice President
 3 of the consulting firm H. Zinder & Associates, 1828 L
 4 Street, N. W., Washington, D.C. 20036.

5 Q. Please summarize your education and business experience.
 6 A. I received a B.S. degree in economics in 1944 from Trinity
 College and an MBA degree in 1947 from the Wharton School
 of Finance and Commerce, University of Pennsylvania. I
 did postgraduate work at George Washington University Law
 School during the 1948-1953 period, and I attended the
 Advanced Management Program at the Harvard University
 Graduate School of Business Administration in 1961.

Since 1966, I have taught various accounting courses
 at Catholic, George Washington, and Georgetown
 Universities as a professor in accounting. I also taught
 the regulatory accounting section of the National
 Association of Regulatory Utility Commissioner's Short
 Course in 1971 and 1972. During the period 1973-1983, I
 was a member of the Board of Nominations for the
 Accounting Hall of Fame at Ohio State University.

Post-it Fax Note		7671
To	Becky Buchanan	
Co/Dept		
Phone #		
Fax #		
Date	7-27-99	Ad pages 17
From	Tom Petersa	
Co.		
Phone #		
Fax #		

19
20

1 My professional affiliations include the American
2 Arbitration Association, the American Accountants
3 Association, the American Institute of Certified Public
4 Accountants, where I served on the auditing procedures and
5 technical standards committees; the District of Columbia
6 Institute of Certified Public Accountants, the Association
7 of Government Accountants, where I served as national
8 president; and the International Consortium on Government
9 Financial Management, where I served as president. I am a
10 Certified Public Accountant in the State of North Carolina.

11 From 1964 to 1973, I was the Chief Accountant of the
12 Federal Power Commission (now the Federal Energy
13 Regulatory Commission). In this position I was the
14 principal advisor and consultant to the Commission for
15 accounting, financial, and statistical matters. Further,
16 I was responsible for all of the activities in the
17 Commission's Office of Accounting and Finance, which
18 included accounting, auditing, depreciation studies, and
19 statistics and finance, including rate of return
20 activities. I was also a member of the 1973 and 1978
21 Natural Gas Survey and the 1973 National Power Supply
22 Update.

23 During the period 1973-1978, I was an original member
24 of the Financial Accounting Standards Board. The Board,
25 which consists of seven full-time members, establishes
26 financial accounting and reporting standards for the
27 private sector. The same standards are generally followed

1 by regulatory agencies and regulated companies.

2 In 1978, I served as an Associate Administrator,
3 Economic Regulatory Administration, Department of Energy.
4 For the period 1978-1981, I served as a consultant to the
5 Comptroller General of the United States on regulatory
6 matters. During this period I also served on the National
7 Association of Regulatory Utility Commissioners
8 Subcommittee of Staff Experts on Accounting. Since
9 leaving the General Accounting Office I have been employed
10 by H. Zinder & Associates.

11 I have published numerous articles on regulatory
12 accounting matters, the most recent being a chapter on
13 regulated industries in the Burton, Palmer and Kay
14 Handbook of Accounting and Auditing published in 1981 by
15 Warren, Gorham and Lamont.

16 Q. What is the purpose of your testimony in this case?

17 A. Atmos Energy Corporation/Western Kentucky Gas (Atmos)
18 requested my (1) opinion as to whether the allocation
19 methodology used by Atmos to allocate its corporate
20 services costs to Western is reasonable and would result
21 in a fair allocation of costs, and (2) comments on Mr.
22 Thomas C. DeWard's specific recommendation "D" that a
23 complete audit be performed at the corporate level before
24 any increase in corporate charges to Western be approved
25 by the Public Service Commission.

26 Q. What is your conclusion?

1 A. Although my review was limited by time constraints, I
2 believe the allocation methodology used by Atmos gives a
3 reasonable result.

4 Q. What do Atmos' corporate service costs represent?

5 A. All costs of operating the headquarters of Atmos amounting
6 to \$15,324,309 of which \$4,745,168 or 31 percent were
7 allocated to Western.

8 Q. How should such costs be allocated?

9 A. In all cases where a causal relationship can be shown, the
10 expenses should be directly assigned to a specific
11 product, function, segment or company. Direct assignment
12 is the most widely used method for allocation of service
13 costs. When direct assignment is not feasible, homogenous
14 costs are assigned to a cost pool and allocated to
15 activities on a cause and effect basis such as usage for
16 computer operations. Remaining expenses not assigned on
17 the above basis are referred to as residual expenses and
18 are allocated on a variety of basis.

19 Q. How are these residual expenses allocated?

20 A. There are a wide variety of allocation methods, including
21 sales revenues, gross plant, cost of sales, cost input,
22 direct labor expense, payroll expense, employee
23 head-count, value added, production costs, and formulas
24 consisting of two or more factors.

25 Q. Is the method allocating residual expenses important?

26 A. Yes, it is very important. The amount of these costs

1 allocated to a specific company or activity can be
2 profoundly affected by the allocation method selected. In
3 this case, the residual expenses must be fairly allocated
4 to the various activities of Atmos. Otherwise, the costs
5 and profits of these various activities will be mistated.
6 Some activities will bear an unjust burden, and other
7 companies will be undercharged.

8 Q. Are the same allocation percentages derived for all Atmos
9 companies in this filing used in other regulatory
10 jurisdictions by Atmos?

11 A. I have been informed by Atmos that the same percentages
12 are used in the other jurisdictions in which Atmos
13 activities are regulated i.e., Texas and Louisiana.
14 Because over 90 percent of Atmos' activities are regulated
15 little, if any, benefit accrues to Atmos if one activity
16 has a larger percentage assigned to it because the other
17 regulated companies will likely be allocated a smaller
18 percentage.

19 Q. Are specific allocations methods for these types of costs
20 prescribed by regulatory agencies?

21 A. Generally not.

22 Q. Based on your experience at the Federal Power Commission
23 (now the Federal Energy Regulatory Commission) what does
24 that Commission require?

25 A. The FERC Uniform System of Accounts does not specify any
26 single appropriate allocation method for these expenses.
27 As a matter of practice, however, the FERC accounting

1 staff requires that the expenses be directly assigned to a
2 particular company (or activity) whenever possible. Any
3 remaining or residual expenses may be allocated. The
4 allocation method selected by a company is generally
5 accepted so long as the end-result is reasonable.

6 Q. Have any of the accounting standards bodies made any
7 pronouncements on the subject of allocating residual
8 expenses?

9 A. Yes. The Cost Accounting Standards Board (CASB) issued a
10 Cost Accounting Standard (CAS) in 1972 on the allocation
11 of Home Office Expenses to Segments - CAS 403, 4 CFR 280.

12 A home office is defined as "an office responsible for
13 directing or managing two or more, but not necessarily
14 all, segments of an organization. It typically
15 establishes policy for, and provides guidance to, the
16 segments in their operations. It usually performs
17 management, supervisory, or administrative functions, and
18 may also perform service functions in support of the
19 operations of the various segments."

20 Q. What is the CASB?

21 A. The CASB was established by Public Law 91-379 and was
22 organized in January 1971. It issued 19 cost accounting
23 standards before funding for its operation ceased in
24 September 1980. Funding was reinstated in 1988 and the
25 CASB resumed its operation, although in a different mode.
26 The Board's standards do, however, remain in force and

1 must be used by certain federal agencies and defense
2 contractors.

3 Q. Please describe CAS 403 - Allocation of Home Office
4 Expenses to Segments - together with its rationale.

5 A. Before describing CAS 403, I would like to point out that
6 the results reached were attained after extensive
7 research, public comment and due deliberation of a
8 professionally qualified body established by Congress to
9 specifically consider appropriate cost accounting
10 matters. Although the CASB's authority only technically
11 extended to negotiated defense contracts, the reasoning
12 behind CAS 403 is clearly applicable to other similar
13 situations.

14 CAS 403 was established to resolve continuing
15 problems concerning the equitable allocation of home
16 office expenses to the various segments involved in
17 negotiated defense contracts. The standard requires that
18 home office expenses be directly assigned on a beneficial
19 or causal basis to the maximum extent practicable. The
20 standard also provides for the assembly of certain costs
21 in logical and homogenous pools to be assigned on certain
22 specified bases. Those expenses which have not been
23 assigned and generally relate to managing the
24 organization as a whole are categorized as residual
25 expenses.

26 According to the standard, residual expenses are to
27 be allocated on the basis of a three-factor formula. The

1 standard states that (4 CFR 284):

2 (c)(1)...This formula is considered to result in
3 appropriate allocations of the residual expenses of
4 home offices. It takes into account three broad
5 areas of management concern: the employees of the
6 organization, the business volume, and the capital
7 invested in the organization. The percentage of the
8 residual expenses to be allocated to any segment
9 pursuant to the three factor formula is the
10 arithmetical average of the following three
11 percentages for the same period:

12 (i) The percentage of the segment's payroll
13 dollars to the total payroll dollars of
14 all segments.

15 (ii) The percentage of the segment's
16 operating revenue to the total operating
17 revenue of all segments. For this
18 purpose, the operating revenue of any
19 segment shall include amounts charged to
20 other segments and shall be reduced by
21 amounts charged by other segments for
22 purchases.

23 (iii) The percentage of the average net book
24 value of the sum of the segment's
25 tangible capital assets plus inventories
26 to the total average net book value of
27 such assets of all segments. Property

1 held primarily for leasing to others
2 shall be excluded from the computation.
3 The average net book value shall be the
4 average of the net book value at the
5 beginning of the organization's fiscal
6 year and the net book value at the end
7 of the year.

8 In explaining its reasoning, the Board stated that it
9 has concluded that where the amount of residual expenses
10 are material, a single allocation formula should be used
11 by all contractors. The Board also stated that the
12 three-factor formula is the preferred method for such
13 allocation. The Board specifically found that (4 CFR 289):

14 The use of the three factors in the formula
15 minimizes any distortion that may result from
16 any one of the factors.

17 The three-factor formula is selected
18 because it takes into account the major
19 subjects of management concern, i.e., volume
20 of activity, employees, and invested
21 capital. Some companies consider that the
22 time, effort, and attention of top management
23 attributable to various segments are
24 approximately proportionate to the volume or
25 activity of those segments. Revenue is
26 considered by some companies to be a
27 generally reliable and convenient measure of

1 volume or activity. Other companies believe
2 that top management efforts are primarily
3 devoted to the employees of an organization
4 and, therefore, advocate the use of payroll
5 for allocating the cost of these efforts.
6 Still others believe that a major top
7 management concern is the management and
8 deployment of the capital invested in the
9 organization; for the purpose of this
10 formula, the net book value of tangible
11 capital assets and inventories is considered
12 by the Board to be a reasonable
13 representation of invested capital.

14 In essence, the CASB has stated that the three-factor
15 formula is a fair allocation formula and gives reasonable
16 results in the federal government's dealings with the
17 private sector. The residual expense allocation method
18 prescribed by the CASB, i.e., the three-factor formula, is
19 for all practical purposes the same as the general
20 allocation factor used in this filing for allocating
21 certain Atmos service costs to the subsidiary companies.

22 Q. In describing the allocation methodology used in this
23 case, Mary S. Lovell indicated that general allocation
24 factor used in this case was derived from the
25 Massachusetts formula. What is this formula?

1 A. The Massachusetts formula is composed of three equally
2 weighted parts; gross payroll, operating revenue and gross
3 plant from which a percentage is derived and applied to
4 certain Atmos service expenses to determine Western's
5 allocated share.

6 Q. Ms. Lovell indicated that four factors were used in
7 deriving the general allocation formula whereas the
8 Massachusetts formula uses but three. What are your views?

9 A. A comparison of the components of the two formulas shows
10 the following:

	<u>Atmos</u>	<u>Massachusetts</u>
12	Assets or direct plant	Gross plant
13	Number of employees	Gross payroll
14	Mcf received in system	Operating revenue
15	Number of customers	

16 Although there are three factors in the Massachusetts
17 formula and four in the Atmos formula, I do not believe
18 this modification has any material effect as to the final
19 result. I believe that the number of employees equates
20 with payroll and Mcf received into the system equates with
21 operating revenue. Atmos believes that some modification
22 should be made to recognize the level of customers
23 services. This modification gives effect to that aspect
24 in the final percentage. In the case of Western, the
25 residual factor allocation percentage was decreased to
26 32.53 percent from 33.6 percent if this factor was
27 excluded.

1 The results are very similar using either formula.
 2 The residual expense allocation percentage using the
 3 Massachusetts formula compared to the Atmos formula are as
 4 follows:

	WESTERN	ENERGAS	TRANSLA (Percentage)	NRG	EMART	EGASCO	TL16
7 Atmos	32.53	47.85	12.39	1.11	5.36	0.33	0.43
8 Mass.	33.5	45.88	14.13	1.14	4.55	0.44	0.36

9 Q. How extensively is the Massachusetts formula used as a
 10 basis for allocation?

11 A. I believe there are a large number of companies using the
 12 formula or some similar methodology. Moreover, over the
 13 years, the Massachusetts formula, or a form thereof, has
 14 been used by most states as a basis for apportioning
 15 corporate income to a state for income or franchise tax
 16 purposes.

17 Q. Is CAS 403 binding upon the Commission?

18 A. Certainly not. My purpose in discussing this cost
 19 accounting standard was to show (1) that the three-factor
 20 allocation method is a well recognized method for
 21 distributing expenses which cannot be directly assigned,
 22 (2) that the standard was adopted after extensive
 23 consideration by the Cost Accounting Standards Board, a
 24 body established by the Congress to consider cost
 25 accounting matters, and (3) that even though CAS 403 is
 26 not binding on this Commission, one objective of the CASB
 27 was to get fair costing standards which would assist in

1 achieving a fair result to both the government and
2 contractor. In essence this is one of the very important
3 objectives of rate regulation and hence of this
4 proceeding, i.e., to achieve a result which is just and
5 reasonable to the consumers and the Company. I believe
6 this methodology accomplishes this most important
7 objective.

8 Q. Why do you believe that the Massachusetts formula
9 methodology is a proper method of allocating expenses from
10 Atmos to Western?

11 A. First, we must accept the basic premise that there is no
12 one method which is without flaws. Any method that can be
13 devised will have certain defects. The question is which
14 method will give a fair and reasonable result over a long
15 period of time under varying conditions with the least
16 probability of significant distortion. I believe that in
17 the case of a company with several segments as Atmos, a
18 formula approach which considers labor, revenues, and
19 plant realistically recognizes the major concerns of
20 management, (i.e. management of its activities, property
21 and people).

22 Q. In your review of the allocation basis and categories
23 allocated, do you believe that the basis used are
24 appropriate?

25 A. Cost allocation inevitably raises difficult questions
26 where answers frequently are not clearly right or clearly
27 wrong. However, considering the constraints under which

1 Atmos-Western found itself while preparing for this
2 filing, I believe that the allocation basis used were
3 reasonable and will result in a fair allocation of Atmos
4 service costs. However, I believe those categories which
5 used the residual formula should be reviewed to determine
6 the extent, if any, where direct allocation could be
7 feasible. For example, the legal and governmental
8 affairs, rates, and internal audit functions.

9 I understand that Atmos is continuing to review
10 categories of expenses and departments where direct
11 allocation may be feasible.

12 Q. Will these suggestions have a material effect on the
13 allocation results?

14 A. Over time, probably not. As Ms. Lovell indicated in her
15 testimony, a study made of direct charging internal audit
16 costs to Western compared to the residual method resulted
17 in only about a .02 percentage point variance from that
18 used in this filing.

19 As indicated in my testimony, all items should be
20 directly charged where possible, pooled costs should be
21 allocated on a causal basis and the balance should be
22 allocated based on a residual formula. I understand this
23 is the objective of Atmos.

24 Q. Mr. DeWard recommends that a complete audit be performed
25 at the corporate level before any increase in corporate
26 service charges is approved above that in the previous
27 case before the Public Service Commission (Case No. 9556-M

1 dated *October 31, 1986* is approved. (Page 8, Direct
2 testimony)

3 A. That is correct.

4 Q. What does he suggest that the audit encompass?

5 A. It appears to me that he envisions a detailed financial
6 and management audit of corporate service costs together
7 with a review of the allocation of service costs to its
8 subsidiary companies.

9 Q. Based upon your review of the allocation methodology
10 employed by Atmos, do you believe that such an extensive
11 audit is necessary before the appropriate corporate
12 service cost level can be approved by the Public Service
13 Commission?

14 A. No.

15 Q. Please explain.

16 A. Obviously, Mr. DeWard has little, if any, confidence in
17 Atmos' corporate service costs allocation methodology. I
18 do not share this view.

19 I must assume (1) that Atmos has the prerogative to
20 organize its corporate office to reflect its management
21 philosophy, (2) costs associated with each department are
22 those associated with that activity, (3) the costs are
23 permissible for regulatory purposes, (4) direct charges
24 are made where appropriate, and (5) the basis used for
25 allocation has a cause and effect logic.

26 For instance, the Human Resources Department costs
27 are allocated on the basis of year-end number of

1 employees. Here I believe that this is a causal
2 relationship.

3 Q. What about the Executive Department where a general
4 allocation is used?

5 A. In this case, I believe that it is unrealistic to expect
6 management to keep time sheets as to where their time is
7 spent. Their time is spent running the corporation as a
8 whole and managing its varied functions. The residual
9 allocation is appropriate.

10 Q. Do you believe that the corporate expenses should be
11 limited to the 9556-M ceiling?

12 A. No, \$27,000 per month or \$324,000 per year is not
13 reasonable on its face to recover costs associated with
14 general office services rendered on behalf of Western. As
15 previously stated there is no precise right number when
16 allocation is necessary. The best one can do is come to a
17 reasonable and fair result. What that may be is based on
18 our individual judgment and experiences.

19 The fact that corporate service costs allocated to
20 Western may have increased does not mean these costs are
21 unnecessary. As indicated by Mr. Purser's testimony,
22 Western was having difficult times when it was acquired
23 and may not have been managing at the appropriate resource
24 level. Further, frequently in order to achieve better
25 management and more efficient operations expenditures of
26 funds are necessary.

27 Q. Does this complete your testimony?

28 A. Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

IN THE MATTER OF)	
)	
RATE ADJUSTMENT OF)	CASE NO. 90-013
WESTERN KENTUCKY GAS COMPANY)	

C E R T I F I C A T E

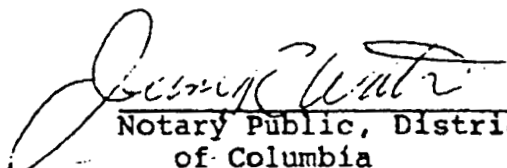
I, Arthur L. Litke, have answered the above questions propounded to me in Case No. 90-013. These answers and exhibits constitute and I hereby adopt, under oath, these answers and exhibits as my prepared direct testimony in said Case.



 Arthur L. Litke

DISTRICT OF COLUMBIA
CITY OF WASHINGTON

SUBSCRIBED AND SWORN TO before me by Arthur L. Litke, on this 26th day of June 1990.



 Notary Public, District
 of Columbia
 My Commission Expires: 10/31/94

Western Kentucky Gas Company
Case No. 99-070
KPSC Data Request Dated July 16, 1999
Supplemental Response to DR Item 71
Witness: Adams & Gruber

Data Request:

On page 9, lines 10 through 17 of Ms. Adams' testimony is a discussion of the increase in the forecasted test period communications expense that is attributed to increased use of mobile data terminals ("MDTs") and higher cellular usage. Provide a schedule showing the cost amounts, MDT units acquired and plant accounts charged since the project inception, showing the years in which the investments in MDTs were made.

- a. Does Western have contracts for communications expenses, such as long distance and cellular usage?
- b. If yes, provide the old and new contracts and an explanation of why the usage was deemed to increase in the forecasted period considering any contractual changes or changes in services used.
- c. Give a quantified determination of how this increase was estimated and whether the costs are under contract or not.

Response:

In addition to the response provided to this question previously, Western submits the following:

Western has acquired 88 MDT units as follows:

11/25/99	1
01/30/98	33
02/6/98	44
02/12/98	9
03/4/98	1

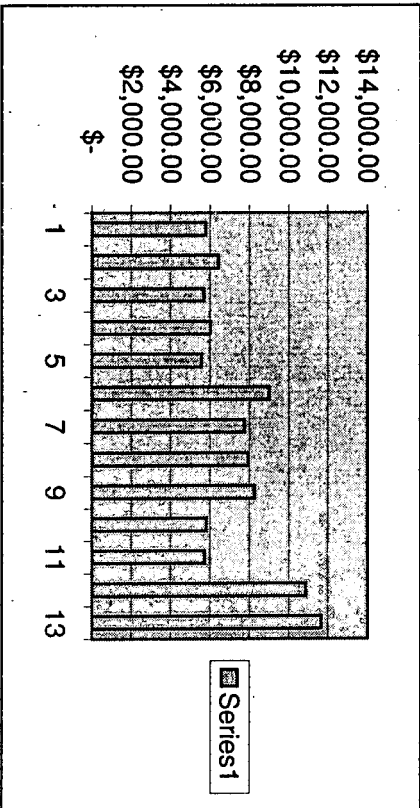
- b. Attached are copies of all of Western's cellular service contracts.
- c. To determine whether Western's cellular costs would increase in the forecast period, Western looked at the most recent cellular cost data (See attached chart entitled, "Monthly Cellular Cost for western Kentucky Gas") and clearly identified that the trend of cost increases in this area was continuing. Additionally, implementation of the MDT's, which did not begin in earnest until February and March of 1999, was moving toward the June conversion to the new billing system. Since the MDT's were designed to work with this type of system, the effectiveness and, therefore, use of the MDT's was expected to be further enhanced. MDT's require a cellular modem and a

cellular line to effectively move orders to and from field operations to the Customer Support Center. Each field technician also carries a hand held cellular phone to provide communications in cases of service order questions and emergencies.

The fixed costs of the cell lines are under contract, while the usage cost varies. Increased usage of cellular units is anticipated with further roll-out and field experience. It is also important to note that construction and maintenance crews have yet to convert to the use of cellular technology but such applications are projected to come on line in FY2000.

**Monthly Cellular Cost
For Western Kentucky Gas**

Month	Cost
Jun-98	\$ 5,774.43
Jul-98	\$ 6,427.17
Aug-98	\$ 5,689.21
Sep-98	\$ 6,026.80
Oct-98	\$ 5,554.60
Nov-98	\$ 8,986.53
Dec-98	\$ 7,735.49
Jan-99	\$ 7,939.08
Feb-99	\$ 8,259.81
Mar-99	\$ 5,815.20
Apr-99	\$ 5,714.40
May-99	\$ 10,874.52
Jun-99	\$ 11,649.80



SHAR

AUG. 10. 1999 10:11AM

USCC MGMT

NO. 6331 P. 3

PAGE 2 ACCOUNT NUMBER: 30375758
BILLING DATE: 06/16/98

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ACCOUNT SUMMARY INFORMATION

DETAIL OF PAYMENTS AND ADJUSTMENTS
06/12/98 - PAYMENT..... THANK YOU!
TOTAL PAYMENTS AND ADJUSTMENTS..... \$2,516.08 CR

SUMMARY OF CHARGES BY SERVICE LINE

ACCOUNT LEVEL	CHARGES AND CREDITS	
(502)929-8904	JEFF HUNTING	\$24.32
(502)929-8902	GARY SMITH	\$124.53
(502)929-8921	GLASGOW ON CALL	\$95.06
(502)929-8922	PAULICH ON CALL	\$28.00
(502)929-8901	OWENSBORO ON CALL	\$58.59
(502)929-4930	ERL FISHER	\$70.80
(502)929-5686	JOHN MILLIS	\$141.09
(502)929-3205	BETTY ADAMS	\$21.95
(502)929-2503	JIM RILLISON	\$54.19
(502)929-0930	DRAVE DOGGETTE	\$17.82
(502)929-2504	STEVE LOWR	\$69.22
(502)929-8457	RODGER GARRIS	\$48.49
(502)929-9101	RIC KISSINGER	\$46.00
(502)929-8334	KEVIN AREDS	\$93.41
(502)929-6311	MADISONVILLE SERVICE	\$174.70
(502)929-3211	DAVID RUSSELL	\$44.42
(502)929-3108	DAN PRICE	\$20.88
(502)929-2393	MAYFIELD SERVICE	\$77.93
(502)929-9944	KAY COOKES	\$30.88
(502)929-8155	STEVE CLARK	\$17.82
(502)929-8844	HAMESVILLE	\$28.29
(502)929-8106	MDT WHITTING	\$82.79
(502)929-8976	TOM HIGDON	\$73.63
(502)929-2462	JERRY HERRON	\$41.80
(502)929-2463	MERTON TO	\$57.19
(502)929-8881	DREYL HENRY	\$42.24
(502)929-3455	PART LEBRAH	\$27.52
(502)929-4787	PAH. VRAKE	\$26.33
(502)929-4792	RONNIE BENNINGFIELD	\$34.29
(502)929-4794	KEVIN DOBBS	\$46.20
(502)929-4811	TIM OWENS	\$41.47
(502)929-4818	LARRY REYNOLDS	\$28.03
(502)929-4834	DAVID THOMAS	\$39.97
(502)929-4894	JIM RICHARDSON	\$33.66
(502)929-4906	BILL HOONARD	\$25.66
(502)929-4931	TOM BERRY	\$29.28
(502)929-4932	COLEMAN ADKINS	\$30.62
(502)929-4939	DON GRIFFITH	\$43.39
(502)929-4947	GREG RHWAGE	\$26.54
(502)929-4977	RONNIE ROBERTS	\$33.35
(502)929-4995	TOM BOEHMAN	\$25.72
(502)929-5053	RON SALMON	\$24.63
(502)929-5067	DOUG STERNS	\$30.90
(502)929-5071	BARRY HIGGINTON	\$27.36
(502)929-5085	BRUCE TICKER	\$27.30
(502)929-5094	GARY BILLINGTON	\$35.84
(502)929-5107	RENDY EDGE	\$33.36
	RICK MILLIS	\$28.17
		\$24.09

C12

000000 TOTAL CURRENT CHARGES..... \$2,340.13

ACCOUNT SUMMARY OF AIRTIME USAGE
FLEET PLAN

	RATE	SPECIAL MINUTES	HOME MINUTES	TOTAL MINUTES
1000 MINUTES P/OP INCLUDED	.00	85.0	915.0	1000.0
PERK(OP)	0.25	133.0	2400.0	2533.0
OFF-PERK(OP)	0.25	32.0	673.0	705.0
TOTAL:		250.0	3988.0	4238.0

DETAIL OF CURRENT CHARGES

ACCOUNT LEVEL CHARGES AND CREDITS

OTHER CHARGES AND CREDITS:

KENTUCKY SCHOOL TAX..... \$54.32

TOTAL OTHER CHARGES AND CREDITS..... \$54.32

TOTAL CURRENT ACCOUNT LEVEL CHARGES AND CREDITS..... \$54.32

(502)929-8904 SERVICE LINE 000101

JEFF WHITING

MONTHLY SERVICE:

FLEET PLAN - 06/16/98 THROUGH 07/15/98..... \$19.95

TOTAL MONTHLY SERVICE..... \$19.95

OTHER CHARGES AND CREDITS:

FEDERAL UNIVERSAL SERVICE FEE..... \$5.42

20% DISCOUNT..... \$9.89 CR

ROLLING ADMINISTRATION FEE..... \$2.00

TOTAL OTHER CHARGES AND CREDITS..... \$7.47 CR

USAGE CHARGES:

FLEET PLAN	SPECIAL MINUTES	HOME MINUTES	CHARGE
AIRTIME - INCLUDED	0.0	81.0	.00
PERK(OP)	0.0	78.0	19.50
OFF-PERK(OP)	0.0	40.0	10.00

AIRTIME TOTALS:

TOTAL USAGE CHARGES..... \$29.50

TOTAL USAGE CHARGES..... \$44.51

CHARG

WESTERN KY GRSSH

ACCOUNT NUMBER: 30375758
BILLING DATE: 07/16/98
INVOICE NUMBER: 30375758-2-078

PREVIOUS BALANCE THRU	PAYMENTS	ADJUSTMENTS	PAST DUE	CURRENT CHARGES	ADVANCE PAYMENTS	TOTAL AMOUNT DUE
07/15/98						
THRU 07/15/98						
BALANCE	\$2,340.13	\$2,340.13	\$2,962.15	\$2,962.15	\$2,962.15	\$2,962.15

SUMMARY OF CURRENT CHARGES

MATERIAL SERVICE	\$997.50
OTHER CHARGES AND CREDITS	\$38.27
USAGE CHARGES	\$965.46
ROAMING CHARGES	\$779.04
TAXES	\$181.86
TOTAL CURRENT CHARGES	\$2,962.15

FOR ALL BILLING INQUIRIES, CALL (502)929-8175.

PLEASE DETACH AND MAIL THE BOTTOM PORTION WITH YOUR PAYMENT TO ENSURE PROPERT HANDLING.

000000	000207	ACCOUNT NUMBER: 30375758	2
		BILLING DATE: 07/16/98	

P.O. BOX 419
EVANSVILLE, IN 47703-0419

CHECK BOX AND INDICATE
ADDRESS CHANGE AND/OR
COMMENTS ON BACK.

DATE	AMOUNT	TOTAL AMOUNT DUE	AMOUNT ENCLOSED
08/06/98	\$2,962.15	\$2,962.15	

SEND CHECK PAYABLE TO:

BELLSOUTH MOBILITY
DEPT 603030
LOC 043
DENVER, CO 80281-0443

WESTERN KY GRSSH
RTN JEFF WILLING
2401 NEW HARTFORD ROAD
DOWNSBORO, KY 42303-1312

000207603030375758211002962155100296215510000000005

9-152 K 64 10-6

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ACCOUNT SUMMARY INFORMATION

PAGE 2 ACCOUNT NUMBER: 30375758
BILLING DATE: 07/16/98

DETAIL OF PAYMENTS AND ADJUSTMENTS
07/08/98 - PAYMENT THANK YOU!
TOTAL PAYMENTS AND ADJUSTMENTS..... \$2,340.13 CR \$2,340.13 CR

SUMMARY OF CHARGES BY SERVICE LINE

ACCOUNT LEVEL	CHARGES AND CREDITS	
(502)929-8904	JEFF HITTING	\$63.48
(502)929-8902	GARY SMITH	\$569.30
(502)929-8921	GLUSGON ON CALL	\$52.00
(502)929-8922	PAULCORN ON CALL	\$33.09
(502)929-8901	OHENSBORO ON CALL	\$48.79
(502)929-4930	ERAL FISHER	\$86.50
(502)929-5686	JOHN HILLIS	\$158.51
(502)929-3205	BETTY ADAMS	\$20.44
(502)929-2503	JIM ALLISON	\$67.96
(502)929-0930	DAVE DOGCETTE	\$17.82
(502)929-2504	STEVE LOYAL	\$87.07
(502)929-8457	RODGER GRAYS	\$51.69
(502)929-9101	RIC KISSINGER	\$132.76
(502)929-9104	KEVIN PETERS	\$65.02
(502)929-8334	HADISONVILLE SERVICE	\$167.76
(502)929-6311	DAVID RUSSELL	\$55.89
(502)929-3211	DAN PRICE	\$34.54
(502)929-3108	HARTFIELD SERVICE	\$92.69
(502)929-2393	KRY COOKES	\$31.13
(502)929-9944	STEVE CLARK	\$24.15
(502)929-8155	HANESVILLE	\$48.38
(502)929-8844	HOT HITTING	\$69.28
(502)929-8106	TOM HIGDON	\$38.10
(502)929-8976	JERRY HARMON	\$42.04
(502)929-2462	MARION TO	\$24.01
(502)929-2463	DARYL HENRY	\$32.11
(502)929-8881	PAT LEBANI	\$29.45
(502)929-3455	PAL VANCE	\$19.57
(502)929-4787	RONNIE BENNINGFIELD	\$43.71
(502)929-4792	KEVIN DOBBS	\$39.07
(502)929-4794	TIM OWENS	\$50.41
(502)929-4794	LEERY REYNOLDS	\$37.29
(502)929-4794	DAVID THOMAS	\$60.41
(502)929-4811	JIM RICHARDSON	\$29.34
(502)929-4818	BILL WOODWARD	\$25.21
(502)929-4894	TOM BERRY	\$62.29
(502)929-4906	COLEMAN AOKINS	\$30.69
(502)929-4931	DON GRIFFITH	\$27.36
(502)929-4932	GREG BRINAGE	\$25.17
(502)929-4939	RONNIE ROBERTS	\$32.80
(502)929-4947	TOM BOEMANN	\$25.72
(502)929-4977	RON SRELSON	\$33.35
(502)929-4995	DOUG STERNS	\$25.99
(502)929-5053	BARRY WIGGINTON	\$22.72
(502)929-5067	BRUCE TUCKER	\$34.53
(502)929-5071	GARY BELLINGTON	\$35.91
(502)929-5085	BRADY EDGE	\$39.10
(502)929-5094	RICK HILLIS	\$58.15
(502)929-5107		\$23.81

000000
(502)929-1590 IT LORNER
(502)316-1075 KRY COOKES MDT
TOTAL CURRENT CHARGES..... \$17.82
TOTAL CURRENT CHARGES..... \$2,962.15

ACCOUNT SUMMARY OF AIRTIME USAGE
FLEET PLAN

	RATE	SPECIAL MINUTES	HOME MINUTES	TOTAL MINUTES
1000 MINUTES P/OP INCLUDED	0.00	136.0	864.0	1000.0
PEAK(P)	0.25	199.0	2553.0	2752.0
OFF-PEAK(OP)	0.25	59.0	766.0	825.0
TOTAL:		394.0	4183.0	4577.0

DETAIL OF CURRENT CHARGES

ACCOUNT LEVEL CHARGES AND CREDITS
 OTHER CHARGES AND CREDITS:
 KENTUCKY SCHOOL TAX \$63.48
 TOTAL OTHER CHARGES AND CREDITS..... \$63.48

TOTAL CURRENT ACCOUNT LEVEL CHARGES AND CREDITS \$63.48

(502)929-8904
 JEFF WHITING
 SERVICE LINE 000101

MONTHLY SERVICE:
 FLEET PLAN - 07/16/98 THROUGH 08/15/98 \$19.95
 TOTAL MONTHLY SERVICE..... \$19.95

OTHER CHARGES AND CREDITS:
 MISCELLANEOUS ACCESSORIES \$174.50
 FEDERAL UNIVERSAL SERVICE FEE 5.42
 20% DISCOUNT \$27.44 CR
 ROWING ADMINISTRATION FEE \$2.00
 TOTAL OTHER CHARGES AND CREDITS..... \$149.48

USAGE CHARGES:
FLEET PLAN

	SPECIAL MINUTES	HOME MINUTES	CHARGE
AIRTIME - INCLUDED	0.0	33.0	.00
PEAK(P)	0.0	328.0	82.00
OFF-PEAK(OP)	0.0	141.0	35.25

AIRTIME TOTALS: \$117.25
 TOTAL CHARGES: \$30.06
 TOTAL USAGE CHARGES..... \$147.31

ACCOUNT SUMMARY INFORMATION

DETAIL OF PAYMENTS AND ADJUSTMENTS
08/04/98 - PAYMENT THANK YOU!
TOTAL PAYMENTS AND ADJUSTMENTS..... \$2,962.15 CR
\$2,962.15 CR

SUMMARY OF CHARGES BY SERVICE LINE
ACCOUNT LEVEL CHARGES AND CREDITS

(502)929-8904	JEFF WHITING	\$63.81
(502)929-8902	GARY SMITH	\$191.45
(502)929-8921	GLASGOW ON CALL	\$50.09
(502)929-8922	PADICRAH ON CALL	\$34.87
(502)929-8901	OWENSBORO ON CALL	\$67.37
(502)929-4920	EARL FISHER	\$105.47
(502)929-5686	JOHN MILLIS	\$218.68
(502)929-3205	BETTY ADAMS	\$29.92
(502)929-0930	JIM ALLISON	\$67.75
(502)929-2604	DAVE DOGGETTE	\$23.66
(502)929-8457	STEVE LOVAL	\$64.12
(502)929-9101	RODGER GARKIS	\$107.95
(502)929-9104	RIC KISSINGER	\$39.19
(502)929-8334	KEVIN FRERS	\$79.93
(502)929-6311	MADISONVILLE SERVICE	\$146.31
(502)929-3211	DAVID RUSSELL	\$48.37
(502)929-3108	DRY PRICE	\$20.22
(502)929-2393	MAYFIELD SERVICE	\$66.73
(502)929-9944	KRY COOKES	\$34.18
(502)929-8155	STEVE CLARK	\$67.77
(502)929-8844	HAMESVILLE	\$39.93
(502)929-8106	NDI WHITING	\$84.53
(502)929-2462	TOM HIGDON	\$28.08
(502)929-2463	JERRY HARMON	\$39.40
(502)929-3455	MERRION TO	\$42.37
(502)929-8881	DARYL HENRY	\$28.95
(502)929-4787	ARI LEBRAH	\$44.27
(502)929-4792	PAUL URNICE	\$21.32
(502)929-4794	RONNIE BENNINGFIELD	\$40.92
(502)929-4811	TIM OWENS	\$51.01
(502)929-4818	LARRY REYNOLDS	\$50.87
(502)929-4834	DAVID THOMAS	\$56.59
(502)929-4894	JIM RICHARDSON	\$21.03 CR
(502)929-4905	BILL WOODWARD	\$21.03 CR
(502)929-4931	TOM BERRY	\$44.76
(502)929-4932	COLEMAN EDKINS	\$41.05
(502)929-4939	DON GRIFFITH	\$33.35
(502)929-4947	GREG RYRAGE	\$32.83
(502)929-4977	RONNIE ROBERTS	\$25.72
(502)929-4995	TOM BOEHMANN	\$36.34
(502)929-5053	RON SALMON	\$39.34
(502)929-5067	DOUG STERNIS	\$26.53
(502)929-5071	BRARY KIGGINTON	\$23.54
(502)929-5085	BRUCE TUCKER	\$38.42
(502)929-5094	GARY BILLINGTON	\$26.81
(502)929-5107	RANDY EDGE	\$64.96
(502)929-5107	RICK HILLIS	\$32.26

BARC

000000 (5021929-1540 IT LONNER \$18.05
 (5021316-1075 KRY COOKES MDI \$17.82
 (5021929-1862 ENGINEER ON CALL \$59.94
 TOTAL CURRENT CHARGES..... \$2,571.93

ACCOUNT SUMMARY OF AIRLINE USAGE
FLEET PLAN

1000 MINUTES P/OP INCLUDED PEAK(OP) OFF-PEAK(OP)	RATE	SPECIAL MINUTES	HOME MINUTES	TOTAL MINUTES
	.00	51.0	949.0	1000.0
	0.25	196.0	3170.0	3366.0
	0.25	29.0	978.0	1007.0
TOTAL:		276.0	5097.0	5373.0

DETAIL OF CURRENT CHARGES

ACCOUNT LEVEL CHARGES AND CREDITS
 OTHER CHARGES AND CREDITS:
 KENTUCKY SCHOOL TAX
 TOTAL OTHER CHARGES AND CREDITS..... \$63.81
 TOTAL CURRENT ACCOUNT LEVEL CHARGES AND CREDITS..... \$63.81

(5021929-8904 JEFF WHITING SERVICE LINE 000101
 MONTHLY SERVICE:
 FLEET PLAN - 08/16/98 THROUGH 09/15/98

TOTAL MONTHLY SERVICE..... \$19.95

OTHER CHARGES AND CREDITS:
 MISCELLANEOUS ACCESSORIES \$59.90
 FEDERAL UNIVERSAL SERVICE FEE 5.42
 20% DISCOUNT \$22.04 CR
 TOTAL OTHER CHARGES AND CREDITS..... \$38.28

USAGE CHARGES:
FLEET PLAN

AIRTIME - INCLUDED PEAK(P) OFF-PEAK(OP)	SPECIAL MINUTES	HOME MINUTES	CHARGE
	0.0	107.0	.00
	0.0	266.0	66.50
	0.0	95.0	23.75
AIRTIME TOTALS: TOLL CHARGES:	0.0	468.0	\$90.25

TOTAL USAGE CHARGES..... \$30.50

***** \$120.75 *****

E06

WESTERN KY CRRSR

ACCOUNT NUMBER: 30375758
BILLING DATE: 09/16/98
INVOICE NUMBER: 30375758-2-098

PREVIOUS BALANCE THRU 09/15/98	ADJUSTMENTS THRU 09/15/98	PAST DUE BALANCE	DUE DATE	CURRENT CHARGES	ADVANCE PAYMENTS	TOTAL AMOUNT DUE
\$2,571.93	\$2,612.20CR	\$0.00	10/07/98	\$90,270R	\$0.00	\$2,880.72

SUMMARY OF CURRENT CHARGES

MONTHLY SERVICE \$1,095.91
 OTHER CHARGES AND CREDITS \$52.04
 USAGE CHARGES \$1,065.79
 ROLLING CHARGES \$29.41
 TAXES \$192.89
 TOTAL CURRENT CHARGES \$2,920.99

FOR ALL BILLING INQUIRIES, CALL (502)529-8175.

PLEASE DETACH AND MAIL THE BOTTOM PORTION WITH YOUR PAYMENT TO ENSURE PROMPT HANDLING.

000000 000207 ACCOUNT NUMBER: 30375758
 BILLING DATE: 09/16/98 2

P.O. BOX 419
EVANSVILLE, IN 47703-0419

CHECK BOX AND INDICATE
ADDRESS CHANGE AND/OR
COMMENTS ON BACK. DUE DATE: 10/07/98 TOTAL AMOUNT DUE: \$2,880.72

SEND CHECK PAYABLE TO:

BELLSOUTH MOBILITY
DEPT 603030
LOC 043
DENVER, CO 80281-0043

WESTERN KY CRRSR
ATTN JEFF WILTING
2401 NEW HARTFORD ROAD
DUNESBORO, KY 42303-1312

000207603030303757582110028007231002920999000001002776

000000 ACCOUNT SUMMARY INFORMATION

DETAIL OF PAYMENTS AND ADJUSTMENTS
08/28/98 - PAYMENT.....THANK YOU!
09/15/98 - PAYMENT.....THANK YOU!
TOTAL PAYMENTS AND ADJUSTMENTS..... \$2,571.93 CR
\$10.27 CR
\$2,612.20 CR

SUMMARY OF CHARGES BY SERVICE LINE
ACCOUNT LEVEL CHARGES AND CREDITS

ACCOUNT LEVEL	CHARGES AND CREDITS	AMOUNT
(502)929-8904	JEFF WHITING	\$70.78
(502)929-8902	GARY SMITH	\$375.05
(502)929-8921	GLASSON ON CALL	\$141.07
(502)929-8922	PAULSON ON CALL	\$34.14
(502)929-8901	OMENSBORO ON CALL	\$71.36
(502)929-4930	EARL FISHER	\$152.33
(502)929-5686	JOHN WILLIS	\$218.70
(502)929-3205	METTY ADAMS	\$23.72
(502)929-2503	JIM ALLISON	\$89.87
(502)929-0930	DAVE DOGGETTE	\$18.05
(502)929-2504	STEVE LOVELL	\$39.97
(502)929-8457	RODGER GARGAS	\$55.42
(502)929-9101	RIC KISSINGER	\$24.85
(502)929-9104	KEVIN ACKERS	\$105.51
(502)929-8334	DAVID RUSSELL	\$85.95
(502)929-4311	DAVID RUSSELL SERVICE	\$52.93
(502)929-3211	DAN PRICE	\$21.97
(502)929-3108	WRYFIELD SERVICE	\$79.03
(502)929-2393	KAY COOKES	\$42.68
(502)929-2944	STEVE CLARK	\$28.31
(502)929-8155	HINESVILLE	\$31.57
(502)929-8844	HOT WHITING	\$91.03
(502)929-8106	TOM HIGDON	\$5.45
(502)929-8976	JERRY HERRON	\$29.84
(502)929-2462	HARRISON TD	\$32.77
(502)929-2463	DARYL HENRY	\$34.79
(502)929-8881	ARI LEBMAN	\$29.35
(502)929-3155	PAUL VANCE	\$21.10
(502)929-4787	RONNIE BERINGFIELD	\$37.44
(502)929-4792	KEVIN DOBBS	\$40.73
(502)929-4794	TIM OWENS	\$81.70
(502)929-4694	BILL WOODWARD	\$90.86
(502)929-4931	TOM HENRY	\$27.88
(502)929-4932	COLLEEN ARKINS	\$36.62
(502)929-4933	DON GRIFFITH	\$32.26
(502)929-4947	GREG RANAGE	\$24.90
(502)929-4977	RONNIE ROBERTS	\$16.71
(502)929-4975	RON SALON	\$27.35
(502)929-8013	DOUG STEERS	\$29.80
(502)929-8017	BARRY HIGGINTON	\$37.44
(502)929-8071	PAUL TUCKER	\$40.69
(502)929-8085	GARY WILLINGTON	\$41.44
(502)929-8089	RONNY EDGE	\$64.48
(502)929-8107	RICK WILLIS	\$31.71
(502)929-1075	IT LORNER	\$49.70
(502)929-1075	KAY COOKES ADT	\$41.61
		\$17.82
		\$1.73 CR

BELLSOUTH Mobility

3231 North Green River Road
Evansville, IN 47715-1379

Account Number: 502-016-1248
Total Amount Due: 2,779.71
Due Before: 11/08/98

AMOUNT PAID \$

Check here if address
change: complete reverse side

Make check payable in U.S. currency
drawn against a U.S. bank to:

BELLSOUTH Mobility

WESTERN KY GAS
ATTN: JEFF WHITING
2401 NEW HARTFORD RD
OWENSBORO KY 42303-1312

PO BOX 530031
ATLANTA GA 30353-0031

8 0046000000 50201612480 0000277971 4

Please Return TOP Portion With Payment.

BELLSOUTH Mobility

3231 North Green River Road
Evansville, IN 47715-1379

For Customer Use		
Amount Paid	Date Paid	Check #

WESTERN KY GAS
Bill Period Ending: 10/11/98
Account Number: 502-016-1248

Billing Inquiries, call Customer Service
24 hours a day 800-351-2400

Total Past Due (Remit Immediately)	Current Monthly Charges	Other Credits & Charges	Total Amount Due
40.27CR	2,634.31	185.67	2,779.71

Your BellSouth Mobility Wireless Bill Looks Different

Your BellSouth Mobility bill looks different this month, but your service has not changed. As you are aware, BellSouth Mobility acquired the United States Cellular (Cellular One) markets that provided wireless service to Kentucky and Southern Indiana residents, in November, 1997. Over the last ten months, BellSouth Mobility has continued to merge the various back office systems to better service our customers. One of these changes is converting your bill to look like the BellSouth Mobility bills used by all other BellSouth Mobility markets. We recently sent you a letter explaining the changes that you would see regarding the look of this bill and a possible change to your price plan.

Enclosed is an insert that will further explain the difference between your last month's bill and this month's bill. We, at BellSouth Mobility, are proud to have you as a customer. We are committed to offering our customers the latest in wireless technology, the most extensive variety in service plans and phones, and superior customer service while maintaining affordable prices.

Summary of Charges for Mobile Account Number: 502-016-1248
For Bill Period Ending 10/11/98

Page 2 of 79

PRIOR BILLING ACTIVITY

Previous Balance	2,880.72	
Payments Received thru 10/17/98	2,920.99	
Adjustments to Previous Balance	.00	
Past Due Balance	40.27CR	
TOTAL PAST DUE		40.27CR

CURRENT BILLING ACTIVITY

Monthly Service		1,424.50	
Emergency 911 Service Fee		38.50	
Local Airtime Charges		545.00	
Total Airtime Usage	3,881.0		
Package Minutes	1,701.0		
Peak Minutes	2,160.0		
Night Minutes	20.0		
Roamer Charges		310.27	
(includes state & local taxes)			
Long Distance and Directory Assistance Charges			
BELLSOUTH LONG DIST		37.88	
INTRALATA TOLL		7.35	
Taxes		270.83	
Federal	75.22		
State	130.74		
County	64.85		
TOTAL CURRENT MONTHLY CHARGES			2,634.31
OTHER CREDITS & CHARGES (Details on last page)			<u>185.67</u>

TOTAL AMOUNT DUE BEFORE 11/08/98

2,779.71

BELLSOUTH Mobility

3231 North Green River Road
Evansville, IN 47715-1379

Account Number: 502-016-1248
Total Amount Due: 7,512.85
Due Before: 12/07/98

AMOUNT PAID \$

Check here if address change: complete reverse side

Make check payable in U.S. currency drawn against a U.S. bank to:

BELLSOUTH Mobility

WESTERN KY GAS
ATTN: JEFF WHITING
2401 NEW HARTFORD RD
OWENSBORO KY 42303-1312

PO BOX 530031
ATLANTA GA 30353-0031

8 0046000000 50201612480 00000751285 4

Please Return TOP Portion With Payment

BELLSOUTH Mobility

3231 North Green River Road
Evansville, IN 47715-1379

For Customer Use		
Amount Paid	Date Paid	Check #

WESTERN KY GAS
Bill Period Ending: 11/11/98
Account Number: 502-016-1248

Billing inquiries, call Customer Service
24 hours a day 800-351-2400

Total Past Due (Remit Immediately)	Current Monthly Charges	Other Credits & Charges	Total Amount Due
366.53CR	7,387.25	492.13	7,512.85

Okay maybe some of you haven't heard, but the 502 area code is nearing exhaustion. So we are now going to have a new area code to accompany our old area code. This means that there will be two valid area codes for the new area now served by the 502 area code today. What this also means is that everyone (wireless and wireline) will be required to dial 10 digits - even for, what historically have been local calls. This 10 digit dialing only applies to those territories served by the existing 502 today.

THE NEW AREA CODE IS 270.

There will be a permissive dialing period beginning 10/1/98 where customers can complete calls with 7 or 10 digits. We can do this today from our mobiles, so this shouldn't pose us any problems. Mandatory 10-digit dialing will begin 4/1/99.

**Summary of Charges for Mobile Account Number: 502-016-1248
For Bill Period Ending 11/11/98**

Page 3 of 186

PRIOR BILLING ACTIVITY

Previous Balance		2,887.14
Payments Received thru 11/14/98		2,887.14
Adjustments to Previous Balance		366.53CR
Past Due Balance		366.53CR
TOTAL PAST DUE		

366.53CR

CURRENT BILLING ACTIVITY

Monthly Service		3,124.90
Optional Features		109.20
Emergency 911 Service Fee		79.80
Non-Recurring Charges		5.00CR
Local Airtime Charges		618.31
Total Airtime Usage	8,310.0	
Package Minutes	5,139.0	
Peak Minutes	2,715.0	
Off Peak Minutes	435.0	
Night Minutes	21.0	
Roamer Charges		2,807.93
(includes state & local taxes)		
Long Distance and Directory Assistance Charges		
INTRALATA TOLL		18.87
BELLSOUTH LONG DIST		88.81
Taxes		544.43
Federal	196.66	
State	231.90	
County	115.87	
TOTAL CURRENT MONTHLY CHARGES		

7,387.25

OTHER CREDITS & CHARGES (Details on last page)

492.13**TOTAL AMOUNT DUE BEFORE 12/07/98**

7,512.85

BELLSOUTH Mobility

3231 North Green River Road
Evansville, IN 47715-1379

Account Number: 502-016-1248
Total Amount Due: 12,901.05
Due Before: 01/06/99

*Please remit past due balance immediately

AMOUNT PAID \$

Check here if address change; complete reverse side

Make check payable in U.S. currency drawn against a U.S. bank to:

WESTERN KY GAS
ATTN: JEFF WHITING
2401 NEW HARTFORD RD
OWENSBORO KY 42303-1312

BELLSOUTH Mobility

PO BOX 530031
ATLANTA GA 30353-0031

8 0046000000 50201612480 00001290105 0

Please Return TOP Portion With Payment.

BELLSOUTH Mobility

3231 North Green River Road
Evansville, IN 47715-1379

For Customer Use		
Amount Paid	Date Paid	Check #

WESTERN KY GAS
Bill Period Ending: 12/11/98
Account Number: 502-016-1248

Billing inquiries, call Customer Service
24 hours a day 800-351-2400

Total Past Due (Remit Immediately)	Current Monthly Charges	Other Credits & Charges	Total Amount Due
7,512.85	5,125.51	262.69	12,901.05

Beginning with January bills, the Kentucky PSC requires that BMI collect a 'Kentucky Lifeline Support' fee in the amount of \$.05 per line for each Kentucky customer. The Lifeline fund, one of two state Universal Service funds, enables certain low-income and disabled persons to receive local telephone service at reduced rates.

The second Kentucky state fund is expected to be established in 1999 to support local telephone service in 'high-cost' areas of the state.

Summary of Charges for Mobile Account Number: 502-016-1248
For Bill Period Ending 12/11/98

Page 2 of 162

PRIOR BILLING ACTIVITY

Previous Balance		7,512.85	
Payments Received thru 12/15/98		.00	
Adjustments to Previous Balance		.00	
Past Due Balance		7,512.85	
TOTAL PAST DUE	<i>Please remit immediately</i>		7,512.85

CURRENT BILLING ACTIVITY

Monthly Service		3,221.93	
Optional Features		110.19	
Emergency 911 Service Fee		86.10	
Non-Recurring Charges		225.00CR	
Local Airtime Charges		502.83	
Total Airtime Usage	7,725.0		
Package Minutes	5,098.0		
Peak Minutes	2,439.0		
Off Peak Minutes	146.0		
Night Minutes	42.0		
Roamer Charges		863.87	
(includes state & local taxes)			
Long Distance and Directory Assistance Charges			
INTRALATA TOLL		12.17	
BELL/SOUTH LONG DIST		51.02	
Taxes		502.40	
Federal	144.69		
State	238.87		
County	118.84		
TOTAL CURRENT MONTHLY CHARGES			5,125.51

OTHER CREDITS & CHARGES (Details on last page) 262.63

TOTAL AMOUNT DUE BEFORE 01/06/99 **12,901.05**

BELLSOUTH Mobility

3231 North Green River Road
Evansville, IN 47715-1379

Account Number: 502-016-1248
Total Amount Due: 10,978.22
Due Before: 02/08/99

Please remit past due balance immediately

AMOUNT PAID \$

Check here if address change: complete reverse side
Make check payable in U.S. currency drawn against a U.S. bank to:

WESTERN KY GAS
ATTN: JEFF WHITING
2401 NEW HARTFORD RD
OWENSBORO KY 42303-1312

BELLSOUTH Mobility

PO BOX 530031
ATLANTA GA 30353-0031

8 00460000000 50201612480 00001097822 5

Please Return TOP Portion With Payment.

BELLSOUTH Mobility

3231 North Green River Road
Evansville, IN 47715-1379

For Customer Use		
Amount Paid	Date Paid	Check #

WESTERN KY GAS
Bill Period Ending: 01/11/99
Account Number: 502-016-1248

Billing Inquiries, call Customer Service
24 hours a day 800-351-2400

Total Past Due (Remit Immediately)	Current Monthly Charges	Other Credits & Charges	Total Amount Due
5,347.17	5,509.02	122.03	10,978.22

IS YOUR CURRENT RATE PLAN THE BEST FOR YOU?

FACT: Your needs change.

FACT: So do our rate plans.

At anytime during your contract you can change from your current rate plan to one that better fits your needs as they change. BellSouth Mobility has many different rate plans to choose from.*

*Some promotional plans and/or features are only available to new activations.

**Summary of Charges for Mobile Account Number: 502-016-1248
For Bill Period Ending 01/11/99**

Page 2 of 159

PRIOR BILLING ACTIVITY

Previous Balance		12,901.05	
Payments Received thru 01/17/99		7,512.85	
Adjustments to Previous Balance		41.03CR	
Past Due Balance		5,347.17	
TOTAL PAST DUE	Please remit immediately		5,347.17

CURRENT BILLING ACTIVITY

Monthly Service		3,241.93	
Optional Features		110.19	
Emergency 911 Service Fee		86.10	
Local Airtime Charges		320.67	
Total Airtime Usage	6,693.0		
Package Minutes	5,001.0		
Peak Minutes	1,306.0		
Off Peak Minutes	343.0		
Night Minutes	43.0		
Roaming Charges		1,205.85	
(includes state & local taxes)			
Long Distance and Directory Assistance Charges		5.11	
INTRALATA TOLL		60.07	
BELLSOUTH LONG DIST		478.10	
Taxes			
Federal	146.59		
State	221.65		
County	110.86		
TOTAL CURRENT MONTHLY CHARGES			5,509.02

OTHER CREDITS & CHARGES (Details on last page)

122.03**TOTAL AMOUNT DUE BEFORE 02/08/99****10,978.22**

© BELLSouth Mobility

3231 North Green River Road
Evansville, IN 47715-1379

Account Number: 502-016-1248
Total Amount Due: 6,447.32
Due Before: 03/09/99

AMOUNT PAID \$

Check here if address change; complete reverse side
Make check payable in U.S. currency drawn against a U.S. bank to:

WESTERN KY GAS
ATTN: JEFF WHITING
2401 NEW HARTFORD RD
OWENSBORO KY 42303-1312

© BELLSouth Mobility
PO BOX 530031
ATLANTA GA 30353-0031

8 0046000000 50201612480 0000644732 6

Please Return TOP Portion With Payment.

© BELLSouth Mobility

3231 North Green River Road
Evansville, IN 47715-1379

For Customer Use		
Amount Paid	Date Paid	Check #

WESTERN KY GAS
Bill Period Ending: 02/11/99
Account Number: 502-016-1248

Billing inquiries, call Customer Service
24 hours a day 800-351-2400

Total Past Due (Remit Immediately)	Current Monthly Charges	Other Credits & Charges	Total Amount Due
52.31CR	6,471.55	28.08	6,447.32

YOU HAVE AN ADDITIONAL NUMBER ON YOUR MONTHLY CELLULAR BILL

In March, BellSouth Mobility will be assigning an account number to each cellular customer. This number will appear on your monthly cellular bill. It is part of BellSouth Mobility's continued efforts in better serving our customers.

The addition of the account number is an improvement to our internal customer account system. At this time, the account number will not need to be referenced when inquiring about your current service. We will continue to access your cellular account by mobile number.

**Summary of Charges for Mobile Account Number: 502-016-1248
For Bill Period Ending 02/11/99**

Page 2 of 177

PRIOR BILLING ACTIVITY

Previous Balance	10,978.22	
Payments Received thru 02/15/99	11,019.25	
Adjustments to Previous Balance		11.38CR
Past Due Balance		52.31CR
TOTAL PAST DUE		

52.31CR

CURRENT BILLING ACTIVITY

Monthly Service		3,286.93	
Optional Features		123.08	
Emergency 911 Service Fee		87.50	
Non-Recurring Charges		15.00	
Local Airtime Charges		872.54	
Total Airtime Usage	9,848.0		
Package Minutes	5,014.0		
Peak Minutes	4,367.0		
Off Peak Minutes	379.0		
Night Minutes	88.0		
Romney Charges (includes state & local taxes)		1,403.19	
Long Distance and Directory Assistance Charges			
INTRALATA TOLL		8.82	
BELLSOUTH LONG DIST		102.56	
Taxes		571.93	
Federal	173.77		
State	265.44		
County	132.72		
TOTAL CURRENT MONTHLY CHARGES			6,471.55

6,471.55

OTHER CREDITS & CHARGES (Details on last page)

28.08

TOTAL AMOUNT DUE BEFORE 03/09/99

6,447.32

AUG. 10. 1999 12:23PM

USCC MGMNT

Account Number: 22001642-00NO. 6334 P. 2

Total Amount Due: 5,714.40

1650 Lyndon Farms Court
Louisville, KY 40223-4029

Due Before: 8/99

AMOUNT PAID:

WESTERN KY GAS
ATTN: JEFF WHITING
2401 NEW HARTFORD RD
OWENSBORO KY 42303-1312

PO BOX 530047
ATLANTA GA 30353-0047

22022001642700101999041100000571440201

1650 Lyndon Farms Court
Louisville, KY 40223-4029

WESTERN KY GAS
Bill Period Ending: 04/11/99
Account Number: 22001642-001-22

Billing inquiries, call Customer Service
24 hours a day at 800-351-2400

Total	Current Monthly	Other Credits	Total Amount
Past Due	Charges	& Charges	Due
0.00	5,716.65	-2.25	5,714.40

ATTENTION CUSTOMERS WITHIN THE 502 AREA CODE

Due to the Western Kentucky area code split, April 19, 1999 has been designated as the initial date BellSouth Mobility will begin reprogramming Western Kentucky customers' cellular telephones.

If your phone number starts with a 502 area code, you will need to take your cellular phone by any BellSouth Mobility retail store. A BellSouth Mobility representative will reprogram your phone to the new area code 270 within 5-10 minutes.

The new 270 area code will not change your current local calling area. The area code change will only effect those customers who currently have a 502 area code in their phone number. The 812 area code customers will not be effected.

If you have any questions about your cellular service, including the area code change, please stop by or contact your local BellSouth Mobility retail store.

PRIOR BILLING ACTIVITY

Previous Balance	1,709.59
Payments Received thru 04/12/99	-1,709.59
Adjustments to Previous Balance	0.00
Past Due Balance	0.00
TOTAL PAST DUE	0.00

CURRENT BILLING ACTIVITY

Monthly Service	3287.90
Optional Features	141.21
Emergency 911 Service Fee	86.80
Universal Svc Charge	42.84

Local Airtime Charges	902.44
Total Airtime Usage	10,365.0
Package Minutes	5,352.0
Peak Minutes	4530.0
Off Peak Minutes	432.0
Night Minutes	51.0

Roamer Charges (includes state & local taxes)	619.98
--	--------

Long Distance and Directory Assistance Charges	
INTRALATA TOLL	12.47
BELLSOUTH LONG DISTANCE	71.57

Taxes	531.44
FEDERAL EXCISE TAX	153.53
CITY UTILITY USER	130.46
STATE SALES GENERAL	267.57
COUNTY UTILITY USER	-0.12

TOTAL CURRENT MONTHLY CHARGES

5,716.65

OTHER CREDITS & CHARGES

-2.25

TOTAL AMOUNT DUE BEFORE 05/08/99

5,714.40

AUG. 10. 1999 12:24PM

USCC MGMT

Account Number: 22001642-ocNO. 6334

P. 4

Total Amount Due: 16,701.48

1650 Lyndon Farms Court
Louisville, KY 40223-4029

Due Before: 7/07/99 *

*Please remit past due AMOUNT PAID:

balance immediately

WESTERN KY GAS
ATTN: JEFF WHITING
2401 NEW HARTFORD RD
OWENSBORO KY 42303-1312

PO BOX 530047
ATLANTA GA 30353-0047

22022001642700101999051100001670148406

1650 Lyndon Farms Court
Louisville, KY 40223-4029

WESTERN KY GAS
Bill Period Ending: 05/11/99
Account Number: 22001642-001-22

Billing inquiries, call Customer Service
24 hours a day at 800-351-2400

Total	Current Monthly	Other Credits	Total Amount
Fast Due	Charges	& Charges	Due
5,714.40	7,888.81	3,098.27	16,701.48

ATTENTION CUSTOMERS WITHIN THE 502 AREA CODE

April 19, 1999 is the initial date BellSouth Mobility will begin reprogramming Western Kentucky customers' cellular telephones.

If your phone number starts with a 502 area code, you will need to take your cellular phone by any BellSouth Mobility retail store.

A BellSouth Mobility representative will reprogram your phone to the new area code 270 within 5-10 minutes.

The new 270 area code will not change your current local calling area.

The area code change will only affect those customers who currently have a 502 area code in their phone number.

The 812 area code customers will not be affected.

If you have any questions about your cellular service, including the area code change, please stop by or contact your local BellSouth Mobility retail store.

PRIOR BILLING ACTIVITY

Previous Balance	5,714.40	
Payments Received thru 05/12/99	0.00	
Adjustments to Previous Balance	0.00	
Past Due Balance	5,714.40	
TOTAL PAST DUE		5,714.40

Please remit immediately

CURRENT BILLING ACTIVITY

Monthly Service	4683.90	
Optional Features	147.59	
Emergency 911 Service Fee	124.95	
Universal Svc Charge	48.14	

Local Airtime Charges		1,291.08
Total Airtime Usage	17,608.0	
Package Minutes	10,031.0	
Peak Minutes	7144.0	
Off Peak Minutes	358.0	
Night Minutes	75.0	

Roamer Charges		423.03
(includes state & local taxes)		

Long Distance and Directory Assistance Charges		
INTRALATA TOLL	2.25	
BELLSOUTH LONG DISTANCE	51.45	

Taxes		1,116.42
FEDERAL EXCISE TAX	306.54	
STATE SALES GENERAL	598.98	
CITY UTILITY USER	209.04	
COUNTY UTILITY USER	1.86	

TOTAL CURRENT MONTHLY CHARGES 7,888.81

OTHER CREDITS & CHARGES 3,098.27

Account Level	761.56
Mobile Level	2,336.71

TOTAL AMOUNT DUE BEFORE 06/07/99 16,701.48

1650 Lyndon Farms Court
Louisville, KY 40223-4029

Due Before: 08/99

*Please remit past due AMOUNT PAID:

balance immediately

WESTERN KY GAS
ATTN: JEFF WHITING
2401 NEW HARTFORD RD
OWENSBORO KY 42303-1312

PO BOX 530047
ATLANTA GA 30353-0047

22022001642700101999061100002406614506

1650 Lyndon Farms Court
Louisville, KY 40223-4029

WESTERN KY GAS
Bill Period Ending: 06/11/99
Account Number: 22001642-001-22

Billing inquiries, call Customer Service
7 days a week at 800-351-2400

Total	Current Monthly	Other Credits	Total Amount
Past Due	Charges	& Charges	Due
13,321.20	10,150.82	594.12	24,066.14

ROAD TRIP SPECIAL!

When you hit the road this summer don't forget BellSouth Mobility's
Emergency Roadside Assistance.

For only \$4.00 a month, the feature provides a 24-hour dispatch service
that includes vehicle towing, battery/jump starts, flat tire changes,
fuel/fluid delivery, and lockouts.

Add this feature to your service by 7/1/99, and we'll give you
THE FIRST TWO MONTHS FREE!

Call 1-800-351-2400 or *611, a free call from your cellular phone.

ATTENTION WESTERN KENTUCKY CUSTOMERS

Have you gotten your cellular phone reprogrammed with the new 270 area code?
The reprogramming doesn't cost you anything and will be done while you wait.
Stop by your local BellSouth Mobility store today!

PRIOR BILLING ACTIVITY

Previous Balance	16,701.48	
Payments Received thru 06/12/99	-5,714.40	
Adjustments to Previous Balance	2,334.12	
Past Due Balance	13,321.20	
TOTAL PAST DUE		13,321.20

Please remit immediately

CURRENT BILLING ACTIVITY

Monthly Service	4693.90	
Optional Features	152.78	
Emergency 911 Service Fee	124.95	
Universal Svc Charge	76.84	

Local Airtime Charges		3,666.39
Total Airtime Usage	31,569.0	
Package Minutes	10,002.0	
Peak Minutes	20,371.0	
Off Peak Minutes	815.0	
Night Minutes	381.0	

Roamer Charges (includes state & local taxes)		199.51
--	--	--------

Long Distance and Directory Assistance Charges		
INTRALATA TOLL	17.89	
BELLSOUTH LONG DISTANCE	88.65	

Taxes		1,139.91
FEDERAL EXCISE TAX	286.10	
STATE SALES GENERAL	552.32	
CITY UTILITY USER	249.85	
COUNTY UTILITY USER	51.64	

TOTAL CURRENT MONTHLY CHARGES 10,150.82

OTHER CREDITS & CHARGES 594.12

TOTAL AMOUNT DUE BEFORE 07/08/99 24,066.14

AUG. 10. 1999 12:24PM

USCC MGMNT

Account Number: 22001642-00 NO. 6334 P. 8
Total Amount Due: 404.57

1650 Lyndon Farms Court
Louisville, KY 40223-4029

Due Before: 07/99 *

*Please remit past due AMOUNT PAID:

balance immediately

WESTERN KY GAS
ATTN: JEFF WHITING
2401 NEW HARTFORD RD
OWENSBORO KY 42303-1312

PO BOX 70812
CHARLOTTE, NC 28272-0812

22022001642700101999071100002340457208

1650 Lyndon Farms Court
Louisville, KY 40223-4029

WESTERN KY GAS				Billing inquiries, call Customer Service
Bill Period Ending:	07/11/99			7 days a week at 800-351-2400
Account Number:	22001642-001-22			
	Total	Current Monthly	Other Credits	Total Amount
	Past Due	Charges	& Charges	Due
	13,079.06	9,736.42	589.09	23,404.57

Beginning in August, the per-line Universal Service support charge will increase to 73 cents per month. This change reflects increases in BellSouth's Universal Service Fund payments, which BellSouth and other telecommunications carriers are required to make by Federal law.

The funds collected for the Universal Service Fund help ensure the availability of basic telecommunications service to everyone at a reasonable cost, and are also used to provide discounted service to schools, libraries and rural health care providers.

Additional information on Universal Service can be found on-line at http://www.fcc.gov/ccb/universal_service/ushelp.html or look under 'What's New' at www.bellsouthmobility.com

PRIOR BILLING ACTIVITY

Previous Balance	24,066.14	
Payments Received thru 07/12/99	-10,987.08	
Adjustments to Previous Balance	0.00	
Past Due Balance	13,079.06	
TOTAL PAST DUE		13,079.06

CURRENT BILLING ACTIVITY

Monthly Service	4683.90	
Optional Features	-871.87	
Emergency 911 Service Fee	124.95	
Universal Svc Charge	61.54	

Local Airtime Charges		4,036.31
Total Airtime Usage	33,743.0	
Package Minutes	10,000.0	
Peak Minutes	22,461.0	
Off Peak Minutes	920.0	
Night Minutes	362.0	

Roamer Charges (includes state & local taxes)		523.83
--	--	--------

Long Distance and Directory Assistance Charges		
INTRALATA TOLL	8.98	
BELLSOUTH LONG DISTANCE	61.25	

Taxes		1,087.53
FEDERAL EXCISE TAX	306.36	
STATE SALES GENERAL	513.12	
CITY UTILITY USER	231.74	
COUNTY UTILITY USER	36.31	

TOTAL CURRENT MONTHLY CHARGES 9,736.42

OTHER CREDITS & CHARGES 589.09

TOTAL AMOUNT DUE BEFORE 08/07/99 23,404.57

CUSTOMER INFORMATION Individual Business

Name of Individual or Business Responsible for Bill Payment (Please Print)
Inostern KY 695

Street Address of Responsible Party - Do Not Use P.O. Box
P.O. Box 866

City Dunsmuir State Y4 Zip 42302

Business Phone # 502-685-8100 Home Phone # _____

Employer _____ Years employed _____

Social Security Number _____ Date of Birth _____

Driver's License Number _____ State _____

Corporation Partnership Government Sole Proprietorship _____ Years in business under present ownership _____

Payment Contact: Jeff Whitney Contact #: 685-8100

Tax Exempt Yes No *If yes, attach certificate* Exempt Certificate # _____

ACCOUNT INFORMATION

User Name _____ Address _____ City State, Zip _____ User Phone # _____

Mail to the attention of: _____ Mailing Address _____ City State, Zip _____ Bill Copies Required _____

Sales ID # 10059 Market Name C5010 Tax Exemption _____

Do you currently have service with BellSouth Mobility? Yes No *If yes, existing cellular # _____*

Add service line to existing account? Yes No *Revenue? Yes No Lead Source _____ Referred by _____ Account # _____ Min _____*

Account # _____ Activation Date _____ CVS Credit # / Authorization # _____ Credit Class _____ Deposit Amount _____ Cellular Phone # See Attached

ACCOUNT INFORMATION

MFG/MODEL	ESN/MSN	UNLOCK CODE	PURCH	COE	DEM	RENAL	OTHER	WARR PERIOD	LOC SITE	EQ TYPE	PRICE
ACCESSORY DESCRIPTION	QTY	LOC SITE	EQ TYPE	PRICE	ACCESSORY DESCRIPTION	QTY	LOC SITE	EQ TYPE	PRICE		
1				3							
2				4							

SERVICE INFORMATION AND CHARGES

MONTHLY CHARGES		INITIAL CHARGES		Signal Dial Direct* Plus Insurance			
MONTHLY SERVICE PLAN NAME	# MINUTES INCLUDED IN PLAN	ADVANCED MONTHLY PRORATED	FIRST MONTH'S PRORATED	Accept	Decline		
<u>Assistant</u>	<u>34.95</u>						
PEAK <u>35</u>	OFF-PEAK <u>18</u>			Monthly Premium/Phone	Loss/Damage Deductible	Mech/Elec Deductible	
CUSTOM CALLING FEATURES		SERVICE ACTIVATION CHARGE	SECURITY DEPOSIT	<input type="checkbox"/> Mobile	\$2.95	\$0	\$25
<input type="checkbox"/> CALL FORWARDING	<input type="checkbox"/> 3-WAY CALLING	EQUIPMENT / PHONE CHARGE (above)	EQUIPMENT / PHONE CHARGE (above)	<input type="checkbox"/> Portable/Transportable	\$2.95	\$35	\$25
<input type="checkbox"/> CALL WAITING		INSTALLATION CHARGE	INSTALLATION CHARGE	<input type="checkbox"/> Accessories	\$1.95	\$35	\$25
DETAIL BILLING		EQUIPMENT ACCESSORIES (above)	EQUIPMENT ACCESSORIES (above)	<small>If you subscribe to Signal Dial Direct* Plus Insurance, you acknowledge that equipment listed here is in your possession and in good working order. You have received, read and understand the terms and conditions under which the insurance is offered as outlined in the policy. You acknowledge that insurance protection is offered by the insurance company. If you are in Mobile, request for information for claims procedure. The insurance will be provided at Signal. A summary of coverage is available by calling 1-800-451-1111.</small>			
MESSAGE CENTER		OTHER (specify)	OTHER (specify)	DC	<u>50 extra minutes per</u>		
EQUIPMENT INSURANCE		TAXES	TAXES	PC	<u>month per line</u>		
ROADSIDE ASSISTANCE		TOTAL INITIAL CHARGES	TOTAL INITIAL CHARGES				
OTHER (specify)							
TAXES							

SERVICE AGREEMENT

NOTICE TO CUSTOMER

(a) Term. The charges for cellular service are specified above. In exchange for the Company agreeing to limit any increase in these rates as explained below, You agree to maintain cellular service under this Agreement for an INITIAL TERM ("INITIAL TERM") OF 24 months (customer's initials AW) each line

- The monthly service charge and any minutes included will be prorated for the number of days in service during the first billing period.
- The first month's bill will show a monthly service charge for the following month, subsequently you will be billed one month in advance.
- All "Special Pricing Plans" are subject to eligibility requirements and approval. Ineligibility for "Special Pricing" does not nullify this agreement.
- When using your phone outside your home service area (roaming) rate may vary.
- Long distance is billed in addition to airtime.
- The appropriate liquidated damages (up to \$240.00) may apply for early cancellation (see paragraph 18) per line
- Customer authorizes Company to check Customer's credit and to provide and exchange credit information regarding Customer with credit bureaus.
- Customer certifies that the pricing plan chosen has been explained and that the Customer understands the components of the pricing plan, including but not limited to the activation fee, monthly access charges, usage charges, liquidated damages, applicable taxes, (rental agreements, where applicable) and agrees to same.

Customer elects to subscribe to BellSouth Mobility's 24 month agreement. By signing below, the undersigned "Customer" acknowledges the accuracy of the above information and has received a copy of, read, understands, and accepts the attached Terms and Conditions of Service Agreement (Form #BSCC 11-97).

Check Box if Addendum Is Attached for Additional Service Lines

PAYMENT

Make checks payable to: BellSouth Mobility

\$ _____ Cash \$ _____ Check

\$ _____ CC \$ _____ Gift Certificate

Receipt # / P.O. # / Gift Certificate # _____

VISA MasterCard American Express Discover

Number Exp. Date _____

By initiating here, customer authorizes company to charge future amounts due under this service agreement to the credit card account listed above

Authorized Customer Signature _____ Date 2/25/98

X _____

Sales Representative / Agent Signature _____ Date 2/24/98

X _____

CASH REGISTER VALIDATION

Customer will remain on the rate plan selected or a higher rate plan for a period of 180 days.

Other Comments: _____

CUSTOMER INFORMATION

Individual Business

Name of Individual or Business Responsible for Bill Payment (Please Print)
Wesley K. G. 695

Street Address of Responsible Party - Do Not Use P.O. Box
2401 Main Hwy, Hwy

City Danvers State KY Zip 47303

Business Phone # 717-6151-0100 Home Phone # _____

Employer _____ Years employed _____

Social Security Number _____ Date of Birth _____

Driver's License Number _____ State _____

Corporation Partnership Government Sole Proprietorship Years in business under present ownership _____

Payment Contact: _____ Contact #: _____

Tax Exempt Yes No If yes, attach certificate Exempt Certificate # _____

ACCOUNT INFORMATION

User Name _____ Address 516 City State, Zip 47302 User Phone # _____

Mail to the attention of: _____ Mailing Address _____ City State, Zip _____ Bill Copies Required _____

Sales ID # 161059 Market Name Clear Do you currently have service with BellSouth Mobility? Yes No If yes, existing cellular # 5621-19291-5964 Revenue? Yes No Lead Source _____ Referred by _____ Account # Min

Account # 1234567 Activation Date _____ CVS Credit # / Authorization # _____ Credit Class _____ Deposit Amount _____ Cellular Phone # 51021-19291-1862

ACCOUNT INFORMATION

MFG/MODEL	ES/N/MSN	UNLOCK CODE	PURCH	COE	DEM	REN/RL	OTHER	WARR PERIOD	LOC SITE	EQ TYPE	PRICE
<u>Motorola</u>	<u>XXXXXXXXXX</u>			<u>X</u>				<u>12/13</u>			<u>N/A</u>
ACCESSORY DESCRIPTION	QTY	LOC SITE	EQ TYPE	PRICE	ACCESSORY DESCRIPTION	QTY	LOC SITE	EQ TYPE	PRICE		

SERVICE INFORMATION AND CHARGES

MONTHLY CHARGES		INITIAL CHARGES		Signal Dial Direct Plus Insurance		
MONTHLY SERVICE PLAN NAME <u>Clear</u>	<u>29.95</u>	ADVANCED MONTHLY PRORATED	_____	Accept _____ Decline _____	Monthly Premium/Phone	Loss/Damage Deductible
# MINUTES INCLUDED IN PLAN <u>100</u>		FIRST MONTH'S PRORATED	_____	<input type="checkbox"/> Mobile	\$2.95	\$0
PEAK <u>35</u> OFF-PEAK <u>10</u>		MINUTES	_____	<input type="checkbox"/> Portable/Transportable	\$2.95	\$35
CUSTOM CALLING FEATURES		SERVICE ACTIVATION CHARGE	<u>N/C</u>	<input type="checkbox"/> Accessories	\$1.95	\$35
<input type="checkbox"/> CALL FORWARDING <input type="checkbox"/> 3-WAY CALLING		SECURITY DEPOSIT	_____	If You subscribe to Signal Dial Direct Plus Insurance, You acknowledge that equipment listed here is in Your possession and in good working order. You have received, read and understand the terms and conditions under which the insurance is offered as outlined in the brochure. You acknowledge that insurance protection is offered by the insurance company, and not by BellSouth Mobility. Request for information for claims regarding the insurance will be directed to Signal. A summary of coverage is available by calling 1-800-480-0167.		
<input type="checkbox"/> CALL WAITING		EQUIPMENT / PHONE CHARGE (above)	_____	DC <u>35 - See only list</u>		
DETAIL BILLING		INSTALLATION CHARGE	_____	PC: _____		
MESSAGE CENTER		EQUIPMENT ACCESSORIES (above)	_____			
EQUIPMENT INSURANCE		OTHER (specify)	_____			
ROADSIDE ASSISTANCE		TAXES	_____			
OTHER (specify)		TOTAL INITIAL CHARGES	_____			
TAXES						

SERVICE AGREEMENT

NOTICE TO CUSTOMER

(a) Term. The charges for cellular service are specified above. In exchange for the Company agreeing to limit any increase in these rates as explained below, You agree to maintain cellular service under this Agreement for an INITIAL TERM ("INITIAL TERM") OF 12 months (customer's initials WKG).

- The monthly service charge and any minutes included will be prorated for the number of days in service during the first billing period.
- The first month's bill will show a monthly service charge for the following month, subsequently you will be billed one month in advance.
- All "Special Pricing Plans" are subject to eligibility requirements and approval. Ineligibility for "Special Pricing" does not nullify this agreement.
- When using your phone outside your home service area (roaming) rate may vary.
- Long distance is billed in addition to airtime.
- The appropriate liquidated damages (up to \$249.00) may apply for early cancellation (see paragraph 18).
- Customer authorizes Company to check Customer's credit and to provide and exchange credit information regarding Customer with credit bureaus.
- Customer certifies that the pricing plan chosen has been explained and that the Customer understands the components of the pricing plan, including but not limited to the activation fee, monthly access charges, usage charges, liquidated damages, applicable taxes, (rental agreements, where applicable) and agrees to same.

Customer elects to subscribe to BellSouth Mobility's 12 month agreement. By signing below, the undersigned "Customer" acknowledges the accuracy of the above information and has received a copy of, read, understands, and accepts the attached Terms and Conditions of Service Agreement (Form #BSCC 11-97).

Check Box If Addendum is Attached for Additional Service Lines

PAYMENT

Make checks payable to: **BellSouth Mobility**

\$ _____ Cash \$ _____ Check

\$ _____ CC \$ _____ Gift Certificate

Receipt # / P.O. # / Gift Certificate # _____

VISA MasterCard American Express Discover

Number Exp. Date _____

By initialing here, customer authorizes company to charge future amounts due under this service agreement to the credit card account listed above

Authorized Customer Signature	Date
<u>[Signature]</u>	<u>12/10/97</u>
Sales Representative / Agent Signature	Date
<u>[Signature]</u>	<u>12/10/97</u>

CASH REGISTER VALIDATION

Customer will remain on the rate plan selected or a higher rate plan for a period of 180 days.

Other Comments: _____

ORIGINAL OFFICE: YELLOW - AGENTS SALES PERSONNEL; PINK - CUSTOMER SERVICE

Thank you for selecting BellSouth Mobility!

CUSTOMER INFORMATION Individual Business

Name of Individual or Business Responsible for Bill Payment (Please Print)
Westerly KY Gas

Street Address of Responsible Party - Do Not Use P.O. Box Apt./Suite No.
700 304 866

City State Zip
OSLOE KY 412302

Business Phone # Home Phone #
502-141-8190

Employer Years employed

Social Security Number Date of Birth

Driver's License Number State

Corporation Partnership Government Sole Proprietorship Years in business under present ownership

Payment Contact: Pat Westerly Contact #: 502-810

Tax Exempt Yes If yes, attach certificate Exempt Certificate #

ACCOUNT INFORMATION

User Name Address City, State, Zip User Phone #

Mail to the attention of: Mailing Address City, State, Zip Bill Copies Required

MDT Whiting Cell Modem

Sales ID # Market Name Do you currently have service with BellSouth Mobility? If yes, existing cellular # Revenue? Lead Source Referred by Account #

1149 Yes No 502-929-8994 Yes No Account # Min

Account # Activation Date CVS Credit # / Authorization # Credit Class Deposit Amount Cellular Phone #

1129/98 502-929-8994

ACCOUNT INFORMATION

MFG/MODEL	ESU/MSN	UNLOCK CODE	PURCH	COE	DEM	RENTL	OTHER	WARR PERIOD	LOC SITE	EQ TYPE	PRICE
<u>Sicore</u>	<u>20610001181430</u>			<u>X</u>							<u>21A</u>
ACCESSORY DESCRIPTION	QTY	LOC SITE	EQ TYPE	PRICE	ACCESSORY DESCRIPTION	QTY	LOC SITE	EQ TYPE	PRICE		
1											
2											

SERVICE INFORMATION AND CHARGES

MONTHLY CHARGES		INITIAL CHARGES		Signal Dial Direct Plus Insurance		
MONTHLY SERVICE PLAN NAME	MINUTES INCLUDED IN PLAN	ADVANCED MONTHLY PRORATED	FIRST MONTH'S PRORATED	Accept	Decline	
<u>Value</u>	<u>19.95</u>			Monthly Premium/Phone	Loss/Damage Deductible	Mech/Elec Deductible
PEAK OFF-PEAK	<u>75 75</u>	SERVICE ACTIVATION CHARGE	SECURITY DEPOSIT	<input type="checkbox"/> Mobile	\$2.95	\$0
CUSTOM CALLING FEATURES	<input type="checkbox"/> CALL FORWARDING <input type="checkbox"/> 3-WAY CALLING	EQUIPMENT / PHONE CHARGE (above)	INSTALLATION CHARGE	<input type="checkbox"/> Portable/Transportable	\$2.95	\$35
DETAIL BILLING	<input type="checkbox"/> CALL WAITING	EQUIPMENT ACCESSORIES (above)	OTHER (specify)	<input type="checkbox"/> Accessories	\$1.95	\$35
MESSAGE CENTER		TAXES	TOTAL INITIAL CHARGES	<small>If You subscribe to Signal Dial Direct Plus Insurance, You acknowledge that equipment listed here is in Your possession and in good working order. You have received, read and understand the terms and conditions under which the insurance is offered as outlined in the brochure. You acknowledge that insurance protection is offered by the insurance company, and BellSouth Mobility. Request for information for claims regarding the insurance will be directed to Signal. A summary of coverage is available by calling 1-800-499-0187.</small>		
EQUIPMENT INSURANCE				DC		
ROADSIDE ASSISTANCE				PC:		
OTHER (specify)						
TAXES						

SERVICE AGREEMENT

NOTICE TO CUSTOMER

(a)Term. The charges for cellular service are specified above. In exchange for the Company agreeing to limit any increase in these rates as explained below, You agree to maintain cellular service under this Agreement for an INITIAL TERM ("INITIAL TERM") OF 12 months (customer's initials W).

- The monthly service charge and any minutes included will be prorated for the number of days in service during the first billing period.
- The first month's bill will show a monthly service charge for the following month, subsequently you will be billed one month in advance.
- All "Special Pricing Plans" are subject to eligibility requirements and approval. Ineligibility for "Special Pricing" does not nullify this agreement.
- When using your phone outside your home service area (roaming) rate may vary.
- Long distance is billed in addition to airtime.
- The appropriate liquidated damages (up to \$240.00) may apply for early cancellation (see paragraph 18)
- Customer authorizes Company to check Customer's credit and to provide and exchange credit information regarding Customer with credit bureaus.
- Customer certifies that the pricing plan chosen has been explained and that the Customer understands the components of the pricing plan, including but not limited to the activation fee, monthly access charges, usage charges, liquidated damages, applicable taxes, (rental agreements, where applicable) and agrees to same.

Customer elects to subscribe to BellSouth Mobility's 12 month agreement. By signing below, the undersigned "Customer" acknowledges the accuracy of the above information and has received a copy of, read, understands, and accepts the attached Terms and Conditions of Service Agreement (Form #BSCC 11-97).

Check Box If Addendum is Attached for Additional Service Lines

PAYMENT

Make checks payable to: BellSouth Mobility

\$ _____ Cash \$ _____ Check

\$ _____ CC Gift Certificate

Receipt # / P.O. # / Gift Certificate, _____

VISA MasterCard American Express Discover

Number Exp. Date _____

By initialing here, customer authorizes company to charge future amounts due under this service agreement to the credit card account listed above.

Authorized Customer Signature Date

Pat Westerly 11/29/98

Sales Representative / Agent Signature Date

[Signature] 11/29/98

CASH REGISTER VALIDATION

Customer will remain on the rate plan selected or a higher rate plan for a period of 180 days.

Other Comments: _____

CUSTOMER INFORMATION

Individual Business

Name of Individual or Business Responsible for Bill Payment (Please Print)
Lesley Kay Gas Employer _____ Years employed _____

Street Address of Responsible Party - Do Not Use P.O. Box
107-1199-17110 Apt./Suite No. _____ Social Security Number _____ Date of Birth _____

City _____ State _____ Zip _____
Omaha NE 68102

Business Phone # _____ Home Phone # _____
402-477-1100

Driver's License Number _____ State _____

Corporation Partnership Government Sole Proprietorship Years in business under present ownership _____

Payment Contact: _____ Contact #: _____
 Tax Exempt Yes No If yes, attach certificate Exempt Certificate # _____

ACCOUNT INFORMATION

User Name _____ Address _____ City, State, Zip _____ User Phone # _____

Mail to the attention of: _____ Mailing Address _____ City, State, Zip _____ Bill Copies Required _____

Sales ID # 40248 Market Name C1010 Do you currently have service with BellSouth Mobility? Yes No Add service line to existing account? Yes No If yes, existing cellular # SL7-1199-17110 Revenue? Yes No Lead Source Kay Referred by Account # Min

Account # _____ Activation Date 11/7/97 CVS Credit # / Authorization # _____ Credit Class _____ Deposit Amount _____ Cellular Phone # SL7-1199-17110-2393

ACCOUNT INFORMATION

MFG/MODEL 300 ESN/MSN 112119109771113 UNLOCK CODE _____ PURCH _____ COE _____ DEM _____ RENTL _____ OTHER _____ WARR PERIOD 1yr LOC SITE _____ EQ TYPE S PRICE 995

ACCESSORY DESCRIPTION	QTY	LOC SITE	EQ TYPE	PRICE	ACCESSORY DESCRIPTION	QTY	LOC SITE	EQ TYPE	PRICE
1 <u>HTC</u>	<u>2</u>		<u>285</u>	<u>110</u>					
2									

SERVICE INFORMATION AND CHARGES

MONTHLY CHARGES		INITIAL CHARGES		Signal Dial Direct® Plus Insurance				
MONTHLY SERVICE PLAN NAME	MINUTES INCLUDED IN PLAN	ADVANCED MONTHLY PRORATED	FIRST MONTH'S PRORATED	Accept	Decline	Monthly Premium/Phone	Loss/Damage Deductible	Mech/Elec Deductible
<u>Flex</u>	<u>1085</u>			<input type="checkbox"/> Mobile		\$2.95	\$0	\$25
PEAK _____ OFF-PEAK _____		SERVICE ACTIVATION CHARGE	MINUTES _____	<input type="checkbox"/> Portable/Transportable		\$2.95	\$35	\$25
CUSTOM CALLING FEATURES		SECURITY DEPOSIT		<input type="checkbox"/> Accessories		\$1.95	\$35	\$25
<input type="checkbox"/> CALL FORWARDING <input type="checkbox"/> 3-WAY CALLING		EQUIPMENT / PHONE CHARGE (above)	<u>N/A</u>	If you subscribe to Signal Dial Direct® Plus Insurance, you acknowledge that equipment listed here is in your possession and in good working order. You have received, read and understand the terms and conditions under which the insurance is offered as outlined in the brochure. You acknowledge that insurance protection is offered by the insurance company, and not by BellSouth Mobility. Request for information for claims regarding the insurance will be directed to Signal. A summary of coverage is available by calling 1-800-480-0167.				
<input type="checkbox"/> CALL WAITING		INSTALLATION CHARGE	<u>0.00</u>	DC	<u>(Signature)</u>			
DETAIL BILLING		EQUIPMENT ACCESSORIES (above)	<u>110</u>	PC	<u>One month trial</u>			
MESSAGE CENTER		OTHER (specify)	<u>110</u>					
EQUIPMENT INSURANCE		TAXES						
ROADSIDE ASSISTANCE		TOTAL INITIAL CHARGES						
OTHER (specify)								
TAXES								

SERVICE AGREEMENT

NOTICE TO CUSTOMER

(a) Term. The charges for cellular service are specified above. In exchange for the Company agreeing to limit any increase in these rates as explained below, you agree to maintain cellular service under this Agreement for an INITIAL TERM ("INITIAL TERM") OF 12 months (customer's initials AK).

- The monthly service charge and any minutes included will be prorated for the number of days in service during the first billing period.
- The first month's bill will show a monthly service charge for the following month, subsequently you will be billed one month in advance.
- All "Special Pricing Plans" are subject to eligibility requirements and approval. Ineligibility for "Special Pricing" does not nullify this agreement.
- When using your phone outside your home service area (roaming) rate may vary.
- Long distance is billed in addition to airtime.
- The appropriate liquidated damages (up to \$240.00) may apply for early cancellation (see paragraph 1b).
- Customer authorizes Company to check Customer's credit and to provide and exchange credit information regarding Customer with credit bureaus.
- Customer certifies that the pricing plan chosen has been explained and that the Customer understands the components of the pricing plan, including but not limited to the activation fee, monthly access charges, usage charges, liquidated damages, applicable taxes, (rental agreements, where applicable) and agrees to same.

Customer elects to subscribe to BellSouth Mobility's 12 month agreement. By signing below, the undersigned "Customer" acknowledges the accuracy of the above information and has received a copy of, read, understands, and accepts the attached Terms and Conditions of Service Agreement (Form #BSCC 11-97).

Check Box if Addendum is Attached for Additional Service Lines

PAYMENT

Make checks payable to: **BellSouth Mobility**

\$ _____ Cash \$ _____ Check

\$ _____ CC \$ _____ Gift Certificate

Receipt # / P.O. # / Gift Certificate # _____

VISA MasterCard American Express Discover

Number Exp. Date _____

By initialing here, customer authorizes company to charge future amounts due under this service agreement to the credit card account listed above.

Authorized Customer Signature	Date
<u>(Signature)</u>	<u>11/7/97</u>
Sales Representative / Agent Signature	Date
<u>(Signature)</u>	<u>11/7/97</u>

CASH REGISTER VALIDATION

Customer will remain on the rate plan selected or a higher rate plan for a period of 180 days.

Other Comments: _____

ORIGINAL OFFICE YELLOW AGENT SIGNATURE PINK CUSTOMER VALIDATION

Thank you for selecting BellSouth Mobility!

CUSTOMER INFORMATION Individual Business

Name of Individual or Business Responsible for Bill Payment (Please Print): Western Ky Gas

Street Address of Responsible Party - Do Not Use P.O. Box: P.O. Box 866

City: Owensboro Ky State: Ky Zip: 42303

Business Phone: 502-1-16851-80417 Home Phone #:

Employer: _____ Years employed: _____

Social Security Number: _____ Date of Birth: _____

Driver's License Number: NA 1A State: _____

Corporation Partnership Government Sole Proprietorship Years in business under present ownership: _____

Payment Contact: Jeff Wilkey Contact #: 025-8097

Tax Exempt Yes No If yes, attach certificate Exempt Certificate #:

ACCOUNT INFORMATION

User Name: _____ Address: _____ City/State, Zip: _____ User Phone #: _____

Mailing Address: _____ City/State, Zip: _____ Bill Copies Required: _____

Sales ID #: 1101059 Market Name: obaw Tax Jurisdiction: _____

Do you currently have service with BellSouth Mobility? Yes No Add service line to existing account? Yes No

Revenue? Yes No Lead Source: _____ Referred by: _____ Account # Min

Account #: _____ Activation Date: _____ CVS Credit # / Authorization #: _____ Credit Class: _____ Deposit Amount: _____ Cellular Phone: 502-929-8155

ACCOUNT INFORMATION

MFG/MODEL	ESUMSN	UNLOCK CODE	PURCH	COE	DEM	RENTL	OTHER	WARR PERIOD	LOC SITE	EQ TYPE	PRICE
<u>1740386235A</u>	<u>9100</u>	<u>1740386235A</u>	<input checked="" type="checkbox"/>					<u>1yr</u>			<u>9.95</u>

ACCESSORY DESCRIPTION	QTY	LOC SITE	EQ TYPE	PRICE	ACCESSORY DESCRIPTION	QTY	LOC SITE	EQ TYPE	PRICE

SERVICE INFORMATION AND CHARGES

MONTHLY CHARGES	INITIAL CHARGES	Signal Dial Direct® Plus Insurance		
MONTHLY SERVICE PLAN NAME: <u>Fleet</u> \$9.95	ADVANCED MONTHLY PRORATED FIRST MONTH'S PRORATED MINUTES: _____	Accept _____ Decline _____		
# MINUTES INCLUDED IN PLAN: <u>Share Line</u>	SERVICE ACTIVATION CHARGE: _____	Monthly Premium/Phone: _____ Loss/Damage Deductible: _____ Mech/Elec Deductible: _____		
PEAK: <u>21</u> OFF-PEAK: <u>25</u>	SECURITY DEPOSIT: _____	<input type="checkbox"/> Mobile \$2.95 \$0 \$25		
CUSTOM CALLING FEATURES: <input type="checkbox"/> CALL FORWARDING <input type="checkbox"/> 3-WAY CALLING <input type="checkbox"/> CALL WAITING	EQUIPMENT / PHONE CHARGE (above): <u>9.96</u>	<input type="checkbox"/> Portable/Transportable \$2.95 \$35 \$25		
DETAIL BILLING: _____	INSTALLATION CHARGE: _____	<input type="checkbox"/> Accessories \$1.95 \$35 \$25		
MESSAGE CENTER: _____	EQUIPMENT ACCESSORIES (above): _____	If you subscribe to Signal Dial Direct® Plus Insurance, you acknowledge that equipment listed here is in your possession and in good working order. You have received, read and understand the terms and conditions under which the insurance is offered as outlined in the brochure. You acknowledge that insurance protection is offered by the insurance company, and not by BellSouth Mobility. Request for information for claims regarding the insurance will be directed to Signal. A summary of coverage is available by calling 1-800-490-0167.		
EQUIPMENT INSURANCE: _____	OTHER (specify): _____	DC: <u>Kenard</u>		
ROADSIDE ASSISTANCE: _____	TAXES: <u>.00</u>	PC: _____		
OTHER (specify): _____	TOTAL INITIAL CHARGES: <u>10.55</u>			
TAXES: _____				

SERVICE AGREEMENT

NOTICE TO CUSTOMER

(a) Term. The charges for cellular service are specified above. In exchange for the Company agreeing to limit any increase in these rates as explained below, You agree to maintain cellular service under this Agreement for an INITIAL TERM ("INITIAL TERM") OF 12 months (customer's initials: AW):

- The monthly service charge and any minutes included will be prorated for the number of days in service during the first billing period.
- The first month's bill will show a monthly service charge for the following month, subsequently you will be billed one month in advance.
- All "Special Pricing Plans" are subject to eligibility requirements and approval. Ineligibility for "Special Pricing" does not nullify this agreement.
- When using your phone outside your home service area (roaming) rate may vary.
- Long distance is billed in addition to airtime.
- The appropriate liquidated damages (up to \$240.00) may apply for early cancellation (see paragraph 18).
- Customer authorizes Company to check Customer's credit and to provide and exchange credit information regarding Customer with credit bureaus.
- Customer certifies that the pricing plan chosen has been explained and that the Customer understands the components of the pricing plan, including but not limited to the activation fee, monthly access charges, usage charges, liquidated damages, applicable taxes, (rental agreements, where applicable) and agrees to same.

Customer elects to subscribe to BellSouth Mobility's 12 month agreement. By signing below, the undersigned "Customer" acknowledges the accuracy of the above information and has received a copy of, read, understands, and accepts the attached Terms and Conditions of Service Agreement (Form #BSCC 11-97).

Check Box if Addendum is Attached for Additional Service Lines

PAYMENT

Make checks payable to: BellSouth Mobility

\$ _____ Cash \$ _____ Check

\$ _____ CC \$ _____ Gift Certificate

Receipt # / P.O. # / Gift Certificate #

VISA MasterCard American Express Discover

Number Exp. Date

By initiating here, customer authorizes company to charge future amounts due under this service agreement to the credit card account listed above

Authorized Customer Signature: [Signature] Date: 6/9/98

Sales Representative / Agent Signature: [Signature] Date: 6/9/98

CASH REGISTER VALIDATION

Customer will remain on the rate plan selected or a higher rate plan for a period of 180 days.

Other Comments:

CUSTOMER INFORMATION Individual Business

Name of Individual or Business Responsible for Bill Payment (Please Print)
Western KY Gas

Street Address of Responsible Party - Do Not Use P.O. Box
P.O. Box 826

City Owensboro State KY Zip 40302

Business Phone # 502-689-8100 Home Phone # _____

Employer _____ Years employed _____

Social Security Number _____ Date of Birth _____

Driver's License Number _____ State _____

Payment Contact: Jeff Harty Contact #: _____

Tax Exempt Yes No If yes, attach certificate Exempt Certificate # _____

ACCOUNT INFORMATION

User Name _____ Address _____ City State, Zip _____ User Phone # _____

Mail to the attention of: _____ Mailing Address _____ City State, Zip _____ Bill Copies Required _____

Sales ID # 101054 Market Name OWNS Do you currently have service with BellSouth Mobility? Yes No If yes, existing cellular # 502-929-8104 Revenue? Yes No Lead Source _____ Referred by _____ Account # Min

Account # _____ Activation Date 11/13/97 CVS Credit # / Authorization # _____ Credit Class _____ Deposit Amount _____ Cellular Phone # 502-929-9944

ACCOUNT INFORMATION

MFG/COE	ESN/MSN	UNLOCK CODE	PURCH	COE	DEM	RENTAL	OTHER	WARR PERIOD	LOC SITE	EQ TYPE	PRICE
<u>motorola</u>	<u>22419445406</u>							<u>1yr</u>			<u>39.95</u>
ACCESSORY DESCRIPTION	QTY	LOC SITE	EQ TYPE	PRICE	ACCESSORY DESCRIPTION	QTY	LOC SITE	EQ TYPE	PRICE		

SERVICE INFORMATION AND CHARGES

MONTHLY CHARGES		INITIAL CHARGES		Signal Dial Direct* Plus Insurance		
MONTHLY SERVICE PLAN NAME	MINUTES INCLUDED IN PLAN	ADVANCED MONTHLY PRORATED	FIRST MONTH'S PRORATED	Accept	Decline	
<u>Clear</u>	<u>19.95</u>					
PEAK <u>25</u> OFF-PEAK <u>25</u>						
CUSTOM CALLING FEATURES						
<input type="checkbox"/> CALL FORWARDING <input type="checkbox"/> 3-WAY CALLING <input type="checkbox"/> CALL WAITING						
DETAIL BILLING						
MESSAGE CENTER						
EQUIPMENT INSURANCE						
ROADSIDE ASSISTANCE						
OTHER (specify)						
TAXES						

SERVICE AGREEMENT

NOTICE TO CUSTOMER

(a) Term. The charges for cellular service are specified above. In exchange for the Company agreeing to limit any increase in these rates as explained below, You agree to maintain cellular service under this Agreement for an INITIAL TERM ("INITIAL TERM") OF 12 months (customer's initials W)

- The monthly service charge and any minutes included will be prorated for the number of days in service during the first billing period.
- The first month's bill will show a monthly service charge for the following month, subsequently you will be billed one month in advance.
- All "Special Pricing Plans" are subject to eligibility requirements and approval. Ineligibility for "Special Pricing" does not nullify this agreement.
- When using your phone outside your home service area (roaming) rate may vary.
- Long distance is billed in addition to airtime.
- The appropriate liquidated damages (up to \$240.00) may apply for early cancellation (see paragraph 18)
- Customer authorizes Company to check Customer's credit and to provide and exchange credit information regarding Customer with credit bureaus.
- Customer certifies that the pricing plan chosen has been explained and that the Customer understands the components of the pricing plan, including but not limited to the activation fee, monthly access charges, usage charges, liquidated damages, applicable taxes, (rental agreements, where applicable) and agrees to same.

Customer elects to subscribe to BellSouth Mobility's 12 month agreement. By signing below, the undersigned "Customer" acknowledges the accuracy of the above information and has received a copy of, read, understands, and accepts the attached Terms and Conditions of Service Agreement (Form #BSCC 11-97).

Check Box If Addendum is Attached for Additional Service Lines

PAYMENT

Make checks payable to: BellSouth Mobility

\$ _____ Cash \$ _____ Check

\$ _____ CC \$ _____ Gift Certificate

Receipt # / P.O. # / Gift Certificate # _____

VISA MasterCard American Express Discover

Number Exp. Date _____

By initialing here, customer authorizes company to charge future amounts due under this service agreement to the credit card account listed above

Authorized Customer Signature	Date
<u>[Signature]</u>	<u>12/23/97</u>
Sales Representative/Agent Signature	Date
<u>[Signature]</u>	<u>12/23/97</u>

CASH REGISTER VALIDATION

Customer will remain on the rate plan selected or a higher rate plan for a period of 180 days.

Other Comments: _____

Thank you for selecting BellSouth Mobility!

(1)

Welcome to United States Cellular!

2954458

CUSTOMER INFORMATION Individual Business

Name of Individual or Business Responsible for Bill Payment (Please Print)
Western KY Gas

Street Address of Responsible Party - Do Not Use P.O. Box
P.O. Box 866

City
Owensboro State
KY Zip
42302

Business Phone #
502-1085-8110 Home Phone #

Employer
Western KY Gas Years employed

Social Security Number Date of Birth

Driver's License Number State

Corporation Partnership Government Sole Proprietorship Years in business under present ownership

Payment Contact: Jeff Liberty Contact #: 685-8100

Tax Exempt Yes If yes, attach certificate Exempt Certificate #

ACCOUNT INFORMATION

User Name Address City, State, Zip User Phone #

Mail to the attention of: Mailing Address City, State, Zip Bill Copies Required

Sales ID # 10057 Market Name obacco Tax Jurisdiction Do you currently have service with US Cellular? Yes No If yes, existing cellular Revenue? Yes No Lead Source Referred by Account # MIN

Account # Activation Date CVS Credit # / Authorization # Credit Class Deposit Amount Cellular Phone # 502-929-9101

EQUIPMENT INFORMATION

MFG/MODEL	ESN/MSN	UNLOCK CODE	PURCH	COE	DEM	RENTAL	OTHER	WARR PERIOD	LOC SITE	EQ TYPE	PRICE
<u>Motorola 460</u>	<u>13806639643</u>		<input checked="" type="checkbox"/>						<u>2yr</u>		<u>19.95</u>
ACCESSORY DESCRIPTION	QTY	LOC SITE	EQ TYPE	PRICE	ACCESSORY DESCRIPTION						
<u>Phone talk: CHG</u>	<u>1</u>			<u>19.95</u>							

SERVICE INFORMATION AND CHARGES

MONTHLY SERVICE PLAN NAME	MONTHLY CHARGES	INITIAL CHARGES	Signal Dial Direct [®] Plus Insurance
<u>Fleet</u>	<u>24.95</u>	ADVANCE MONTHLY CHARGE	Accept _____ Decline _____
MINUTES INCLUDED IN PLAN	<u>1000</u>	FIRST MONTH'S PRORATED	Monthly Premium/phone Loss/Damage Deductible Mech/Elec Deductible
PEAK OFF-PEAK	<u>25</u> <u>05</u>	MINUTES	<input type="checkbox"/> Mobile \$2.95 \$0 \$25
CUSTOM CALLING FEATURES		SERVICE ACTIVATION CHARGE	<input type="checkbox"/> Portable/Transportable \$2.95 \$35 \$25
<input type="checkbox"/> CALL FORWARDING <input type="checkbox"/> 3-WAY CALLING		SECURITY DEPOSIT	<input checked="" type="checkbox"/> Accessories \$1.95 \$35 \$25
DETAILED BILLING		EQUIPMENT / PHONE CHARGE (above)	
MESSAGE CENTER		INSTALLATION CHARGE	
EQUIPMENT INSURANCE		EQUIPMENT ACCESSORIES (above)	
ROADSIDE ASSISTANCE		OTHER (specify) <u>Credit</u>	
OTHER (specify)		TAXES	
TAXES		TOTAL INITIAL CHARGES	

If You subscribe to Signal Dial Direct[®] Plus Insurance, You acknowledge that the equipment listed here is in Your possession and in good working order. You have received, read and understood the terms and conditions under which the insurance is offered as outlined in the brochure. You acknowledge that insurance protection is offered by the insurance company, and not by United States Cellular. Requests for information for claims regarding the insurance will be directed to Signal. A summary of coverage is available by calling 1-800-480-0167.

DC: Jeff Liberty
PC: (Credit 19.95)

SERVICE AGREEMENT

ANNUAL AGREEMENT: EXTENDED TERM PLAN

(a) Term. The charges for cellular service are specified above. In exchange for the Company agreeing to limit any increase in these rates as explained below, You agree to maintain cellular service under this Agreement for an **INITIAL TERM ("INITIAL TERM")** of 12 months (customer's initials ML). In addition, this agreement shall **AUTOMATICALLY RENEW** at the end of the **INITIAL TERM** for unlimited, successive 12-month terms ("**RENEWAL TERMS**") unless You notify the Company of Your intention to terminate this Agreement in accordance with the provisions below.

(b) Rates. The Company will notify You in writing at least 30 days prior to instituting any increase in charges for cellular service. During this 30-day period, and before the new rates become effective, You may terminate this Agreement by notifying the Company, in writing, of Your intention to do so. Termination during this 30 day period is not subject to the provisions of Section (c) of this Agreement. If You do not terminate this Agreement during such 30 day period in this manner, the **EXTENDED TERM PLAN** will remain in effect for the duration of each **RENEWAL TERM**.

(c) Termination. If You have selected the **EXTENDED TERM PLAN**, You may terminate this Agreement at the end of the **INITIAL TERM** (as set forth above) by notifying the Company in writing of Your intention to do so at least 30 days prior to the expiration of the **INITIAL TERM**. You may terminate this Agreement at any time within the **RENEWAL TERM** by notifying the Company in writing of Your intention to do so at least 30 days prior to Your chosen date of termination. You acknowledge that any early termination of this Agreement during the **INITIAL TERM**, including, but not limited to, a termination by the Company as provided in Paragraph 3 on the reverse side hereof, will damage the Company in an amount that is difficult to determine, but that \$ 200.00 represents a reasonable estimate of the Company's damages. You agree to pay the Company such amount in addition to, and not in lieu of, all other charges for services due and owing hereunder.

By signature below, Subscriber confirms the truth and completeness of the above information. SUBSCRIBER ACKNOWLEDGES READING, AND AGREES TO, ALL TERMS AND CONDITIONS ON THE REVERSE SIDE OF THIS AGREEMENT, WHICH TERMS AND CONDITIONS ARE PART OF AND HEREBY INCORPORATED INTO THIS AGREEMENT BY THIS REFERENCE. Subscriber further authorizes any personal references or consumer reporting/credit agencies to furnish Company Subscriber's credit records or history. In the event of an unauthorized signature by an agent of a corporate or other business subscriber, the undersigned agrees to be individually liable for amounts not paid when due.

Check Box if Addendum is Attached for Additional Service Lines

PAYMENT

Make checks payable to: **UNITED STATES CELLULAR**

\$ _____ Cash \$ _____ Check

\$ _____ CC \$ _____ Gift Certificate

Receipt # / P.O. # / Gift Certificate #

VISA MasterCard American Express Discover

Number _____ Exp. Date _____

By initialing here, customer authorizes company to charge future amounts due under this service agreement to the credit card account listed above

Authorized Customer Signature	Date
<u>[Signature]</u>	<u>6/17/94</u>
Sales Representative Agent Signature	Date
<u>[Signature]</u>	<u>6/17/94</u>

CASH REGISTER VALIDATION

ORIGINAL - OFFICE YELLOW - AGENT/SALESPERSON PINK - CUSTOMER Suttle Press USC-SA25 Rev. 1/96

Thank you for selecting United States Cellular!

CUSTOMER INFORMATION Individual Business

Name of Individual or Business Responsible for Bill Payment (Please Print): **Western KY Gas**

Street Address of Responsible Party - Do Not Use P.O. Box: **P.O. Box 866**

City: **Owensboro** State: **KY** Zip: **42302**

Business Phone #: **502-685-8100** Home Phone #: _____

Employer: _____ Years employed: _____

Social Security Number: _____ Date of Birth: _____

Driver's License Number: _____ State: _____

Payment Contact: **Jeff Whiting** Contact #: **605-8100**

Tax Exempt Yes No *If yes, attach certificate* Exempt Certificate #: _____

ACCOUNT INFORMATION

User Name: _____ Address: _____ City, State, Zip: _____ User Phone #: _____

Mail to the attention of: _____ Mailing Address: _____ City, State, Zip: _____ Bill Copies Required: _____

Sales ID #: **110599** Market Name: **OBAMO** Tax Jurisdiction: _____ Do you currently have service with US Cellular? Yes No *Add service line to existing account?* Yes No *If yes, existing cellular #:* **502-979-8404** Revenue? Yes No Lead Source: **99** Referred by: _____ Account # MIN

Account #: _____ Activation Date: _____ CVS Credit # / Authorization #: _____ Credit Class: _____ Deposit Amount: _____ Cellular Phone #: **502-929-91104**

EQUIPMENT INFORMATION

MFG/MODEL	ESN/MSN	UNLOCK CODE	PURCH	COE	DEM	RENTAL	OTHER	WARRANTY PERIOD	LOC SITE	EQ TYPE	PRICE
Motorola 460	13806639048		<input checked="" type="checkbox"/>					2yr			19.95
ACCESSORY DESCRIPTION	QTY	LOC SITE	EQ TYPE	PRICE	ACCESSORY DESCRIPTION	QTY	LOC SITE	EQ TYPE	PRICE		
Power Talk - ATG	1			19.95							

SERVICE INFORMATION AND CHARGES

MONTHLY SERVICE PLAN NAME	MONTHLY CHARGES	INITIAL CHARGES	Signal Dial Direct Plus Insurance
Free	24.95	ADVANCE MONTHLY CHARGE: _____	Accept _____ Decline _____
# MINUTES INCLUDED IN PLAN: 1000		FIRST MONTH'S PRORATED MINUTES: _____	Monthly Premium/phone: _____ Loss/Damage Deductible: _____ Mech/Elec Deductible: _____
PEAK: 25 OFF-PEAK: 25		SERVICE ACTIVATION CHARGE: NC	<input type="checkbox"/> Mobile \$2.95 \$0 \$25
CUSTOM CALLING FEATURES: <input type="checkbox"/> CALL FORWARDING <input type="checkbox"/> 3-WAY CALLING <input type="checkbox"/> CALL WAITING		SECURITY DEPOSIT: 19.95	<input type="checkbox"/> Portable/Transportable \$2.95 \$35 \$25
DETAILED BILLING: _____		EQUIPMENT / PHONE CHARGE (above): 19.95	<input type="checkbox"/> Accessories \$1.95 \$35 \$25
MESSAGE CENTER: _____		INSTALLATION CHARGE: 19.95	<small>If You subscribe to Signal Dial Direct Plus Insurance, You acknowledge that the equipment listed here is in Your possession and in good working order, You have received, read and understand the terms and conditions under which the insurance is offered as outlined in the brochure. You acknowledge that insurance protection is offered by the insurance company, and not by United States Cellular. Requests for information for claims regarding the insurance will be directed to Signal. A summary of coverage is available by calling 1-800-480-0167.</small>
EQUIPMENT INSURANCE: _____		EQUIPMENT ACCESSORIES (above): 19.95	DC: 1/1000 Promo
ROADSIDE ASSISTANCE: _____		OTHER (specify): credit	PC: (Credit 19.95)
OTHER (specify): _____		TAXES: 2.39	
TAXES: _____		TOTAL INITIAL CHARGES: 22.34	

SERVICE AGREEMENT

ANNUAL AGREEMENT; EXTENDED TERM PLAN

(a) Term. The charges for cellular service are specified above. In exchange for the Company agreeing to limit any increase in these rates as explained below, You agree to maintain cellular service under this Agreement for an **INITIAL TERM ("INITIAL TERM")** of **12** months (customer's initials **JEH**). In addition, this agreement shall **AUTOMATICALLY RENEW** at the end of the **INITIAL TERM** for unlimited, successive 12-month terms ("**RENEWAL TERMS**") unless You notify the Company of Your intention to terminate this Agreement in accordance with the provisions below.

(b) Rates. The Company will notify You in writing at least 30 days prior to instituting any increase in charges for cellular service. During this 30-day period, and before the new rates become effective, You may terminate this Agreement by notifying the Company, in writing, of Your intention to do so. Termination during this 30 day period is not subject to the provisions of Section (c) of this Agreement. If You do not terminate this Agreement during such 30 day period in this manner, the **EXTENDED TERM PLAN** will remain in effect for the duration of each **RENEWAL TERM**.

(c) Termination. If You have selected the **EXTENDED TERM PLAN**, You may terminate this Agreement at the end of the **INITIAL TERM** (as set forth above) by notifying the Company in writing of Your intention to do so at least 30 days prior to the expiration of the **INITIAL TERM**. You may terminate this Agreement at any time within the **RENEWAL TERM** by notifying the Company in writing of Your intention to do so at least 30 days prior to Your chosen date of termination. You acknowledge that any early termination of this Agreement during the **INITIAL TERM**, including, but not limited to, a termination by the Company as provided in Paragraph 3 on the reverse side hereof, will damage the Company in an amount that is difficult to determine, but that \$ **200.00** represents a reasonable estimate of the Company's damages. You agree to pay the Company such amount in addition to, and not in lieu of, all other charges for services due and owing hereunder.

By signature below, Subscriber confirms the truth and completeness of the above information. **SUBSCRIBER ACKNOWLEDGES READING, AND AGREES TO, ALL TERMS AND CONDITIONS ON THE REVERSE SIDE OF THIS AGREEMENT, WHICH TERMS AND CONDITIONS ARE PART OF AND HEREBY INCORPORATED INTO THIS AGREEMENT BY THIS REFERENCE.** Subscriber further authorizes any personal references or consumer reporting/credit agencies to furnish Company Subscriber's credit records or history. In the event of unauthorized signature by an agent of a corporate or other business subscriber, the undersigned agrees to be individually liable for amounts not paid when due.

Check Box if Addendum is Attached for Additional Service Lines

PAYMENT

Make checks payable to: **UNITED STATES CELLULAR**

\$ _____ Cash \$ _____ Check

\$ _____ CC \$ _____ Gift Certificate

Receipt # / P.O. # / Gift Certificate #: **DTA**

VISA MasterCard American Express Discover

Number: _____ Exp. Date: _____

By initialing here, customer authorizes company to charge future amounts due under this service agreement to the credit card account listed above

Authorized Customer Signature: **[Signature]** Date: **6/17/19**

Sales Representative / Agent Signature: **[Signature]** Date: **6/17/19**

CASH REGISTER VALIDATION

CUSTOMER INFORMATION Individual Business

Name of Individual or Business Responsible for Bill Payment (Please Print) Western KY Gas		Employer	Years employed
Street Address of Responsible Party - Do Not Use P.O. Box P.O. Box 866		Individual Social Security Number	Date of Birth
City Morehead	State KY	Driver's License Number	State
Zip 40302-0866	<input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Government <input type="checkbox"/> Sole Proprietorship Years in business under present ownership		
Business Phone # 605-8160	Home Phone #	Payment Contact: Jeffrey Long	Contact # 605-8160
Tax Exempt <input type="checkbox"/> Yes If yes, attach certificate Exempt Certificate #			

ACCOUNT INFORMATION

User Name	Address	City, State, Zip	User Phone #
Mail to the attention of: SAME		Mailing Address	City, State, Zip
Sales ID # 111054	Market Name Cherry	Do you currently have service with US Cellular? Add service line to existing account? <input type="checkbox"/> Yes <input type="checkbox"/> No	Revenue? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Account #	Activation Date	CVS Credit # / Authorization #	Credit Class Deposit Amount Cellular Phone # 302-929-189102

EQUIPMENT INFORMATION

MFG/MODEL	ESN/MSN	UNLOCK CODE	PURCH	COE	DEM	RENTAL	OTHER	WARR PERIOD	LOC SITE	EQ TYPE	PRICE
Motorola 450	13806096428		<input checked="" type="checkbox"/>					2yr			n/c
ACCESSORY DESCRIPTION	QTY	LOC SITE	EQ TYPE	PRICE	ACCESSORY DESCRIPTION	QTY	LOC SITE	EQ TYPE	PRICE		
1				3							
2				4							

SERVICE INFORMATION AND CHARGES

MONTHLY SERVICE PLAN NAME <u>Select 5995</u> # MINUTES INCLUDED IN PLAN <u>5995</u> PEAK <u>25</u> OFF-PEAK <u>5995</u> CUSTOM CALLING FEATURES <input type="checkbox"/> CALL FORWARDING <input type="checkbox"/> 3-WAY CALLING <input type="checkbox"/> CALL WAITING DETAILED BILLING MESSAGE CENTER EQUIPMENT INSURANCE ROADSIDE ASSISTANCE OTHER (specify) TAXES		INITIAL CHARGES ADVANCE MONTHLY CHARGE FIRST MONTH'S PRORATED MINUTES SERVICE ACTIVATION CHARGE <u>n/c</u> SECURITY DEPOSIT EQUIPMENT / PHONE CHARGE (above) <u>n/c</u> INSTALLATION CHARGE EQUIPMENT ACCESSORIES (above) OTHER (specify) TAXES TOTAL INITIAL CHARGES		Signal Dial Direct® Plus Insurance Accept Decline <table border="1"> <tr> <th>Monthly Premium/phone</th> <th>Loss/Damage Deductible</th> <th>Mech/Elec Deductible</th> </tr> <tr> <td><input type="checkbox"/> Mobile \$2.95</td> <td>\$0</td> <td>\$25</td> </tr> <tr> <td><input type="checkbox"/> Portable/Transportable \$2.95</td> <td>\$35</td> <td>\$25</td> </tr> <tr> <td><input type="checkbox"/> Accessories \$1.95</td> <td>\$35</td> <td>\$25</td> </tr> </table> <p><small>If You subscribe to Signal Dial Direct® Plus Insurance, You acknowledge that the equipment listed here is in Your possession and in good working order. You have received, read and understand the terms and conditions under which the insurance is offered as set forth in the brochure. You acknowledge that insurance protection is offered by the insurance company, and not by United States Cellular. Requests for information for claims regarding the insurance are directed to Signal. A summary of coverage is available by calling 1-800-333-3333.</small></p> DC: <u>50.00 credit</u> PC:	Monthly Premium/phone	Loss/Damage Deductible	Mech/Elec Deductible	<input type="checkbox"/> Mobile \$2.95	\$0	\$25	<input type="checkbox"/> Portable/Transportable \$2.95	\$35	\$25	<input type="checkbox"/> Accessories \$1.95	\$35	\$25
Monthly Premium/phone	Loss/Damage Deductible	Mech/Elec Deductible														
<input type="checkbox"/> Mobile \$2.95	\$0	\$25														
<input type="checkbox"/> Portable/Transportable \$2.95	\$35	\$25														
<input type="checkbox"/> Accessories \$1.95	\$35	\$25														

SERVICE AGREEMENT

ANNUAL AGREEMENT: EXTENDED TERM PLAN

(a) Term. The charges for cellular service are specified above. In exchange for the Company agreeing to limit any increase in these rates as explained below, You agree to maintain cellular service under this Agreement for an **INITIAL TERM ("INITIAL TERM")** of 12 months (customer's initials JD). In addition, this agreement shall **AUTOMATICALLY RENEW** at the end of the **INITIAL TERM** for unlimited, successive 12-month terms ("**RENEWAL TERMS**") unless You notify the Company of Your intention to terminate this Agreement in accordance with the provisions below.

(b) Rates. The Company will notify You in writing at least 30 days prior to instituting any increase in charges for cellular service. During this 30-day period, and before the new rates become effective, You may terminate this Agreement by notifying the Company, in writing, of Your intention to do so. Termination during this 30 day period is not subject to the provisions of Section (c) of this Agreement. If You do not terminate this Agreement during such 30 day period in this manner, the **EXTENDED TERM PLAN** will remain in effect for the duration of each **RENEWAL TERM**.

(c) Termination. If You have selected the **EXTENDED TERM PLAN**, You may terminate this Agreement at the end of the **INITIAL TERM** (as set forth above) by notifying the Company in writing of Your intention to do so at least 30 days prior to the expiration of the **INITIAL TERM**. You may terminate this Agreement at any time within the **RENEWAL TERM** by notifying the Company in writing of Your intention to do so at least 30 days prior to Your chosen date of termination. You acknowledge that any early termination of this Agreement during the **INITIAL TERM**, including, but not limited to, a termination by the Company as provided in Paragraph 3 on the reverse side hereof, will damage the Company in an amount that is difficult to determine, but that \$_____ represents a reasonable estimate of the Company's damages. You agree to pay the Company such amount in addition to, and not in lieu of, all other charges for services due and owing hereunder.

By signature below, Subscriber confirms the truth and completeness of the above information. **SUBSCRIBER ACKNOWLEDGES READING, AND AGREES TO, ALL TERMS AND CONDITIONS ON THE REVERSE SIDE OF THIS AGREEMENT, WHICH TERMS AND CONDITIONS ARE PART OF AND HEREBY INCORPORATED INTO THIS AGREEMENT BY THIS REFERENCE.** Subscriber further authorizes any personal references or consumer reporting/credit agencies to furnish Company Subscriber's credit records or history. In the event of unauthorized signature by an agent of a corporate or other business subscriber, the undersigned agrees to be individually liable for amounts not paid when due.

Check Box if Addendum is Attached for Additional Service Lines

PAYMENT	
Make checks payable to: UNITED STATES CELLULAR	
\$ _____ Cash	\$ _____ Check
\$ _____ <u>CC</u>	\$ _____ Gift Certificate
Receipt # / P.O. # / Gift Certificate # <u>BTA</u>	
<input type="checkbox"/> VISA <input type="checkbox"/> MasterCard <input type="checkbox"/> American Express <input type="checkbox"/> Discover	
Number _____	Exp. Date _____
By initialing here, customer authorizes company to charge future amounts due under this service agreement to the credit card account listed above	

Authorized Customer Signature <u>[Signature]</u>	Date <u>4/15/97</u>
Sales Representative / Agent Signature <u>[Signature]</u>	Date <u>4/15/97</u>

CASH REGISTER VALIDATION

ORIGINAL - OFFICE YELLOW - AGENT/SALESPERSON PINK - CUSTOMER Subtle Press USC-SA25 Rev. 1/96

Thank you for selecting United States Cellular!

Welcome to United States Cellular!

2819521

CUSTOMER INFORMATION Individual Business

Name of Individual or Business Responsible for Bill Payment (Please Print): Whelan KY Gas

Street Address of Responsible Party - Do Not Use P.O. Box: P.O. Box 866

City: Overland State: Kd Zip: 67307

Business Phone # 502-695-5001 Home Phone # _____

Employer: _____ Years employed: _____

Individual Social Security Number: _____ Date of Birth: _____

Individual Driver's License Number: _____ State: _____

Business Payment Contact: Jeff Albery Contact #: 685-8100

Business Tax Exempt Yes No If yes, attach certificate Exempt Certificate # _____

ACCOUNT INFORMATION

User Name: _____ Address: _____ City, State, Zip: _____ User Phone # _____

Mail to the attention of: _____ Mailing Address: Same City, State, Zip: _____ Bill Copies Required: _____

Sales ID # 100159 Market Name: _____ Tax Jurisdiction: _____ Do you currently have service with US Cellular? Yes No Add service line to existing account? Yes No If yes, existing cellular # _____ Revenue? Yes No Lead Source: _____ Referred by: _____ Account # Account # MIN

Account # _____ Activation Date: _____ CVS Credit # / Authorization # _____ Credit Class: _____ Deposit Amount: _____ Cellular Phone # 502-1-929-1891011

EQUIPMENT INFORMATION

MFG/MODEL: Androm 420 ESN/MSN: 13802838416 UNLOCK CODE: _____ PURCH: COE: _____ DEM: _____ RENTAL: _____ OTHER: _____ WARR PERIOD: N/A LOC SITE: _____ EQ TYPE: _____ PRICE: _____

QTY	LOC SITE	EQ TYPE	PRICE	ACCESSORY DESCRIPTION	QTY	LOC SITE	EQ TYPE	PRICE
1					3			
2					4			

SERVICE INFORMATION AND CHARGES

MONTHLY CHARGES		INITIAL CHARGES		Signal Dial Direct® Plus Insurance		
MONTHLY SERVICE PLAN NAME	MINUTES INCLUDED IN PLAN	ADVANCE MONTHLY CHARGE	FIRST MONTH'S PRORATED MINUTES	Accept	Decline	
<u>Planet</u>	<u>57.99</u>			<input type="checkbox"/> Mobile	<input type="checkbox"/> Portable/Transportable	<input type="checkbox"/> Accessories
PEAK <u>25</u> OFF-PEAK <u>25</u>	<u>Share 1000</u>	SERVICE ACTIVATION CHARGE	SECURITY DEPOSIT	Monthly Premium/phone	Loss/Damage Deductible	Mech/Elec Deductible
CUSTOM CALLING FEATURES		EQUIPMENT / PHONE CHARGE (above)	INSTALLATION CHARGE	\$2.95	\$0	\$25
<input type="checkbox"/> CALL FORWARDING	<input type="checkbox"/> 3-WAY CALLING	EQUIPMENT ACCESSORIES (above)	OTHER (specify)	\$2.95	\$35	\$25
<input type="checkbox"/> CALL WAITING		TAXES	TOTAL INITIAL CHARGES	\$1.95	\$35	\$25
DETAILED BILLING				<input type="checkbox"/> If You subscribe to Signal Dial Direct® Plus Insurance, You acknowledge that the equipment listed here is in Your possession and in good working order. You have received, read and understood the terms and conditions under which the insurance is offered as outlined in the brochure. You acknowledge that insurance protection is offered by the insurance company, and not by United States Cellular. Requests for information for claims regarding the insurance will be directed to Signal. A summary of coverage is available by calling 1-800-410-0167.		
MESSAGE CENTER				PC: <u>See only credit #35</u>		
EQUIPMENT INSURANCE						
ROADSIDE ASSISTANCE						
OTHER (specify)						
TAXES						

SERVICE AGREEMENT

ANNUAL AGREEMENT; EXTENDED TERM PLAN

(a) Term. The charges for cellular service are specified above. In exchange for the Company agreeing to limit any increase in these rates as explained below, You agree to maintain cellular service under this Agreement for an **INITIAL TERM ("INITIAL TERM")** of 12 months (customer's initials WY). In addition, this agreement shall **AUTOMATICALLY RENEW** at the end of the **INITIAL TERM** for unlimited, successive 12-month terms ("**RENEWAL TERMS**") unless You notify the Company of Your intention to terminate this Agreement in accordance with the provisions below.

(b) Rates. The Company will notify You in writing at least 30 days prior to instituting any increase in charges for cellular service. During this 30-day period, and before the new rates become effective, You may terminate this Agreement by notifying the Company, in writing, of Your intention to do so. Termination during this 30 day period is not subject to the provisions of Section (c) of this Agreement. If You do not terminate this Agreement during such 30 day period in this manner, the **EXTENDED TERM PLAN** will remain in effect for the duration of each **RENEWAL TERM**.

(c) Termination. If You have selected the **EXTENDED TERM PLAN**, You may terminate this Agreement at the end of the **INITIAL TERM** (as set forth above) by notifying the Company in writing of Your intention to do so at least 30 days prior to the expiration of the **INITIAL TERM**. You may terminate this Agreement at any time within the **RENEWAL TERM** by notifying the Company in writing of Your intention to do so at least 30 days prior to Your chosen date of termination. You acknowledge that any early termination of this Agreement during the **INITIAL TERM**, including, but not limited to, a termination by the Company as provided in Paragraph 3 on the reverse side hereof, will damage the Company in an amount that is difficult to determine, but that \$ 200.00 represents a reasonable estimate of the Company's damages. You agree to pay the Company such amount in addition to, and not in lieu of, all other charges for services due and owing hereunder.

By signature below, Subscriber confirms the truth and completeness of the above information. **SUBSCRIBER ACKNOWLEDGES READING, AND AGREES TO, ALL TERMS AND CONDITIONS ON THE REVERSE SIDE OF THIS AGREEMENT, WHICH TERMS AND CONDITIONS ARE PART OF AND HEREBY INCORPORATED INTO THIS AGREEMENT BY THIS REFERENCE.** Subscriber further authorizes any personal references or consumer reporting/credit agencies to furnish Company Subscriber's credit records or history. In the event of unauthorized signature by an agent of a corporate or other business subscriber, the undersigned agrees to be individually liable for amounts not paid when due.

Check Box if Addendum is Attached for Additional Service Lines

PAYMENT

Make checks payable to: **UNITED STATES CELLULAR**

\$ _____ Cash \$ _____ Check

\$ _____ CC \$ _____ Gift Certificate

Receipt # / P.O. # / Gift Certificate # BTA

VISA MasterCard American Express Discover

Number _____ Exp. Date _____

By initialing here, customer authorizes company to charge future amounts due under this service agreement to the credit card account listed above

Authorized Customer Signature	Date
X <u>[Signature]</u>	<u>4/15/97</u>
Sales Representative / Agent Signature	Date
X <u>[Signature]</u>	<u>4/15/97</u>

CASH REGISTER VALIDATION

ORIGINAL - OFFICE YELLOW - AGENT/SALESPERSON PINK - CUSTOMER

Suttle Press USC-SA25 Rev. 1/96

Thank you for selecting United States Cellular!

Welcome to United States Cellular!

2819522

CUSTOMER INFORMATION Individual Business

Name of Individual or Business Responsible for Bill Payment (Please Print)
Western K-1 Gas

Street Address of Responsible Party - Do Not Use P.O. Box
P.O. Box 846

City
Queensboro

State
KY

Zip
47302

Business Phone #
562-6851-8104

Home Phone

Employer
Individual

Social Security Number

Date of Birth

Driver's License Number

State

Corporation Partnership Government Sole Proprietorship Years in business under present ownership

Payment Contact: **John W. King** Contact # **605-8001**

Tax Exempt Yes If yes, attach certificate Exempt Certificate # **---**

ACCOUNT INFORMATION

User Name

Address

City, State, Zip

User Phone #

Mail to the attention of:

Mailing Address

City, State, Zip

Bill Copies Required

Sales ID # **10159** Market Name **---** Tax Jurisdiction **---** Do you currently have service with US Cellular? Yes No Add service line to existing account? Yes No If yes, existing cellular # **---** Revenue? Yes No Lead Source **---** Referred by **---** Account # MIN

Account # **---** Activation Date **---** CVS Credit # / Authorization # **---** Credit Class **---** Deposit Amount **---** Cellular Phone # **502-19791-18922**

EQUIPMENT INFORMATION

MFG MODEL **Motorola** ESN/MSN **C3131041** UNLOCK CODE **---** PURCH **---** COS **---** DEM **---** RENTAL **---** OTHER **---** WARR PERIOD **---** LOC SITE **---** EQ TYPE **---** PRICE **---**

ACCESSORY DESCRIPTION	QTY	LOC SITE	EQ TYPE	PRICE	ACCESSORY DESCRIPTION	QTY	LOC SITE	EQ TYPE	PRICE

SERVICE INFORMATION AND CHARGES

MONTHLY SERVICE PLAN NAME **Flex** **MONTHLY CHARGES** **59.99**

MINUTES INCLUDED IN PLAN **3000**

PEAK **25** OFF-PEAK **25**

CUSTOM CALLING FEATURES
 CALL FORWARDING 3-WAY CALLING
 CALL WAITING

DETAILED BILLING **---**

MESSAGE CENTER **---**

EQUIPMENT INSURANCE **---**

ROADSIDE ASSISTANCE **---**

OTHER (specify) **---**

TAXES **---**

INITIAL CHARGES

ADVANCE MONTHLY CHARGE **---**

FIRST MONTH'S PRORATED MINUTES **---**

SECURITY ACTIVATION CHARGE **---**

SECURITY DEPOSIT **---**

EQUIPMENT / PHONE CHARGE (above) **---**

INSTALLATION CHARGE **---**

EQUIPMENT ACCESSORIES (above) **---**

OTHER (specify) **---**

TAXES **---**

TOTAL INITIAL CHARGES **---**

Signal Dial Direct® Plus Insurance
 Accept **---** Decline **---**

	Monthly Premium/phone	Loss/Damage Deductible	Mech/Elec Deductible
<input type="checkbox"/> Mobile	\$2.95	\$0	\$25
<input type="checkbox"/> Portable/Transportable	\$2.95	\$35	\$25
<input type="checkbox"/> Accessories	\$1.95	\$35	\$25

If you subscribe to Signal Dial Direct® Plus Insurance, you acknowledge that the equipment listed here is in your possession and in good working order. You have received, read and understood the terms and conditions under which the insurance is offered as outlined in the brochure. You acknowledge that insurance protection is offered by the insurance company, and not by United States Cellular. Requests for information for claims regarding the insurance will be directed to Signal. A summary of coverage is available by calling 1-800-480-0117.

DC: **John W. King** **\$50.00** **OK**

PC: **502 only** **\$35.00** **OK**

SERVICE AGREEMENT

ANNUAL AGREEMENT: EXTENDED TERM PLAN

(a) Term. The charges for cellular service are specified above. In exchange for the Company agreeing to limit any increase in these rates as explained below, You agree to maintain cellular service under this Agreement for an **INITIAL TERM ("INITIAL TERM")** of **12** months (customer's initials **JD**). In addition, this agreement shall **AUTOMATICALLY RENEW** at the end of the **INITIAL TERM** for unlimited, successive 12-month terms ("**RENEWAL TERMS**") unless You notify the Company of Your intention to terminate this Agreement in accordance with the provisions below.

(b) Rates. The Company will notify You in writing at least 30 days prior to instituting any increase in charges for cellular service. During this 30-day period, and before the new rates become effective, You may terminate this Agreement by notifying the Company, in writing, of Your intention to do so. Termination during this 30 day period is not subject to the provisions of Section (c) of this Agreement. If You do not terminate this Agreement during such 30 day period in this manner, the **EXTENDED TERM PLAN** will remain in effect for the duration of each **RENEWAL TERM**.

(c) Termination. If You have selected the **EXTENDED TERM PLAN**, You may terminate this Agreement at the end of the **INITIAL TERM** (as set forth above) by notifying the Company in writing of Your intention to do so at least 30 days prior to the expiration of the **INITIAL TERM**. You may terminate this Agreement at any time within the **RENEWAL TERM** by notifying the Company in writing of Your intention to do so at least 30 days prior to Your chosen date of termination. You acknowledge that any early termination of this Agreement during the **INITIAL TERM**, including, but not limited to, a termination by the Company as provided in Paragraph 3 on the reverse side hereof, will damage the Company in an amount that is difficult to determine, but that \$ **200.00** represents a reasonable estimate of the Company's damages. You agree to pay the Company such amount in addition to, and not in lieu of, all other charges for services due and owing hereunder.

By signature below, Subscriber confirms the truth and completeness of the above information. **SUBSCRIBER ACKNOWLEDGES READING, AND AGREES TO, ALL TERMS AND CONDITIONS ON THE REVERSE SIDE OF THIS AGREEMENT, WHICH TERMS AND CONDITIONS ARE PART OF AND HEREBY INCORPORATED INTO THIS AGREEMENT BY THIS REFERENCE.** Subscriber further authorizes any personal references or consumer reporting/credit agencies to furnish Company Subscriber's credit records or history. In the event of unauthorized signature by an agent of a corporate or other business subscriber, the undersigned agrees to be individually liable for amounts not paid when due.

Check Box if Addendum is Attached for Additional Service Lines

PAYMENT

Make checks payable to: **UNITED STATES CELLULAR**

\$ **---** Cash \$ **---** Check

\$ **---** \$ **---** Gift Certificate

Receipt # / P.O. # / Gift Certificate # **---**

VISA MasterCard American Express Discover

Number **---** Exp. Date **---**

By initialing here, customer authorizes company to charge future amounts due under this service agreement to the credit card account listed above

Authorized Customer Signature
X *[Signature]* Date **4/15/97**

Sales Representative / Agent Signature
X *[Signature]* Date **4/15/97**

CASH REGISTER VALIDATION

Number **---** Exp. Date **---**

ORIGINAL - OFFICE YELLOW - AGENT/SALESPERSON PINK - CUSTOMER Suttle Press USC-SA25 Rev. 1/96

Thank you for selecting United States Cellular!

Welcome to United States Cellular!

2819523

CUSTOMER INFORMATION

Individual Business

Name of Individual or Business Responsible for Bill Payment (Please Print)
Wasteen Ky Gas
 Street Address of Responsible Party - Do Not Use P.O. Box
P.O. Box 866
 City Dinwiddie State KY Zip 40302
 Business Phone # 602-61851-8001 Home Phone # _____
 Employer _____ Years employed _____
 Social Security Number _____ Date of Birth _____
 Driver's License Number _____ State _____
 Corporation Partnership Government Sole Proprietorship Years in business under present ownership _____
 Payment Contact: Jeff White Contact 605-8001
 Tax Exempt Yes No If yes, attach certificate Exempt Certificate # _____

ACCOUNT INFORMATION

User Name _____ Address _____ City, State, Zip _____ User Phone # _____
 Mail to the attention of _____ Mailing Address SAME City, State, Zip _____ Bill Copies Required _____

Salos ID # _____ Market Name down Tax Jurisdiction _____ Do you currently have service with US Cellular? Yes No If yes, existing cellular # _____ Revenue? Yes No Lead Source 99 Referred by _____ Account # Account # MIN
 Account # _____ Activation Date _____ CVS Credit # / Authorization # _____ Credit Class _____ Deposit Amount _____ Cellular Phone # 502-929-8924

EQUIPMENT INFORMATION

MFGR/MODEL	ESN/MSN	UNLOCK CODE	PURCH	COE	DEM	RENTAL	OTHER	WARR PERIOD	LOC SITE	EQ TYPE	PRICE
<u>Motolu</u>	<u>D41BEAF6</u>							<u>N/A</u>			<u>N/A</u>
ACCESSORY DESCRIPTION	QTY	LOC SITE	EQ TYPE	PRICE	ACCESSORY DESCRIPTION	QTY	LOC SITE	EQ TYPE	PRICE		
	3										
	4										

SERVICE INFORMATION AND CHARGES

MONTHLY CHARGES		INITIAL CHARGES		Signal Dial Direct® Plus Insurance			
MONTHLY SERVICE PLAN NAME <u>Peak</u>	<u>59.95</u>	ADVANCE MONTHLY CHARGE		Accept	Decline		
MINUTES INCLUDED IN PLAN <u>Mini 1000</u>		FIRST MONTH'S PRORATED MINUTES		Monthly Premium/phone	Loss/Damage Deductible	Mech/Elec Deductible	
PEAK <u>25</u> OFF-PEAK <u>25</u>		SERVICE ACTIVATION CHARGE		<input type="checkbox"/> Mobile	\$2.95	\$0	\$25
CUSTOM CALLING FEATURES		SECURITY DEPOSIT		<input type="checkbox"/> Portable/Transportable	\$2.95	\$35	\$25
<input type="checkbox"/> CALL FORWARDING <input type="checkbox"/> 3-WAY CALLING		EQUIPMENT / PHONE CHARGE (above)		<input type="checkbox"/> Accessories	\$1.95	\$35	\$25
<input type="checkbox"/> CALL WAITING		INSTALLATION CHARGE		If you subscribe to Signal Dial Direct® Plus Insurance, you acknowledge that the equipment listed here is in your possession and in good working order. You have received, read and understood the terms and conditions under which the insurance is offered as outlined in the brochure. You acknowledge that insurance protection is offered by the insurance company, and not by United States Cellular. Requests for information for claims regarding the insurance will be directed to Signal. A summary of coverage is available by calling 1-800-480-0187.			
DETAILED BILLING		EQUIPMENT ACCESSORIES (above)		DC	<u>Appt. Vero \$50.00</u>		
MESSAGE CENTER		OTHER (specify)		PC	<u>SVC only \$35.00</u>		
EQUIPMENT INSURANCE		TAXES					
ROADSIDE ASSISTANCE		TOTAL INITIAL CHARGES					
OTHER (specify)							
TAXES							

SERVICE AGREEMENT

ANNUAL AGREEMENT; EXTENDED TERM PLAN
 (a) Term. The charges for cellular service are specified above. In exchange for the Company agreeing to limit any increase in these rates as explained below, You agree to maintain cellular service under this Agreement for an INITIAL TERM ("INITIAL TERM") of 12 months (customer's initials WJ). In addition, this agreement shall AUTOMATICALLY RENEW at the end of the INITIAL TERM for unlimited, successive 12-month terms ("RENEWAL TERMS") unless You notify the Company of Your intention to terminate this Agreement in accordance with the provisions below.
 (b) Rates. The Company will notify You in writing at least 30 days prior to instituting any increase in charges for cellular service. During this 30-day period, and before the new rates become effective, You may terminate this Agreement by notifying the Company, in writing, of Your intention to do so. Termination during this 30 day period is not subject to the provisions of Section (c) of this Agreement. If You do not terminate this Agreement during such 30 day period in this manner, the EXTENDED TERM PLAN will remain in effect for the duration of each RENEWAL TERM.
 (c) Termination. If You have selected the EXTENDED TERM PLAN, You may terminate this Agreement at the end of the INITIAL TERM (as set forth above) by notifying the Company in writing of Your intention to do so at least 30 days prior to the expiration of the INITIAL TERM. You may terminate this Agreement at any time within the RENEWAL TERM by notifying the Company in writing of Your intention to do so at least 30 days prior to Your chosen date of termination. You acknowledge that any early termination of this Agreement during the INITIAL TERM, including, but not limited to, a termination by the Company as provided in Paragraph 3 on the reverse side hereof, will damage the Company in an amount that is difficult to determine, but that \$ 700.00 represents a reasonable estimate of the Company's damages. You agree to pay the Company such amount in addition to, and not in lieu of, all other charges for services due and owing hereunder.
 By signature below, Subscriber confirms the truth and completeness of the above information. SUBSCRIBER ACKNOWLEDGES READING, AND AGREES TO, ALL TERMS AND CONDITIONS ON THE REVERSE SIDE OF THIS AGREEMENT, WHICH TERMS AND CONDITIONS ARE PART OF AND HEREBY INCORPORATED INTO THIS AGREEMENT BY THIS REFERENCE. Subscriber further authorizes any personal references or consumer reporting/credit agencies to furnish Company Subscriber's credit records or history in the event of unauthorized signature by an agent of a corporate or other business subscriber, the undersigned agrees to be individually liable for amounts not paid when due.

Check Box If Addendum is Attached for Additional Service Lines

PAYMENT

Make checks payable to: UNITED STATES CELLULAR
 \$ _____ Cash \$ _____ Check
 \$ _____ CC \$ _____ Gift Certificate
 Receipt # / P.O. # / Gift Certificate # _____
 VISA MasterCard American Express Discover
 Number _____ Exp. Date _____
 By initialing here, customer authorizes company to charge future amounts due under this service agreement to the credit card account listed above

Authorized Customer Signature _____ Date 4/15/97
 Sales Representative / Agent Signature _____ Date 4/15/97

CASH REGISTER VALIDATION

ORIGINAL - OFFICE YELLOW - AGENT/SALESPERSON PINK - CUSTOMER
 Suite Press USC-5428 Rev. 1/96

Thank you for selecting United States Cellular!

Welcome to United States Cellular!

2819518

CUSTOMER INFORMATION Individual Business

Name of Individual or Business Responsible for Bill Payment (Please Print)
Western KY Gas

Street Address of Responsible Party - Do Not Use P.O. Box
P.O. Box 866

City **Owensboro** State **KY** Zip **42302-0866**

Business Phone # **562-6651-1500** Home Phone # **111-1111-1111**

Employer **Western KY Gas** Years employed _____

Individual Social Security Number _____ Date of Birth _____

Business Driver's License Number _____ State _____

Corporation Partnership Government Sole Proprietorship Years in business under present ownership _____

Payment Contact: **Jill Whiting** Contact #: **655-5100**

Tax Exempt Yes No *If yes, attach certificate* Exempt Certificate # _____

ACCOUNT INFORMATION

User Name _____ Address _____ City, State, Zip _____ User Phone # _____

Mail to the attention of: _____ Mailing Address **SAME** City, State, Zip _____ Bill Copies Required _____

Sales ID # **11111111** Market Name **OWN** Tax Jurisdiction _____ Do you currently have service with US Cellular? Yes No *If yes, existing cellular #* _____ Revenue? Yes No **59** Lead Source **99** Referred by _____ Account # MIN MAX

Account # **3175758** Activation Date **4/15/97** CVS Credit # / Authorization # **201117295** Credit Class **H** Deposit Amount **J** Cellular Phone # **5071-19791-18900**

EQUIPMENT INFORMATION

MFG/MODEL	ES/MSN	UNLOCK CODE	PURCH	COE	DEM	RENTAL	OTHER	WARR PERIOD	LOC SITE	EQ TYPE	PRICE
Motors StarTac	224102066135		<input checked="" type="checkbox"/>					1yr			549.95
ACCESSORY DESCRIPTION	QTY	LOC SITE	EQ TYPE	PRICE	ACCESSORY DESCRIPTION	QTY	LOC SITE	EQ TYPE	PRICE		

SERVICE INFORMATION AND CHARGES

MONTHLY SERVICE PLAN NAME	MONTHLY CHARGES	ADVANCE MONTHLY CHARGE	INITIAL CHARGES	Signal Dial Direct Plus Insurance
Start 1000	59.99			Accept <input type="checkbox"/> Decline <input type="checkbox"/>
# MINUTES INCLUDED IN PLAN		FIRST MONTH'S PRORATED		Monthly Premium/phone
PEAK 25 OFF-PEAK 25		MINUTES		Loss/Damage Deductible
CUSTOM CALLING FEATURES		SERVICE ACTIVATION CHARGE	n/c	Mech/Elec Deductible
<input type="checkbox"/> CALL FORWARDING <input type="checkbox"/> 3-WAY CALLING		SECURITY DEPOSIT		<input type="checkbox"/> Mobile \$2.95
<input type="checkbox"/> CALL WAITING		EQUIPMENT / PHONE CHARGE (above)	549.95	<input type="checkbox"/> Portable/Transportable \$2.95
DETAILED BILLING		INSTALLATION CHARGE		<input type="checkbox"/> Accessories \$1.95
MESSAGE CENTER		EQUIPMENT ACCESSORIES (above)		
EQUIPMENT INSURANCE		OTHER (specify)		
ROADSIDE ASSISTANCE		TAXES	33.00	
OTHER (specify)		TOTAL INITIAL CHARGES	582.95	
TAXES				

If You subscribe to Signal Dial Direct Plus Insurance, You acknowledge that the equipment listed here is in Your possession and in good working order. You have received, read and understood the terms and conditions under which the insurance is offered as outlined in the brochure. You acknowledge that insurance protection is offered by the insurance company, and not by United States Cellular. Requests for information for claims regarding the insurance will be directed to Signal. A summary of coverage is available by calling 1-800-495-1111.

APR 1 PHONE
\$50.00 credit

SERVICE AGREEMENT

ANNUAL AGREEMENT; EXTENDED TERM PLAN

(a) Term. The charges for cellular service are specified above. In exchange for the Company agreeing to limit any increase in these rates as explained below, You agree to maintain cellular service under this Agreement for an INITIAL TERM ("INITIAL TERM") of **12** months (customer's initials **JD**). In addition, this agreement shall AUTOMATICALLY RENEW at the end of the INITIAL TERM for unlimited, successive 12-month terms ("RENEWAL TERMS") unless You notify the Company of Your intention to terminate this Agreement in accordance with the provisions below.

(b) Rates. The Company will notify You in writing at least 30 days prior to instituting any increase in charges for cellular service. During this 30-day period, and before the new rates become effective, You may terminate this Agreement by notifying the Company, in writing, of Your intention to do so. Termination during this 30 day period is not subject to the provisions of Section (c) of this Agreement. If You do not terminate this Agreement during such 30 day period in this manner, the EXTENDED TERM PLAN will remain in effect for the duration of each RENEWAL TERM.

(c) Termination. If You have selected the EXTENDED TERM PLAN, You may terminate this Agreement at the end of the INITIAL TERM (as set forth above) by notifying the Company in writing of Your intention to do so at least 30 days prior to the expiration of the INITIAL TERM. You may terminate this Agreement at any time within the RENEWAL TERM by notifying the Company in writing of Your intention to do so at least 30 days prior to Your chosen date of termination. You acknowledge that any early termination of this Agreement during the INITIAL TERM, including, but not limited to, a termination by the Company as provided in Paragraph 3 on the reverse side hereof, will damage the Company in an amount that is difficult to determine, but that \$ **200.00** represents a reasonable estimate of the Company's damages. You agree to pay the Company such amount in addition to, and not in lieu of, all other charges for services due and owing hereunder.

By signature below, Subscriber confirms the truth and completeness of the above information. SUBSCRIBER ACKNOWLEDGES READING, AND AGREES TO, ALL TERMS AND CONDITIONS ON THE REVERSE SIDE OF THIS AGREEMENT, WHICH TERMS AND CONDITIONS ARE PART OF AND HEREBY INCORPORATED INTO THIS AGREEMENT BY THIS REFERENCE. Subscriber further authorizes any personal references or consumer reporting/credit agencies to furnish Company Subscriber's credit records or history. In the event of unauthorized signature by an agent of a corporate or other business subscriber, the undersigned agrees to be individually liable for amounts not paid when due.

Check Box if Addendum is Attached for Additional Service Lines

PAYMENT

Make checks payable to: **UNITED STATES CELLULAR**

\$ _____ Cash \$ _____ Check

\$ _____ Gift Certificate

Receipt # / P.O. # / Gift Certificate # **BT 7A**

VISA MasterCard American Express Discover

Number _____ Exp. Date _____

By initialing here, customer authorizes company to charge future amounts due under this service agreement to the credit card account listed above

Authorized Customer Signature _____ Date **4/15/97**

Sales Representative / Agent Signature _____ Date **4/15/97**

CASH REGISTER VALIDATION

ORIGINAL - OFFICE - YELLOW - AGENT/SALESPERSON - PINK - CUSTOMER - Blue Press - USC 0425 - Rev. 1/96

Thank you for selecting United States Cellular!

Welcome to United States Cellular!

2819517

CUSTOMER INFORMATION Individual Business

Name of Individual or Business Responsible for Bill Payment (Please Print) Western KY Gas

Street Address of Responsible Party - Do Not Use P.O. Box P.O. Box 866

City Owensboro State KY Zip 42302 0666

Business Phone 502-6851-8001 Home Phone # _____

Employer _____ Years employed _____

Social Security Number _____ Date of Birth _____

Driver's License Number _____ State _____

Corporation Partnership Government Sole Proprietorship Years in business under present ownership _____

Payment Contact: _____ Contact #: _____

Tax Exempt Yes No If yes, attach certificate Exempt Certificate # _____

ACCOUNT INFORMATION

User Name _____ Address _____ City, State, Zip _____ User Phone # _____

Mail to the attention of: _____ Mailing Address _____ City, State, Zip _____ Bill Copies Required _____

Sales ID # 11059 Market Name John Tax Jurisdiction _____ Do you currently have service with US Cellular? Yes No Add service line to existing account? Yes No If yes, existing cellular # _____ Revenue? Yes No Lead Source _____ Referred by _____ Account # Account # MIN

Account # _____ Activation Date _____ CVS Credit # / Authorization # _____ Credit Class _____ Deposit Amount _____ Cellular Phone # _____

EQUIPMENT INFORMATION

MFG/MODEL	ESN/MSN	UNLOCK CODE	PURCH	COE	DEM	RENTAL	OTHER	WARR PERIOD	LOC SITE	EQ TYPE	PRICE
ACCESSORY DESCRIPTION	QTY	LOC SITE	EQ TYPE	PRICE	ACCESSORY DESCRIPTION	QTY	LOC SITE	EQ TYPE	PRICE		
1					3						
2					4						

SERVICE INFORMATION AND CHARGES

MONTHLY CHARGES	INITIAL CHARGES	Signal Dial Direct Plus Insurance
MONTHLY SERVICE PLAN NAME _____	ADVANCE MONTHLY CHARGE _____	Accept _____ Decline _____
# MINUTES INCLUDED IN PLAN _____	FIRST MONTH'S PRORATED _____	Monthly Premium/phone _____ Loss/Damage Deductible _____ Mech/Elec Deductible _____
PEAK _____ OFF-PEAK _____	MINUTES _____	<input type="checkbox"/> Mobile \$2.95 \$0 \$25
CUSTOM CALLING FEATURES	SERVICE ACTIVATION CHARGE _____	<input type="checkbox"/> Portable/Transportable \$2.95 \$35 \$25
<input type="checkbox"/> CALL FORWARDING <input type="checkbox"/> 3-WAY CALLING	SECURITY DEPOSIT _____	<input type="checkbox"/> Accessories \$1.95 \$35 \$25
<input type="checkbox"/> CALL WAITING	EQUIPMENT / PHONE CHARGE (above) _____	
DETAILED BILLING	INSTALLATION CHARGE _____	
MESSAGE CENTER	EQUIPMENT ACCESSORIES (above) _____	
EQUIPMENT INSURANCE	OTHER (specify) _____	
ROADSIDE ASSISTANCE	TAXES _____	
OTHER (specify) _____	TOTAL INITIAL CHARGES _____	
TAXES _____		

If you subscribe to Signal Dial Direct Plus Insurance, you acknowledge that the equipment listed here is in your possession and in good working order. You have received, read and understood the terms and conditions under which the insurance is offered as outlined in the brochure. You acknowledge that insurance protection is offered by the insurance company, and not by United States Cellular. Requests for information or claims regarding the insurance will be directed to Signal Dial Direct. Coverage is available by calling 1-800-480-0187.

\$50.00 (incl. tax)
350.00 Total

SERVICE AGREEMENT

ANNUAL AGREEMENT: EXTENDED TERM PLAN

(a) Term. The charges for cellular service are specified above. In exchange for the Company agreeing to limit any increase in these rates as explained below, you agree to maintain cellular service under this Agreement for an INITIAL TERM ("INITIAL TERM") of 12 months (customer's initials: JD). In addition, this agreement shall AUTOMATICALLY RENEW at the end of the INITIAL TERM for unlimited, successive 12-month terms ("RENEWAL TERMS") unless you notify the Company of your intention to terminate this Agreement in accordance with the provisions below.

(b) Rates. The Company will notify you in writing at least 30 days prior to instituting any increase in charges for cellular service. During this 30-day period, and before the new rates become effective, you may terminate this Agreement by notifying the Company, in writing, of your intention to do so. Termination during this 30 day period is not subject to the provisions of Section (c) of this Agreement. If you do not terminate this Agreement during such 30 day period in this manner, the EXTENDED TERM PLAN will remain in effect for the duration of each RENEWAL TERM.

(c) Termination. If you have selected the EXTENDED TERM PLAN, you may terminate this Agreement at the end of the INITIAL TERM (as set forth above) by notifying the Company in writing of your intention to do so at least 30 days prior to the expiration of the INITIAL TERM. You may terminate this Agreement at any time within the RENEWAL TERM by notifying the Company in writing of your intention to do so at least 30 days prior to your chosen date of termination. You acknowledge that any early termination of this Agreement during the INITIAL TERM, including, but not limited to, a termination by the Company as provided in Paragraph 3 on the reverse side hereof, will damage the Company in an amount that is difficult to determine, but that \$ 200.00 represents a reasonable estimate of the Company's damages. You agree to pay the Company such amount in addition to, and not in lieu of, all other charges for services due and owing hereunder.

By signature below, Subscriber confirms the truth and completeness of the above information. SUBSCRIBER ACKNOWLEDGES READING, AND AGREES TO, ALL TERMS AND CONDITIONS ON THE REVERSE SIDE OF THIS AGREEMENT, WHICH TERMS AND CONDITIONS ARE PART OF AND HEREBY INCORPORATED INTO THIS AGREEMENT BY THIS REFERENCE. Subscriber further authorizes any personal references or consumer reporting/credit agencies to furnish Company Subscriber's credit records or history. In the event of unauthorized signature by an agent of a corporate or other business subscriber, the undersigned agrees to be individually liable for amounts not paid when due.

Check Box if Addendum is Attached for Additional Service Lines

PAYMENT

Make checks payable to: UNITED STATES CELLULAR

\$ _____ Cash \$ _____ Check

\$ _____ CC \$ _____ Gift Certificate

Receipt # / P.O. # / Gift Certificate # _____

VISA MasterCard American Express Discover

Number _____ Exp. Date _____

By initialing here, customer authorizes company to charge future amounts due under this service agreement to the credit card account listed above _____

Authorized Customer Signature _____ Date 4/15/97

Sales Representative / Agent Signature _____ Date 4/15/97

CASH REGISTER VALIDATION

929-4930 929-2503

929-3204 929-0930

929-3705 929-2504

<836-6859>

ORIGINAL - OFFICE YELLOW - AGENT/SALESPERSON PINK - CUSTOMER

Circle Press USC-SA25 Rev. 1/96

Thank you for selecting United States Cellular!

Welcome to United States Cellular!

3273841

CUSTOMER INFORMATION Individual Business

Name of Individual or Business Responsible (Please Print) Westen KY 695		Employer	Years employed
Street Address of Responsible Party - Do Not Use P.O. Box P.O. Box 866		Social Security Number	Date of Birth
City Owensboro State KY Zip 42302		Driver's License Number	State
Business Phone # 502-168518100	Home Phone #	<input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Government <input type="checkbox"/> Sole Proprietorship Years in business under present ownership	
Payment Contact: Patricia Contact #: 685-8100		Tax Exempt <input type="checkbox"/> Yes <input type="checkbox"/> No <i>If yes, attach certificate</i> Exempt Certificate #	

ACCOUNT INFORMATION

User Name	Address	City, State, Zip	User Phone #
Mail to the attention of:	Mailing Address	City, State, Zip	Bill Copies Required

Sales ID 10059	Market Name AXNO	Tax Jurisdiction	Do you currently have service with US Cellular? <input type="checkbox"/> Yes <input type="checkbox"/> No	If yes, existing cellular #	Revenue? <input type="checkbox"/> Yes <input type="checkbox"/> No	Lead Source	Referred by	<input type="checkbox"/> Account # <input type="checkbox"/> MIN
Account #	Activation Date 9/22/97	CVS Credit # / Authorization #	Credit Class	Deposit Amount	Cellular Phone # 502-1929-16311			

EQUIPMENT INFORMATION

MFG/MODEL Motorola	ESW/MSN 13804639643	UNLOCK CODE	PURCH	COE	DEM	RENTAL	OTHER	WARR PERIOD 12	LOC SITE	EQ TYPE	PRICE 214
ACCESSORY DESCRIPTION	QTY	LOC SITE	EQ TYPE	PRICE	ACCESSORY DESCRIPTION			QTY	LOC SITE	EQ TYPE	PRICE
1				3							
2				4							

SERVICE INFORMATION AND CHARGES

MONTHLY SERVICE PLAN NAME Next 19.95		INITIAL CHARGES		Signal Dial Direct Plus Insurance	
* MINUTES INCLUDED IN PLAN	PEAK OFF-PEAK	ADVANCE MONTHLY CHARGE	FIRST MONTH'S PRORATED MINUTES	Accept	Decline
CUSTOM CALLING FEATURES		SERVICE ACTIVATION CHARGE	SECURITY DEPOSIT	Monthly Premium/phone	Loss/Damage Deductible
DETAILED BILLING		EQUIPMENT / PHONE CHARGE (above)	INSTALLATION CHARGE	<input type="checkbox"/> Mobile \$2.95	<input type="checkbox"/> Loss/Damage \$0
MESSAGE CENTER		EQUIPMENT ACCESSORIES (above)	OTHER (specify)	<input type="checkbox"/> Portable/Transportable \$2.95	<input type="checkbox"/> Mech/Elec Deductible \$25
EQUIPMENT INSURANCE		TAXES	TOTAL INITIAL CHARGES	<input type="checkbox"/> Accessories \$1.95	<input type="checkbox"/> \$25
ROADSIDE ASSISTANCE				If You subscribe to Signal Dial Direct Plus Insurance, You acknowledge that the equipment listed here is in Your possession and in good working order. You have received, read and understood the terms and conditions under which the insurance is offered as outlined in the form that you acknowledge that insurance protection is offered by the insurance company listed by United States Cellular. Requests for information for claims regarding the insurance will be directed to Signal. A summary of coverage is available by calling 1-800-460-0167.	
OTHER (specify)				Do: _____ PC: _____	

SERVICE AGREEMENT

ANNUAL AGREEMENT, EXTENDED TERM PLAN

(a) Term. The charges for cellular service are specified above. In exchange for the Company agreeing to limit any increase in these rates as explained below, You agree to maintain cellular service under this Agreement for an INITIAL TERM ("INITIAL TERM") of 12 months (customer's Initial Term). In addition, this agreement shall AUTOMATICALLY RENEW at the end of the INITIAL TERM for unlimited, successive 12-month terms ("RENEWAL TERMS") unless You notify the Company of Your intention to terminate this Agreement in accordance with the provisions below.

(b) Rates. The Company will notify You in writing at least 30 days prior to instituting any increase in charges for cellular service. During this 30-day period, and before the new rates become effective, You may terminate this Agreement by notifying the Company, in writing, of Your intention to do so. Termination during this 30 day period is not subject to the provisions of Section (c) of this Agreement. If You do not terminate this Agreement during this 30 day period in this manner, the EXTENDED TERM PLAN will remain in effect for the duration of each RENEWAL TERM.

(c) Termination. If You have selected the EXTENDED TERM PLAN, You may terminate this Agreement at the end of the INITIAL TERM (as set forth above) by notifying the Company in writing of Your intention to do so at least 30 days prior to the expiration of the INITIAL TERM. You may terminate this Agreement at any time within the RENEWAL TERM by notifying the Company in writing of Your intention to do so at least 30 days prior to Your chosen date of termination. You acknowledge that any early termination of this Agreement during the INITIAL TERM, including, but not limited to, a termination by the Company as provided in Paragraph 3 on the reverse side hereof, will damage the Company in an amount that is difficult to determine, but that \$200.00 represents a reasonable estimate of the Company's damages. You agree to pay the Company such amount in addition to, and not in lieu of, all other charges for services due and owing hereunder.

By signature below, Subscriber confirms the truth and completeness of the above information. SUBSCRIBER ACKNOWLEDGES READING, AND AGREES TO, ALL TERMS AND CONDITIONS ON THE REVERSE SIDE OF THIS AGREEMENT, WHICH TERMS AND CONDITIONS ARE PART OF AND HEREBY INCORPORATED INTO THIS AGREEMENT BY THIS REFERENCE. Subscriber further authorizes any personal references or consumer reporting/credit agencies to furnish Company Subscriber's credit records or history. In the event of unauthorized signature by an agent of a corporate or other business subscriber, the undersigned agrees to be individually liable for amounts not paid when due.

Check Box if Addendum is Attached for Additional Service Lines

PAYMENT	
Make checks payable to: UNITED STATES CELLULAR	
\$ _____ Cash	\$ _____ Check
\$ _____ CC	\$ _____ Gift Certificate
Receipt # / P.O. # / Gift Certificate #	
<input type="checkbox"/> VISA <input type="checkbox"/> MasterCard <input type="checkbox"/> American Express <input type="checkbox"/> Discover	
Number _____ Exp. Date _____	
By initialing here, customer authorizes company to charge future amounts due under this service agreement to the credit card account listed above	

Authorized Customer Signature [Signature]	Date 9/22/97
Sales Representative / Agent Signature [Signature]	Date 9/22/97

CASH REGISTER VALIDATION

ORIGINAL - OFFICE YELLOW - AGENT/SALESPERSON PINK - CUSTOMER

Thank you for selecting United States Cellular!

Welcome to United States Cellular!

3273810

CUSTOMER INFORMATION Individual Business

Name of Individual or Business Responsible for Bill Payment (Please Print) Western KY Gas

Street Address of Responsible Party (Do Not Use P.O. Box) P.O. Box 866 Apt./Suite No. 42302

City Dwainsboro State WV

Business Phone 502-685-1810 Home Phone _____

Employer _____ Years employed _____

Social Security Number _____ Date of Birth _____

Driver's License Number _____ State _____

Corporation Partnership Government Sole Proprietorship Years in business under present ownership _____

Payment Contact: Jeff Wilkins Contact #: 685-8100

Tax Exempt Yes No *If yes, attach certificate* Exempt Certificate # _____

ACCOUNT INFORMATION

User Name Don Peile Address _____ City, State, Zip _____ User Phone # _____

Mail to the attention of: _____ Mailing Address _____ City, State, Zip _____ Bill Copies Required _____

Sales ID # 12055 Market Name obano Tax Jurisdiction _____ Do you currently have service with US Cellular? Yes No *If yes, existing cellular #* 502-929-16311 Revenue? Yes No Lead Source _____ Referred by _____ Account # MIN.

Account # _____ Activation Date 10/2/97 CVS Credit # / Authorization # _____ Credit Class _____ Deposit Amount _____ Cellular Phone # 502-929-3211

EQUIPMENT INFORMATION

MFG/MODEL	ESN/MSN	UNLOCK CODE	PURCH	COE	DEM	RENTAL	OTHER	WARR PERIOD	LOC SITE	EQ TYPE	PRICE
<u>Motorola</u>	<u>22410105766</u>		<u>3</u>					<u>1 yr</u>			<u>44.95</u>
ACCESSORY DESCRIPTION	QTY	LOC SITE	EQ TYPE	PRICE	ACCESSORY DESCRIPTION	QTY	LOC SITE	EQ TYPE	PRICE		

SERVICE INFORMATION AND CHARGES

MONTHLY SERVICE PLAN NAME <u>Free</u>		INITIAL CHARGES		Signal Dial Direct Plus Insurance		
# MINUTES INCLUDED IN PLAN <u>3000</u>	OFF-PEAK <u>25</u>	ADVANCE MONTHLY CHARGE _____	FIRST MONTH'S PRORATED MINUTES _____	Accept _____	Decline _____	
CUSTOM CALLING FEATURES		SERVICE ACTIVATION CHARGE <u>19.95</u>	SECURITY DEPOSIT _____	Monthly Premium/Phone _____	Loss/Damage Deductible _____	Mech/Elec Deductible _____
DETAILED BILLING		EQUIPMENT / PHONE CHARGE (above) <u>49.95</u>	INSTALLATION CHARGE _____	<input type="checkbox"/> Mobile \$2.00	<input type="checkbox"/> Portable/Transportable \$2.00	<input type="checkbox"/> Accessories \$1.00
MESSAGE CENTER		EQUIPMENT ACCESSORIES (above) _____	OTHER (specify) _____	<input type="checkbox"/> If you subscribe to Signal Dial Direct Plus Insurance, you acknowledge that the equipment listed here is in your possession and in good working order. You have received, read and understood the terms and conditions under which the insurance is offered as outlined in the brochure. You acknowledge that insurance protection is offered by the Insurance Agency, and not by United States Cellular. Requests for information for claims regarding the insurance will be directed to Signal. A summary of coverage is available by calling 1-800-480-0167.		
EQUIPMENT INSURANCE		TAXES <u>2.70</u>	TOTAL INITIAL CHARGES <u>47.65</u>	One with fees (Call 1-9-97)		
ROADSIDE ASSISTANCE						
OTHER (specify)						
TAXES						

SERVICE AGREEMENT

ANNUAL AGREEMENT: EXTENDED TERM PLAN

(a) Term. The charges for cellular service are specified above. In exchange for the Company agreeing to limit any increase in these rates as explained below, You agree to maintain cellular service under this Agreement for an INITIAL TERM ("INITIAL TERM") of 12 months (customer's initials DP). In addition, this agreement shall AUTOMATICALLY RENEW at the end of the INITIAL TERM for unlimited, successive 12-month terms ("RENEWAL TERMS") unless You notify the Company of Your intention to terminate this Agreement in accordance with the provisions below.

(b) Rates. The Company will notify You in writing at least 30 days prior to instituting any increase in charges for cellular service. During this 30-day period, and before the new rates become effective, You may terminate this Agreement by notifying the Company, in writing, of Your intention to do so. Termination during this 30-day period is not subject to the provisions of Section (c) of this Agreement. If You do not terminate this Agreement during such 30-day period in this manner, the EXTENDED TERM PLAN will remain in effect for the duration of each RENEWAL TERM.

(c) Termination. If You have selected the EXTENDED TERM PLAN, You may terminate this Agreement at the end of the INITIAL TERM (as set forth above) by notifying the Company in writing of Your intention to do so at least 30 days prior to the expiration of the INITIAL TERM. You may terminate this Agreement at any time within the RENEWAL TERM by notifying the Company in writing of Your intention to do so at least 30 days prior to Your chosen date of termination. You acknowledge that any early termination of this Agreement during the INITIAL TERM, including, but not limited to, a termination by the Company as provided in Paragraph 3 on the reverse side hereof, will damage the Company in an amount that is difficult to determine; but that \$ 20.00 represents a reasonable estimate of the Company's damages. You agree to pay the Company such amount in addition to, and not in lieu of, all other charges for services due and owing hereunder.

By signature below, Subscriber confirms the truth and completeness of the above information. SUBSCRIBER ACKNOWLEDGES READING, AND AGREES TO, ALL TERMS AND CONDITIONS ON THE REVERSE SIDE OF THIS AGREEMENT, WHICH TERMS AND CONDITIONS ARE PART OF AND HEREBY INCORPORATED INTO THIS AGREEMENT BY THIS REFERENCE. Subscriber further authorizes any personal references or consumer reporting/credit agencies to furnish Company Subscriber's credit records or history. In the event of unauthorized signature by an agent of a corporate or other business subscriber, the undersigned agrees to be individually liable for amounts not paid when due.

Check Box If Addendum Is Attached for Additional Service Lines

PAYMENT #

Make checks payable to: **UNITED STATES CELLULAR**

\$ _____ Cash \$ _____ Check

\$ _____ SC _____ Gift Certificate

Receipt # / P.O. # / Gift Certificate # BTA

VISA MasterCard American Express Discover

Number _____ Exp. Date _____

By initialing here, customer authorizes company to charge future amounts due under this service agreement to the credit card account listed above _____

Authorized Customer Signature _____ Date 10/8/97

Sales Representative / Agent Signature _____ Date 10/8/97

CASH REGISTER VALIDATION

ORIGINAL - OFFICE YELLOW - AGENT/SALESPERSON PINK - CUSTOMER

Thank you for selecting United States Cellular!

CUSTOMER INFORMATION Individual Business

Name of Individual or Business Responsible for Bill Payment (Please Print) <u>WASKO, KY 195</u>		Employer	Years employed
Street Address of Responsible Party. Do Not Use P.O. Box <u>P.O. Box 866</u>		Social Security Number	Date of Birth
City <u>Owensboro</u> State <u>KY</u> Zip <u>42302</u>		Driver's License Number	State
Business Phone # <u>509-178518100</u>	Home Phone #	<input type="checkbox"/> Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Government <input type="checkbox"/> Sole Proprietorship Years in business under present ownership	
Payment Contact: <u>Jeff Huhby</u> Contact #: <u>603-870</u>		Tax Exempt <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, attach certificate Exempt Certificate #	

ACCOUNT INFORMATION

User Name	Address	City, State, Zip	User Phone #
Mail to the attention of: <u>Jeff Huhby MDT</u>		Mailing Address	City, State, Zip
Sales ID # <u>100159</u>	Market Name <u>OWNS</u>	Do you currently have service with BellSouth Mobility? <input type="checkbox"/> Yes <input type="checkbox"/> No	If yes, existing cellular # <u>562-3110-1216</u>
Account # <u>303719261</u>	Activation Date	CVS Credit # / Authorization #	Credit Class <u>A</u> Deposit Amount <u>5</u> Cellular Phone # <u>303-316-110175</u>

ACCOUNT INFORMATION

IFMG/MODEL	ESN/MSN	UNLOCK CODE	PURCH	COE	DEM	RENTAL	OTHER	WARR PERIOD	LOG SITE	EQ TYPE	PRICE
<u>Siemens Wireless</u>	<u>2061010125681</u>			<u>✓</u>				<u>12</u>			<u>110</u>
ACCESSORY DESCRIPTION	QTY	LOC SITE	EQ TYPE	PRICE	ACCESSORY DESCRIPTION	QTY	LOC SITE	EQ TYPE	PRICE		
1					3						
2					4						

SERVICE INFORMATION AND CHARGES

MONTHLY SERVICE PLAN NAME: <u>FastTalk!</u> # MINUTES INCLUDED IN PLAN: <u>198</u> PEAK: <u>35</u> OFF-PEAK: <u>10</u> CUSTOM CALLING FEATURES: <input type="checkbox"/> CALL FORWARDING <input type="checkbox"/> 3-WAY CALLING <input type="checkbox"/> CALL WAITING <u>2-912</u> <input type="checkbox"/> MESSAGE CENTER <input type="checkbox"/> EQUIPMENT INSURANCE <input type="checkbox"/> ROADSIDE ASSISTANCE OTHER (specify): TAXES:	INITIAL CHARGES ADVANCED MONTHLY PRORATED: FIRST MONTH'S PRORATED MINUTES: _____ SERVICE ACTIVATION CHARGE: _____ SECURITY DEPOSIT: _____ EQUIPMENT / PHONE CHARGE (above): _____ INSTALLATION CHARGE: _____ EQUIPMENT ACCESSORIES (above): _____ OTHER (specify): _____ TAXES (specify): _____ TOTAL INITIAL CHARGES: _____	Signal Dial Direct Plus Insurance Accept _____ Decline _____ <input type="checkbox"/> Mobile \$2.95 \$0 \$25 <input type="checkbox"/> Portable/Transportable \$2.95 \$35 \$25 <input type="checkbox"/> Accessories \$1.95 \$35 \$25 If you subscribe to Signal Dial Direct Plus Insurance, you acknowledge that equipment listed here is in your possession and in good working order. You have received, read and understand the terms and conditions under which the insurance is offered as outlined in the brochure. You acknowledge that insurance protection is offered by the insurance company, and not by BellSouth Mobility. Request for information for claims regarding the insurance will be directed to Signal. A summary of coverage is available by calling 1-800-460-0167. Add'l. amt: <u>50 m.mts</u> DC: _____ PC: <u>Per Month</u>
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SERVICE AGREEMENT

NOTICE TO CUSTOMER
 (a) Term. The charges for cellular service are specified above. In exchange for the Company agreeing to limit any increase in these rates as explained below, You agree to maintain cellular service under this agreement for an INITIAL TERM ("INITIAL TERM") OF 24 months (customer's initials: AK).
 • The monthly service charge and any minutes included will be prorated for the number of days in service during the first billing period.
 • The first month's bill will show a monthly service charge for the following month; subsequently you will be billed one month in advance.
 • All "Special Pricing Plans" are subject to eligibility requirements and approval. Ineligibility for "Special Pricing" does not nullify this agreement.
 • When using your phone outside your home service area (roaming) rate may vary.
 • Long distance is billed in addition to airtime.
 • The appropriate liquidated damages (up to \$240.00) may apply for early cancellation (see paragraph 18).
 • Customer authorizes Company to check Customer's credit and to provide and exchange credit information regarding Customer with credit bureaus.
 • Customer certifies that the pricing plan chosen has been explained and that the Customer understands the components of the pricing plan, including but not limited to the activation fee, monthly access charges, usage charges, liquidated damages, applicable taxes, (rental agreements, where applicable) and agrees to same.
 Customer elects to subscribe to BellSouth Mobility's 24 month agreement. By signing below, the undersigned "Customer" acknowledges the accuracy of the above information and has received a copy of, read, understands, and accepts the attached Terms and Conditions of Service Agreement (Form #BSCC 11-97).

Check Box If Addendum is Attached for Additional Service Lines.

PAYMENT

Make checks payable to: BellSouth Mobility	Cash \$	Check \$	CC \$	Gift Certificate \$
Receipt # / P.O. # / Gift Certificate #	<input type="checkbox"/> VISA <input type="checkbox"/> MasterCard <input type="checkbox"/> American Express <input type="checkbox"/> Discover			
Number Exp. Date	By initialing here, customer authorizes company to charge future amounts due under this service agreement to the credit card account listed above.			

Authorized Customer Signature

X <u>[Signature]</u>	Date: <u>3/19/99</u>
Sales Representative / Agent Signature	Date
X <u>[Signature]</u>	<u>3/19/99</u>

CASH REGISTER VALIDATION

Customer will remain on the rate plan selected or a higher rate plan for a period of 180 days.

Other Comments:

Credit Reference Number 1101625734 1) Mobile # 3114169 E.S.N. 1101625734
 □ ESN Change □ No Install □ ion 2) Mobile # 507 711469 E.S.N. 711469 25665
 Mobile Number 3) Mobile # 502 3114169 E.S.N. 711469 25734
601022365 Date: 11/15/95 4) Mobile # E.S.N.

CONSUMER - Complete Boxes 1 & 2 or COMMERCIAL/CORPORATE - Complete Boxes 1, 2 & 3
 Market AKCO Agent Code 17015 Sales Rep. Yes No
 Existing customer?

1 CONSUMER - Print the name and address of person responsible for charges made to this account:
Hester 1969
 Responsible Party First Name Hester Last Name 1969
 Billing Address/Post Office Box
 City State Zip + Four
 Home Phone Work Phone

Social Security Number ANNUAL INCOME
 UNDER \$35,000 \$49,999
 \$35,000 - \$50,000 \$74,999
 \$50,000 - \$75,000 \$89,999
 \$75,000 - \$90,000 \$105,999
 \$90,000 - \$105,000 \$114,999
 \$105,000 & ABOVE

2 COMMERCIAL/CORPORATE - Up to 48-hour processing time
 Purchase Order Number
 Company Name Tax Exempt Number
 Supervisor's Name Supervisor's Phone No. Yrs. In Business
 Does street address differ from billing address? Yes No
 Is this branch or subsidiary of the main office? Yes No
 Type of business: Corporation Sole Proprietorship or Partnership Other
 Bank Name Account Officer Phone Number Account Number
 Trade Reference Contact Phone Number Account Number
 Trade Reference Contact Phone Number Account Number

3 ATTACH COPY OF DRIVER'S LICENSE OR PICTURE I.D.
 This is to certify that I have positively identified the above applicant's name and signature and that it matched the signature and name on this BellSouth Mobility Cellular Agreement.

 Name of Company Sales Representative's Signature
 Date Print Name

LN	QTY	ITEM NUMBER (Required)	DESCRIPTION	SERIAL NUMBERS	NET UNIT PRICE
				MSN	
				ESN	
				MSN	
				ESN	
				MSN	
				ESN	
				MSN	
				ESN	

Payment Method: Paid with Order Check/Cash Receipt #
 Invoice Customer Net 30 P.O. #
 Credit Card MC Visa AMEX Other
 Expiration: Authorization:
 Bill with Service (Sales Director's Approval)
 Balance \$ Monthly Payments of:
 Other
 Customer is purchasing equipment primarily for business purposes.

CUSTOMER ACKNOWLEDGEMENTS
 • The monthly service charge and any minutes included will be prorated for the number of days in service during the first billing period.
 • The first month's bill will show a monthly service charge for the following month, subsequently you will be billed one month in advance.
 • (All Special Pricing Plans) are subject to eligibility requirements and approval; eligibility for "Special Pricing" does not nullify this agreement.
 • When using your phone outside your home service area (roaming) rate may vary.
 • Long distance is billed in addition to airtime.
 • A connection charge of \$3.99 per month will apply during any month in which a call originated from the cellular phone(s) is terminated through the landline network (connection charge is subject to change on 30 days notice).
 • The appropriate liquidated damages (up to \$240.00) may apply for early cancellation (see paragraph 18).
 • Customer authorizes Company to check Customer's credit and to provide and exchange credit information regarding Customer with credit bureaus.
 • Customer certifies that the pricing plan chosen has been explained and that the Customer understands the components of the pricing plan, including but not limited to the activation fee, monthly access charges, usage charges, liquidated damages, (applicable taxes, rental agreements, where applicable) and agrees to same.
 • Customer elects to subscribe to BellSouth Mobility's month agreement.

By signing below, the undersigned "Customer" acknowledges the accuracy of the above information and has received a copy of, read, understands, and accepts the attached Terms and Conditions of Service Agreement (Form BSGG 6-98).

 Customer Authorized Signature Printed Name Date
 WHITE - B.M. SERVICE AGREEMENT 12/98 YELLOW - SALES REP. PINK - MOBILE EQUIPMENT SUPPLIER. GOLD - CUSTOMER. B.M. 190105

BELLSOUTH Mobility
 SERVICE PLAN SELECTED

Local airtime minutes included per month:
 CUSTOM CALLING FEATURES
 Call Waiting \$
 Call Forwarding \$
 No Answer Transfer \$
 Three Party Conferencing \$
 Any Two Features \$
 Any Three Features \$
 OTHER
 Mobile Memo Description \$
 One-Number Service Description \$
 Nights & Weekends \$
 Mobile-To-Mobile \$
 Emergency Road Service* \$
 Detailed Billing \$
 Toll Restricted \$
 Incoming Calls Only \$
 Outgoing Calls Only \$
 Miscellaneous \$
 Miscellaneous \$
 LONG DISTANCE
 BellSouth Long Distance \$
 Other \$

CELLULAR PHONE INSURANCE (Not available in all locations) (initial one) Accept Decline
 Premium/Month: \$2.95 Deductible: \$35
 Cellular Phone
 *If you subscribe to cellular phone insurance and/or emergency road service, you acknowledge that you have received and read the brochure for same and understand the terms and conditions under which same is offered outlined therein.
 I understand that in the event of a loss, theft or damage, replacement of my cellular phone may be greater than the original price.

PAGING
 Pager Number
 PIN
 Service
 BellSouth Paging Service may be discontinued at any time with no penalty. BellSouth Paging Service is available only with BellSouth Cellular Service. In the event the customer cancels the cellular service identified by the mobile number above, the paging service shall be automatically discontinued.

TOTAL MONTHLY SERVICE
 (Excluding additional airtime charges and taxes)

CREDIT APPLICATION IDENTIFICATION EQUIPMENT INFORMATION (Direct Sales Use Only) ACKNOWLEDGEMENT

Sales/Install Branch Inventory Branch MOBILE NUMBER 1571 925-8904

ORDER TYPE SALES ORDER BWS ORDER CREDIT ORDER ORIGINAL ORDER BWS CREDIT ORIGINAL ORDER

Customer information section including fields for 'SOLD TO', 'SHIP TO', 'ATTENTION', 'ADDRESS', 'CITY, STATE, ZIP', 'WORK PHONE', 'HOME PHONE', and 'TAX AREA'.

Table with multiple columns containing vehicle details, including MSN (Manufacturer's Stock Number) and other identifiers.

Payment and financing options section with checkboxes for 'Paid with order', 'Check', 'Invoice Customer Net 30', 'Credit Card', 'OCC 18', 'Collect on Delivery', and 'Bill with Service'.

Vehicle specifications section including 'DATE & TIME OF SCHEDULED INSTALLATION', 'MAKE, MODEL & COLOR OF AUTOMOBILE', 'LICENSE PLATE NUMBER', and 'UNLOCK CODE'.

NOTICE TO THE CUSTOMER: By signing below, you acknowledge that you have received a copy of this Order Form, that you agree that the information above is correct and complete, and that you have read and understood, and agree to be bound by the terms and conditions on this side and the reverse side including but limited to the disclaimer of warranties and limitations of remedies in paragraph 2 and the indemnities in paragraph 3.

CUSTOMER SIGNATURE DATE BMI REPRESENTATIVE SIGNATURE E-NUMBER DATE

Credit Reference Number 502 9775904 1) Mobile # 502 316 7522 E.S.N. 25300072585
 ESN Change No Install Commission 2) Mobile # 502 316 7524 E.S.N. 25300072605
 Mobile Number 3) Mobile # 502 316 7830 E.S.N. 25300079633
601022392 Date 4) Mobile # 502 316 7531 E.S.N. 253000741602

CONSUMER - Complete Boxes 1 & 2
 COMMERCIAL/CORPORATE - Complete Boxes 1, 2, & 3
 Market 601022392 Agent Code 170153 Yes No Existing customer?

1. CONSUMER
 Print the name and address of person responsible for charges made to this account:
 Responsible Party First Name Wilson Last Name Ky Gas
 Billing Address/Post Office Box 2407 N. New Richmond Rd
 City Georgetown State KY Zip + Four 47523-1317
 Home Phone (606) 352-8100 Work Phone

Social Security Number ANNUAL INCOME
 UNDER \$35,000
 \$35,000 - \$49,999
 \$50,000 - \$74,999
 \$75,000 - \$89,999
 \$90,000 - \$105,999
 \$106,000 - \$114,999
 \$115,000 & ABOVE
 Date of Birth _____ Male _____ Female _____
 Driver's License Number _____ State _____

2. COMMERCIAL/CORPORATE
 Up to 48-hour processing time
 Purchase Order Number _____
 Company Name _____ Tax Exempt Number _____
 Supervisor's Name _____ Supervisor's Phone No. _____ Yrs. In Business _____
 Does street address differ from billing address? Yes _____ No _____
 Is this branch of subsidiary of the main office? Yes _____ No _____
 Type of business: Corporation Sole Proprietorship or Partnership Other _____
 Bank Name _____ Account Officer _____ Phone Number _____ Account Number _____
 Trade Reference _____ Contact _____ Phone Number _____ Account Number _____
 Trade Reference _____ Contact _____ Phone Number _____ Account Number _____
 Trade Reference _____ Contact _____ Phone Number _____ Account Number _____

3. ATTACH COPY OF DRIVER'S LICENSE OR PICTURE I.D.
 This is to certify that I have positively identified the above applicant's name and signature and that it matched the signature and name on this BellSouth Mobility Cellular Agreement.
 Name of Company Wilson Ky Gas Sales Representative's Signature [Signature]
 Date 1/29/99 Print Name [Name]

LN	TY	QTY	ITEM NUMBER (Required)	DESCRIPTION	SERIAL NUMBERS	NET UNIT PRICE
5		1	5170	MSN		N/A
5		1	5170	ESN		N/A
5		1	5170	MSN		N/A
5		1	5170	ESN		N/A
5		1	5170	MSN		N/A
5		1	5170	ESN		N/A

Paid with Order Check/Cash Receipt # _____
 Invoice Customer Net 30 PD # _____
 Credit Card MC Visa AMEX Other _____
 Expiration _____ Authorization _____
 Sales/Install Branch _____ Inventory Branch _____
 Card # _____ Security Code _____ Unlock Code _____
 # Applicable

Bill with Service (Sales Director's Approval)
 Balance \$ _____ with _____ Monthly Payments of \$ _____
 Other _____
 Customer is purchasing equipment primarily for business purposes. Date _____ Time _____ License Plate Number _____

CUSTOMER ACKNOWLEDGEMENTS
 • The monthly service charge and any minutes included will be prorated for the number of days in service during the first billing period.
 • The first month's bill will show a monthly service charge for the following month, subsequently you will be billed one month in advance.
 • All Special Pricing Plans are subject to eligibility requirements and approval. Ineligibility for Special Pricing does not nullify this agreement.
 • When using your phone outside your home service area (roaming) rate may vary.
 • Long distance is billed in addition to airtime.
 • A connection charge of \$2.75 per month will apply during any month in which a call originated from the cellular phone(s) is terminated through the landline network (connection charge is subject to change on 30 days notice).
 • The appropriate liquidated damages (up to \$240.00) may apply for early cancellation (see paragraph 18).
 • Customer authorizes Company to check Customer's credit and to provide and exchange credit information regarding Customer with credit bureaus.
 • Customer certifies that the pricing plan chosen has been explained and that the Customer understands the components of the pricing plan, including but not limited to the activation fee, monthly access charges, usage charges, liquidated damages, applicable taxes, (rental agreements, where applicable) and agrees to same.
 • Customer elects to subscribe to BellSouth Mobility _____ month agreement.
 By signing below, the undersigned Customer acknowledges the accuracy of the above information and has received a copy of, read, understands, and accepts the attached Terms and Conditions of Service Agreement Form 12/96.
 Customer Authorized Signature [Signature] Printed Name [Name]
 WHITE - BILL YELLOW - SALES REP PINK - MOBILE EQUIPMENT SUPPLIER GOLD - CUSTOMER
 SERVICE AGREEMENT 12/96

BELLSOUTH Mobility

SERVICE PLAN SELECTED M. 11/2hr Add 10X1D 11.00
 Local airtime minutes included per month: _____
 CUSTOM CALLING FEATURES
 Call Waiting \$ _____
 Call Forwarding \$ _____
 No Answer Transfer \$ _____
 Three Party Conferencing \$ _____
 Any Two Features \$ _____
 Any Three Features \$ _____
 OTHER
 Mobile Memo \$ _____
 Description _____
 Pager # _____
 One-Number Service \$ _____
 Description _____
 Nights & Weekends \$ _____
 Mobile-To-Mobile \$ _____
 Emergency Road Service \$ _____
 Detailed Billing \$ _____
 Toll Restricted \$ _____
 Incoming Calls Only \$ _____
 Outgoing Calls Only \$ _____
 Miscellaneous \$ _____
 LONG DISTANCE
 BellSouth Long Distance \$ _____
 Other \$ _____

CELLULAR PHONE INSURANCE
 (Not available in all locations)
 (initial one) Accept _____ Decline _____
 Cellular Phone Premium/Month \$2.95 Deductible \$35
 *If you subscribe to cellular phone insurance and/or emergency road service, you acknowledge that you have received and read the brochure for same and understand the terms and conditions under which same is offered outlined therein.
 I understand that in the event of a loss, theft or damage, replacement of my cellular phone may be greater than the original price.

PAGING
 Pager Number _____
 PIN _____
 Service _____
 BellSouth Paging Service may be discontinued at any time with no penalty. BellSouth Paging Service is available only with BellSouth Cellular Service. In the event the customer cancels the cellular service identified by the mobile number above, the paging service shall be automatically discontinued.

TOTAL MONTHLY SERVICE \$ 21.00
 (Excluding additional airtime charges and taxes)

EQUIPMENT INFORMATION (Direct Sales Use Only)

SERVICE APPLICATION

ACKNOWLEDGEMENT

Credit Reference Number 51 Mobile # (407) 314 7832 E.S.N. 25366072579
 ESN Change No Install Other 2) Mobile # _____ E.S.N. _____
 3) Mobile Number _____ E.S.N. _____
 60 1022393 Date _____ 4) Mobile # _____ E.S.N. _____

CONSUMER / COMMERCIAL CORPORATE - Complete Boxes 1, 2, & 3

Market 06000 Agent Code 120453 Yes No Existing customer?

1 CONSUMER
 Print the name and address of person responsible for charges made to this account:
Woskwa 14 Gas
 Responsible Party First Name Woskwa Last Name 14
 Billing Address Post Office Box Curtisford IA Zip 51730-1312
 City Curtisford State IA Zip Four 03 8100
 Home Phone _____ Work Phone _____

2 COMMERCIAL/CORPORATE
 Up to 48-hour processing time
 Company Name _____ Tax Exempt Number _____
 Supervisor's Name _____ Supervisor's Phone No. _____ Yrs. In Business _____
 Does street address differ from billing address? Yes No
 Is this branch or subsidiary of the main office? Yes No
 Type of business: Corporation Sole Proprietorship or Partnership Other _____
 Bank Name _____ Account Officer _____ Phone Number _____ Account Number _____
 Trade Reference _____ Contact _____ Phone Number _____ Account Number _____
 Trade Reference _____ Contact _____ Phone Number _____ Account Number _____
 Trade Reference _____ Contact _____ Phone Number _____ Account Number _____

3 ATTACH COPY OF DRIVER'S LICENSE OR PICTURE I.D.
 This is to certify that I have positively identified the above applicant's name and signature and that it matched the signature and name on this BellSouth Mobility Cellular Agreement.

Name of Company Woskwa 14 Gas Sales Representative's Signature [Signature]
 Date _____ Print Name _____

BELLSOUTH Mobility

SERVICE PLAN SELECTED 1111-Add'l W/ 70X D 2.1

Local airtime minutes included per month: _____

CUSTOM CALLING FEATURES

Call Waiting \$ _____
 Call Forwarding \$ _____
 No Answer Transfer \$ _____
 Three Party Conferencing \$ _____
 Any Two Features \$ _____
 Any Three Features \$ _____

OTHER

Mobile Memo \$ _____
 One-Number Service \$ _____
 Nights & Weekends \$ _____
 Mobile-To-Mobile \$ _____
 Emergency Road Service \$ _____
 Detailed Billing \$ _____
 Toll Restricted \$ _____
 Incoming Calls Only \$ _____
 Outgoing Calls Only \$ _____
 Miscellaneous \$ _____
 Miscellaneous \$ _____

LONG DISTANCE

BellSouth Long Distance \$ _____
 Other \$ _____

CELLULAR PHONE INSURANCE \$ _____
 (Not available in all locations)
 (Initial one) Accept _____ Decline _____
 Premium/Month \$ 2.95 Deductible \$ 35

If you subscribe to cellular phone insurance and/or emergency road service, you acknowledge that you have received and read the brochure for same and understand the terms and conditions under which same is offered outlined therein.

I understand that in the event of a loss, theft or damage, replacement of my cellular phone may be greater than the original price. (Customer Initials)

PAGING \$ _____
 Pager Number _____
 PIN _____
 Service _____

BellSouth Paging Service may be discontinued at any time with no penalty. BellSouth Paging Service is available only with BellSouth Cellular Service. In the event the customer cancels the cellular service identified by the mobile number above, the paging service shall be automatically discontinued.

TOTAL MONTHLY SERVICE \$ 20
 (Excluding additional airtime charges and taxes)

LN	TY	QTY	ITEM NUMBER (Required)	DESCRIPTION	SERIAL NUMBERS	NET UNIT PRICE
5	1	1	Nokia 5120	MSN		20.00
				ESN		
				MSN		
				ESN		
				MSN		
				ESN		
				MSN		
				ESN		

Paid with Order Check/Cash Receipt # _____
 Invoice Customer Net 30 PO # _____
 Credit Card MC Visa AMEX Other _____
 Expiration _____ Authorization _____

Sales/Install Branch _____
 Inventory Branch _____
 Card # _____
 Security Code _____ Unlock Code _____
 (If Applicable)

Bill with Service (Sales Director's Approval)
 Balance \$ _____ Monthly Payments of \$ _____
 Other order _____

Customer is purchasing equipment primarily for business purposes

SCHEDULED INSTALLATION

AM PM Make, Model & Color of Automobile _____
 Date _____ Time _____ License Plate Number _____

ACKNOWLEDGEMENT

CUSTOMER ACKNOWLEDGEMENTS

- The monthly service charge and any minutes included will be prorated for the number of days in service during the first billing period.
- The first month's bill will show a monthly service charge for the following month, subsequently you will be billed one month in advance.
- All Special Pricing Plans are subject to eligibility requirements and approval; ineligibility for "Special Pricing" does not nullify this agreement.
- When using your phone outside your home service area (roaming) rate may vary.
- Long distance is billed in addition to airtime.
- A connection charge of \$10 per month will apply during any month in which a call originated from the cellular phone(s) is terminated through the landline network (connection charge is subject to change on 30 days notice).
- The appropriate liquidated damages (up to \$24000) may apply for early cancellation (see paragraph 18).
- Customer authorizes Company to check Customer's credit and to provide and exchange credit information regarding Customer with credit bureaus.
- Customer certifies that the pricing plan chosen has been explained and that the Customer understands the components of the pricing plan, including but not limited to the activation fee, monthly access charges, usage charges, liquidated damages, applicable taxes, rental agreements, where applicable, and agrees to same.

Customer agrees to subscribe to BellSouth Mobility _____ month agreement.

By signing below, the undersigned "Customer" acknowledges the accuracy of the above information and has received a copy of, read, understands, and accepts the attached Terms and Conditions of Service Agreement Form BSCE-478.

Customer Authorized Signature _____ Printed Name _____ Date _____
 WHITE - BELL SOUTHWESTERN TELEPHONE COMPANY YELLOW - SALES REPRESENTATIVE PINK - MOBILE EQUIPMENT SUPPLIER GOLD - CUSTOMER
 SERVICE AGREEMENT 12/98

Credit Reference Number 300 724 8904 1) Mobile # (500) 316 7822 E.S.N. 214 000 23141
 □ ESN Change □ No Install □ Extension 2) Mobile # (500) 316 7873 E.S.N. 766 000 25786
 3) Mobile # _____ E.S.N. _____
 4) Mobile # _____ E.S.N. _____

600985870 Date _____

CONSUMER OR COMMERCIAL/CORPORATE Complete Pages 1, 2 & 3
 Market OKLA Agency Code 120473 Sales Rep _____
 Existing customer? Yes No

1 CONSUMER
 Print the name and address of person responsible for charges made to this account:
Western KU Gas
 Responsible Party First Name Walter Last Name Kurt
 Billing Address/Post Office Box 120473
 City Lawton State OK Zip 73505-1312
 Home Phone 602 685 8100 Work Phone _____

2 COMMERCIAL/CORPORATE
 Up to 48-hour processing time
 Company Name _____ Tax Exempt Number _____
 Supervisor's Name _____ Supervisor's Phone No. _____ Yrs. in Business _____
 Does street address differ from billing address? Yes No
 Is this branch or subsidiary of the main office? Yes No
 Type of business: Corporation Sole Proprietorship or Partnership Other _____
 Bank Name _____ Account Office Phone Number _____ Account Number _____
 Trade Reference _____ Contact _____ Phone Number _____ Account Number _____
 Trade Reference _____ Contact _____ Phone Number _____ Account Number _____

3 ATTACH COPY OF DRIVER'S LICENSE OR PICTURE I.D.
 This is to certify that I have positively identified the above applicant's name and signature and that it matched the signature and name on this BellSouth Mobility Cellular Agreement.
D.M.F.
 Name of Company Western Sales Representative's Signature _____
 Date 11/28/95 Print Name D.M.F.

EQUIPMENT INFORMATION (Direct Sales Use Only)
 Paid with Order Check/Cash Receipt # _____
 Invoice Customer Net 30 P.O. # _____
 Credit Card MC Visa AMEX Other _____
 Expiration _____ Authorization _____
 Sales/Install Branch _____
 Inventory Branch _____
 Card # _____
 Security Code _____ Unlock Code _____

LN	TY	QTY	ITEM NUMBER (Required)	DESCRIPTION	SERIAL NUMBERS	NET UNIT PRICE
					MSN	
					ESN	
					MSN	
					ESN	
					MSN	
					ESN	
					MSN	
					ESN	

Bill with Service (Sales Director's Approval)
 Balance \$ _____ with _____ Monthly Payments of \$ _____
 Other _____
 Customer is purchasing equipment primarily for business purposes No

ACKNOWLEDGEMENT
 The monthly service charge and any minutes included will be prorated for the number of days in service during the first billing period.
 The first month's bill will show a monthly service charge for the following month; subsequently you will be billed one month in advance.
 All "Special Pricing Plans" are subject to eligibility requirements and approval. Ineligibility for "Special Pricing" does not nullify this agreement.
 When using your phone outside your home service area (roaming) rate may vary.
 Long distance is billed in addition to airtime.
 A connection charge of \$15.00 per month will apply during any month in which a call originated from the cellular phone(s) is terminated through the landline network (connection charge is subject to change on 30 days notice).
 The appropriate liquidated damages (up to \$240.00) may apply for early cancellation (see paragraph 18).
 Customer authorizes Company to check Customer's credit and to provide and exchange credit information regarding Customer with credit bureaus.
 Customer certifies that the pricing plan chosen has been explained and that the Customer understands the components of the pricing plan, including but not limited to the activation fee, monthly access charges, usage charges, liquidated damages, applicable taxes, rental agreements, where applicable and agrees to same.
 Customer elects to subscribe to BellSouth Mobility _____ month agreement.
 By signing below, the undersigned "Customer" acknowledges the accuracy of the above information and has received a copy of, read, understands, and accepts the attached Terms and Conditions of Service Agreement (Form BSCT 6-95).

 Authorized Signature _____ Printed Name _____
 DATE _____
 WHITE - BELL SOUTH MOBILITY SALES REP. PINK - MOBILE EQUIPMENT SUPPLIER GOLD - CUSTOMER BSI 190705

BELLSOUTH Mobility
 SERVICE PLAN SELECTED Anytime 10X \$ 20.00

Local airtime minutes included per month: _____
 CUSTOM CALLING FEATURES
 Call Waiting \$ _____
 Call Forwarding \$ _____
 No Answer Transfer \$ _____
 Three Party Conferencing \$ _____
 Any Two Features \$ _____
 Any Three Features \$ _____
 OTHER
 Mobile Memo Description _____
 One-Number Service Description _____
 Nights & Weekends \$ _____
 Mobile-To-Mobile \$ _____
 Emergency Road Service \$ _____
 Detailed Billing \$ _____
 Toll Restricted \$ _____
 Incoming Calls Only \$ _____
 Outgoing Calls Only \$ _____
 Miscellaneous \$ _____
 Miscellaneous \$ _____

LONG DISTANCE
 BellSouth Long Distance
 Other

CELLULAR PHONE INSURANCE
 (Not available in all locations) Accept _____ Decline _____
 Premium/Month \$ 2.95 Deductible \$ 35
 Cellular Phone

If you subscribe to cellular phone insurance and/or emergency road service, you acknowledge that you have received and read the brochure for same and understand the terms and conditions under which same is offered outlined therein.
 I understand that in the event of a loss, theft or damage, replacement of my cellular phone may be greater than the original price.

PAGING
 Pager Number _____
 PIN _____
 Service _____

BellSouth Paging Service may be discontinued at any time with no penalty. BellSouth Paging Service is available only with BellSouth Cellular Service. In the event the customer cancels the cellular service identified by the mobile number above, the paging service shall be automatically discontinued.

TOTAL MONTHLY SERVICE
 (Excluding additional airtime charges and taxes) \$ 20.00

Non-Taxable Subtotal \$ _____
 Taxable Subtotal \$ _____
 Tax Rate % _____
 Order Total \$ _____
 Down Payment \$ _____
 Balance Due \$ _____

SCHEDULED INSTALLATION
 AM PM
 License Plate Number _____
 Date _____ Time _____

Customer Acknowledgements
 By signing below, the undersigned "Customer" acknowledges the accuracy of the above information and has received a copy of, read, understands, and accepts the attached Terms and Conditions of Service Agreement (Form BSCT 6-95).

 Authorized Signature _____ Printed Name _____
 DATE _____

Danville #1
 Credit Reference Number: ESN Change No Install Collision
 1) Mobile # (606) 583-7531
 2) Mobile # (606) 583-7530
 3) Mobile # (606) 583-7531
 4) Mobile # (606) 583-7532
 Mobile Number: 60-258784
 Date: _____
 W. Va. 258784
 E.S.N. _____

BELLSOUTH Mobility

CONSUMER COMMERCIAL/CORPORATE
 Complete Boxes 1, 2 & 3
 Market: 14 Agent Code: 30 Sales Rep: 12002A
 Existing customer? Yes No

CONSUMER
 Print the name and address of person responsible for charges made to this account:
 Responsible Party First Name: Wesley Kai Last Name: HAS
 Billing Address/Post Office Box: 2201 N. W. 11th St. Apt. 202
W. Va. 26040 City: W. Va. State: W. Va. Zip: 26040
 Home Phone: 202-685-8100 Work Phone: 202-685-8100

CREDIT APPLICATION
 Social Security Number: _____
 Date of Birth: _____ Male Female
 Driver's License Number: _____ State: _____
 ANNUAL INCOME:
 UNDER \$35,000
 \$35,000 - \$49,999
 \$50,000 - \$74,999
 \$75,000 - \$99,999
 \$100,000 - \$109,999
 \$110,000 & ABOVE

COMMERCIAL/CORPORATE
 Up to 48-hour processing time
 Company Name: J. Whiting Purchase Order Number: _____
 Tax Exempt Number: _____
 Supervisor's Name: _____ Supervisor's Phone No.: _____
 Does street address differ from billing address? (Yes/No) _____
 Is this branch or subsidiary of the main office? (Yes/No) _____
 Type of business: Corporation Sole Proprietorship or Partnership Other
 Bank Name: _____ Account Number: _____
 Trade Reference: _____ Contact: _____ Phone Number: _____
 Trade Reference: _____ Contact: _____ Phone Number: _____

ATTACH COPY OF DRIVER'S LICENSE OR PICTURE I.D.
 This is to certify that I have positively identified the above applicant's name and signature and that it matched the signature and name on this BellSouth Mobility Cellular Agreement.
 Name of Company: BML Sales Representative's Signature: Chris Adams
 Date: 4/21/97 Print Name: Chris Adams

SERVICE PLAN SELECTED: FAST Start Digital \$45.00
 Local airtime minutes included per month: 0.450

CUSTOM CALLING FEATURES
 Call Waiting \$ _____
 Call Forwarding \$ _____
 No Answer Transfer \$ _____
 Three Party Conferencing \$ _____
 Any Two Features \$ _____
 Any Three Features \$ _____
OTHER
 Mobile Memo \$ _____
 PowerCall One-Number Service \$ _____
 Nights & Weekends \$ _____
 Mobile-To-Mobile \$ _____
 Emergency Road Service* \$ _____
 Detailed Billing \$ _____
 Toll Restricted \$ _____
 Incoming Calls Only \$ _____
 Outgoing Calls Only \$ _____
 Miscellaneous \$ _____
 Miscellaneous \$ _____

EQUIPMENT INSURANCE
 Phone Insurance (initial one) Accept Decline
 (Not available in all locations)
 Monthly Loss/Damage Mech/Elect Premium Deductible Deductible
 Mobiles \$2.95 \$0 \$25
 Portables/Transportables \$2.95 \$35 \$25
 Accessories \$1.95 \$35 \$25

*If you subscribe to phone insurance and/or emergency road service, you acknowledge that you have received and read the brochure for same and understand the terms and conditions under which same is offered outlined therein.
 I understand that in the event of a loss, theft or damage, replacement of my cellular phone may be greater than the original price. Customer Initials

TOTAL MONTHLY SERVICE
 (Excluding additional airtime charges and taxes) \$ _____

LONG DISTANCE
 BellSouth Long Distance Waive \$35 set up
 Other _____

LN TY	QTY	ITEM NUMBER (Required)	DESCRIPTION	SERIAL NUMBERS	NET UNIT PRICE
6	1	NOK5120's		MSN 45300301625 ESN 25300301629	
SA	1	NOK5120		MSN 25300301659 ESN 25300301620	606.189.00
				MSN 25300301663 ESN 25300301690	1.185.89.00

Paid with Order Check/Cash Receipt Invoice Customer Net 30 P.O.
 Credit Card MC Visa AMEX Other
 Expiration: _____ Authorization: _____
 Sales/Install Branch: _____ Inventory Branch: _____
 Card #: _____ Security Code: _____ Unlock Code: _____

EQUIPMENT INFORMATION (Direct Sales Use Only)
 Bill with Service Bill with _____ (Sales Director's Approval)
 Balance \$ _____ with _____ Monthly Payments of \$ _____
 Other _____
 Customer is purchasing equipment primarily for business purposes: Yes No

ACKNOWLEDGEMENT
 The monthly service charge and any minutes included will be prorated for the number of days in service during the first billing period.
 The first month's bill will show a monthly service charge for the following month; subsequently you will be billed one month in advance.
 All "Special Pricing Plans" are subject to eligibility requirements and approval. Ineligibility for "Special Pricing" does not nullify this agreement.
 When using your phone outside your home service area (roaming), rate may vary.
 Long distance is billed in addition to airtime.
 A connection charge of \$ _____ per month will apply during any month in which a call originated from the cellular phone(s) is terminated through the landline network (connection charge is subject to change on 30 days notice).
 The appropriate liquidated damages (up to \$240.00) may apply for early cancellation (see paragraph 18).
 Customer authorizes Company to check Customer's credit and to provide and exchange credit information regarding Customer with credit bureaus.
 Customer certifies that the pricing plan chosen has been explained and that the Customer understands the components of the pricing plan, including but not limited to the activation fee, monthly access charges, usage charges, liquidated damages, applicable taxes, rental agreements, where applicable) and agrees to same.
 Customer elects to subscribe to BellSouth Mobility's _____ month agreement.
 By signing below, the undersigned Customer acknowledges the accuracy of the above information and has received a copy of, read, understands, and accepts the attached Terms and Conditions of Service Agreement Form BSM 10/98.
 Signature: Chris Adams Date: 4/21/97
 Signature: J. Whiting Date: _____
 WHITE - BSM 10/98 YELLOW - SALES REP PINK - MOBILE EQUIPMENT SUPPLIER GOLD - CUSTOMER BSM 190105

Sales / Install
Branch

Inventory
Branch

MOBILE NUMBER
(58) 974-2921

ORDER TYPE
 SALES ORDER BWS ORDER CREDIT ORDER ORIGINAL ORDER # BWS CREDIT ORIGINAL ORDER #

SOLD TO:		CUSTOMER NUMBER	SHIP TO:		CUSTOMER NUMBER
CUSTOMER NAME <i>W.K.B.</i>			CUSTOMER NAME		
ATTENTION			ATTENTION		
ADDRESS			ADDRESS		
CITY, STATE, ZIP			CITY, STATE, ZIP		
WORK PHONE () - () - ()	HOME PHONE () - () - ()	WORK PHONE () - () - ()	HOME PHONE () - () - ()		
TAX AREA: <input type="checkbox"/> TAX EXEMPT		All tax exempt sales require exemption certificate to be attached to Customer Order.			
SPECIAL PROGRAM					

UN	QTY	REQUIRED ITEM NUMBER	DESCRIPTION	SERIAL NUMBERS	NET UNIT PRICE	EXTENDED AMOUNT
	✓		22721	MSN ESN	1350	
	✓		22761	MSN ESN	1395	
				MSN ESN		
				MSN ESN		
				MSN ESN		
				MSN ESN		
				MSN ESN		

<input type="checkbox"/> Paid with order Check # _____	NON-TAXABLE SUBTOTAL
<input type="checkbox"/> Invoice Customer Net 30 P.O. # _____	TAXABLE SUBTOTAL
<input type="checkbox"/> Credit Card <input type="checkbox"/> MC <input type="checkbox"/> VISA <input type="checkbox"/> AMEX # _____ Exp. _____ Auth. _____	TAX RATE 9%
<input type="checkbox"/> OCC 18 (Shop fees only)	ORDER TOTAL
<input type="checkbox"/> Collect on Delivery	DOWN PAYMENT
<input type="checkbox"/> CC _____ GM _____	BALANCE DUE
<input type="checkbox"/> Bill with Service _____ (GENERAL MANAGER'S APPROVAL)	
Balance \$ _____ with _____ Monthly payments of \$ _____	
<input type="checkbox"/> Other: _____	

DATE & TIME OF SCHEDULED INSTALLATION / / <input type="checkbox"/> AM <input type="checkbox"/> PM	MAKE, MODEL & COLOR OF AUTOMOBILE	LICENSE PLATE NO.	UNLOCK CODE
SPECIAL INSTRUCTIONS			

NOTICE TO THE CUSTOMER: By signing below, you acknowledge that you have received a copy of this Order Form, that you agree that the information above is correct and complete, and that you have read and understood, and agree to be bound by the terms and conditions on this side and the reverse side including but limited to the disclaimer of warranties and limitations of remedies in paragraph 2 and the indemnities in paragraph 3. If customer is a corporation, partnership, or other entity, the undersigned hereby personally guarantees, unconditionally and at all times, the payment when due of all indebtedness of such corporation, partnership, or any other entity. Customer hereby authorizes Company to investigate the credit of Customer and gives Company permission to check Customer's credit and to provide and exchange credit information regarding Customer with credit agencies. If this is a credit card purchase, I authorize BellSouth Mobility to charge the total balance due to the card number shown above.

CUSTOMER SIGNATURE _____ DATE **5/11/93**
 BMI REPRESENTATIVE SIGNATURE _____ E-NUMBER _____ DATE _____
SALES REPRESENTATIVE

502 929 89041 1) Mobile # (502) 316 4275 E.S.N. 2351226073 L
 Credit Reference Number 2) Mobile # (502) 316 1276 E.S.N. 23516578880
 ESN Change No Install Conversion
 Mobile Number 3) Mobile # () E.S.N.
 60-591335 Date 4) Mobile # () E.S.N.

CONSUMER - Complete Boxes 1, 2, 3 & 4
 COMMERCIAL/CORPORATE - Complete Boxes 1, 2, 3 & 4

Market 0000 Agent Code 120453 Yes No
 Existing customer?

1 CONSUMER -
 Print the name and address of person responsible for charges made to this account:
 Responsible Party First Name W. Steen Last Name Y. Bus
 Billing Address/Post Office Box 2907 New Richmond
 City Clemson State SC Zip + Four 29635
 Home Phone _____ Work Phone _____

Social Security Number _____
 Date of Birth _____ Male Female
 Driver's License Number _____ State _____

2 COMMERCIAL/CORPORATE -
 Up to 48-hour processing time
 Purchase Order Number _____
 Company Name _____ Tax Exempt Number _____
 Supervisor's Name _____ Supervisor's Phone No. _____ Yrs. In Business _____
 Does street address differ from billing address? Yes No
 Is this branch or subsidiary of the main office? Yes No
 Type of business: Corporation, Sole Proprietorship or Partnership, Other
 Bank Name _____ Account Officer _____ Phone Number _____ Account Number _____
 Trade Reference _____ Contact _____ Phone Number _____ Account Number _____
 Trade Reference _____ Contact _____ Phone Number _____ Account Number _____
 Trade Reference _____ Contact _____ Phone Number _____ Account Number _____

3 ATTACH COPY OF DRIVER'S LICENSE OR PICTURE I.D.
 This is to certify that I have positively identified the above applicant's name and signature and that it matched the signature and name on this BellSouth Mobility Cellular Agreement.
 Name of Company 319/411 Sales Representative's Signature [Signature]
 Date _____ Print Name _____

LN	TY	QTY	ITEM NUMBER (Required)	DESCRIPTION	SERIAL NUMBERS	NET UNIT PRICE
3	1		NO. 5120		MSN 23513568952 ESN	NIC
3	1		NO. 453120		MSN 23516578880 ESN	NIC
3	5		Value P.A.K.	72841	MSN ESN 17061	85.00
				MP4241	MSN ESN	19.95

Paid with Order Check/Cash Receipt
 Invoice Customer Net 30 P.O.#
 Credit Card MC Visa AMEX Other
 Expiration _____ Authorization _____
 Sales/Install Branch _____
 Inventory Branch _____
 Card # _____
 Security Code _____ Unlock Code _____
 (If Applicable)

Bill with Service _____ (Sales Director's Approval)
 Balance \$ _____ with _____ Monthly Payments of \$ _____
 Other _____
 Customer is purchasing equipment primarily for business purposes. _____ (Customer's Initials)

CUSTOMER ACKNOWLEDGEMENTS
 • The monthly service charge and any minutes included will be prorated for the number of days in service during the first billing period.
 • The first month's bill will show a monthly service charge for the following month, subsequently you will be billed one month in advance.
 • All "Special Pricing Plans" are subject to eligibility requirements and approval. Ineligibility for "Special Pricing" does not nullify this agreement.
 • When using your phone outside your home service area (roaming) rate may vary.
 • Long distance is billed in addition to airtime.
 • A connection charge of \$ _____ per month will apply during any month in which a call originated from the cellular phone(s) is terminated through the landline network (connection charge is subject to change on 30 days notice).
 • The appropriate liquidated damages (up to \$240.00) may apply for early cancellation (see paragraph 18).
 • Customer authorizes Company to check Customer's credit and to provide and exchange credit information regarding Customer with credit bureaus.
 • Customer certifies that the pricing plan chosen has been explained and that the Customer understands the components of the pricing plan, including but not limited to the activation fee, monthly access charges, usage charges, liquidated damages, applicable taxes, (fees) payments, where applicable) and agrees to same.
 Customer elects to subscribe to BellSouth Mobility's _____ month agreement.
 By signing below, the undersigned "Customer" acknowledges the accuracy of the above information and has received a copy of, read, understands, and accepts the attached Terms and Conditions of Service Agreement (Form #BSCT 6-98).
 X _____ (Customer's Signature) _____ (Customer's Initials)
 _____ (Sales Representative's Signature) _____ (Sales Representative's Name)
 Date 3/9/99 Deposit _____
 WHITE - BSM SERVICE AGREEMENT 12/98 YELLOW - SALES REP PINK - MOBILE EQUIPMENT SUPPLIER GOLD - CUSTOMER BSM 190105

BELLSOUTH Mobility

SERVICE PLAN SELECTED W.I. P. Live 5K \$ 15.00
 Local airtime minutes included per month: _____

CUSTOM CALLING FEATURES
 Call Waiting \$ _____
 Call Forwarding \$ _____
 No Answer Transfer \$ _____
 Three Party Conferencing \$ _____
 Any Two Features \$ _____
 Any Three Features \$ _____

OTHER
 Mobile Memo Description _____ Pager # _____ \$ _____
 One-Number Service Description _____ \$ _____
 Nights & Weekends \$ _____
 Mobile-To-Mobile \$ _____
 Emergency Road Service* \$ _____
 Detailed Billing \$ _____
 Toll Restricted \$ _____
 Incoming Calls Only \$ _____
 Outgoing Calls Only \$ _____
 Miscellaneous \$ _____
 Miscellaneous \$ _____

LONG DISTANCE
 BellSouth Long Distance
 Other

CELLULAR PHONE INSURANCE
 (Not available in all locations)
 (Initial one) Accept _____ Decline _____
 Cellular Phone Premium/Month \$2.95 Deductible \$35
 *If you subscribe to cellular phone insurance and/or emergency road service, you acknowledge that you have received and read the brochure for same and understand the terms and conditions under which same is offered outlined therein.
 I understand that in the event of a loss, theft or damage, replacement of my cellular phone may be greater than the original price. _____ (Customer Initials)

PAGING
 Pager Number _____
 PIN _____
 Service _____
 BellSouth Paging Service may be discontinued at any time with no penalty. BellSouth Paging Service is available only with BellSouth Cellular Service. In the event the customer cancels the cellular service identified by the mobile number above, the paging service shall be automatically discontinued.

TOTAL MONTHLY SERVICE \$ 15.00
 (Excluding additional airtime charges and taxes)

CREDIT APPLICATION IDENTIFICATION EQUIPMENT INFORMATION (Direct Sales Use Only) ACKNOWLEDGEMENT

Credit Reference Number 16 1263 ESN 735 05412690
 ESN Change No Install Con
 Mobile Number 98-082183 3) Mobile # E.S.N.
 Date 4) Mobile # E.S.N.

CONSUMER - Complete Boxes 1 & 3 **COMMERCIAL/CORPORATE - Complete Boxes 1, 2 & 3**

Market Agent Code Sales Rep. Yes No
 Existing customer?

1 CONSUMER -
 Print the name and address of the person who will be responsible for charges made to this account:
Western Ky GAS
 Responsible Party First Name MI Last Name
2101 New Hazled Rd.
 Billing Address/Post Office Box
Corners Bend Ky 41733
 City State Zip + Four

 Home Phone Work Phone

CREDIT APPLICATION

Social Security Number ANNUAL INCOME UNDER \$35,000
 \$35,000 - \$49,999
 \$50,000 - \$74,999
 \$75,000 - \$89,999
 \$90,000 - \$105,999
 \$106,000 - \$114,999
 \$115,000 - ABOVE

Date of Birth Male Female

Driver's License Number State

2 COMMERCIAL/CORPORATE -
 Up to 48-hour processing time

Purchase Order Number

Company Name Tax Exempt Number

Supervisor's Name Supervisor's Phone No. Yrs. In Business

Does street address differ from billing address? Yes No

Is this branch or subsidiary of the main office? Yes No

Type of business: Corporation Sole Proprietorship or Partnership Other

Bank Name Account Officer Phone Number Account Number

Trade Reference Contact Phone Number Account Number

Trade Reference Contact Phone Number Account Number

Trade Reference Contact Phone Number Account Number

3 ATTACH COPY OF DRIVER'S LICENSE OR PICTURE I.D.
 This is to certify that I have positively identified the above applicant's name and signature and that it matched the signature and name on this BellSouth Mobility Cellular Agreement.

Name of Company Sales Representative's Signature
 Date Print Name

LN	TY	QTY	ITEM NUMBER (Required)	DESCRIPTION	SERIAL NUMBERS	NET UNIT PRICE	EXTENDED AMT.
SP	1		NOK 42160		MSN		
S	8		NOK Stack Kit	21263	ESN 23505412690	\$ 48.95	\$ N/C
					MSN		
					ESN		
					MSN		
					ESN		
					MSN		
					ESN		
					MSN		
					ESN		

Paid with Order Check/Cash Receipt # Sales/Install Branch
 Invoicing Customer Net 30 P.O. # Inventory Branch
 Credit Card MC Visa AMEX Other Card #
 Expiration Authorization Security Code Unlock Code
 (If Applicable)

Bill with Service (Sales Director's Approval)
 Balance \$ with Monthly Payments of
 \$ Other (Customer's Initials)

Customer is purchasing equipment primarily for business purposes.

EQUIPMENT INFORMATION (Direct Sales use Only)

ACKNOWLEDGEMENT

The monthly service charge and any minutes included will be prorated for the number of days in service during the first billing period.
 The first month's bill will show a monthly service charge for the following month, subsequently you will be billed one month in advance.
 All "Special Pricing Plans" are subject to eligibility requirements and approval. Ineligibility for "Special Pricing" does not nullify this agreement.
 When using your phone outside your home service area, roaming rate may vary.
 Long distance is billed in addition to service charges.
 A connection charge of \$ 1.25 per month will apply during any month in which a call originated from the cellular phone(s) is terminated through the landline network (connection charge is subject to change on 30 days notice).
 The appropriate liquidated damages (up to \$240.00) may apply for early cancellation (see paragraph 18).
 Customer authorizes Company to check Customer's credit and to provide and exchange credit information regarding Customer with credit bureaus.
 Customer certifies that the pricing plan chosen has been explained and that the Customer understands the components of the pricing plan, including but not limited to the activation/account setup fee, monthly access charges, usage charges, liquidated damages, applicable taxes, (retail agreements, where applicable) and agrees to same.

Customer elects to subscribe to BellSouth Mobility's month agreement.

By signing below, the undersigned Customer acknowledges the accuracy of the above information and has received a copy of, read, understands, and accepts the attached Terms and Conditions of Service Agreement (Form #BSCG 2-98).

CUSTOMER AUTHORIZED SIGNATURE PRINTED NAME DATE DEPOSIT
 WHITE - BAI YELLOW - SALES REP PINK - MOBILE EQUIPMENT SUPPLIER GOLD - CUSTOMER GOLD TERMS AND CONDITIONS - CUSTOMER

CELLULAR AGREEMENT 2298 BSI 190105

BELLSOUTH Mobility

SERVICE PLAN SELECTED SK m.w. Line Add \$5.00

Local airtime minutes included per month:

CUSTOM CALLING FEATURES

Call Waiting \$
 Call Forwarding \$
 No Answer Transfer \$
 Three Party Conferencing \$
 Any Two Features \$
 Any Three Features \$

OTHER

Mobile Memo \$
 Description
 Pager #
 PowerCall One-Number Service \$
 Description
 Nights & Weekends \$
 Mobile-To-Mobile \$
 Emergency Road Service \$
 Detailed Billing \$
 Toll Restricted \$
 Incoming Calls Only \$
 Outgoing Calls Only \$
 Miscellaneous \$
 Miscellaneous \$

EQUIPMENT INSURANCE
 Signal Dial Direct Plus* (initial one) Accept Decline
 (Not available in all locations)

	Monthly Premium	Loss/Damage Deductible	Mech/Elect Deductible
<input type="checkbox"/> Mobiles	\$ 2.95	\$ 0	\$ 25
<input type="checkbox"/> Portables/Transportables	\$ 2.95	\$ 35	\$ 25
<input type="checkbox"/> Accessories	\$ 1.95	\$ 35	\$ 25

*If you subscribe to cellular phone insurance and/or emergency road service, you acknowledge that you have received and read the brochure for same and understand the terms and conditions under which same is offered outlined therein.

I understand that in the event of a loss, theft or damage, replacement of my cellular phone may be greater than the original price. \$
 (Customer Initials)

TOTAL MONTHLY SERVICE
 (Excluding additional airtime charges and taxes) \$

LONG DISTANCE

BellSouth Long Distance
 Other

SCHEDULED INSTALLATION

AM Make, Model & Color of Automobile
 PM License Plate Number

Date Time

Order Total
 Down Payment
 Balance Due

Credit Reference Number
 ESN Change No Install Co

1) Mobile # (502) 281-0110
 2) Mobile # (502) 281-0311
 3) Mobile # (502) 281-0312
 4) Mobile # (502) 281-0313

E.S.N. 20600025281
 20600025156
 E.S.N. 20600025940
 E.S.N. 20600025773

9193946

Date

CONSUMER - Complete Boxes 1, 2, & 3
 COMMERCIAL/CORPORATE - Complete Boxes 1, 2, & 3

Market Agent Code Sales Rep. Yes No
 Existing customer?

1 CONSUMER -
 Print the name and address of the person who will be responsible for charges made to this account:

Responsible Party First Name MI Last Name
 Billing Address/Post Office Box
 City State Zip + Four
 Home Phone Work Phone

Social Security Number
 Date of Birth Male Female
 Driver's License Number State

2 COMMERCIAL/CORPORATE -
 Up to 48-hour processing time

Purchase Order Number
 Company Name Tax Exempt Number
 Supervisor's Name Supervisor's Phone No. Yrs. in Business
 Does street address differ from billing address? Yes No
 Is this branch or subsidiary of the main office? Yes No
 Type of business: Corporation Sole Proprietorship or Partnership Other

Bank Name Account Officer Phone Number Account Number
 Trade Reference Contact Phone Number Account Number
 Trade Reference Contact Phone Number Account Number
 Trade Reference Contact Phone Number Account Number

3 ATTACH COPY OF DRIVER'S LICENSE OR PICTURE I.D.
 This is to certify that I have positively identified the above applicant's name and signature and that it matched the signature and name on this BellSouth Mobility Cellular Agreement.

WESTERN KY GAS
 Name of Company Sales Representative's Signature
 Date Print Name

LNTY	QTY	ITEM NUMBER (Required)	DESCRIPTION	SERIAL NUMBERS	NET UNIT PRICE
				MSN	
				ESN	
				MSN	
				ESN	
				MSN	
				ESN	
				MSN	
				ESN	

Paid with Order Check/Cash Receipt #
 Invoice Customer Net 30 P.O. #
 Credit Card MC Visa AMEX Other
 Expiration Authorization
 Sales/Install Branch
 Inventory Branch
 Card #
 Security Code Unlock Code
 (If Applicable)

Bill with Service (Sales Director's Approval)
 Balance Monthly Payments of
 Other: (Customer's Initials)

Customer is purchasing equipment primarily for business purposes.
 SCHEDULED INSTALLATION
 Date Time License Plate Number

CUSTOMER ACKNOWLEDGEMENTS
 The monthly service charge and any minutes included will be prorated for the number of days in service during the first billing period.
 The first month's bill will show a monthly service charge for the following month; subsequently you will be billed one month in advance.
 All "Special Pricing Plans" are subject to eligibility requirements and approval. Ineligibility for "Special Pricing" does not nullify this agreement.
 When using your phone outside your home service area (roaming) rate may vary.
 Long distance is billed in addition to airtime.
 The appropriate liquidated damages (up to \$240.00) may apply for early cancellation (see paragraph 18).
 Customer authorizes Company to check Customer's credit and to provide and exchange credit information regarding Customer with credit bureaus.
 Customer certifies that the pricing plan chosen has been explained and that the Customer understands the components of the pricing plan, including but not limited to the activation/account setup fee, monthly access charges, usage charges, liquidated damages, applicable taxes, (rental agreements, where applicable) and agrees to same.
 Customer elects to subscribe to BellSouth Mobility's 30-day month agreement. By signing below, the undersigned "Customer" acknowledges the accuracy of the above information and has received a copy of, read, understands, and accepts the attached Terms and Conditions of Service Agreement (Form #BSCC-10-96).

CUSTOMER AUTHORIZED SIGNATURE
 PRINTED NAME
 DATE DEPOSIT
 WHITE - BILL YELLOW - SALES REP. PINK - MOBILE EQUIPMENT SUPPLIER
 GOLD - CUSTOMER GOLD TERMS AND CONDITIONS - CUSTOMER
 CELLULAR AGREEMENT 467



SERVICE PLAN SELECTED
 Local airtime minutes included per month: Cellular 150 \$ 34.95
 240

CUSTOM CALLING FEATURES
 Call Waiting No Charge
 Call Forwarding \$
 No Answer Transfer \$
 Three Party Conferencing \$
 Any Two Features \$
 Any Three Features \$

OTHER
 Mobile Memo \$
 Description \$
 Pager # \$
 PowerCall One-Number Service \$
 Description \$
 Nights & Weekends \$
 Mobile-To-Mobile \$
 Emergency Road Service \$
 Detailed Billing \$
 Toll Restricted \$
 Incoming Calls Only \$
 Outgoing Calls Only \$
 Activation/Account Setup Fee (One Time Charge) \$
 Miscellaneous \$
 Miscellaneous \$

EQUIPMENT INSURANCE
 Signal Dial Direct Plus* (initial one) Accept Decline
 (Not available in all locations) Monthly Loss/Damage Mech/Elect Deductible
 Premium Deductible Deductible
 Mobiles \$ 2.95 \$ 0 \$ 25
 Portables/Transportables \$ 2.95 \$ 35 \$ 25
 Accessories \$ 1.95 \$ 35 \$ 25

*If you subscribe to cellular phone insurance and/or emergency road service, you acknowledge that you have received and read the brochure for same and understand the terms and conditions under which same is offered outlined therein.

TOTAL MONTHLY SERVICE
 (Excluding additional airtime charges and taxes) \$

LONG DISTANCE
 BellSouth Long Distance
 Other

REMARKS
 \$611
 800.351.2400

EQUIPMENT INFORMATION (Direct Sales use Only)

CREDIT APPLICATION

SERVICE APPLICATION

IDENTIFICATION

ACKNOWLEDGEMENT

Credit Reference Number _____
 ESN Change No Install Cor _____
 1) Mobile # (502) 881-0314 SSN: 266000 25770
 2) Mobile # (502) 881-0315 SSN: 266000 25625
 3) Mobile # () _____ E.S.N. _____
 4) Mobile # () _____ E.S.N. _____

9193947

CONSUMER - Complete Boxes 1, 2, 3, 4
 COMMERCIAL/CORPORATE - Complete Boxes 1, 2, 3, 4

Market _____ Yes _____ No _____
 Agent Code _____ Sales Rep. _____ Existing customer? _____

1 CONSUMER -
 Print the name and address of the person who will be responsible for charges made to this account:

Responsible Party First Name _____ Last Name _____
 Billing Address/Post Office Box _____
 City _____ State _____ Zip + Four _____
 Home Phone _____ Work Phone _____

Social Security Number _____
 Date of Birth _____ Male _____ Female _____
 Driver's License Number _____ State _____

2 COMMERCIAL/CORPORATE -
 Up to 48-hour processing time
 Purchase Order Number _____
 Company Name _____ Tax Exempt Number _____
 Supervisor's Name _____ Supervisor's Phone No. _____ Yrs. In Business _____
 Does street address differ from billing address? Yes _____ No _____
 Is this branch or subsidiary of the main office? Yes _____ No _____
 Type of business: Corporation Sole Proprietorship or Partnership Other _____
 Bank Name _____ Account Officer _____ Phone Number _____ Account Number _____
 Trade Reference _____ Contact _____ Phone Number _____ Account Number _____
 Trade Reference _____ Contact _____ Phone Number _____ Account Number _____
 Trade Reference _____ Contact _____ Phone Number _____ Account Number _____

3 ATTACH COPY OF DRIVER'S LICENSE OR PICTURE I.D.
 This is to certify that I have positively identified the above applicant's name and signature and that it matched the signature and name on this BellSouth Mobility Cellular Agreement.

Name of Company _____ Sales Representative's Signature _____
 Date _____ Print Name _____

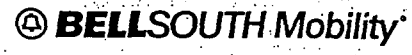
LNTY	QTY	ITEM NUMBER (Required)	DESCRIPTION	SERIAL NUMBERS	NET UNIT PRICE
				MSN	
				ESN	\$
				MSN	
				ESN	\$
				MSN	
				ESN	\$
				MSN	
				ESN	\$

Paid with Order Check/Cash Receipt # _____ Sales/Install Branch _____
 Invoice Customer Net 30 P.O. # _____ Inventory Branch _____
 Credit Card MC Visa AMEX Other _____ Card # _____
 Expiration _____ Authorization _____ Security Code _____ Unlock Code _____
 (If Applicable)

Bill with Service _____ (Sales Director's Approval)
 Balance \$ _____ with _____ Monthly Payments of \$ _____
 Other _____ (Customer's Initials) _____
 Customer is purchasing equipment primarily for business purposes. _____

CUSTOMER ACKNOWLEDGEMENTS
 • The monthly service charge and any minutes included will be prorated for the number of days in service during the first billing period.
 • The first month's bill will show a monthly service charge for the following month, subsequently you will be billed one month in advance.
 • All "Special Pricing Plans" are subject to eligibility requirements and approval. Ineligibility for "Special Pricing" does not nullify this agreement.
 • When using your phone outside your home service area (roaming) rate may vary.
 • Long distance is billed in addition to airtime.
 • The appropriate liquidated damages (up to \$240.00) may apply for early cancellation (see paragraph 18).
 • Customer authorizes Company to check Customer's credit and to provide and exchange credit information regarding Customer with credit bureaus.
 • Customer certifies that the pricing plan chosen has been explained and that the Customer understands the components of the pricing plan, including but not limited to the activation/account setup fee, monthly access charges, usage charges, liquidated damages, applicable taxes, (rental agreements, where applicable) and agrees to same.
 • Customer elects to subscribe to BellSouth Mobility _____ month agreement. By signing below, the undersigned "Customer" acknowledges the accuracy of the above information and has received a copy of, read, understands, and accepts the attached Terms and Conditions of Service Agreement (Form #BSCC 10-96).

CUSTOMER AUTHORIZED SIGNATURE _____ PRINTED NAME _____ DATE _____ DEPOSIT _____
 WHITE - BELL SOUTHWESTERN YELLOW - SALES REP. PINK - MOBILE EQUIPMENT SUPPLIER GOLD - CUSTOMER GOLD TERMS AND CONDITIONS - CUSTOMER
 CELLULAR AGREEMENT 4/97



SERVICE PLAN SELECTED
 Local airtime minutes included per month: 240 \$34.95

CUSTOM CALLING FEATURES
 Call Waiting No Charge
 Call Forwarding \$
 No Answer Transfer \$
 Three Party Conferencing \$
 Any Two Features \$
 Any Three Features \$

OTHER
 Mobile Memo \$
 Description _____
 Pager # _____
 PowerCall One-Number Service \$
 Description _____
 Nights & Weekends \$
 Mobile-To-Mobile \$
 Emergency Road Service \$
 Detailed Billing \$
 Toll Restricted \$
 Incoming Calls Only \$
 Outgoing Calls Only \$
 Activation/Account Setup Fee (One Time Charge) \$
 Miscellaneous \$
 Miscellaneous \$

EQUIPMENT INSURANCE
 Signal Dial Direct Plus* (initial one) Accept _____ Decline _____
 (Not available in all locations) Monthly Premium Loss/Damage Mech/Elect Deductible Deductible
 Mobiles \$ 2.95 \$ 0 \$ 25
 Portables/Transportables \$ 2.95 \$ 35 \$ 25
 Accessories \$ 1.95 \$ 35 \$ 25

*If you subscribe to cellular phone insurance and/or emergency road service, you acknowledge that you have received and read the brochure for same and understand the terms and conditions under which same is offered outlined therein.

TOTAL MONTHLY SERVICE
 (Excluding additional airtime charges and taxes) \$

LONG DISTANCE
 BellSouth Long Distance
 Other _____

EQUIPMENT INFORMATION (Direct Sales use Only)

CREDIT APPLICATION

SERVICE/APPLICATION

IDENTIFICATION

REMARKS

ACKNOWLEDGEMENT

Sales/Install Branch Inventory Branch MOBILE NUMBER (504) 923-8704

ORDER TYPE SALES ORDER BWS ORDER CREDIT ORDER ORIGINAL ORDER # BWS CREDIT ORIGINAL ORDER #

Customer information section including Sold To, Ship To, Customer Name, Address, City, State, Zip, Work Phone, and Tax Area.

Table with columns for MSN (Manufacturer's Stock Number) and other vehicle identification details.

Payment and financing options section including checkboxes for 'Paid with order', 'Invoice Customer Net 30 PO', 'Credit Card', 'OCC 18 (Shop fees only)', 'Collect on Delivery', and 'Bill with Service'.

Vehicle specifications section including Date & Time of Scheduled Installation, Make, Model & Color of Automobile, License Plate No., and Special Instructions.

NOTICE TO THE CUSTOMER: By signing below, you acknowledge that you have received a copy of this Order Form, that you agree that the information above is correct and complete, and that you have read and understood and agree to be bound by the terms and conditions on this side and the reverse side including but limited to the disclaimer of warranties and limitations of remedies in paragraph 2 and the indemnities in paragraph 3.

CUSTOMER SIGNATURE DATE 4/12/99 BMS REPRESENTATIVE SIGNATURE E-NUMBER DATE 4/15/99

Credit Reference Number... 1) Mobile # (562) _____
 ESN Change No Install Commission 2) Mobile # () _____
 Mobile Number 3) Mobile # () _____ E.S.N. _____
 60-576444 Date 4) Mobile # () _____ E.S.N. _____



CONSUMER - Complete Boxes 1, 2, & 3
 COMMERCIAL/CORPORATE - Complete Boxes 1, 2, & 3
 Market Agent Code Sales Rep. Yes/No Existing customer?

1 CONSUMER -
 Print the name and address of person responsible for charges made to this account:
 Responsible Party First Name Last Name
 Billing Address/Post Office Box
 City State Zip + Four
 Home Phone Work Phone

Social Security Number
 Date of Birth Male Female
 Driver's License Number State
 ANNUAL INCOME
 UNDER \$35,000
 \$35,000 - \$49,999
 \$50,000 - \$74,999
 \$75,000 - \$89,999
 \$90,000 - \$105,999
 \$106,000 - \$114,999
 \$115,000 & ABOVE

2 COMMERCIAL/CORPORATE -
 Up to 48-hour processing time
 Purchase Order Number
 Company Name Tax Exempt Number
 Supervisor's Name Supervisor's Phone No. Yrs. In Business
 Does street address differ from billing address? Yes/No
 Is this branch or subsidiary of the main office? Yes/No
 Type of business: Corporation Sole Proprietorship or Partnership Other
 Bank Name Account Officer Phone Number Account Number
 Trade Reference Contact Phone Number Account Number
 Trade Reference Contact Phone Number Account Number
 Trade Reference Contact Phone Number Account Number

3 ATTACH COPY OF DRIVER'S LICENSE OR PICTURE I.D.
 This is to certify that I have positively identified the above applicant's name and signature and that it matched the signature and name on this BellSouth Mobility Cellular Agreement.
 Name of Company Sales Representative's Signature
 Date Print Name

SERVICE PLAN SELECTED
 Local airtime minutes included per month:

CUSTOM CALLING FEATURES
 Call Waiting
 Call Forwarding
 No Answer Transfer
 Three Party Conferencing
 Any Two Features
 Any Three Features

OTHER
 Mobile Memo
 One-Number Service
 Nights & Weekends
 Mobile-To-Mobile
 Emergency Road Service
 Detailed Billing
 Toll Restricted
 Incoming Calls Only
 Outgoing Calls Only
 Miscellaneous
 Miscellaneous

LONG DISTANCE
 BellSouth Long Distance
 Other
 CELLULAR PHONE INSURANCE
 (Not available in all locations)
 (initial one) Accept Decline
 Cellular Phone Premium/Month Deductible
 \$2.95 \$35
 *If you subscribe to cellular phone insurance and/or emergency road service, you acknowledge that you have received and read the brochure for same and understand the terms and conditions under which same is offered outlined therein.
 I understand that in the event of a loss, theft or damage, replacement of my cellular phone may be greater than the original price.

PAGING
 Pager Number
 PIN
 Service
 BellSouth Paging Service may be discontinued at any time with no penalty. BellSouth Paging Service is available only with BellSouth Cellular Service. In the event the customer cancels the cellular service identified by the mobile number above, the paging service shall be automatically discontinued.

TOTAL MONTHLY SERVICE
 (Excluding additional airtime charges and taxes)

LN TY	QTY	ITEM NUMBER (Required)	DESCRIPTION	SERIAL NUMBERS	NET UNIT PRICE
5	1	5130		MSN 2536647023	\$ 0
				ESN	\$
				MSN	\$
				ESN	\$
				MSN	\$
				ESN	\$
				MSN	\$
				ESN	\$

Paid with Order Check/Cash Receipt #
 Invoice Customer Net 30 P.O. #
 Credit Card MC Visa AMEX Other
 Expiration Authorization
 Sales/Install Branch
 Inventory Branch
 Card #
 Security Code Unlock Code
 (If Applicable)

Bill with Service (Sales Director's Approval)
 Balance \$ with Monthly Payments of \$
 Other
 Customer is purchasing equipment primarily for business purposes.
 SCHEDULED INSTALLATION
 AM Make, Model & Color of Automobile
 PM License Plate Number
 Date Time

CUSTOMER ACKNOWLEDGEMENTS
 The monthly service charge and any minutes included will be prorated for the number of days in service during the first billing period.
 The first month's bill will show a monthly service charge for the following month, subsequently you will be billed one month in advance.
 All "Special Pricing Plans" are subject to eligibility requirements and approval. Ineligibility for "Special Pricing" does not nullify this agreement.
 When using your phone outside your home service area (roaming) rate may vary.
 Long distance is billed in addition to airtime.
 A connection charge of \$1.95 per month will apply during any month in which a call originated from the cellular phone(s) is terminated through the landline network (connection charge is subject to change on 30 days notice).
 The appropriate liquidated damages (up to \$240.00) may apply for early cancellation (see paragraph 18).
 Customer authorizes Company to check Customer's credit and to provide and exchange credit information regarding Customer with credit bureaus.
 Customer certifies that the pricing plan chosen has been explained and that the Customer understands the components of the pricing plan, including but not limited to the activation fee, monthly access charges, usage charges, liquidated damages, applicable taxes, rental agreements, where applicable) and agrees to same.
 Customer elects to subscribe to BellSouth Mobility's month agreement.
 By signing below, the undersigned Customer, acknowledges the accuracy of the above information and has received a copy of, read, understands, and accepts the attached Terms and Conditions of Service Agreement (Form FSCC-1000).
 Signature Date
 WHITE - SALES REPRESENTATIVE YELLOW - SALES REP. PINK - MOBILE EQUIPMENT SUPPLIER GOLD - CUSTOMER SERVICE AGREEMENT 12/98

Credit Reference Number _____ 1) Mobile # _____
 ESN Change No Install Condition 2) Mobile # _____
 Mobile Number 3) Mobile # _____ *See Attached*
60-0985859 Date _____ 4) Mobile # _____
 E.S.N. _____

CONSUMER - Complete Boxes 1 & 3
 COMMERCIAL/CORPORATE - Complete Boxes 1, 2 & 3

Market Liberal Agent Code 120157 Sales Rep. _____
 Existing customer? Yes No

1 CONSUMER - Print the name and address of person responsible for charges made to this account.
 Responsible Party First Name Western Gas Last Name _____
 Billing Address/Post Office Box New York
 City New York State NY Zip & Four 10012
 Home Phone _____ Work Phone _____

ANNUAL INCOME
 UNDER \$35,000 \$49,999
 \$35,000 \$74,999
 \$50,000 \$89,999
 \$75,000 \$105,999
 \$90,000 \$114,999
 \$106,000 \$114,999
 \$115,000 & ABOVE

2 COMMERCIAL/CORPORATE - Up to 48-hour processing time
 Purchase Order Number _____
 Company Name _____ Tax Exempt Number _____
 Supervisor's Name _____ Supervisor's Phone No. _____ Yrs. In Business _____
 Does street address differ from billing address? Yes No
 Is this branch or subsidiary of the main office? Yes No
 Type of business: Corporation Sole Proprietorship or Partnership Other
 Bank Name _____ Account Officer _____ Phone Number _____ Account Number _____
 Trade Reference _____ Contact _____ Phone Number _____ Account Number _____
 Trade Reference _____ Contact _____ Phone Number _____ Account Number _____
 Trade Reference _____ Contact _____ Phone Number _____ Account Number _____

3 ATTACH COPY OF DRIVER'S LICENSE OR PICTURE I.D.
 This is to certify that I have positively identified the above applicant's name and signature and that it matched the signature and name on this BellSouth Mobility Cellular Agreement.
 Name of Company BMI Sales Representative's Signature [Signature]
 Date 4/15/99 Print Name [Name]

LN TY	QTY	ITEM NUMBER (Required)	DESCRIPTION	SERIAL NUMBERS	NET UNIT PRICE
				MSN	
				ESN	\$
				MSN	\$
				ESN	\$
				MSN	\$
				ESN	\$
				MSN	\$
				ESN	\$

Paid with Order Check/Cash Receipt # _____
 Invoice Customer Net 30 P.O. # _____
 Credit Card MC Visa AMEX Other _____
 Expiration _____ Authorization _____

Bill With Service _____ [Sales Director's Approval]
 Balance \$ _____ with _____ Monthly Payments of \$ _____
 Other _____
 Customer is purchasing equipment primarily for business purposes. _____ [Customer Initials]

EQUIPMENT INFORMATION (Direct Sales Use Only)
 Sales/Install Branch _____
 Inventory Branch _____
 Card # _____
 Security Code _____ Unlock Code _____
 # Applied

SCHEDULED INSTALLATION
 Date _____ Time _____
 AM Make, Model & Color of Automobile _____
 PM License Plate Number _____

ACKNOWLEDGEMENT
 The monthly service charge and any minutes included will be prorated for the number of days in service during the first billing period.
 The first month's bill will show a monthly service charge for the following month; subsequently you will be billed one month in advance.
 All "Special Pricing Plans" are subject to eligibility requirements and approval. Ineligibility for "Special Pricing" does not nullify this agreement.
 When using your phone outside your home service area (roaming) rate may vary.
 Long distance is billed in addition to airtime.
 A connection charge of \$1.00 per month will apply during any month in which a call originated from the cellular phone(s) is terminated through the landline (connection charge is subject to change on 30 days notice).
 The appropriate liquidated damages (up to \$240.00) may apply for early cancellation (see paragraph 18).
 Customer authorizes Company to check Customer's credit and to provide and exchange credit information regarding Customer with credit bureaus.
 Customer certifies that the pricing plan chosen has been explained and that the Customer understands the components of the pricing plan, including but not limited to the activation fee, monthly access charges, usage charges, liquidated damages, applicable taxes (rental agreements, where applicable) and agrees to same.
 Customer elects to subscribe to BellSouth Mobility _____ month agreement. _____ [Customer Initials]

By signing below, the undersigned "Customer" acknowledges the accuracy of the above information and has received a copy of, read, understands, and accepts the attached Terms and Conditions of Service Agreement (Form FSCC-4-98).
 _____ [Signature] _____ [Printed Name]
 WHITE - BELL SOUTHWESTERN TELEPHONE COMPANY YELLOW - SALES REP. PINK - MOBILE EQUIPMENT SUPPLIER GOLD - CUSTOMER BAI 190105

BELLSOUTH Mobility

SERVICE PLAN SELECTED N.14 Line 10K \$ 15.00
 Local airtime minutes included per month: _____
 CUSTOM CALLING FEATURES
 Call Waiting \$ _____
 Call Forwarding \$ _____
 No Answer Transfer \$ _____
 Three Party Conferencing \$ _____
 Any Two Features \$ _____
 Any Three Features \$ _____

OTHER
 Mobile Memo \$ _____
 Description _____
 Pager # _____
 One-Number Service \$ _____
 Description _____
 Nights & Weekends \$ _____
 Mobile-To-Mobile \$ _____
 Emergency Road Service* \$ _____
 Detailed Billing \$ _____
 Toll Restricted \$ _____
 Incoming Calls Only \$ _____
 Outgoing Calls Only \$ _____
 Miscellaneous \$ _____
 Miscellaneous \$ _____

LONG DISTANCE
 BellSouth Long Distance \$ _____
 Other \$ _____

CELLULAR PHONE INSURANCE \$ _____
 (Not available in all locations)
 (initial one) Accept _____ Decline _____
 Cellular Phone Premium/Month \$2.95 Deductible \$35

*If you subscribe to cellular phone insurance and/or emergency road service, you acknowledge that you have received and read the brochure for same and understand the terms and conditions under which same is offered outlined therein.
 I understand that in the event of a loss, theft or damage, replacement of my cellular phone may be greater than the original price. _____ [Customer Initials]

PAGING \$ _____
 Pager Number _____
 PIN _____
 Service _____
 BellSouth Paging Service may be discontinued at any time with no penalty. BellSouth Paging Service is available only with BellSouth Cellular Service. In the event the customer cancels the cellular service identified by the mobile number above, the paging service shall be automatically discontinued.

TOTAL MONTHLY SERVICE \$ _____
 (Excluding additional airtime charges and taxes)

Non-Tariffable Subtotal \$ _____
 Tariffable Subtotal \$ _____
 Tax Rate % _____
 Order Total \$ _____
 Down Payment \$ _____
 Balance Due \$ _____

Sales/Install Branch Inventory Branch MOBILE NUMBER ()

ORDER TYPE SALES ORDER BWS ORDER CREDIT ORDER ORIGINAL ORDER BWS CREDIT ORIGINAL ORDER

Customer information section including SOLD TO, SHIP TO, CUSTOMER NAME, ADDRESS, CITY, STATE, ZIP, WORK PHONE, HOME PHONE, TAX AREA, and SPECIAL PROGRAM.

Table with columns: QTY, UNIT, DESCRIPTION, SERIAL NUMBERS, NET UNIT PRICE, EXTENDED AMOUNT. Contains multiple rows of item details.

Payment and terms section including checkboxes for 'Paid with order', 'Invoice Customer', 'Credit Card', 'CC 18 (Shop fees only)', 'Collect on Delivery', 'CC', 'Bill with Service', and 'Other'.

Installation and vehicle information section including DATE & TIME OF SCHEDULED INSTALLATION, MAKE, MODEL & COLOR OF AUTOMOBILE, LICENSE PLATE NO., UNLOCK CODE, and SPECIAL INSTRUCTIONS.

NOTICE TO THE CUSTOMER: By signing below, you acknowledge that you have received a copy of this Order Form, that you agree that the information above is correct and complete, and that you have read and understood, and agree to be bound by the terms and conditions on this side and the reverse side including but limited to the disclaimer of warranties and limitations of remedies in paragraph 2 and the indemnities in paragraph 3.

CUSTOMER SIGNATURE, DATE, BSI REPRESENTATIVE SIGNATURE, E-NUMBER, DATE, CUSTOMER

SALES/INSTALL, INVENTORY, BRANCH, MOBILE NUMBER (504) 316-1262

ORDER TYPE: SALES ORDER, BWS ORDER, CREDIT ORDER, ORIGINAL ORDER, BWS CREDIT, ORIGINAL ORDER

SOLD TO, SHIP TO, CUSTOMER NAME, ADDRESS, CITY, STATE, ZIP, WORK PHONE, HOME PHONE, TAX AREA, SPECIAL PROGRAM

All tax exempt sales require exemption certificate to be attached to Customer Order.

Table with columns: QTY, ITEM NUMBERS, DESCRIPTION, SERIAL NUMBERS, UNIT PRICE, EXTENDED AMOUNTS. Includes handwritten entry for Motorola 650.

Payment options: Paid with order, Check, Invoice, Credit Card, OCC 18, Collect on Delivery, Bill with Service, Other.

DATE & TIME OF SCHEDULED INSTALLATION, MAKE, MODEL & COLOR OF AUTOMOBILE, LICENSE PLATE NO., UNLOCK CODE, SPECIAL INSTRUCTIONS

NOTICE TO THE CUSTOMER: By signing below, you acknowledge that you have received a copy of this Order Form, that you agree that the information above is correct and complete...

CUSTOMER SIGNATURE, DATE, BELL REPRESENTATIVE SIGNATURE, E-NUMBER, DATE

Credit Reference Number
 ESN Change No Install Commission

1) Mobile # () 216 711
2) Mobile # () 216 711
3) Mobile # () 216 711
4) Mobile # () 216 711

601022372

Date

CONSUMER - Complete Boxes 1 & 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100
COMMERCIAL/CORPORATE - Complete Boxes 1, 2 & 3

Market Agent Code Sales Rep. Yes No Existing customer?

1. CONSUMER - Print the name and address of person responsible for charges made to this account:

Responsible Party First Name Last Name
Billing Address/Post Office Box
City State Zip + Four
Home Phone Work Phone
Social Security Number
Date of Birth Male Female
Driver's License Number State

2. COMMERCIAL/CORPORATE - Up to 48-hour processing time

Purchase Order Number
Company Name Tax Exempt Number
Supervisor's Name Supervisor's Phone No. Yrs. In Business
Does street address differ from billing address? Yes No
Is this branch or subsidiary of the main office? Yes No
Type of business: Corporation Sole Proprietorship or Partnership Other
Bank Name Account Officer Phone Number Account Number
Trade Reference Contact Phone Number Account Number
Trade Reference Contact Phone Number Account Number
Trade Reference Contact Phone Number Account Number

3. ATTACH COPY OF DRIVER'S LICENSE OR PICTURE I.D.

This is to certify that I have positively identified the above applicant's name and signature and that it matched the signature and name on this BellSouth Mobility Cellular Agreement.
Name of Company Sales Representative's Signature
Date Print Name

CREDIT APPLICATION

IDENTIFICATION

EQUIPMENT INFORMATION (Direct Sales Use Only)

ACKNOWLEDGEMENT



SERVICE PLAN SELECTED
Local airtime minutes included per month:

- CUSTOM CALLING FEATURES
 Call Waiting \$
 Call Forwarding \$
 No Answer Transfer \$
 Three Party Conferencing \$
 Any Two Features \$
 Any Three Features \$
- OTHER
 Mobile Memo Description Pager # \$
 One-Number Service Description \$
 Nights & Weekends \$
 Mobile-to-Mobile \$
 Emergency Road Service* \$
 Detailed Billing \$
 Toll Restricted \$
 Incoming Calls Only \$
 Outgoing Calls Only \$
 Miscellaneous \$
 Miscellaneous \$
- LONG DISTANCE
 BellSouth Long Distance \$
 Other \$

CELLULAR PHONE INSURANCE (Not available in all locations) (initial one) Accept Decline
Premium/Month Deductible
Cellular Phone \$2.95 \$35

*If you subscribe to cellular phone insurance and/or emergency road service, you acknowledge that you have received and read the brochure for same and understand the terms and conditions under which same is offered outlined therein.
I understand that in the event of a loss, theft or damage, replacement of my cellular phone may be greater than the original price.

PAGING
Pager Number
PIN
Service
BellSouth Paging Service may be discontinued at any time with no penalty. BellSouth Paging Service is available only with BellSouth Cellular Service. In the event the customer cancels the cellular service identified by the mobile number above, the paging service shall be automatically discontinued.

TOTAL MONTHLY SERVICE (Excluding additional airtime charges and taxes)

LN	TY	QTY	ITEM NUMBER (Required)	DESCRIPTION	SERIAL NUMBERS	NET UNIT PRICE
					MSN	
					ESN	
					MSN	
					ESN	
					MSN	
					ESN	
					MSN	
					ESN	
					MSN	
					ESN	

Paid with Order Check/Cash Receipt #
 Invoice Customer Net 30 P.O. #
 Credit Card MC Visa AMEX Other
Expiration Authorization
Sales/Install Branch
Inventory Branch
Card #
Security Code Unlock Code

Bill with Service (Sales Director's Approval)
Balance \$ with Monthly Payments of \$
 Other
Customer is purchasing equipment primarily for business purposes.
SCHEDULED INSTALLATION
Date Time
 AM PM
Make, Model & Color of Automobile
License Plate Number

CUSTOMER ACKNOWLEDGEMENTS
The monthly service charge and any minutes included will be prorated for the number of days in service during the first billing period.
The first month's bill will show a monthly service charge for the following month, subsequently you will be billed one month in advance.
All Special Pricing Plans are subject to eligibility requirements and approval. Ineligibility for Special Pricing does not nullify this agreement.
When using your phone outside your home service area (roaming) rate may vary.
Long distance is billed in addition to airtime.
A connection charge of \$4.4 per month will apply during any month in which a call originated from the cellular phone(s) is terminated through the landline network (connection charge is subject to change on 30 days notice).
The appropriate liquidated damages (up to \$240.00) may apply for early cancellation (see paragraph 10).
Customer authorizes Company to check Customer's credit and to provide and exchange credit information regarding Customer with credit bureaus.
Customer certifies that the pricing plan chosen has been explained and that the Customer understands the components of the pricing plan, including but not limited to the activation fee, monthly access charges, usage charges, liquidated damages, applicable taxes, rental agreements, where applicable) and agrees to same.
Customer elects to subscribe to BellSouth Mobility 6-12 month agreement.

By signing below, the undersigned Customer acknowledges the accuracy of the above information and has received a copy of, read, understands, and accepts the attached Terms and Conditions of Service Agreement (Form BSCE 6-99).

Customer Matched Signature Date
WHITE - BELL SOUTH YELLOW - SALES REP
PINK - MOBILE EQUIPMENT SUPPLIER GOLD - CUSTOMER
SERVICE AGREEMENT 12/98 BSM 19105

STOLL, KEENON & PARK, LLP

201 EAST MAIN STREET
SUITE 1000
LEXINGTON, KENTUCKY 40507-1380

(606) 231-3000

FAX: (606) 253-1093

***FRANKFORT OFFICE:**

307 WASHINGTON STREET
FRANKFORT, KY. 40601-1823
(502) 875-6220
FAX: (502) 875-6235

****WESTERN KENTUCKY OFFICE:**

201 C NORTH MAIN STREET
HENDERSON, KY. 42420-3103
(502) 831-1900
FAX: (502) 827-4060

*****LOUISVILLE OFFICE:**

2650 AEGON CENTER
400 WEST MARKET
LOUISVILLE, KY. 40202-3377
(502) 568-9100
FAX: (502) 568-5700

INTERNET: www.skp.com

August 16, 1999

ROBERT F. HOULIHAN
LESLIE W. MORRIS II
LINDSEY W. INGRAM, JR.
WILLIAM L. MONTAGUE
JOHN STANLEY HOFFMAN**
BENNETT CLARK
WILLIAM T. BISHOP III
RICHARD C. STEPHENSON
CHARLES E. SHIVEL, JR.
ROBERT M. WATT III
J. PETER CASSIDY, JR.
DAVID H. THOMASON**
SAMUEL D. HINKLE IV***
R. DAVID LESTER
ROBERT F. HOULIHAN, JR.
WILLIAM M. LEAR, JR.
GARY W. BARR
DONALD R. WAGNER
FRANK L. WILFORD
HARVIE B. WILKINSON
ROBERT W. KELLERMAN*
LIZBETH ANN TULLY
J. DAVID SMITH, JR.
EILEEN O'BRIEN
DAVID SCHWETSCHENAU
ANITA M. BRITTON
RENA GARDNER WISEMAN
DENISE KIRK ASH
BONNIE HOSKINS
C. JOSEPH BEAVIN
DIANE M. CARLTON
LARRY A. SYKES
P. DOUGLAS BARR
PERRY MACK BENTLEY
MARY BETH GRIFFITH
DAN M. ROSE
GREGORY D. PAVEY
J. MEL CAMENISCH, JR.
LAURA DAY DELCOTTO
LEA PAULEY GOFF***
CULVER V. HALLIDAY***
DAVID E. FLEENOR

JAMES D. ALLEN
SUSAN BEVERLY JONES
MELISSA A. STEWART
TODD S. PAGE
JOHN B. PARK
PALMER G. VANCE II
RICHARD A. NUNNELLEY
WILLIAM L. MONTAGUE, JR.
KYMBERLY T. WELLONS
CHARLES R. BAESLER, JR.
STEVEN B. LOY
PATRICIA KIRKWOOD BURGESS
RICHARD B. ARNE
JOHN H. HARRISON**
LINDSEY W. INGRAM III
JEFFERY T. HETT
AMY C. LIEB MANN
ELIZABETH FRIEND BIRD**
MOLLY J. CUE
CRYSTAL OSBORNE
JOHN A. THOMASON**
DELLA M. JUSTICE
BOYD T. CLOERN***
DONNIE E. MARTIN
DAVID T. ROYSE

(OF COUNSEL)

JAMES BROWN***
DOUGLAS P. ROMAINE
JAMES G. STEPHENSON
GEORGE D. SMITH

WALLACE MUIR (1878 - 1947)
RICHARD C. STOLL (1878 - 1949)
WILLIAM H. TOWNSEND (1890 - 1964)
RODMAN W. KEENON (1882 - 1968)
JAMES PARK (1892 - 1970)
JOHN L. DAVIS (1913 - 1978)
GLADNEY HARVILLE (1921 - 1978)
GAYLE A. MOHNEY (1906 - 1980)
C. WILLIAM SWINFORD (1921 - 1988)

Hon. Helen C. Helton, Executive Director
Public Service Commission
730 Schenkel Lane
Frankfort Kentucky 40601

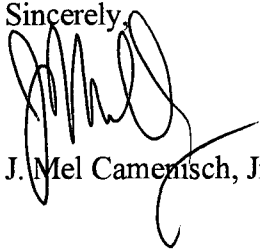
RE: Application of Western Kentucky Gas Company
Case No. 99-070

Dear Director Helton:

Enclosed please find the original and 10 photocopies of the Motion of WBI Southern, Inc. for Full Intervention in the above-referenced action. I am also enclosing the original and 10 copies of an Entry of Appearance in connection with the Motion. I have also enclosed one extra copy of each of the documents. Please stamp the extra copies as "filed" and return them to me in the enclosed self addressed stamped envelope.

If you have any questions regarding this Motion, please do not hesitate to give me a call.

Sincerely,


J. Mel Camensch, Jr.

JMC/wlh

Enclosures

C:\Work\8.16WLH\Heltonltr8.16.99

RECEIVED
AUG 17 1999
PUBLIC SERVICE
COMMISSION

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

FILED
AUG 17 1999
PUBLIC SERVICE
COMMISSION

IN THE MATTER OF:

THE APPLICATION OF WESTERN)
KENTUCKY GAS COMPANY)
FOR AN ADJUSTMENT OF RATES)

CASE NO. 99-070

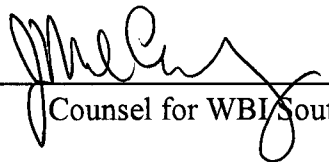
ENTRY OF APPEARANCE

Comes now Robert M. Watt, Jr. and J. Mel Camenisch, Jr., Stoll, Keenon & Park, LLP, 201 East Main Street, Suite 1000, Lexington, Kentucky 40507-1380, and hereby enters their appearance herein for the Intervenor WBI Southern, Inc. and requests that all future correspondence and pleadings be served upon them as counsel for the Intervenor. It is further requested that all future correspondence and pleadings in this case also be served upon the following: Keith Tiggelaar, Manager - Regulatory Affairs, WBI Southern, Inc., P.O. Box 5601, Bismark, N.D. 58506-5601.

This the 16th day of August, 1999.

Robert M. Watt, Jr.
J. Mel Camenisch, Jr.
STOLL, KEENON & PARK, LLP
201 E. Main Street, Suite 1000
Lexington, Kentucky 40507-1380
(606) 231-3000

By: _____



Counsel for WBI Southern, Inc.

CERTIFICATE OF SERVICE AND FILING

Undersigned counsel hereby certifies that an original and ten (10) photocopies of the foregoing Entry of Appearance was served and filed by mail to:

Hon. Helen C. Helton
Executive Director
Public Service Commission
730 Schenkel Lane
Frankfort, Kentucky 40601

and served by mailing a true and correct copy of the same, first class postage prepaid, to:

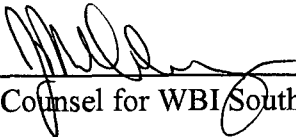
William J. Senter
Western Kentucky Gas Company
2401 New Hartford Road
Owensboro, Kentucky 42303

Mark R. Hutchinson
Sheffer, Hutchinson & Kinney
115 East Second Street
Owensboro, Kentucky 42303

John N. Hughes
124 West Todd Street
Frankfort, Kentucky 40601

Douglas Walther
Atmos Energy Corporation
P.O. Box 650205
Dallas, Texas 75265

all on this the 16th day of August, 1999.



Counsel for WBI Southern, Inc.

(320)C:\Work\069\WBI\Entry of Appearance

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

RECEIVED
AUG 17 1999
PUBLIC SERVICE
COMMISSION

In the Matter of:

THE APPLICATION OF WESTERN)
KENTUCKY GAS COMPANY FOR) CASE NO. 99-070
AN ADJUSTMENT OF RATES)

MOTION OF WBI SOUTHERN, INC. FOR FULL
INTERVENTION IN PROCEEDINGS

* * * * *

Pursuant to 807 KAR 5:001, Section 3(8), WBI Southern, Inc. ("WBI Southern") hereby submits its motion for full intervention and protest in the above referenced proceeding. In connection herewith, WBI Southern requests that it be served with filed testimony, exhibits, pleadings, correspondence and all other documents submitted by the parties and that it be certified as a party for the purposes of receiving service of any petition for rehearing or petition for judicial review.

In support of this Motion, WBI Southern states as follows: WBI Southern is a company involved in natural gas pipeline transportation gathering, and storage related activities. WBI Southern recently acquired a storage facility, Kentucky Pipeline and Storage Company, Inc. ("KYPSCO"), located in Hopkins County, Kentucky, which currently has an inactive interconnection point with Western Kentucky Gas Company's ("Western Kentucky") distribution system. WBI Southern is currently in negotiations with Western Kentucky to reactivate and expand the capacity of the above referenced receipt point. Subsequent to such reactivation, WBI Southern plans to utilize this receipt point to provide supply services to transportation customers of Western Kentucky.

On May 28, 1999, Western Kentucky submitted an application to the Kentucky Public Service Commission for a rate adjustment. This application included tariff sheets proposing a new Alternate Receipt Point Service under Rate T-5. If approved, the proposed Rate T-5 will have a substantial, direct and potentially detrimental effect upon WBI Southern,, its relationship with Western Kentucky and the feasibility of its plan to offer service to its customers. WBI Southern, therefore, has a direct and substantial interest in this proceeding which cannot be represented by any other party except WBI Southern.

Further, the full intervention and participation in these proceedings by WBI Southern will lead to the presentation of material issues regarding Western Kentucky's application which would assist the Commission in its evaluation of the application. There is no basis on which to find that a full intervention by WBI Southern would unduly complicate or disrupt these proceedings.

Finally, since WBI Southern was not a customer of Western Kentucky until it acquired the stock of KYPSCO on July 7, 1999, WBI Southern did not receive notice of the Application from Western Kentucky. However, WBI Southern learned of the Application following the acquisition and immediately began inquiry into the Application and the applicability of Rate T-5 to its operations. WBI Southern has, therefore, timely sought this intervention into these proceedings.

Accordingly, WBI Southern believes that the requirements for full intervention under 807 KAR 5:001, Section 3(8) have been met, and requests that the Commission permit WBI Southern, Inc. to fully intervene in these proceedings.

Respectfully submitted,

Robert M. Watt, Jr.
J. Mel Camenisch, Jr.
STOLL, KEENON & PARK, LLP
201 East Main Street
Suite 1000
Lexington, KY 40507-1380
(606) 231-3000



COUNSEL FOR WBI SOUTHERN, INC.

CERTIFICATE OF SERVICE AND FILING

Undersigned counsel hereby certifies that an original and ten (10) photocopies of the foregoing Motion was served and filed by mail to:

Hon. Helen C. Helton
Executive Director
Public Service Commission
730 Schenkel Lane
Frankfort, Kentucky 40601

and served by mailing a true and correct copy of the same, first class postage prepaid, to:

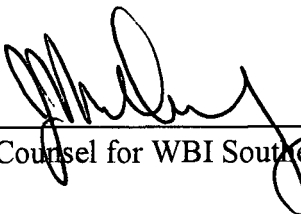
William J. Senter
Western Kentucky Gas Company
2401 New Hartford Road
Owensboro, Kentucky 42303

Mark R. Hutchinson
Sheffer, Hutchinson & Kinney
115 East Second Street
Owensboro, Kentucky 42303

John N. Hughes
124 West Todd Street
Frankfort, Kentucky 40601

Douglas Walther
Atmos Energy Corporation
P.O. Box 650205
Dallas, Texas 75265

all on this the 16th day of August, 1999.



Counsel for WBI Southern, Inc.

C:\Work\8.16WLHWKyGasMotion8.16.99



COMMONWEALTH OF KENTUCKY
PUBLIC SERVICE COMMISSION
730 SCHENKEL LANE
POST OFFICE BOX 615
FRANKFORT, KENTUCKY 40602
www.psc.state.ky.us
(502) 564-3940

August 16, 1999

Mark R. Hutchinson
Sheffer-Hutchinson-Kinney
115 East Second Street
Owensboro, KY 42303

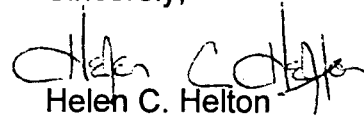
RE: Western Kentucky Gas Company
Case No. 99-070
Petition for Confidential Protection

Dear Mr. Hutchinson:

The Commission has received the petition filed July 30, 1999, on behalf of Western Kentucky Gas Company to protect as confidential information containing volumes and discount levels for each special contract customer for whom a discount has been negotiated. A review of the information has determined that it is entitled to the protection requested on the grounds relied upon in the petition and it shall be withheld from public inspection.

If the information becomes publicly available or no longer warrants confidential treatment, you are required by 807 KAR 5:001, Section 7(9)(a) to inform the Commission so that the information may be placed in the public record.

Sincerely,


Helen C. Helton
Executive Director

cc: All parties of record

Mailed 8-17-99- H.V.

JOHN N. HUGHES
Attorney at Law
Professional Service Corporation
124 WEST TODD STREET
FRANKFORT, KENTUCKY 40601

Telephone:
(502) 227-7270

Telecopier:
(502) 875-7059

August 13, 1999

RECEIVED

AUG 13 1999

PUBLIC SERVICE
COMMISSION

Ms. Helen Helton
Executive Director
Kentucky Public Service Commission
730 Schenkel Lane
Frankfort, KY 40602

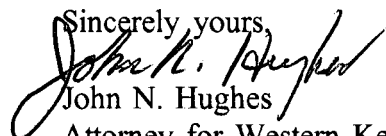
Re: Case No. 99-070

Dear Ms. Helton:

Please file the supplemental responses of Western Kentucky Gas Company for items 47f and 60 c-e.

If there are any questions about this matter or if additional information is needed, please contact me.

Sincerely yours,


John N. Hughes
Attorney for Western Kentucky
Gas Company

cc: Intervenors

Western Kentucky Gas Company
Case No. 99-070
KPSC Data Request Dated July 16, 1999
Supplemental Response to DR Item 47f
Witness: Petersen

Data Request:

Refer to the Application, Volume 2 of 10, Tab 10, the Testimony of Thomas H. Petersen and Volume 9 of 10, Tab 3, the class cost-of-service study.

f. Mr. Petersen also states that the study was performed using fiscal year 1998 data and that results using the forecasted test period would follow a pattern similar to that of the historic cost-of-service analysis. Provide the results for the forecasted period and the appropriate workpapers in the same form as provided in the original filing (i.e., nineteen pages of model results and nine pages of supporting workpapers).

Response:

Because of the nature of the KPSC's request for a class cost of service study on the forecasted test year, more time will be required to provide an adequate response. A completion date is unknown but every effort is being made to provide a meaningful response soon.

Status: A class cost of service study on the forecasted test year required the performance of a detailed design day analysis of the forecasted test year. This study was completed on Monday, August 9. The data from the filing that could be directly entered into the class cost of service study has been entered.

The following analyses have been started but are not yet complete:

- An analysis of meter investment by class
- An analysis of distribution mains investment by size
- An analysis of customer service costs moved to shared services
- An analysis forecasted usage data and design day data to appropriately assign amounts to the customer groupings used in the study.

Detailed data is still being gathered for these analyses. The form of the data will affect how long it takes to complete the study.

Western Kentucky Gas Company
Case No. 99-070
KPSC Data Request Dated July 16, 1999
Supplemental Response to DR Item 60 c-e
Witness: D. Donald A. Murry

Data Request:

- c. Provide an explanation of why each company in the group of comparative companies is considered to be a viable comparison to Atmos.
- d. Provide the most recently approved return on equity for each of the comparable companies, along with the date each was approved.
- e. Do any of the comparable companies use a weather normalization adjustment, a premises charge, or a margin loss recovery mechanism to stabilize their earnings? If so, which ones?

Response:

- c. The six Moody's companies used in Dr. Murry's analysis, i.e., AGL Resources, Indiana Energy, Laclede Gas Light, Northwest Natural Gas, Peoples Energy and Washington Gas Light, are companies selected as representative of the gas distribution industry sector by Moody's analysts. Moody's is a highly regarded investor's service and is available and used by investors and analysts. As a third-party judge of industry, Dr. Murry selected these companies as useful for comparison.

Although no company is exactly like Atmos in every respect, since these companies are recognized as gas distribution companies by analysts and investors generally, the valuation of the common stocks of these companies is useful comparative information for evaluating the value of the common stock of Atmos. For example, although AGL Resources is a holding company with investments in other activities, its primary business is gas distribution in the compact region of Georgia and Tennessee. Indiana Energy, which is now involved in a merger, formerly was primarily a gas distribution company in Indiana. Laclede is a gas distribution company serving a compact area in St. Louis and its environs. Peoples is a relatively compact gas distribution company in the Chicago area. Each of those companies is in the general geographic region of the U.S. as Western Kentucky; however, there are obvious climatic differences between the service territories of AGL and Peoples. Likewise, Washington Gas Light serves a relatively compact gas distribution market in Washington D.C. and the vicinity. Dr. Murry used the valuations of the common stock of these companies as informative market information; he did not use the valuation of these common stocks as an analytical surrogate of Atmos.

d. According to representatives of the Companies' Investor Relations Departments, the last allowed returns on equity for the Moody's Local Distribution Companies are as follows:

Company	Allowed ROE	State	Order Date
AGL Resources	11.0 %	GA	June 1998
Indiana Energy	N/A	IN	N/A
Laclede Gas	11.0 %	MO	August 28, 1996
Northwest Natural Gas	11.25 %	WA	October 28, 1997
Peoples Energy	11.1 % & 11.3 %	IL	November 1995
Washington Gas Light	11.5 %	VA	1994

Indiana Energy's Investor Relations Department did not reply to any inquiries.

Cost of capital measured with current data are likely to be more valuable for setting rates because they represent present market conditions. Previously allowed returns do not necessarily represent the current cost of equity. As the above table demonstrates, the most recent award is from June 1998. They reflect expectations at the time they were awarded.

e. Only AGL Resources has implemented a WNA. Only AGL Resources has implemented a Margin Loss Recovery Mechanism. None of the Moody's companies have implemented a Premises Charge or similar rate mechanism.



COMMONWEALTH OF KENTUCKY
PUBLIC SERVICE COMMISSION

730 SCHENKEL LANE
POST OFFICE BOX 615
FRANKFORT, KY. 40602
(502) 564-3940

July 29, 1999

To: All parties of record

RE: Case No. 99-070

We enclose one attested copy of the Commission's Order in
the above case.

Sincerely,

Stephanie J. Bell
Stephanie Bell
Secretary of the Commission

SB/sa
Enclosure

William J. Senter
V.P. Rates & Regulatory Affairs
Western Kentucky Gas Company
2401 New Hartford Road
Owensboro, KY 42303 1312

Honorable Mark R. Hutchinson
Attorney at Law
Sheffer Hutchinson Kinney
115 East Second Street
Owensboro, KY 42303

Honorable John N. Hughes
Attorney for Western KY Gas
124 West Todd Street
Frankfort, KY 40601

Mr. Douglas Walther
Atmos Energy Corporation
P.O. Box 650205
Dallas, TX 75265

Honorable David E. Spenard
Assistant Attorney General
1024 Capital Center Drive
Frankfort, KY 40601 8204

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF WESTERN)
KENTUCKY GAS COMPANY)
FOR AN ADJUSTMENT OF RATES)

CASE NO. 99-070

O R D E R

In its July 2, 1999 Order the Commission established a partial procedural schedule in this proceeding which, among other things, did not set a date for a public hearing. Several factors, primarily the uncertainty surrounding the timing of the Commission's move to its new building, caused the hearing date to not be set at that time. Those matters have been resolved and the Commission is now able to establish the remainder of the procedural schedule for this proceeding.

IT IS THEREFORE ORDERED that:

1. The supplemental procedural schedule set forth in Appendix A, attached hereto and incorporated herein, shall be followed in this case.
2. At any hearing in this matter, neither opening statements nor summarization of direct testimony shall be permitted.

Done at Frankfort, Kentucky, this 29th day of July, 1999.

By the Commission

ATTEST:


Executive Director

APPENDIX A

APPENDIX TO AN ORDER OF THE KENTUCKY PUBLIC SERVICE
COMMISSION IN CASE NO. 99-070 DATED JULY 29, 1999

The following supplemental procedural schedule augments the partial procedural schedule established by the Commission on July 2, 1999. Nothing contained herein modifies or changes the procedural dates contained in the previous schedule. This schedule is issued solely for the purpose of establishing procedural dates that were omitted from the partial schedule issued July 2, 1999.

Last day for Western to publish notice of hearing date 12/07/99

Public hearing is to begin at 9:00 a.m., Eastern Standard Time, in Hearing Room 1 of the Commission's offices at 730 Schenkel Lane, Frankfort, Kentucky for the purpose of cross-examination of witnesses of Western, cross-examination of witnesses of intervenors, and the presentation of rebuttal testimony, if any. 12/14/99

Written briefs shall be filed with the Commission no later than. 01/10/00



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Fax (502) 564-3460

Ronald B. McCloud, Secretary
Public Protection and
Regulation Cabinet

Helen Helton
Executive Director
Public Service Commission

Paul E. Patton
Governor

July 21, 1999

Honorable John Baird
Attorney at Law
P.O. Box 838
Greenville, KY 42345-0838

RE: Case No. 99-070
Western Kentucky Gas

Dear Mr. Baird:

The Commission has received your letter dated July 7 concerning the above case. Your letter is being treated as an official protest and will be placed in the case file. The Commission will carefully analyze this case before rendering its decision. Be advised that the effect of the rate increase cannot yet be determined as the increase originally proposed by Western Kentucky Gas is not necessarily what may be ordered in the Commission's final decision.

If you wish to participate in the proceeding, including any hearing that may be held, you must file a motion to intervene with the Commission. Attached is a copy of Commission regulations concerning intervention. If you request limited intervention and your request is granted, you will receive copies of all Commission Orders entered in this case. You will not, however, be served with filed testimony, exhibits, pleadings, correspondence or other documents submitted by the parties. If you wish such information, you must request and be granted full intervention. If you are granted intervention and wish to request a hearing, you should file such a request with Helen C. Helton, the Commission's Executive Director.

The Attorney General's Office for Rate Intervention, which represents consumers' interests has been granted intervention and is participating in this case. You may contact them at (502) 695-5453 to discuss their position on the issues you raise in your protest letter.

Thank you for your interest and concern in that matter.

Sincerely,
Stephanie Bell

rlm
Enclosure

Stephanie Bell
Secretary of the Commission



AN EQUAL OPPORTUNITY EMPLOYER M/F/D

99-070

JOHN BAIRD
ATTORNEY AT LAW
103 East Main Cross Street
P.O. Box 838
Greenville, KY 42345-0838
270-338-5944
fax 270-338-0096

RECEIVED

JUL 12 1999

PUBLIC SERVICE
COMMISSION

July 7, 1999

RECEIVED

JUL 12 1999

DIVISION OF UTILITY
ENGINEERING & SERVICES

Public Service Commission
Att: Eddie Smith
P.O. Box 615
Frankfort, Kentucky 40602

RE: Objection to Rate Increase
By Western Kentucky Gas Company

Dear Mr. Smith

I am writing this letter in opposition to the request for a rate increase by Western Kentucky Gas Company. While I know that it had been approximately 4-5 years since they had a rate increase and I also know that their utility rate are one of the lowest in the Country, I also know that since its acquisition by Atmos, Western Kentucky Gas Company has reduced services, increased inconvenience and customers time, etc., which are factors to consider as well. For example, the Gas Company before it was acquired had offices in both Greenville and Central City. Any problem was only a short 5 minute trip to the office or a phone call away, and the personnel were available to meet with the customer and /or resolve the problem or furnish the service out in the field.

Now it is completely different story. There is no longer a local office in this County. Any time you need to call, you have to dial an 1-800 number to some place in Texas, which sometime takes about 5-10 minutes of waiting time to get through.

Just several weeks ago, I requested new residential service at a house I am building. After a week passed and I was never contacted by anybody (they do have 3-4 workers who live in the county and who we assigned here to do the work upon somebody in Texas sending instructions). I had to call a second time to Texas (having to wait 5-10 minutes to get somebody to talk to) and request for a second time, that somebody come out to meet me at the site, so I could designate where I wanted the line run. After such meeting, several more weeks have passed and I have yet to have the line installed or heard a word from any body about when they plan to get it done. I'm not sure that the delay is not due in part, to the pending rate increase proposed by Western Kentucky Gas Company, i.e., to change over \$1000 for looking up a new house line, i.e. running from the gas company's main to the residential meter. This is a rip-off off and absurd to charge a customer this fee. Several years ago, this was a free service and it should continue to be a free service.

The reduction in man power is also apparent in their field work on emergencies. I had a situation at a rental house, where the old house line rusted through and was leaking gas outside the house, approximately 3 feet from the house. They wanted to wait until office hours before

they would have to come and fix the leak. I demanded that it be fixed immediately since it was a possible fire or explosion hazard to the tenant living in the house. So they came, but only because I demanded it.

Another interesting item is their minimum bill for no usage. I have a office that operates a gas furnace, but has no pilot light. I had to pay \$18.31 to the Gas Company for no gas being used month, which I believe is high. It will be like that for the next several months, until the weather turns cooler. I anticipate that I pay the gas company \$80-\$100 until I start using gas again at my office.

So to summarize Company should not be allowed to charge a large fee to hook up a new customer. Also the reduction in service, the closing of offices (while they have no office here now, they are still paying a long term lease for a new fancy office that they had built to occupy here in the county), the total inconvenience to customers create by their consolidation, etc., should be considered before my rate increase is granted. Finally, their should be some type of credit for payments made when on gas is being used, to be applied against the bill when consumption resumes in the fall.



Sincerely,

John Baird

JB:

P.S. Today, after my 4th call to Texas (another 10 minutes), somebody call me about installing my house line.



COMMONWEALTH OF KENTUCKY
PUBLIC SERVICE COMMISSION

730 SCHENKEL LANE
POST OFFICE BOX 615
FRANKFORT, KY. 40602
(502) 564-3940

July 16, 1999

To: All parties of record

RE: Case No. 99-070

We enclose one attested copy of the Commission's Order in
the above case.

Sincerely,


Stephanie Bell
Secretary of the Commission

SB/sa
Enclosure

William J. Senter
V.P. Rates & Regulatory Affairs
Western Kentucky Gas Company
2401 New Hartford Road
Owensboro, KY 42303 1312

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Attorney at Law
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Honorable John N. Hughes
Attorney for Western KY Gas
124 West Todd Street
Frankfort, KY 40601

Mr. Douglas Walther
Atmos Energy Corporation
P.O. Box 650205
Dallas, TX 75265

Honorable David E. Spenard
Assistant Attorney General
1024 Capital Center Drive
Frankfort, KY 40601 8204

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF WESTERN)
KENTUCKY GAS COMPANY FOR) CASE NO. 99-070
AN ADJUSTMENT OF RATES)

O R D E R

IT IS ORDERED that Western Kentucky Gas Company ("Western") shall file with the Commission the original and 15 copies of the following information, with a copy to all parties of record. The information requested herein is due no later than July 30, 1999. Each copy of the data requested should be placed in a bound volume with each item tabbed. When a number of sheets are required for an item, each sheet should be appropriately indexed, for example, Item 1(a), Sheet 2 of 6. Include with each response the name of the witness who will be responsible for responding to questions relating to the information provided. Careful attention should be given to copied material to ensure that it is legible. Where information requested herein has been provided along with the original application, in the format requested herein, reference may be made to the specific location of said information in responding to this information request. When applicable, the information requested herein should be provided for total company operations and jurisdictional operations, separately.

1. Provide an organization chart for Atmos Energy Corporation ("Atmos") as of June 1, 1999. The chart should show all regulated utility divisions and non-regulated businesses.

2. With the exception of Western, provide the following information for each of the regulated utility divisions:

a. The state jurisdictions in which the division operates.

b. The year of the division's last completed general rate case proceeding. If the division is currently involved in a general rate case, indicate when that proceeding is expected to be completed.

c. The authorized rate of return on common equity awarded or authorized in the last completed general rate case proceeding. If the division is currently involved in a general rate case, indicate the rate of return on common equity requested by the division.

3. Western's last general rate case was Case No. 95-010.¹ In the August 10, 1995 Order in that case, the Commission expressed its concern about Western's practices of funding only a portion of its other post-retirement employee benefits ("OPEBs") and of funding internally rather than using a protected fund administered by a third party. Describe Western's current practice with regard to these two issues. In addition, provide justification for Western's current level of OPEB funding.

4. In the October 20, 1995 Order, which adopted the October 9, 1995 Settlement Agreement, the Commission acknowledged Western's agreement to perform a new depreciation study no later than its next general rate application. However, the

¹ Case No. 95-010, An Adjustment of Rates of Western Kentucky Gas Company, Orders dated August 10, 1995 and October 20, 1995.

October 20, 1995 Order reminded Western that the Commission's concerns about its depreciation study, expressed in the August 10, 1995 Order, would remain pertinent for the review of the new depreciation study.

a. Explain in detail how the concerns expressed in the August 10, 1995 and October 20, 1995 Orders have been addressed by the September 30, 1997 depreciation study filed with Western's application.

b. Refer to the September 30, 1997 depreciation study filed with the application. Provide the calculations for the net salvage rates with details and supporting documentation which support the change, to a negative 150 percent, in the salvage rate for Account 380, Services.

5. Refer to the Application, Volume 1 of 10, Tab 1, Item 5. Provide the calculations that support Western's determination that it has experienced an \$800,000 decline in lost industrial margins and \$1,600,000 in lost margins due to energy conservation and declining customer usage. Include a detailed explanation as to how Western identified these specific causes.

6. Refer to the Application, Volume 2 of 10, Tab 1, the Testimony of Conrad E. Gruber. On pages 12 through 18 of the testimony is a discussion of Western's efficiency and productivity improvements. Explain in detail how the benefits of these efficiency and productivity improvements have been incorporated into Western's forecasted period. Include a dollar quantification of the improvements and identify where this quantification has been shown in the forecasted period.

7. Refer to the Application, Volume 2 of 10, Tab 4, the Testimony of Betty L. Adams. On page 5 of the testimony it is stated that Western's O&M budget was

converted into National Association of Regulatory Utility Commissioners ("NARUC") accounts. Provide a detailed explanation as to why Western utilized the NARUC accounts rather than following the Uniform System of Accounts prescribed by the Federal Energy Regulatory Commission.

8. On page 10 of the Adams Testimony is a discussion of changes in Western's operational budget due to the implementation of the Shared Services approach. For each change listed on page 10, compare in dollar amounts the changes in Western's O&M budget with the changes in expenses from the Shared Services program. If the increase in Shared Services expense exceeded the reduction in Western's O&M budget for a particular change, explain in detail why it was cost effective to make the change.

9. Refer to the Application, Volume 2 of 10, Tab 5, the Testimony of David H. Doggette, concerning Western's capital budgets.

a. Is it correct that none of the capital budgets submitted in Western's application reflect Western's normal "bottom up" development approach?

b. Has Western prepared its capital budgets for FY2001 through FY2003, following the "bottom up" approach, utilizing the new Oracle accounting system? If yes, provide the FY 2001 through FY 2003 capital budgets, using the "bottom up" approach, in a format similar to that shown in Exhibit DHD-1.

c. Has Western performed any analysis or review to determine if using a "FY 1999 baseline" approach for its capital budgeting produces a similar result as the "bottom up" approach? If yes, provide copies of that analysis or review. If no, explain why such an analysis or review has not been performed.

d. Have the FY 2000 and FY 2001 capital budgets filed in this proceeding been entered into the Atmos Capital Budget Gathering System? If no, explain in detail why this has not occurred.

e. Provide copies of the approved FY 2000 and FY 2001 capital budgets within 10 days of their approval by Atmos's Board of Directors. Explain in detail all differences between the approved FY 2000 and FY 2001 capital budgets and those submitted with the application.

f. Provide the capital budgets for the Information Technology strategy and other Shared Services projects, for the FY 2000 through FY 2003 periods. This information should show the amounts for the total budget, as well as Western's forecasted investment, for each fiscal year. Explain in detail how Western's forecasted investment was determined.

10. Refer to the Application, Volume 2 of 10, Tab 5, Exhibit DHD-1, page 2 of 6. Provide the workpapers and assumptions used to determine that the projected overhead rate should be 50 percent and the projected increase in maintenance and improvements should be 36.25 percent for the FY 2000 capital budget. Include an explanation as to how these determinations were made.

11. Refer to the Application, Volume 2 of 10, Tab 6, the Testimony of Donald P. Burman. On pages 6 and 7 of the testimony is a discussion of Western's accounting for pension expense.

a. Provide the balances of Western's pension assets and obligations shown on its balance sheet as of March 31, 1999, as well as for the base period and

forecasted period. Include the account numbers and titles used to record these assets and obligations.

b. Has Western included its pension assets and obligations in its calculation of its rate base? If so, provide the reference to the appropriate schedules and workpapers that disclose this inclusion.

12. Provide the actual capital ratios for Atmos as of June 30, 1999.

13. Refer to the Application, Volume 2 of 10, Tab 7, the Testimony of John P. Reddy. On page 4 of the testimony, it is stated that Atmos's objective is to maintain a capital structure comprised of approximately 50 percent equity and 50 percent debt. However, on page 6 of the Reddy Testimony, the summary of Atmos's five-year financial plan for FY 2001 through FY 2003 shows a capital structure comprised of equity ranging between 53 percent and 61.9 percent.

a. Explain why Atmos's five-year financial plan presents capital structures that are significantly different than Atmos's expressed capital structure objectives.

b. The equity portion of Atmos's capital structure as of March 31, 1999 was 44.19 percent. The equity portion shown on page 6 of the Reddy Testimony shows a forecasted equity component of 49.8 percent for FY 2000. Explain in detail why it is reasonable to expect such an improvement in the equity in less than a two-year time frame.

14. Refer to pages 6 and 7 of the Reddy Testimony. For each of the assumptions listed below, indicate how reasonable that assumption is for Atmos. Include any analyses, studies, or other documentation that support these assumptions.

- a. A return to normal long-term weather patterns for the other Atmos utility divisions beginning in FY 2000.
- b. The issuance of \$26 million of new equity in November 1999.
- c. Raising \$20 million of new equity annually through stock plans.
- d. No significant acquisitions. Explain how this assumption is not in conflict with the statements contained on page 5 of the 1998 Atmos Annual Report to shareholders.
- e. Cash flow from depreciation will fund ongoing capital spending requirements.
- f. No new long-term debt issues.

15. Refer to the Reddy Testimony, the attachment titled "FR10(9)(h)11," Sheets 1 and 2 of 3. Explain why each of the assumptions listed on these schedules is reasonable. Include any analyses, studies, or other documentation that support these assumptions.

16. Refer to the Application, Volume 2 of 10, Tab 12, the Testimony of Michael Marks. On page 4 of the testimony it is stated "Central to the program are two important provisions of the agreement between Western and the Commission." In the August 10, 1995 Order in Case No. 95-010, the Commission stated:

Thus, the Settlement merely establishes a framework for developing a program which will qualify for rate recovery under KRS 278.285. No specific programs or related cost recovery mechanism have been included. Therefore, the Commission makes no decision or findings of fact related to any portion of the DSM provisions included in the Settlement.²

² Case No. 95-010, August 10, 1995 Order, at 4.

In light of the Commission's statement in Case No. 95-010, explain in detail what agreement is being referenced in Mr. Marks Testimony on page 4.

17. Refer to the Marks Testimony, page 4. Concerning the Western Demand Side Management ("DSM") Collaborative:

a. Identify the members of the Western DSM Collaborative at its inception and as of June 30, 1999.

b. Provide copies of the bylaws or other documents that govern the operation of the Western DSM Collaborative.

c. Identify the chairperson of the Western DSM Collaborative as of June 30, 1999.

18. Refer to the Marks Testimony, page 8. For each of the measures ultimately selected for inclusion in the WKG CARES program, provide the results of the following DSM benefit cost test:

- a. Total Resource Cost ("TRC").
- b. Utility Cost Test ("UCT").
- c. Ratepayer Impact Measure ("RIM").
- d. Participant Test ("PT").

19. Refer to the Marks Testimony, page 8. It is stated that the TRC test measures the costs and benefits of a conservation measure from the broadest perspective as it represents the net benefit to society. Isn't it correct that the TRC calculates the net impact on a utility and its customer base as a whole, instead of as a net benefit to society? If no, provide documentation to support the contention that the focus of the TRC is the net benefit to society.

20. Concerning the process and impact evaluations of WKG CARES:

- a. Provide copies of the written process and impact evaluation reports. If no written report was provided, explain in detail why not.
- b. Explain why the Applied Energy Group, Inc. ("AEG") was retained to perform these evaluations, given Mr. Marks association with AEG.
- c. Explain in detail why actual customer savings were not developed as part of the impact evaluation.
- d. Explain how the impacts of the weather experienced during the evaluation period were taken into consideration when pre- and post-treatment consumption values were determined.
- e. Provide the workpapers showing the calculation of the TRC, UCT, RIM, and PT values for the impact evaluation.
- f. Explain why the Societal Test is referenced on page 13 of the Marks Testimony instead of the TRC.
- g. Provide the calculations and assumptions used to determine the environmental externality adder reflected in the Societal Test. Include an explanation as to why it was believed an environmental externality adder should have been included in the analysis.
- h. Did the calculation of the TRC during the impact evaluation include a determination of Western's lost revenues associated with WKG CARES? If no, explain why the exclusion of lost revenues would not skew the results of the TRC.

21. On page 13 of the Marks Testimony is the statement that Western is not attempting to recover the revenue erosion caused by WKG CARES. However,

throughout its application, Western has cited one of the reasons for the proposed revenue increase has been the impact of residential energy conservation efforts. Is it correct that Western is attempting to recover these lost revenues through its general rate increase, rather than through the DSM tariff? Explain the response.

22. On page 14 of the Marks Testimony is a discussion of the benefit to Western's uncollectible accounts as a result of WKG CARES. If the actual impact on uncollectible accounts was not determined as part of the impact evaluation, explain in detail the basis for the assumption that uncollectible accounts were impacted favorably by WKG CARES.

23. Provide copies of all program materials associated with WKG CARES, including the program parameters established regarding allowable program measures.

24. Provide the following information concerning WKG CARES:

a. Describe the specific changes in customers' consumption patterns that Western is attempting to influence through WKG CARES.

b. Indicate whether WKG CARES is consistent with Western's most recent long-range integrated resource plan ("IRP"). Include copies of Western's most recent IRP.

c. Does WKG CARES result in any unreasonable prejudice or disadvantage to any class of customers? Explain the response.

d. Describe the extent to which WKG CARES programs are available, affordable, and useful to all customers.

25. Given the provisions of KRS 278.285, explain in detail why Western waited until the filing of this rate proceeding to recover the costs for WKG CARES, which began in 1996.

26. On page 18 of the Marks Testimony is the statement that Western is seeking to recover the costs associated with the 3-year pilot program which was approved by the Commission in the October 20, 1995 Order in Case No. 95-010. The October 20, 1995 Order approving the October 9, 1995 Settlement in Case No. 95-010 specifically stated that:

In all other respects this proposal mirrors the July 18, 1995 Settlement. Those provisions not addressed herein which were previously addressed and accepted in the Commission's Order of August 10, 1995 are approved without discussion.³

The pilot DSM program is not discussed in the October 20, 1995 Order, and the Commission stated in the August 10, 1995 Order that it made no decision or findings of fact related to the DSM provisions included in the Settlement. Explain in detail how Western has concluded that the Commission approved the 3-year pilot program.

27. Provide the following information concerning the costs associated with WKG CARES:

a. A schedule of the costs incurred during the 3-year pilot. These amounts should be identified using Western's account numbers, with account titles. The amounts should be presented in total and fiscal year amounts.

³ Case No. 95-010, October 20, 1995 Order, at 3.

b. Were the pilot costs expensed or deferred by Western? If deferred, provide the Western detailed account numbers utilized and the basis for Western assuming deferral was appropriate.

c. A schedule of the costs proposed for the 1999 – 2002 period. These amounts should be identified using Western's account numbers, with account titles. The amounts should be presented in total and fiscal year amounts.

28. Provide an analysis that examines the completion percentage for capital budget projects. The analysis should be by individual capital project, by year, for fiscal years 1994 through 1998. The analysis should show the completion percentage (actual expenditure to budget amount) for each project in each fiscal year.

29. Refer to the Application, Volume 3 of 10, Tab 1, titled "FR 10(9)(b)," page 3 of 6, the forecasted test year capital budget.

a. Does Western assume that all the capital projects included on this schedule will be completed and included in rate base by the end of the forecasted test year?

b. If yes to part (a), explain in detail the basis for this assumption and why it is reasonable.

c. If no to part (a), provide a schedule showing the amounts from the capital budget that Western included in the rate base by the end of the forecasted test year.

30. Refer to the Application, Volume 3 of 10, Tab 7, titled "FR 10(9)(h)2." Provide all the assumptions used by Western to determine the amounts shown for the

base year, the forecasted year, and the 2000 through 2003 fiscal years. Include an explanation as to why each assumption is reasonable.

31. Refer to the Application, Volume 3 of 10, Tab 7, titled "FR 10(9)(h)4." Provide a revision of this schedule that fixes the forecasted required rate of return at 9.97 percent for each year shown.

32. Concerning Western Kentucky Gas Resources, Inc. ("WKG Resources"):

- a. Describe the nature of WKG Resources' business operations.
- b. Indicate when WKG Resources was established.
- c. Indicate whether any of Western's assets, liabilities, capital, or personnel were transferred to WKG Resources.

33. Refer to the Application, Volume 3 of 10. Explain why the operating income amounts shown for the test year (January 2000 – December 2000) on the following schedules are not in agreement:

- a. Tab 3, titled "FR 10(9)(d)."
- b. Tab 7, titled "FR 10(9)(h)1 and FR 10(10)(i)1."
- c. Tab 7, titled "FR 10(9)(h)4."

34. Refer to the Application, Volume 9 of 10, Tab 2, titled "FR 10(9)(u)," Schedules 1 and 2. Provide the following information for Schedule 1 and Schedule 2:

- a. An explanation of how the amounts shown under the column titled "WKG \$" were determined. Include any supporting workpapers, assumptions, and other documentation.

b. The determination of the percentages shown under the column titled "WKG %." Include any supporting workpapers, assumptions, and other documentation.

c. For each Shared Service Unit listed on the schedule, an explanation of why the particular allocation methodology is reasonable for the allocation of the particular unit costs.

35. Refer to the Application, Volume 10 of 10, Tab 2, Schedule B-2.2.

a. For both the base and forecasted periods, provide a schedule that links the plant additions shown on Schedule B-2.2 with the capital budget projects shown in Volume 3 of 10, Tab 1, Exhibit DHD-1.

b. For the base period, provide the workpapers, analysis, assumptions, and other documentation that support the amounts shown for "Retirements" and "Transfers/Reclassifications." Include a description for each retirement or transfer/reclassification shown on the schedule.

c. For the forecasted period, explain why Western assumed there would be no retirements. Include in the explanation a discussion of why such an assumption is reasonable.

36. Refer to the Application, Volume 10 of 10, Tab 2, Schedule B-2.3, for both the base and forecasted periods.

a. Identify the business unit of Atmos referred to in the schedule as "Division 02 General Office."

b. Indicate whether the assignment of the Division 02 General Office plant is the result of a general allocation of plant by Atmos or whether Western contracted for these assets.

37. Refer to the Application, Volume 10 of 10, Tab 2, Schedule B-3, for both the base and forecasted periods. For each of the plant accounts listed below, provide a detailed explanation as to why the accumulated depreciation exceeds the plant investment. Also explain why accumulated depreciation in excess of plant investment should be included in the calculation of Western's rate base.

- a. Account No. 331.00 – Production Gas Wells Equipment.
- b. Account No. 332.10 – Field Lines.
- c. Account No. 332.20 – Tributary Lines.
- d. Account No. 334.00 – Field Meas. & Reg. Station Equipment.
- e. Account No. 351.20 – Compression Station Equipment.
- f. Account No. 366.30 – Other Structures (Transmission Plant).
- g. Account No. 375.10 – Meas. & Reg. Station Equipment General.
- h. Account No. 399.00 – Other Tangible Property (base period only).
- i. Account No. 399.89 – Other Tangible Property – System Software (forecasted period only).

38. Refer to the Application, Volume 10 of 10, Tab 2, Schedule B-3.2. Each of the accounts listed below is shown on Schedule B-3.2 as being fully depreciated. Explain why Western has included a 12-month depreciation expense for each of these accounts, and why it is reasonable to include depreciation expense for a plant account that is fully depreciated per the company's books.

- a. Account No. 331.00 – Production Gas Wells Equipment (base period only).
- b. Account No. 332.10 – Field Lines (base period only).
- c. Account No. 332.20 – Tributary Lines (base period only).
- d. Account No. 334.00 – Field Meas. & Reg. Station Equipment (base period only).
- e. Account No. 351.20 – Compression Station Equipment (base and forecasted periods).
- f. Account No. 366.30 – Other Structures (base and forecasted periods).
- g. Account No. 375.10 – Meas. & Reg. Station Equipment General (base and forecasted periods).

39. Refer to the Application, Volume 10 of 10, Tab 6, Schedule F-6. Provide the following information concerning the costs for the preparation of this case:

- a. A detailed schedule of costs incurred to date. Include the date of the transaction, check number or other document reference, the vendor, amount, a description of the services performed, and the account number in which the expenditure was recorded. Indicate any costs incurred for this case during the base year. Include copies of invoices received from the vendors.
- b. A detailed explanation of how the estimate shown on Schedule F-6 was determined, with all supporting workpapers and calculations.
- c. Monthly updates of the actual costs incurred during the course of this proceeding, in the manner prescribed above. Updates will be due on September 3,

1999 (Western's due date for responses to additional data requests), November 1, 1999 (due date for requests to Intervenors), and 30 days after the date of the public hearing or the due date for final briefs, whichever date is later.

40. Refer to the Application, Volume 10 of 10, Tab 8, Schedule H.

a. Explain how the Uncollectible Accounts Expense percentage was determined. Include all supporting workpapers, assumptions, and calculations.

b. Provide a schedule showing Western's actual Uncollectible Accounts Expense percentage for the base period and the five previous fiscal years. Include all supporting workpapers, assumptions, and calculations.

c. Explain how the PSC Fees percentage was determined. Include all supporting workpapers, assumptions, and calculations.

41. Refer to the Application, Volume 10 of 10, Tab 8, Schedule I-1. In light of the revenue increase requested by Western, explain why Schedule I-1 shows Western is forecasted to experience net losses beginning in fiscal year 2001.

42. Refer to the Application, Volume 10 of 10, Tab 15, Summary of Factors schedule, referenced as "WP Factors." Concerning the calculation of the Residual Factor:

a. Explain why the Residual Factor is based on calendar year 1998 data.

b. Provide the Residual Factors for all other Atmos utility and non-utility business divisions.

c. Explain why it is reasonable to base the Residual Factor on the Western to Atmos ratios for Gross Direct PP&E, Average Number of Customers, and Total O&M Expense.

d. Explain the reference to the "Gray Book."

43. Refer to the Application, Volume 10 of 10, Tab 15, WP B-2, base period for Division 09, pages 3 and 4 of 4. For each of the column headings listed below, identify the source of information for the items contained in the column and provide the cross-reference to where that item can be found in the Application. If the item has not been provided in the Application, provide the source of information for the item in question.

- a. "WKG Direct Additions FY 99."
- b. "service prog. WKG adds April 1999."
- c. "WKG OH 98 carryover."
- d. "WKG OH FY 99."
- e. "02 OH FY 99."

44. Refer to the Application, Volume 10 of 10, Tab 15, WP B-2, forecasted period for Division 09, pages 3 and 4 of 4. For each of the column headings listed below, identify the source of information for the items contained in the column and provide the cross-reference to where that item can be found in the Application. If the item has not been provided in the Application, provide the source of information for the item in question.

- a. "WKG Direct Additions FY2000."
- b. "WKG OH FY2000."

- c. "02 OH FY2000."
- d. "WKG Additions FY2001."

45. Refer to the Application, Volume 10 of 10, Tab 15, WP B-3.2, for both the base and forecasted periods, Division 09.

- a. For the base period, explain the reason for the columns titled "Total Company Adjusted Jurisdiction – Reserve" and "Reserve Computation."

- b. For the forecasted period, explain the reason for the columns titled "Division 09 13 Month Avg. – Reserve" and "Reserve Computation."

- c. For both periods, explain why the "12 Month Expense" column includes a reference to 95.45 percent.

- d. Provide the calculations used to determine the 95.45 percent.

- e. For the forecasted period, explain the reference to "ELG" in the annual accrual rate column.

46. Refer to the Application, Volume 10 of 10, Tab 15, WP B-4.1, Working Capital Components, for both base and forecasted periods. Provide a breakdown showing all accounts and subaccounts contained in the Prepayments for each period. This breakdown should use the same accounting system as was used to show the detail for Materials and Supplies.

47. Refer to the Application, Volume 2 of 10, Tab 10, the Testimony of Thomas H. Petersen and Volume 9 of 10, Tab 3, the class cost-of-service study.

- a. Provide the name of the model used for the cost-of-service study and specify whether this is an industry model or an in-house model. Provide a narrative description of the study and written operating procedures for running the model.

b. Do any of Western's affiliates use this model? If so, identify any concerns that have been expressed or modifications that have been made by other state regulatory commissions in cases in which this model has been presented in support of those affiliates' revenue allocation or rate design proposals.

c. Identify any other models that were considered by Western prior to selecting this model and whether the other models provided similar results and guidance. If other models were reviewed, why was this model considered superior? If no other models were reviewed, how can the Commission be assured that the guidance represented by this model is the most reasonable?

d. Class load factor is defined by Mr. Petersen as the average daily use divided by design day use or maximum daily contract level. Expand on this definition and explain how this factor is used in the model.

e. On page 3 of his testimony Mr. Petersen states that the rate classes selected use available data that captures the class differences in load characteristics. Can the available data be readily subdivided into groupings other than the five rate classes used in the study?

f. Mr. Petersen also states that the study was performed using fiscal year 1998 data and that results using the forecasted test period would follow a pattern similar to that of the historic cost-of-service analysis. Provide the results for the forecasted period and the appropriate workpapers in the same form as provided in the original filing (i.e., nineteen pages of model results and nine pages of supporting workpapers).

g. What are the results of the model for the historic test period normalized for weather using the proposed rates and the resulting revenue levels? What are the results of the model using the forecasted test year with the proposed rates and resulting revenue levels? Provide these results and the appropriate workpapers in the same form as provided in the original filing.

h. An adjustment for customer accounts was incorporated into the model. Explain why this was the only adjustment other than the adjustment to normalize weather incorporated into the model.

i. Notes are included in many pages of the study describing rules, actions or assumptions applied to the particular worksheet. Provide a narrative description of these rules and actions and the source of the assumptions.

48. Refer to Volume 1 of 10 of the Application, Tab 6, Proposed Tariffs, at Rate G-1 and G-2. Why is there no page reference for: (1) the Weather Normalization Adjustment; (2) the Gas Cost Adjustment Rider; and (3) the Margin Loss Recovery Rider? Does Western agree that including page references for each of these items would enable the tariff reader to better follow the tariffs without being required to constantly refer to the tariff index?

49. Refer to Volume 1 of 10 of the Application, Tab 6, Proposed Tariffs, at Sheet No. 26, Weather Normalization Adjustment Rider ("WNA").

a. The tariff shows an effective date of July 24, 1999, while page 37 of the Testimony of Gary L. Smith indicates the WNA would go into effect November 1, 2000. What is the correct effective date for the WNA?

b. The tariff states "Base loads and heating sensitivity factors will be determined by class and computed annually." Provide a detailed description of how base loads and heating sensitivity factors will be determined. Include example calculations if necessary.

c. Page 38 of the Testimony of Gary L. Smith sets out a proposed schedule for filing periodic reports with the Commission. Should the schedule and a description of these reports be included in the tariff? Why or why not?

d. At page 37 of the Testimony of Gary L. Smith he states that the proposed WNA mirrors that of Western's affiliate, United Cities Gas Company. Provide for the last three years (fiscal or calendar), a comparison of United Cities' residential revenues both with and without the impacts of its WNA.

50. Refer to Volume 1 of 10 of the Application, Tab 6, Proposed Tariffs, at Sheet No. 27, Gas Cost Adjustment Rider ("GCA").

a. Since the proposed GCA is zero-based, is it still necessary that Western file its GCA on a monthly basis?

b. Explain in detail why quarterly GCA filings, as submitted by Kentucky's other major LDCs, would not be sufficient to meet Western's gas cost recovery needs.

51. Refer to Volume 1 of 10 of the Application, Tab 6, Proposed Tariffs, at Sheet No. 271, the Margin Loss Recovery Rider ("MLR").

a. The tariff does not specify this, but the Testimony of Gary L. Smith, at page 29, indicates that the proposal will shift lost revenues to sales customers. Why

is the proposed shift to sales customers only? Explain how the proposed 90 percent / 10 percent sharing between customers and the company was developed.

b. The MLR tariff does not specify the rate schedules to which it would be applied. Was this an oversight or was it done intentionally? Explain why an "Applicable" provision designating the appropriate rate schedules should not be included in the tariff.

c. How was it determined that the MLR should be adjusted on a semi-annual basis, as opposed to monthly, quarterly, or annually?

52. Refer to Volume 1 of 10 of the Application, Tab 6, Proposed Tariffs, at Sheet No. 30d, Gas Research Institute ("GRI") R & D Rider.

a. The unit charge in the tariff is proposed to be billed "according to the transition schedule outlined in the pipeline's tariffs." Provide the transition schedules for each of the pipelines serving Western.

b. What was Western's "level of contribution per Mcf" as of December 31, 1998?

c. Why is the proposed tariff rider to be "applicable to all gas transported by the Company other than Rate T-3 and T-4 Carriage Service"?

d. Does "all gas transported" mean sales and transportation volumes or transportation volumes only? Explain why it should be one or the other.

e. Identify any other methods of GRI cost recovery that Western considered and explain why those methods were not selected.

f. Identify the benefits that accrue to Western's ratepayers from Western's funding of GRI's R & D activities.

53. Refer to Volume 1 of 10 of the Application, Tab 6, Proposed Tariffs, at Sheet No. 49, Alternative Receipt Point Service. Provide cost support for the proposed distribution charge of \$.10 per Mcf.

54. Refer to Volume 1 of 10 of the Application, Tab 6, Proposed Tariffs, at Sheet No. 51, Special Charges.

a. Even though rate schedules G-1, G-2, LVS-1, LVS-2, T-3, and T-4 all include sections headed "Late Payment Charge," Sheet No. 51 and the Testimony of Gary L. Smith, indicate the proposed Late Payment Charge of 5 percent will be applied only to Rate G-1 sales service. Explain the reasoning for applying the 5 percent charge to only one rate schedule.

b. What other local gas distribution companies is Western aware of that have a late payment charge which is applicable to only one of several rate schedules?

c. What is the purpose of the Late Payment Charge section in the tariffs, other than Rate G-1, identified in part (a) above?

d. Provide the amount of annual revenue that Western expects the Late Payment Charge to generate. Include supporting calculations and sufficient narrative explanation to explain the calculations.

55. Refer to Volume 1 of 10 of the Application, Tab 6, Proposed Tariffs, at Sheet No. 30a, Demand-Side Management Cost Recovery Mechanism, and the Testimony of Gary L. Smith and Michael Marks on the same subject.

a. Explain why the WKG CARES program is proposed for another three years, as opposed to one or two years, or on a permanent basis.

b. What consideration, if any, was given to implementing the program on a permanent basis?

c. Are the non-permanent nature of the proposed three-year program and the proposal to recover costs for the three-year pilot program the only reasons for proposing a surcharge mechanism rather than including the prospective costs for recovery through base rates? If there are other reasons for using a surcharge mechanism, explain them in detail.

d. The tariff itself does not specifically mention the annual filing with the Commission discussed in the Testimony of Michael Marks. Was this an oversight or intentional? Provide any reasons why Western would be opposed to including a statement in the tariff identifying and describing the annual filings proposed by Mr. Marks.

56. Refer to Volume 1 of 10 of the Application, Tab 6, Proposed Tariffs, at Sheet No. 67, Rules and Regulations, Part (I), Premises charge and the Testimony of Daniel Ives.

a. The proposed Premises Charge is only for the residential customer class and Mr. Ives discusses this on page 11 of his testimony. Even though 84 percent of customer growth is in the residential class, explain why Western would choose not to address the same problem of incremental versus embedded costs for the remaining one-sixth of its customer growth occurring in other customer classes.

b. On page 10 of his testimony Mr. Ives discusses the proposed fifteen-year recovery period for the Premises Charge. Explain why a shorter life, based

on the Internal Revenue Service's MACRS system, is appropriate for per books accounting by a regulated entity.

c. Provide support for Mr. Ives statement that "a fifteen-year recovery period is consistent with what is being used elsewhere in the industry."

57. Refer to Volume 2 of 10 of the Application, the Testimony of David H. Doggette, pages 12-14, and Exhibit DHD-2.

a. Some of the service charge studies discussed by Mr. Doggette and included in Exhibit DHD-2 covered Western's fiscal year 1998. Identify any studies, other than the April 1999 survey of banks, that cover a period other than fiscal year 1998.

b. Does the summary analysis on Exhibit DHD-2, page 1 of 8, at Column 3, represent the actual number of orders charged for fiscal year 1998, or does it represent the actual number of orders for any period? Explain what Column 3 represents.

c. Explain why Exhibit DHD-2, page 1 of 8, does not include all the special charges included in Western's proposed tariffs at Sheet No. 51.

d. What impact, if any, do the proposed revenues in Exhibit DHD-2, page 1 of 8, Column 15, or the increase in revenues in Column 16 have on the increase in Other Revenues derived from comparing Exhibits GLS-7 and GLS-1 of the Testimony of Gary L. Smith?

58. Refer to Volume 2 of 10 of the Application, Tab 11, the Testimony of Gary L. Smith at pages 4-12.

a. Provide the historical data for the three-year period referred to by Mr. Smith on page 6 of his testimony including: (1) the number of customers by customer class; (2) sales volumes, by customer class, adjusted for normal weather; (3) annual changes in volumes for industrial sales and transportation deliveries; and (4) the level of volume migration from sales to transportation volumes.

b. Provide detailed calculations showing the derivation of the adjustment for industrial sales and transportation deliveries referred to by Mr. Smith on page 8, lines 25-28 of his testimony.

c. On page 7, lines 5-6 of his testimony, Mr. Smith refers to "historical growth rates averaging slightly less than 2,000 for the three prior years." To what three years does Mr. Smith refer? How does this statement reconcile with the table on page 12 of his testimony that reflects an average of at least 2,156 for any three-year period included therein?

d. For each year in the five-year period covered in the table on page 12 of Mr. Smith's testimony, provide a breakdown of growth in residential customers between "new construction" and "on-main conversions."

59. Refer to Volume 2 of 10 of the Application, Tab 11, the Testimony of Gary L. Smith, and Exhibits GLS-1 through GLS-7.

a. Exhibit GLS-3 summarizes the impact of industrial contract adjustments and volume changes. Provide supporting workpapers and narrative descriptions of these changes, by customer (the actual identity of the customers may be omitted and reference made by numbers and/or letters, i.e., – customer 1a).

b. Exhibit GLS-6 summarizes the volume adjustment for declining customer usage. Provide supporting workpapers and narrative descriptions of the calculations made to derive the adjustment.

c. Exhibit GLS-1 shows revenues at current rates reflecting all adjustments to derive test year volumes while Exhibit GLS-7 shows revenues at proposed rates reflecting the same adjustments. Are there any differences in the two exhibits other than: (1) different rates / margins; (2) Alternative Receipt Point volumes and revenues; (3) the amounts shown for Additional Contract Reformation; and (4) the amounts shown for Other Revenue? If yes, identify and explain those differences.

60. Refer to Volume 2 of 10 of the Application, Tab 8, the Testimony of Dr. Donald A. Murry.

a. Page 6, lines 20 through 22, indicates that the Commission should make allowances for the added risk of the inclusion of short-term debt in the capital structure. In what way should the Commission make such an allowance?

b. Page 5, beginning on line 17, indicates that Atmos raises capital for Western's operations. Is this beneficial to Western? If so, should the Commission make allowances for Western's ability to access this capital source? Would it be more risky for Western if it had to raise capital itself for its operations?

c. Provide an explanation of why each company in the group of comparative companies is considered to be a viable comparison to Atmos.

d. Provide the most recently approved return on equity for each of the comparable companies, along with the date each was approved.

e. Do any of the comparable companies use a weather normalization adjustment, a premises charge, or a margin loss recovery mechanism to stabilize their earnings? If so, which ones?

f. What effect would the implementation of a weather normalization adjustment have on Western's financial risk?

g. What effect would the implementation of a premises charge have on Western's financial risk?

h. What effect would a margin loss recovery mechanism have on Western's financial risk?

61. Refer to Volume 10 of 10 of the Application, Tab 4, Summary of Jurisdictional Adjustments by Major Accounts, Schedule D-1, Sheet 1 of 4 and Schedule D-2.1, Sheets 1 and 2.

a. Provide supporting workpapers for the revenue and gas purchases adjustments on these schedules, or reference where provided if already included in the application or in response to other requests contained in this Order.

b. Provide narrative descriptions of the workpapers provided in response to part (a) above.

c. Explain in detail the reasons for the proposed reductions to Service Revenues and Other Gas Service Revenues.

62. Refer to Volume 2 of 10 of the Application, Tab 1, the Testimony of Conrad E. Gruber, specifically, the table on page 11 which denotes Western's operating and maintenance cost efficiencies in comparison to industry averages.

a. Provide copies of the A.G. Edwards study cited and a detailed schedule of Western's operating and maintenance expenses, identified by fiscal year ("FY"), used to determine Western's Costs per Meter as shown in the table.

b. Provide a detailed schedule of Western's gas utility employees by job classification for the period used to determine Western's number of employees per 1,000 customers as shown in the table.

c. Provide documentation used for external reporting purposes to substantiate the number of meters in service and thousands of customers served for the period represented by the table.

63. Refer to Volume 2 of 10 of the Application, Tab 1, the Testimony of Conrad E. Gruber, specifically page 16, which indicates that installation of the Oracle system was expected to be completed by July 1999, and refers to the series of IT projects that are essential for Y2K readiness.

a. Has the Oracle system been implemented and tested for Y2K readiness?

b. Provide a description of the other projects scheduled for completion prior to the end of 1999 to assure Western's customers of Y2K readiness.

c. Identify any costs associated with Western's Y2K readiness that are included in the base year or the forecasted year.

64. Refer to Volume 2 of 10 of the Application, Tab 6, the Testimony of Donald P. Burman, and Volume 4 of 10, Tab 4, Filing Requirement 10(9)(m).

a. Explain whether FR 10(9)(m) is a complete conversion table to NARUC accounts as presented for operating revenue and expenses in Volume 10 of 10, FR 10(10)(c), Schedule C-2.1 and Schedule C-2.2.

b. Are the references in the "detail" sections of this exhibit to NARUC accounts the same as the accounts used to file the annual FERC Form No. 2 with the Commission?

65. Refer to Volume 2 of 10 of the Application, Tab 4, the Testimony of Betty L. Adams. Does Western have a conversion table that converts its current chart of accounts for general ledger purposes to the NARUC accounts as presented for operating revenue and expenses in Volume 10, FR 10(10)(c), Schedule C-2.1 and Schedule C-2.2? If yes, provide the conversion table.

66. Are the NARUC account numbers referenced in Ms. Adams' testimony at page 5, lines 5 through 23, the same as the account numbers used to determine the account balances for the annual FERC Form No. 2 filed with the Commission? If no, is there a conversion table that converts from NARUC accounts, to FERC accounts, to Western's general ledger chart of accounts?

67. Refer to Ms. Adams' testimony.

a. Are the operating revenue and expenses in Volume 10, FR 10(10)(c), Schedule C-2.1 and Schedule C-2.2 according to NARUC accounts available according to Western's current general ledger chart of accounts? Resubmit these schedules according to the current chart of accounts.

b. Does Western have operating revenue and expenses in the detailed manner described above according to its current chart of accounts which

compare budgeted amounts to actual year-to-date totals for the FY 1998, 1997, 1996, 1995 and 1994?

c. If yes to part (a) provide the budget to actual comparison for those years. Provide a brief explanation for accounts with a budget to actual variance of 5 percent or greater.

d. Resubmit Volume 10, FR 10(10)(d), the summary of jurisdictional adjustments, according to Western's general ledger chart of accounts.

e. Resubmit Volume 9, FR 10(9)(d) for the base year and test year according to Western's general ledger chart of accounts.

f. Are the jurisdictional adjustments in Volume 10, FR 10(10)(d) and FR 10(9)(d) for the base year and test year by account as Western would submit to the Commission in a FERC Form No. 2 annual report? If not, resubmit these schedules according to the FERC accounts.

g. Are the operating revenue and expenses in Volume 10, FR 10(10)(c), Schedule C-2.1 and Schedule C-2.2 according to FERC Form No. 2 as filed annually with the Commission available? If no, resubmit these schedules according to the FERC accounts.

68. Refer to Volume 2 of 10 of the Application, Tab 4, the Testimony of Betty L. Adams. On page 6, line 24, a table is presented to point out Western's overall operating and maintenance ("O & M") budgeting effectiveness for FY 1994 through 1998. Provide the source documents from which this table was created, with amounts detailed according to Western's general ledger chart of accounts.

69. On page 8, line 22 of Ms. Adams' testimony there is a discussion of the increase in the forecasted test period labor costs that is attributed to "the planned filling of a number of vacant employee positions and... a four percent wage increase."

a. Provide the number of vacant employee positions, by job classification, that Western intends to fill.

b. Provide the actual employee positions, by job classification, and provide the actual period used to determine the number of vacant positions necessary.

c. Does Western have both union and non-union employees? If there are union employees, provide the job classifications and a copy of the union contract.

d. Provide a schedule showing the derivation of the proposed 4 percent wage increase along with an explanation of how wage increases are determined for management, union and non-union employees.

e. Provide a list of the planned positions being filled that were previously held by contractors, by job classification, and break down the list further by identifying contractors performing construction activities, not operational duties.

f. Identify how many years the contractors have performed construction activities and whether these activities are now being considered in the planned construction budget.

g. If the planned positions are replacing contractors that have been performing construction services, and construction services with contractors are included in the planned construction budget, provide a detailed description of the expected benefits from the addition of the planned operating and maintenance employees that Western's customers will receive that they have not been receiving.

70. Resubmit Volume 9, FR 10(9)(h)9 for the years 2000 through 2003 with employees separated by job classifications. Also, provide a comparison of budgeted to actual number of employees for FY 1994 through 1998. Provide references in each of these schedules to the employee numbers by Western's chart of account number, NARUC account, and FERC account. Explain any increases or decreases of 5 percent or more in employee numbers from year to year.

71. On page 9, lines 10 through 17 of Ms. Adams' testimony is a discussion of the increase in the forecasted test period communications expense that is attributed to increased use of mobile data terminals ("MDTs") and higher cellular usage. Provide a schedule showing the cost amounts, MDT units acquired and plant accounts charged since the project inception, showing the years in which the investments in MDTs were made.

a. Does Western have contracts for communications expenses, such as long distance and cellular usage?

b. If yes, provide the old and new contracts and an explanation of why the usage was deemed to increase in the forecasted period considering any contractual changes or changes in services used.

c. Give a quantified determination of how this increase was estimated and whether the costs are under contract or not.

72. Refer to Ms. Adams' testimony. Provide an explanation, complete with a quantified determination, of how the increase in uncollectible write-offs was calculated for the forecasted test period.

a. Provide the accounts receivable aging schedules for the last two fiscal years.

b. Explain why under-budgeted write-offs for the six-month period in FY 1999 provided sufficient reason to adjust the forecasted period.

c. Provide an accounts receivable aging schedule for the last month of actual results in the test period.

d. Provide an account analysis of Western's reserve for uncollectibles comparing the actual charge-offs with the year to date provision for uncollectibles (expense) for the six-month period of actual results in the FY 1999 that comprises part of the base year. If different, schedule Western's monthly provision for uncollectibles (expense) in comparison to the year-to-date ("YTD") budget.

e. Provide a comparison of the YTD budget to actual provision for uncollectibles (expense) for the last two fiscal years.

f. Provide a comparison of the reserve for uncollectibles to accounts receivable for FY 1997, FY 1998 and the end of the six-month actual period included in the base year.

73. In Volume 10 of 10 of the Application, Schedule D2.2, Sheet 2 of 2, "ADJ 7" includes the "transfer of Human Resources expenses from Shared Services of \$67,700."

a. Provide a list of the job(s) transferred, an explanation of the previous job(s) function with Shared Services, and an explanation of the job(s) function with Western.

b. Did similar job reclassifications occur with Western's gas distribution affiliates? If yes, give an explanation of the reasoning. If no, why not?

74. In Volume 10 of 10 of the Application, Schedule D2.3, Sheet 1 of 1, "ADJ 2" is described as an adjustment to "reflect the amortization of the PSC Assessment for 1997 paid in 1999." Provide a detailed explanation and calculations to support the determination of this adjustment.

75. Refer to Ms. Adams' testimony at page 10, line 6, where adjustments to Western's FY 1999 budget decreasing O & M expenses and increasing Shared Services expenses are discussed in regard to the utilization of the new "Customer Support Center in Amarillo, Texas." Provide quantified schedules, referenced to Western's chart of accounts, with explanations of the cost shifts discussed, i.e., decreased number of employees by job classification to Western, new charges by Shared Services.

76. Refer to Ms. Adams' testimony at page 10, line 17, where adjustments to Western's FY 1999 budget decreasing O & M expenses and increasing Shared Services expenses are discussed in regard to the United Cities Gas merger. Provide quantified schedules, referenced to Western's chart of accounts, with explanations of the cost shifts discussed, i.e., decreased number of employees by job classification to Western, new charges by Shared Services.

77. Refer to Ms. Adams' testimony at page 10, line 22, where adjustments to Western's FY 1999 budget from non-labor savings in the "proposed Gas Meter Performance Control Program" are referenced. Provide a detailed schedule with a calculation showing how these savings were determined.

78. Refer to Ms. Adams' testimony at page 10, line 22, where adjustments to Western's FY 1999 budget from transferring the rates and regulatory vice-president position from the Shared Services staff is mentioned. Did similar job reclassifications occur with Western's gas distribution affiliates? If yes, give an explanation of the reasoning. If no, why not?

79. Refer to Ms. Adams' testimony at page 13, lines 15 through 18, where the adjustments to Western's "Shared Services" forecasted budget includes an adjustment for a "decrease in the labor portion of Atmos' administrative and general overheads, which is a capital expense."

a. Provide a description of these costs and a schedule of these costs, with reference to the accounts charged in the Shared Services forecasted budget.

b. Explain how these costs represent a capital expense as Atmos administrative and general overhead, but upon reclassification as a Shared Service expense become an operating and maintenance expense subject to recovery through customers' rates.

c. Were these costs similarly reclassified for Shared Services charges to Western's gas distribution affiliates? If yes, give an explanation of the reasoning. If no, why not?

80. Provide the basis for the beginning of Western's FY 1999 budgeting process in quantitative form, i.e., prior year's budget, prior year's actual results, by Western's current chart of accounts.

a. Provide a listing of the known adjustments made at the beginning of Western's budgetary process, i.e., increase or decrease in employee numbers, reductions for expenses non-recurring in nature.

b. Provide a listing of the known adjustments made at the major decision-points of Western's budgetary process, i.e., increase or decrease in employee numbers, reductions for expenses non-recurring in nature, deferring or accelerating maintenance projects.

81. Provide the basis for the beginning of the Western's "Shared Services" FY 1999 budgeting process in quantitative form, i.e., prior year's budget, prior year's actual results, prior year service adjusted by changes in affiliated charges, by Western's current chart of accounts.

a. Provide a listing of the known adjustments made at the beginning of Shared Services' budgetary process, i.e., increase or decrease in employee numbers, reductions for expenses non-recurring in nature.

b. Provide a listing of the known adjustments made at the major decision-points of Shared Services' budgetary process, i.e., increase or decrease in employee numbers, reductions for expenses non-recurring in nature, deferring or accelerating projects.

82. Refer to Volume 2 of 10 of the Application, Tab 4, the Testimony of Betty M. Adams, page 3, which shows her sponsoring FR 10(10)(d) and FR 10(10)(f) and Volume 10 of 10, Tabs 4 and 6, which include FR 10(10)(d) and FR 10(10)(f). Provide a schedule of the rate-making adjustments for country club dues, promotional advertising and sales expenses, employee party and gift expenses and pension expense in

reference to the "Detailed Adjustments" in Volume 10, FR 10(10)(d)2.1, FR 10(10)(d)2.2, and FR 10(10)(d)2.3, as applicable.

a. Provide the location of the above adjustments in FR 10(10)(d)1, with specific account number references.

b. Provide the location of the above adjustments in FR 10(10)(d)1, with specific account number references to the same schedule as previously requested to be resubmitted in Western's general ledger account number form.

83. Refer to Volume 2 of 10 of the Application, Tabs 2 and 4, the testimony of R. Earl Fischer and Betty L. Adams. To some extent, both witnesses address the issue of direct billed intercompany services and allocated service costs from Atmos's Shared Services Business Unit ("Shared Services") to Western and other Atmos business units.

a. Provide a detailed operating statement for Shared Services for FY 1997, 1998, and year to date FY 1999 actual, with detailed intercompany revenue accounts to reflect similar services provided by Shared Services for the Atmos operating divisions. Specifically, reference Shared Services' revenue accounts to Western's expense accounts by current chart of accounts. Provide the FY 1999 Shared Services budget and provide updates of FY 1999 actual data as it becomes available.

b. Provide contractual agreements between Western and Shared Services since 1997, with a schedule of expected service cost increases that are included in the determination of the base year or the forecasted year. Reference these service costs to Western's expense accounts by current chart of accounts.

c. Provide Shared Services' cost allocation manual, if available. If none is available, describe the cost allocation process for the portion of the cost not directly billed to Western and provide copies of all internal policies and procedures relating to the allocation of costs from Shared Services to Western.

Done at Frankfort, Kentucky, this 16th day of July, 1999.

By the Commission

ATTEST:


Executive Director



COMMONWEALTH OF KENTUCKY
PUBLIC SERVICE COMMISSION
730 SCHENKEL LANE
POST OFFICE BOX 615
FRANKFORT, KENTUCKY 40602
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Ronald B. McCloud, Secretary
Public Protection and
Regulation Cabinet

Helen Helton
Executive Director
Public Service Commission

Paul E. Patton
Governor

July 15, 1999

Mr. Jack Hughes
124 West Todd Street
Frankfort, Kentucky 40601

Re: Case No. 99-070

Dear Mr. Hughes:

Pursuant to our telephone conversations earlier this week, the following is a list of the documents that Commission Staff would appreciate Western filing electronically:

The Cost of Service Study contained in Volume 9, Tab 3,

The Schedules contained in Volume 3, and

The Schedules contained in Volume 10 with all supporting workpapers contained in Volume 10.

The preferred format is Excel. If Western is unable to provide the information in this format, please advise.

Should you have any questions regarding this matter, please do not hesitate to contact me.

Sincerely,

Anita L. Mitchell
Anita L. Mitchell
Staff Attorney

alm
cc All Parties of Record
Main Case File



AN EQUAL OPPORTUNITY EMPLOYER M/F/D



COMMONWEALTH OF KENTUCKY
PUBLIC SERVICE COMMISSION

730 SCHENKEL LANE
POST OFFICE BOX 615
FRANKFORT, KY. 40602
(502) 564-3940

July 2, 1999

To: All parties of record

RE: Case No. 99-070

We enclose one attested copy of the Commission's Order in
the above case.

Sincerely,

Stephanie D. Bell
Stephanie Bell
Secretary of the Commission

SB/sa
Enclosure

William J. Senter
V.P. Rates & Regulatory Affairs
Western Kentucky Gas Company
2401 New Hartford Road
Owensboro, KY 42303 1312

Honorable Mark R. Hutchinson
Attorney at Law
Sheffer Hutchinson Kinney
115 East Second Street
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Honorable John N. Hughes
Attorney for Western KY Gas
124 West Todd Street
Frankfort, KY 40601

Mr. Douglas Walther
Atmos Energy Corporation
P.O. Box 650205
Dallas, TX 75265

Honorable David E. Spenard
Assistant Attorney General
1024 Capital Center Drive
Frankfort, KY 40601 8204

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF WESTERN)
KENTUCKY GAS COMPANY)
FOR AN ADJUSTMENT OF RATES)

CASE NO. 99-070

O R D E R

On May 28, 1999, Western Kentucky Gas Company ("Western") submitted an application to the Commission for a rate adjustment. Having noted deficiencies in the application, the Commission, by Order issued June 16, 1999, rejected Western's application and ordered Western to refile its proposed tariff with an effective date no sooner than 30 days from the date of refiling. On June 23, 1999, Western filed a Motion for Reconsideration. It included with its motion the documents needed to cure the deficiencies as well as a new tariff with an effective date of July 24, 1999. Western requested that the notice and effective date originally proposed be reinstated, that the documents included with the motion be determined by the Commission to fulfill the filing requirements, and that it be permitted to use fiscal year data.

The Commission finds that the documents submitted with Western's motion for reconsideration satisfy the minimum filing requirements set by Commission regulation and cure the deficiencies noted in the Commission's Order of June 16, 1999. An application is not "filed" until all filing requirements are met. Therefore, the Commission does not consider Western to have filed its application until June 23, 1999.

The filing requirements for a rate adjustment for a forecasted test year are clearly set out in Commission Regulation 807 KAR 5:001. The Commission does not find Western's initial failure to comply with these filing requirements sufficient grounds to grant Western's request that the effective date of its rates be reinstated to the date originally proposed. The Commission does, however, find that the additional expense to republish notices justifies granting Western a waiver in regard to 807 KAR 5:001, Section 10(3) and (4); consequently, Western need not republish public notices. Western should file an affidavit from the publisher verifying that notice was published, including the dates of the publication, and attaching a copy of the published notice no later than 45 days from May 28, 1999, the date the incomplete application was submitted to the Commission.

Western's motion demonstrates confusion as to whether the Commission will accept fiscal year data rather than calendar year data. In its Order of June 16, 1999, the Commission found that Western had not provided adequate justification for its failure to comply with 807 KAR 5:001, Section 10(9)(h)(4). 807 KAR 5:001, Section 14, provides for deviations only in "special cases, for good cause shown." The Commission finds acceptable Western's request to use fiscal year, rather than calendar year, data.

The Commission further finds that, pursuant to KRS 278.190, further proceedings are necessary in order to determine the reasonableness of the proposed rates and that such proceedings cannot be completed prior to the proposed effective date of July 24, 1999. Therefore, Western's proposed rates should be suspended for a period of six months.

Additionally, the Commission finds that a procedural schedule should be established for this case to the extent it is possible to do so at this time.

The Commission, having been sufficiently advised, HEREBY ORDERS that:

1. Western's application is filed as of June 23, 1999, the date all filing deficiencies were cured.
2. Western's request that the effective date originally proposed be reinstated is denied, and the newly filed proposed tariff with the effective date of July 24, 1999 is incorporated into Western's application as required by 807 KAR 5:001, Section 10(1)(b)(7).
3. The proposed rates are suspended for six months from July 24, 1999 up to and including January 23, 2000.
4. Nothing contained herein shall prevent the Commission from entering a final decision in this case prior to the termination of the suspension period.
5. Western is granted a waiver from the public notice requirements of 807 KAR 5:001, Section 10(3) and (4), to the extent it met these requirements when it originally submitted its application on May 28, 1999.
6. Western shall file an affidavit of publication from the publisher verifying the notice was published, including the dates of the publication, and attaching a copy of the published notice no later than 45 days from May 28, 1999.
7. Western shall be permitted to use fiscal year data.
8. The procedural schedule set forth in Appendix A, attached hereto and incorporated herein, shall be followed in this case.

Done at Frankfort, Kentucky, this 2nd day of July, 1999.

By the Commission

ATTEST:


Executive Director

APPENDIX A

APPENDIX TO THE ORDER OF THE KENTUCKY PUBLIC SERVICE
COMMISSION IN CASE NO. 99-070 DATED JULY 2, 1999

Staff's initial request for information to Western shall be filed no later than	07/16/99
Western shall file with the Commission its responses to the initial requests for information no later than	07/30/99
Additional requests for information to Western shall be filed no later than	08/19/99
Western shall file its responses to the additional requests for information no later than	09/03/99
All supplemental requests for information to Western shall be filed no later than	09/20/99
Western shall file with the Commission its responses to the requests for information no later than	10/04/99
Intervenor testimony, if any, shall be filed with the Commission in verified prepared form no later than	10/18/99
All requests for information to Intervenors shall be filed no later than	11/01/99
Intervenors shall file with the Commission responses to requests for information no later than	11/15/99
Last day for Western to publish notice of hearing date	*
Public hearing is to begin at 9:00 a.m., Eastern Standard Time, in Hearing Room 1 of the Commission's offices at 730 Schenkel Lane, Frankfort, Kentucky for the purpose of cross-examination of witnesses of Western, cross-examination of witnesses of intervenors, and the presentation of rebuttal testimony, if any	*
Written briefs shall be filed with the Commission no later than	*

* These dates will be established at a later date.



COMMONWEALTH OF KENTUCKY
PUBLIC SERVICE COMMISSION

730 SCHENKEL LANE
POST OFFICE BOX 615
FRANKFORT, KY. 40602
(502) 564-3940

June 16, 1999

To: All parties of record

RE: Case No. 99-070

We enclose one attested copy of the Commission's Order in
the above case.

Sincerely,

Stephanie Bell

Stephanie Bell
Secretary of the Commission

SB/hv
Enclosure

William J. Senter
V.P. Rates & Regulatory Affairs
Western Kentucky Gas Company
2401 New Hartford Road
Owensboro, KY 42303 1312

Honorable Mark R. Hutchinson
Attorney at Law
Sheffer Hutchinson Kinney
115 East Second Street
Owensboro, KY 42303

Honorable John N. Hughes
Attorney for Western KY Gas
124 West Todd Street
Frankfort, KY 40601

Mr. Douglas Walther
Atmos Energy Corporation
P.O. Box 650205
Dallas, TX 75265

Honorable David E. Spenard
Assistant Attorney General
1024 Capital Center Drive
Frankfort, KY 40601 8204

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF WESTERN)
KENTUCKY GAS COMPANY)
FOR AN ADJUSTMENT OF RATES)

CASE NO. 99-070

O R D E R

On May 28, 1999, Western Kentucky Gas Company ("Western") filed an application with the Commission for a rate adjustment. In its filing, Western requested, pursuant to 807 KAR 5:001, Section 10(11)(a-c), a waiver from the requirements of 807 KAR 5:001, Section 10(9)(b), Section 10(9)(f), Section 10(9)(g), Section 10(9)(h), Section 10(10)(k) and Section 10(10)(i) and a blanket deviation from any rule, regulation or other requirement that might otherwise delay or impede the review and approval of its application pursuant to 807 KAR 5:006, Section 27.

Having reviewed the filing and being otherwise sufficiently advised, the Commission finds that:

1. For good cause shown by a utility, the Commission has the authority to grant the deviations requested.

2. Western's request for waiver of the filing requirements of 807 KAR 5:001, Section 10(9)(b), Section 10(9)(f), Section 10(9)(g), Section 10(9)(h), Section 10(10)(k) and (10)(10)(i), states that it would be more efficient for Western to provide fiscal year data versus calendar year data where calendar year data is requested. The Commission finds that the information filed by Western is sufficient to enable the

Commission to review adequately Western's application with the exception of the information required under Section 10(9)(h)(4). Therefore, Western's request for waiver of the filing requirements of 807 KAR 5:001, Section 10(9)(b), Section 10(9)(f), Section 10(9)(g), Section 10(9)(h) with the exception of subsection (4), Section 10(10)(k) and Section 10(10)(i), should be granted.

3. 807 KAR 5:001, Section 10(9), requires any utility requesting a general adjustment in rates supported by a fully forecasted test period to provide certain information to the Commission or a statement explaining why the information does not exist and is not applicable to the utility's application. Section 10(9)(h)(4) requires the financial forecast corresponding to each of the 3 forecasted years included in the capital construction budget to include the revenue requirements necessary to support the forecasted rate of return.

4. The information required by 807 KAR 5:001, Section 10(9)(h)(4), is critical to the Commission's effective review of Western's filing, and the operating income statement cited in the application as satisfying this requirement does not present the revenue requirements necessary to support the forecasted rate of return over the 3 forecasted years.

5. The request by Western to use a fiscal year rather than calendar year does not provide sufficient grounds to grant a waiver of the filing requirements of 807 KAR 5:001, Section 10(9)(h)(4).

6. Western's request for a waiver of the requirements of 807 KAR 5:001, Section 10(9)(h)(4), should be denied.

7. 807 KAR 5:001, Section 10(9)(i), requires the utility requesting a general adjustment in rates supported by a fully forecasted test period to file the most recent Federal Energy Regulatory Commission audit report or a statement explaining why the required information does not exist or is not applicable to the utility's application. Western's application states at page 9 that 807 KAR 5:001, Section 10(9)(i), is "N/A," but fails to provide an explanation of why it is inapplicable.

8. Western did not request a deviation from 807 KAR 5:001, Section 10(9)(i).

9. Western should be required to file the information required by 807 KAR 5:001, Section 10(9)(i), or provide an explanation why the information is inapplicable to Western.

10. The deviation provision of Commission Regulation 807 KAR 5:006, Section 27, applies only to the rules and requirements of 807 KAR 5:006 and cannot be used for a deviation from the filing requirements of 807 KAR 5:001 and used as such should be denied.

11. Since the information required by 807 KAR 5:001, Section 10(9)(h)(4) and Section 10(9)(i), is not included in Western's application filed May 28, 1999, the application should be rejected and the statutory time period in which the Commission must rule on this matter should not commence until the required information is filed with the Commission.

12. The proposed tariff with the effective date of July 1, 1999 should be considered void and Western should be required to refile a proposed tariff providing an effective date no sooner than 30 days from the date it is refiled.

IT IS THEREFORE ORDERED that:

1. The application filed by Western on May 28, 1999 is rejected and the statutory time period in which the Commission is required to rule shall not commence until the required information is filed with the Commission.

2. Western's request for a waiver of the filing requirements of 807 KAR 5:001, Section 10(9)(b), Section 10(9)(f), Section 10(9)(g), Section 10(9)(h) with the exception of subsection (4), Section 10(10)(k) and Section 10(10)(i), is granted.

3. Western's request for a waiver of the filing requirements of 807 KAR 5:001, Section 10 (9)(h)(4), is denied.

4. Western's request for deviation from any rule, regulation or requirement under 807 KAR 5:006, Section 27, is not applicable to the deficiencies cited under 807 KAR 5:001 and is therefore denied.

5. The proposed tariff filed with Western's application on May 28, 1999 with the effective date of July 1, 1999 is void and Western shall refile its proposed tariff with the Commission with an effective date no sooner than 30 days from the date the proposed tariff is refiled.

Done at Frankfort, Kentucky, this 16th day of June, 1999.

By the Commission

ATTEST:


Executive Director

JOHN N. HUGHES
Attorney at Law
Professional Service Corporation
124 WEST TODD STREET
FRANKFORT, KENTUCKY 40601

Telephone:
(502) 227-7270

Telecopier:
(502) 875-7059

June 16, 1999

Ms. Helen Helton
Executive Director
Kentucky Public Service Commission
730 Schenkel Lane
Frankfort, KY 40602

RECEIVED
JUN 16 1999
PUBLIC SERVICE
COMMISSION

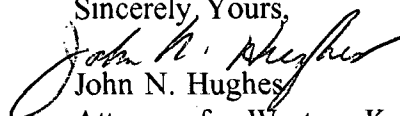
Re: Case No. 99-070

Dear Ms. Helton:

It appears that some copies of the application filed by Western Kentucky Gas Company on May 28, 1999, may be missing three pages in volume 1, tab 6. To assure that all copies are complete, eleven copies of sheets 50, 66 and 67 are attached.

Thank you for your assistance and if there are any questions about this, please contact me.

Sincerely, Yours,



John N. Hughes
Attorney for Western Kentucky
Gas Company

cc: Attorney General

WESTERN KENTUCKY GAS COMPANY

Alternate Receipt Point Service
Rate T-5

(N)

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COMMISSION

1. Imbalances

- a) Volumes delivered by the Company under the Alternate Receipt Point service may be subjected to imbalance restrictions additional to those specified in the transportation (Rate T-2) or carriage (Rate T-3 or Rate T-4) tariffs.
- b) Banking or Parking allowances for volumes delivered under the Alternate Receipt Point service may be limited or restricted altogether, at the Company's sole judgment.

2. Terms and Conditions

- a) Volumes under the Alternate Receipt Point service are received for redelivery by the Company on a strictly interruptible basis.
- b) The Company is not responsible for any costs incurred by the customer in its arrangement for gas supply or capacity to the Alternate Receipt Point.
- c) Specific details relating to volume, receipt point(s) and similar matters shall be covered by a separate written contract or amendment with the customer.
- d) Other than provisions referenced herein, or as more specifically set forth in the contract or amendment with the customer, all provisions of the customer's transportation (Rate T-2) or carriage (Rate T-3 or Rate T-4) tariffs shall apply.

ISSUED: May 28, 1999

EFFECTIVE: July 1, 1999

ISSUED BY: William J. Senter

Vice President – Rates & Regulatory Affairs

RECEIVED
JUN 16 1999
PUBLIC SERVICE
COMMISSION

WESTERN KENTUCKY GAS COMPANY

Rules and Regulations

- c) Read. A read charge may be assessed for the establishment of new service where only a meter read is required. (N)
- d) Reconnect Delinquent Service. A reconnect service charge may be assessed to reconnect a service which has been terminated for nonpayment of bills or violation of the Company or Commission regulations. Customers qualifying for service reconnection under Section 12 of these Rules and Regulations shall be exempt from reconnect charges. (T)
- e) Seasonal Charge. A seasonal charge may be assessed when the customer's service has been disconnected at his request and at any time subsequently within (12) months is reconnected at the same or any other premises. (N)
- f) After Hours Charge. An additional charge shall be applied to any special service activity, including reconnects for delinquent service, indicated at the customer's request outside normal business hours such as at night, on weekends or holidays. The Company shall advise the customer of the applicable after hours charge upon initiation of the service request and offer the customer the alternative to perform the requested activity during normal business hours, including reconnects for delinquent service, as a means to avoid the after hours charge. (N)
- g) Special Meter Reading Charge. This charge may be assessed when a customer requests that a meter be reread and the second reading shows that the original reading was correct. No charge shall be assessed if the original reading was incorrect. This charge may also be assessed when a customer who reads his own meter fails to read the meter for three (3) consecutive months, and it is necessary for a Company representative to make a trip to read the meter.

(No such charge may be assessed until the amount of the charge is approved or otherwise accepted by the Commission).
- h) Meter Resetting Charge. A charge may be assessed for resetting a meter if the meter has been removed at the customer's request.
- i) Meter Test Charge. This charge may be assessed if a customer requests the meter be tested pursuant to Section 13 and 807 KAR 5:006, section 18, and the tests show the meter is not more than two (2) percent fast. No charge shall be made if the test shows the meter is more than two (2) percent fast.

ISSUED: May 28, 1999

EFFECTIVE: July 1, 1999

ISSUED BY: William J. Senter

Vice President – Rates & Regulatory Affairs

RECEIVED
JUN 16 1999
PUBLIC SERVICE
COMMISSION

WESTERN KENTUCKY GAS COMPANY

Rules and Regulations

- j) Returned Check Charge. A returned check charge may be assessed if a check accepted for payment of a Company bill is not honored by the customer's financial institution.
- k) Late Payment Penalty. A late payment charge may be assessed if a customer fails to pay a bill for services by the due date shown on the customer's bill. The penalty may be assessed only once on any bill for rendered services. Any payment received will first be applied to the bill for services rendered. Additional penalty charges will not be assessed on unpaid penalty charges.
- l) Premise Charge. A charge to recover Excess Investment associated with new residential service connections, along with carrying costs and related taxes. The following terms and conditions are applicable to the charge:
 - 1) Separate charges shall be computed and applied for those service connections requiring main extension and for those connections not requiring main extension.
 - 2) The charges are applicable to all new residential service connections, commencing with connections made on and after January 1, 2001.
 - 3) The charge shall be payable for 180 months and is applicable to the service address, regardless of changes in ownership, commencing with the first occupant of the address following service connection.
 - 4) Premise Charges shall not be applicable to HUD-certified low-income new housing or to LIHEAP-qualified customers at any service address.
 - 5) The Company shall update the amounts of the charges annually and, upon Commission approval, apply such new charges prospectively for new residential service connections in the ensuing year. If the amount of increase or decrease to the Premises Charge is less than 10%, the Company may waive implementation of such increase or decrease and charge the existing Premises Charge for new connections in the ensuing year.
 - 6) The Company shall file a report with the Commission annually, not later than 120 days after the close of the Company's fiscal year, listing the number and type of Premise Charges levied during the fiscal year and the financial accounting entries for the disposition of revenues, cost recovery, and taxes.

(N)

ISSUED: May 28, 1999

EFFECTIVE: July 1, 1999

ISSUED BY: William J. Senter

Vice President – Rates & Regulatory Affairs



COMMONWEALTH OF KENTUCKY
PUBLIC SERVICE COMMISSION
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Ronald B. McCloud, Secretary
Public Protection and
Regulation Cabinet

Helen Helton
Executive Director
Public Service Commission

Paul E. Patton
Governor

June 15, 1999

Mr. Edward Thomason
208 East Keican
P.O. Box 305
Dawson Springs, KY 42408

RE: Case No. 99-070
Western Kentucky Gas

Dear Mr. Thomason:

The Commission has received your letter dated June 4 concerning the above case. Your letter is being treated as an official protest and will be placed in the case file. The Commission will carefully analyze this case before rendering its decision. Be advised that the effect of the rate increase cannot yet be determined as the increase originally proposed by Western Kentucky Gas is not necessarily what may be ordered in the Commission's final decision.

If you wish to participate in the proceeding, including any hearing that may be held, you must file a motion to intervene with the Commission. Attached is a copy of Commission regulations concerning intervention. If you request limited intervention and your request is granted, you will receive copies of all Commission Orders entered in this case. You will not, however, be served with filed testimony, exhibits, pleadings, correspondence or other documents submitted by the parties. If you wish such information, you must request and be granted full intervention. If you are granted intervention and wish to request a hearing, you should file such a request with Helen C. Helton, the Commission's Executive Director.

The Attorney General's Office for Rate Intervention, which represents consumers' interests, may be able to assist you further. You may contact them at (502) 695-5453 to inquire whether there will be a representative from that office participating in this case.



AN EQUAL OPPORTUNITY EMPLOYER M/F/D

Mr. Edward Thomason
June 15, 1999
Page 2

Thank you for your interest and concern in that matter.

Sincerely,
Stephanie Bell

Stephanie Bell
Secretary of the Commission

rlm
Enclosure



AN EQUAL OPPORTUNITY EMPLOYER M/F/D



COMMONWEALTH OF KENTUCKY
PUBLIC SERVICE COMMISSION

730 SCHENKEL LANE
POST OFFICE BOX 615
FRANKFORT, KY. 40602
(502) 564-3940

June 10, 1999

To: All parties of record

RE: Case No. 99-070

We enclose one attested copy of the Commission's Order in
the above case.

Sincerely,

A handwritten signature in cursive script that reads "Stephanie Bell".

Stephanie Bell
Secretary of the Commission

SB/hv
Enclosure

William J. Senter
V.P. Rates & Regulatory Affairs
Western Kentucky Gas Company
2401 New Hartford Road
Owensboro, KY 42303 1312

Honorable Mark R. Hutchinson
Attorney at Law
Sheffer Hutchinson Kinney
115 East Second Street
Owensboro, KY 42303

Honorable John N. Hughes
Attorney for Western KY Gas
124 West Todd Street
Frankfort, KY 40601

Mr. Douglas Walther
Atmos Energy Corporation
P.O. Box 650205
Dallas, TX 75265

Honorable David E. Spenard
Assistant Attorney General
1024 Capital Center Drive
Frankfort, KY 40601 8204

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF WESTERN)
KENTUCKY GAS COMPANY FOR AN)
ADJUSTMENT OF RATES) CASE NO. 99-070

O R D E R

This matter arising upon the motion of the Attorney General of the Commonwealth of Kentucky, by and through his Office of Rate Intervention ("Attorney General"), filed June 4, 1999, pursuant to KRS 367.150(8), for full intervention, such intervention being authorized by statute, and this Commission being otherwise sufficiently advised,

IT IS HEREBY ORDERED that the motion is granted and the Attorney General is hereby made a party to these proceedings.

Done at Frankfort, Kentucky, this 10th day of June, 1999.

By the Commission

ATTEST:


Executive Director

JOHN N. HUGHES
Attorney at Law
Professional Service Corporation
124 WEST TODD STREET
FRANKFORT, KENTUCKY 40601

Telephone:
(502) 227-7270

Telecopier:
(502) 875-7059

June 8, 1999

RECEIVED

JUN 08 1999

PUBLIC SERVICE
COMMISSION

Ms. Helen Helton
Executive Director
Kentucky Public Service Commission
730 Schenkel Lane
Frankfort, KY 40602

Re: Case No. 99-070

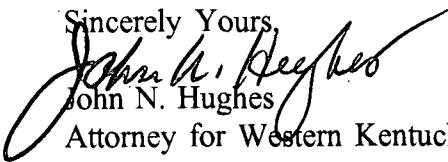
Dear Ms. Helton:

In reviewing the application filed by Western Kentucky Gas Company on May 28, 1999, two items were determined to need revision. Pages 21-23 of Don Murry's testimony was not included in the filing. Attached as item 1 are those pages, which should be inserted into volume 1, tab 8.

The second item involves the Premises Charge. The application lists that charge as \$13.09 for a main extension and \$11.28 for a non-main extension. The correct charge is \$13.05 and \$11.25, respectively. Corrected tariff pages are attached as item 2: PSC 20, Sheet 51 should be inserted into volume 1, tab 6; the "Notice of Proposed Changes in Gas Tariffs Which Will Result in Increased Charges" should be inserted into volume 1, tabs 9, 11, 12, and 14. This is attached as item 3. Finally, PSC 20, sheet 51 of volume 1, tab 8 should be replaced with the corrected sheet attached as item 4. This error for the Premises Charge was found and corrected prior to the publication of the notice to the public. Therefore, only the exhibits in the application need to be replaced to reflect the correct rate proposed.

Thank you for your assistance, and if there are any questions about this matter or if additional information is needed, please contact me.

Sincerely Yours,


John N. Hughes
Attorney for Western Kentucky
Gas Company

cc: Attorney General

ITEM 1

- 1 A. I believe that the markets are recognizing the general movement to deregulation in the natural
2 gas industry. In fact, the market information indicates that investors are aware of at least
3 some of the risks that the gas distributors face.
- 4 Q. How do you know that the investors have been able to distinguish between the risks and
5 returns of the gas distribution companies and the transmission companies?
- 6 A. I compared the market performance of the Moody's gas distribution companies and the gas
7 transmission companies over the past year. Schedule DAM-18 illustrates how the capital
8 structure of transmission companies have enjoyed the same relative appreciation as the
9 capital structure of industrials during this period. Note the similarity between the
10 performance of the industrial index and the transmission company index in that schedule.
11 Generally, the price appreciation of the Moody's transmission companies and the Dow Jones
12 Industrials have tracked very closely. However, this graph also shows that the prices for the
13 Moody's gas distribution stocks as a group have been flat or negative over the same period.
- 14 Q. How has Atmos' common stock fared during this period?
- 15 A. Schedule DAM-19 shows that Atmos' common stock has performed slightly better than the
16 flat trend of the stock of Moody's distribution companies as a group; however it has failed
17 to keep up with the Dow Jones Utilities Index.
- 18 Q. Did you evaluate any additional risk factors of the Atmos capital structure?
- 19 A. Yes, I did. I compared the *Value Line* "Safety Risk" and "Timeliness" rank of Atmos to the
20 "Safety Risk" and "Timeliness" ranks of the Moody's companies.
- 21 Q. What did these comparisons show?

1 A. Atmos is rated at a safety and timeliness measure that is lower than those of every one of the
2 Moody's companies. In other words, *Value Line* finds the risks of Atmos, as measured by
3 these statistics, as higher than each of the Moody's companies. These comparisons are shown
4 in Schedules DAM-20 and DAM-21.

5 Q. Can you summarize the results of your estimates of the cost of common equity for Western
6 Kentucky and your recommendation in this proceeding?

7 A. Using comparative costs, I developed a DCF calculation and CAPM analysis of the cost of
8 common equity for Atmos and the comparable gas distribution companies and evaluated the
9 current market circumstances as risks of Western Kentucky. Taking into account these
10 various measures and the current market conditions, I believe that Western Kentucky's return
11 in this proceeding should be in the range of 12.0 to 12.5 percent. My recommended return
12 on total capital, in the range from 9.86 percent to 10.11 percent is demonstrated in Schedule
13 DAM-22.

14 Q. You stated that you evaluated the adequacy of your return recommendation. How did you do
15 that?

16 A. I calculated Atmos' interest coverage ratio using the low end of my recommended coverage
17 range and the return for the Moody's companies. (These coverage ratios are shown in
18 Schedule DAM-23). This measures the adequacy of the return in meeting the obligations to
19 the holders of Atmos' debt. The after-tax coverage of Atmos at the low end of my
20 recommended return level is 2.86 times, which is an acceptable coverage. Note the average
21 coverage of the Moody's companies is 3.01.

22 Q. What after-tax interest coverage do you consider adequate?

1 A. In most cases, I consider an after-tax coverage of 2.5 times minimally acceptable for a
2 regulated utility.

3 Q. Does this conclude your testimony?

4 A. Yes, it does.

ITEM 2

CORRECTED

Volume 1, tab 6

FOR ENTIRE SERVICE AREA

P.S.C. NO. 20

Second Revised SHEET No. 51

Cancelling

First Revised SHEET No. 51

WESTERN KENTUCKY GAS COMPANY

Special Charges			
<u>Service</u>	<u>After Hours</u>	<u>Regular</u>	
Meter Set*	\$35.00	\$28.00	(N)
Turn-on*	25.00	20.00	(N,I)
Read	14.00	12.00	(N)
Reconnect Delinquent Service	40.00	34.00	(N,I)
Seasonal Charge	73.00	65.00	(N)
Special Meter Reading Charge	N/A	No Charge	
Meter Test Charge	N/A	20.00	
Returned Check Charge	N/A	23.00	(I)
Late Payment Charge (Rate G-1 only)		5%	(N)
Premises Charge for new residential service connections**			(N)
- Requiring main extension		13.05 per mo.	
- Not requiring main extension		11.25 per mo.	
Optional Facilities Charge for Electronic Flow Measurement ("EFM") equipment			
- Class 1 EFM equipment (less than \$7,500, including installation costs)		105.00 per mo.	
- Class 2 EFM equipment (more than \$7,500, including installation costs)		245.00 per mo.	(N)
* Waived for qualified low income applicants ("LIHEAP participants")			
** Waived for qualified low income applicants ("LIHEAP participants") and HUD-certified low income new housing			(N)

ISSUED: May 28, 1999

EFFECTIVE: July 1, 1999

ISSUED BY: William J. Senter

Vice President - Rates & Regulatory Affairs

ITEM 3

NOTICE

**OF PROPOSED CHANGES IN GAS TARIFFS
WHICH WILL RESULT IN INCREASED CHARGES**

Notice is hereby given that Western Kentucky Gas Company ("Western"), a public utility furnishing natural gas service within the Commonwealth of Kentucky, on/or about the 28th day of May 1999, pursuant to Kentucky Revised Statute 278.180 and the Rules of the Public Service Commission of Kentucky, respecting tariffs, filed its notice to the Kentucky Public Service Commission ("KPSC"), proposing to change its gas rates effective July 1, 1999.

The present rates charged in all territory served by Western are as follows:

**Present Rates
(Effective April 1, 1999)**

Rate G – 1, General Sales Service

Monthly Base Charge:

\$5.10 per meter for residential service
\$13.60 per meter for non-residential

Commodity Charge

First 300 Mcf or less per month	\$3.5660 per 1,000 cubic feet
Next 14,700 Mcf per month	\$3.0630 per 1,000 cubic feet
Over 15,000 Mcf per month*	\$2.9130 per 1,000 cubic feet

Minimum Charge: The Base Charge

Rate G – 1, High Load Factor Firm Sales Service

Monthly Base Charge:

\$13.60 per meter for non-residential
Demand Charge

\$4.2809 per 1,000 cubic feet of
Daily Contracted Demand

Commodity Charge

First 300 Mcf or less per month	\$3.0111 per 1,000 cubic feet
Next 14,700 Mcf per month	\$2.5081 per 1,000 cubic feet
Over 15,000 Mcf per month*	\$2.3581 per 1,000 cubic feet

Minimum Charge: The Base Charge

Rate G-2, Interruptible Sales Service

Monthly Base Charge:

\$150.00 per meter

Commodity Charge

First 15,000 Mcf or less per month	\$2.4756 per 1,000 cubic feet
Over 15,000 Mcf per month*	\$2.3256 per 1,000 cubic feet

Minimum Charge: The Base Charge

Rate LVS-1, Firm Sales Service

Monthly Base Charge:

\$13.60 per meter

Commodity Charge

First 300 Mcf or less per month	\$3.5916 per 1,000 cubic feet
Next 14,700 Mcf per month	\$3.0886 per 1,000 cubic feet
Over 15,000 Mcf per month*	\$2.9386 per 1,000 cubic feet

Minimum Charge: The Base Charge

Rate LVS-1, High Load Factor Firm Sales Service

Monthly Base Charge:

\$13.60 per meter for non-residential

Demand Charge

\$4.2809 per 1,000 cubic feet of
Daily Contracted Demand

Commodity Charge

First 300 Mcf or less per month

\$3.0367 per 1,000 cubic feet

Next 14,700 Mcf per month

\$2.5337 per 1,000 cubic feet

Over 15,000 Mcf per month*

\$2.3837 per 1,000 cubic feet

Minimum Charge: The Base Charge

Rate LVS-2, Interruptible Sales Service

Monthly Base Charge:

\$150.00 per meter

Commodity Charge

First 15,000 Mcf or less per month

\$2.4710 per 1,000 cubic feet

Over 15,000 Mcf per month*

\$2.3210 per 1,000 cubic feet

Minimum Charge: The Base Charge

Rate T – 2 General Transportation Service

(Includes standby sales service under corresponding Sales rates)

Rate T- 2/G – 1, Firm Transportation with Firm Standby Sales Service

Monthly Base Charge:

\$13.60 per meter

\$45.00 Administration Charge

Commodity Charge

First 300 Mcf or less per month

\$1.7902 per 1,000 cubic feet

Next 14,700 Mcf per month

\$1.2872 per 1,000 cubic feet

Over 15,000 Mcf per month*

\$1.1372 per 1,000 cubic feet

Minimum Charge: The Base Charge

Rate T- 2/G – 1, High Load Factor Firm Service

Monthly Base Charge:

\$13.60 per meter for non-residential

\$45.00 Administration Charge

Demand Charge

\$4.2809 per 1,000 cubic feet of
Daily Contracted Demand

Commodity Charge

First 300 Mcf or less per month

\$1.2353 per 1,000 cubic feet

Next 14,700 Mcf per month

\$0.7323 per 1,000 cubic feet

Over 15,000 Mcf per month*

\$0.5823 per 1,000 cubic feet

Minimum Charge: The Base Charge

Rate T-2/G-2, Interruptible Transportation with Interruptible Standby Sales Service

Monthly Base Charge:

\$150.00 per meter

\$45.00 Administration Charge

Commodity Charge

First 15,000 Mcf or less per month

\$0.6998 per 1,000 cubic feet

Over 15,000 Mcf per month*

\$0.5498 per 1,000 cubic feet

Rate T-3, Interruptible Carriage Service

Transportation only service

Monthly Base Charge:

\$150.00 per meter

\$45.00 Administration Charge

Commodity Charge

First 15,000 Mcf or less per month

\$0.4936 per 1,000 cubic feet

Over 15,000 Mcf per month*

\$0.3436 per 1,000 cubic feet

Rate T-4, Firm Carriage Service

Transportation only service

Monthly Base Charge:

\$150.00 per meter

\$45.00 Administration Charge

Commodity Charge

First 300 Mcf or less per month

\$1.0615 per 1,000 cubic feet

Next 14,700 Mcf per month

\$0.5585 per 1,000 cubic feet

Over 15,000 Mcf per month*

\$0.4085 per 1,000 cubic feet

Special Charges

Turn on new service with meter set

\$28.00

Turn on service, shut in test required

\$18.00

Turn on service, meter read only required

\$10.00

Reconnect delinquent service

No Charge

Reconnect service off temporarily at customer request

\$25.00

Termination or field collection charge

\$ 5.00

Meter test charge

\$20.00

Returned check charge

\$15.00

Optional facilities charge for Electronic Flow Measurement

Class 1 E FM

\$105 per month

Class 2 E FM

\$210 per month

Proposed Rates**Rate G-1, General Sales Service**

Monthly Base Charge:

\$9.00 per meter for residential service

\$24.00 per meter for non-residential

Distribution Charge

First 300 Mcf or less per month

\$1.2000 per 1,000 cubic feet

Next 14,700 Mcf per month

\$0.6946 per 1,000 cubic feet

Over 15,000 Mcf per month*

\$0.4299 per 1,000 cubic feet

Gas Charge, all Mcf

\$2.5045 per 1,000 cubic feet

Minimum Charge: The Base Charge

Rate G - 1, High Load Factor Firm Sales Service

Monthly Base Charge:

\$24.00 per meter for non-residential

Demand Charge

\$4.2809 per 1,000 cubic feet of
Daily Contracted Demand

Distribution Charge

First 300 Mcf or less per month

\$1.2000 per 1,000 cubic feet

Next 14,700 Mcf per month

\$0.6946 per 1,000 cubic feet

Over 15,000 Mcf per month*

\$0.4299 per 1,000 cubic feet

Gas Charge, all Mcf

\$1.9496 per 1,000 cubic feet

Minimum Charge: The Base Charge

Rate G-2, Interruptible Sales Service

Monthly Base Charge:

\$250.00 per meter

Distribution Charge

First 15,000 Mcf or less per month

\$0.5300 per 1,000 cubic feet

Over 15,000 Mcf per month*

\$0.3301 per 1,000 cubic feet

Gas Charge, all Mcf

\$1.9820 per 1,000 cubic feet

Minimum Charge: The Base Charge

Rate LVS-1, Firm Sales Service

Monthly Base Charge:

\$24.00 per meter

Distribution Charge

First 300 Mcf or less per month

\$1.2000 per 1,000 cubic feet

Next 14,700 Mcf per month

\$0.6946 per 1,000 cubic feet

Over 15,000 Mcf per month*

\$0.4299 per 1,000 cubic feet

Gas charge, all Mcf

\$2.5301 per 1,000 cubic feet

Minimum Charge: The Base Charge

Rate LVS-1, High Load Factor Firm Sales Service

Monthly Base Charge:

\$24.00 per meter for non-residential

Demand Charge

\$4.2809 per 1,000 cubic feet of
Daily Contracted Demand

Distribution Charge

First 300 Mcf or less per month

\$1.2000 per 1,000 cubic feet

Next 14,700 Mcf per month

\$0.6946 per 1,000 cubic feet

Over 15,000 Mcf per month*

\$0.4299 per 1,000 cubic feet

Gas Charge, all Mcf

\$1.9752 per 1,000 cubic feet

Minimum Charge: The Base Charge

Rate LVS - 2, Interruptible Sales Service

Monthly Base Charge:

\$250.00 per meter

Distribution Charge

First 15,000 Mcf or less per month

\$0.5300 per 1,000 cubic feet

Over 15,000 Mcf per month*

\$0.3301 per 1,000 cubic feet

Gas Charge, all Mcf

\$1.9774 per 1,000 cubic feet

Minimum Charge: The Base Charge

Rate T - 2, General Transportation Service

(Includes standby sales service under corresponding Sales rates)

Rate T- 2/G-1, Firm Transportation with Firm Standby Sales Service

Monthly Base Charge:

\$24.00 per meter

\$50.00 Administration Charge

Distribution Charge

First 300 Mcf or less per month

\$1.2000 per 1,000 cubic feet

Next 14,700 Mcf per month

\$0.6946 per 1,000 cubic feet

Over 15,000 Mcf per month*

\$0.4299 per 1,000 cubic feet

Gas Charge, all Mcf

\$0.7287 per 1,000 cubic feet

Minimum Charge: The Base Charge

Rate T-2/G-1, High Load Factor Firm Service

Monthly Base Charge:

\$24.00 per meter for non-residential

\$50.00 Administration Charge

Demand Charge

\$4.2809 per 1,000 cubic feet of
Daily Contracted Demand

Distribution Charge

First 300 Mcf or less per month

Next 14,700 Mcf per month

Over 15,000 Mcf per month*

\$1.2000 per 1,000 cubic feet

\$0.6946 per 1,000 cubic feet

\$0.4299 per 1,000 cubic feet

Gas Charge, all Mcf

\$0.1738 per 1,000 cubic feet

Minimum Charge: The Base Charge

Rate T-2/G-2, Interruptible Transportation with Interruptible Standby Sales Service

Monthly Base Charge:

\$250.00 per meter

\$50.00 Administration Charge

Distribution Charge

First 15,000 Mcf or less per month

Over 15,000 Mcf per month*

\$0.5300 per 1,000 cubic feet

\$0.3301 per 1,000 cubic feet

Gas Charge, all Mcf

\$0.2062 per 1,000 cubic feet

Minimum Charge: The Base Charge

Rate T-3 Interruptible Carriage Service

Transportation only service

Monthly Base Charge:

\$250.00 per meter

\$50.00 Administration Charge

Distribution Charge

First 15,000 Mcf or less per month

Over 15,000 Mcf per month*

\$0.5300 per 1,000 cubic feet

\$0.3301 per 1,000 cubic feet

Rate T-4, Firm Carriage Service

Transportation only service

Monthly Base Charge:

\$250.00 per meter

\$50.00 Administration Charge

Distribution Charge

First 300 Mcf or less per month

Next 14,700 Mcf per month

Over 15,000 Mcf per month*

\$1.2000 per 1,000 cubic feet

\$0.6946 per 1,000 cubic feet

\$0.4299 per 1,000 cubic feet

Special Charges:

Meter set

RegularAfter Hours

\$28.00

\$35.00

Turn on service

\$20.00

\$25.00

Read

\$12.00

\$14.00

Reconnect delinquent service

\$34.00

\$40.00

Seasonal charge (service off temporarily at
customer request)

\$65.00

\$73.00

Meter test charge

\$20.00

N/A

Returned check charge

\$23.00

N/A

Optional facilities charge for Electronic Flow Measurement

Class 1 E FM

\$105.00 per month

Class 2 E FM

\$245.00 per month

*All gas consumed by the customer (sales, transportation, firm and interruptible) will be considered for the purposes of determining whether the volume requirement of 15,000 Mcf has been achieved.

Note: The above rates include the Gas Cost Adjustment in effect at April 1, 1999.

Miscellaneous Tariff Changes

Gas Charge – Gas Cost Adjustment Clause (CGA) Changes

Western proposes to separate its current Commodity Charge into two components – a Gas Charge and a Distribution Charge. The Gas Charge GCA rider will establish a “zero-based GCA” by eliminating the base cost of gas and all non-gas costs from the calculation of the GCA. The GCA will be calculated from zero.

Distribution Charge

Western proposes to establish this volumetric charge to recover a portion of its non-gas costs, such as those formerly collected through the Commodity Charge. The remaining portion of non-gas costs are collected through the Company's other charges.

Weather Normalization Adjustment (WNA) Rider

Western proposes a WNA to stabilize the effects of winter weather volatility on customer bills during the months of November through April. The WNA will be applicable to the Distribution Charge. As a result of the WNA, customers will pay a Distribution Charge equivalent to the charge that would be applicable during “normal” winter weather.

Late Payment Charge

Western proposes to establish a late payment charge of 5% applicable to Rate G-1 Sales Service. This penalty will be applicable to past due billing amounts.

Premises Charge

Western proposes this new charge to be applicable only to connect new residential premises where facilities to the premises do not presently exist. If a main extension is required to establish new service, the proposed charge is \$13.05 per month for 15 years. If a main extension is not required to establish new service, the proposed charge is \$11.25 per month for 15 years. The Premises Charge is proposed to become effective January 1, 2001.

Demand Side Management (DSM) Surcharge

Western proposes to continue its weatherization of low-income residences for 3 years as conducted through the cooperation of community action agencies in Western's service area. Pursuant to KRS 278.285, the DSM surcharge is proposed to be applicable to the eligible residential class of customers, Rate G-1 Sales Service. The initial proposed charge is \$0.0380 per Mcf.

Margin Loss Recovery Mechanism Rider

Western proposes this rider to recover from all Sales Service customers 90% of future margin losses resulting from negotiated large customer contract reductions.

Gas Research Institute Research & Development (GRI R&D) Unit Charge Rider

Western proposes a phased-in restructuring of its collection of GRI R&D costs consistent with the settlement reached at the Federal Energy Regulatory Commission and as currently reflected in the tariffs of the interstate pipelines. The GRI R&D Unit Charge is proposed to be phased out of the GCA and into a component of the proposed Distribution Charge through 2004. This proposal will not result in an increase in charges to customers.

Alternate Receipt Point Service

Western proposes this new service, subject to availability, to provide additional receipt point flexibility for transportation customers. A \$0.10 per Mcf charge for this service is proposed, in addition to all other charges applicable to transportation customers.

All other charges not specifically mentioned herein shall remain the same as those presently in effect.

The proposed rates will result in an overall approximate increase in the amount of \$14,127,650 or 11.7% with increases of approximately \$9,221,264 or 13.5% for residential consumers, and \$3,427,255 or 9.9% for commercial consumers, and approximately \$1,057,992 or 6.4% for industrial consumers. Charges from other gas revenue will increase \$421,139 or 55.8%. The average monthly bill for residential consumers will increase approximately \$4.85 or 13.5%. The average monthly bill for commercial consumers will increase approximately \$14.57 or 9.9%. The average monthly bill for industrial customers will increase approximately \$209.46 or 6.4%. The impact on each customer's average bill will vary according to individual consumption or transportation levels. However, this impact can be determined by each customer by applying the proposed rates listed above to their respective average consumption or transportation levels.

The rates contained in this notice are the rates proposed by Western; however, the KPSC may order rates to be charged that differ from the proposed rates contained in this notice. Such action may result in rates for customers other than the rates included in this notice.

Any corporation, association, or person with a substantial interest in this matter may, by written request to the KPSC, within thirty (30) days after publication or mailing of this notice of the proposed rate changes, request to intervene; intervention may be granted beyond the thirty (30) day period for good cause shown. Requests to intervene should set forth the grounds for the request including the status and interest of the party to be submitted to the KPSC at the address listed below.

Any person who has been granted intervention by the Commission may obtain copies of the rate application and any other filings made by the utility by contacting:

Western Kentucky Gas Company
Attention: Mr. William J. Senter
2401 New Hartford Road
Owensboro, KY 42303
(270) 685-8069

Any person may examine the rate application and any related filings at the office of Western or the Commission, as listed below:

Western Kentucky Gas Company
2401 New Hartford Road
Owensboro, KY 42303
(270) 685-8069

Public Service Commission of Kentucky
730 Schenkel Lane
P.O. Box 615
Frankfort, KY 40602
(502) 564-3940

ITEM 4

Present

CORRECTED

Volume 1, tab B

Proposed

For Entire Service Area
P.S.C. No. 20
First Revised SHEET No. 51
Cancelling
(First Substitute) Original SHEET No. 51

FOR ENTIRE SERVICE AREA
P.S.C. NO. 20
Second Revised SHEET No. 51
Cancelling
First Revised SHEET No. 51

WESTERN KENTUCKY GAS COMPANY

WESTERN KENTUCKY GAS COMPANY

Special Charges	
Turn on new service with meter set *	\$28.00 (1)
Turn on service (shut-in test required) *	18.00 (1)
Turn on service (meter read only required) *	10.00 (1)
Reconnect delinquent service	no charge
Reconnect service temporarily off at customers request	25.00 (1)
Termination or field collection charge	5.00 (1)
Special meter reading charge	no charge
Meter test charge	20.00 (1)
Returned check charge	15.00 (1)
Optional Facilities Charge for Electronic Flow Measurement ("EFM") equipment - - Class 1 EFM equipment (less than \$7,500, including installation cost)	105.00 per mo. (M)
- Class 2 EFM equipment (more than \$7,500, including installation cost)	210.00 per mo. (M)
* Waived for qualified low income applicants ("LIHEAP participants")	

Special Charges		
Service	After Hours	Regular
Meter Set*	\$35.00	\$28.00 (N)
Turn-on*	25.00	20.00 (N)
Read	14.00	12.00 (N)
Reconnect Delinquent Service	40.00	34.00 (N)
Seasonal Charge	73.00	65.00 (N)
Special Meter Reading Charge	N/A	No Charge (N)
Meter Test Charge	N/A	20.00 (1)
Returned Check Charge	N/A	23.00 (N)
Late Payment Charge (Rate G-1 only)		5% (N)
Premises Charge for new residential service connections**		13.05 per mo. (N)
- Requiring main extension		11.25 per mo. (N)
- Not requiring main extension		
Optional Facilities Charge for Electronic Flow Measurement ("EFM") equipment		
- Class 1 EFM equipment (less than \$7,500, including installation costs)		105.00 per mo. (N)
- Class 2 EFM equipment (more than \$7,500, including installation costs)		245.00 per mo. (N)
* Waived for qualified low income applicants ("LIHEAP participants")		
** Waived for qualified low income applicants ("LIHEAP participants") and HUD-certified low income new housing		

ISSUED: October 2, 1995

EFFECTIVE: November 1, 1995

Issued by Authority of an Order of the Public Service Commission in Case No. 95-010 dated October 20, 1995.

ISSUED BY: *Lee Allen Everett* Vice President - Rates & Regulatory Affairs

ISSUED: May 28, 1999

EFFECTIVE: July 1, 1999

ISSUED BY: William J. Senter

Vice President - Rates & Regulatory Affairs

99-070

EDWARD THOMASON
208 E. KEICAN
P.O. BOX 305
DANSON SPRINGS, KY 42408

6-3-99

SERVICE

RECEIVED
JUN 04 1999

PUBLIC SERVICE
COMMISSION

KENTUCKY PUBLIC COMMISSION
FRANKFORT, KENTUCKY

JULY IS A VERY GOOD TIME FOR
WESTERN KENTUCKY GAS TO FILE A RATE
INCREASE, NOT MUCH GAS IS BEING USED AT
THIS TIME, SO NATURALLY FOLKS WON'T NOTICE
THE SMALL INCREASE. WHAT PERTURBS ME
IS DEC. JAN, FEB + MARCH. ~~OF MY~~ BIDD IN
THESE FOUR MONTHS IS AROUND 125^{th} PER
MONTH, WHAT IS THIS INCREASE GOING TO
COST ME? THE AMOUNT OF INCREASE
BEING PROPOSED BY WK&G MUST BE
SUBSTANTIAL BECAUSE THEY STATE IN
THE ARTICLE IN OUR PAPER, THEY WILL
GET THE PROPER RETURN ON THEIR
INVESTMENT, BUT WON'T HAVE TO FILE
FOR INCREASES IN THE FUTURE
WILL APPRECIATE YOUR RESPONSE

SINCERELY

Edward Thomason

P.S. I ASSUME THE LOSS OF KENTUCKY UTILITIES
FROM OUR CITY IS OUT OF YOUR HANDS
ET

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

RECEIVED
JUN 04 1999
PUBLIC SERVICE
COMMISSION

In the Matter of:)
THE APPLICATION OF WESTERN) Case No. 99-070
KENTUCKY GAS COMPANY)
FOR AN ADJUSTMENT OF RATES)

MOTION TO INTERVENE

Comes now the Attorney General of the Commonwealth of Kentucky, by and through his Office of Rate Intervention, pursuant to KRS 367.150(8), and moves to intervene in the above-styled proceeding. The Attorney General requests that he be permitted to intervene as a party to the fullest extent permitted by law in order to execute his statutory duties pursuant to KRS 367.150(8).

Respectfully submitted,

A.B. CHANDLER III
ATTORNEY GENERAL

David Edward Spenard

DAVID EDWARD SPENARD
ASSISTANT ATTORNEY GENERAL
1024 CAPITAL CENTER DRIVE
FRANKFORT, KENTUCKY 40601-8204
502.696.5457

CERTIFICATE OF SERVICE AND FILING

Undersigned counsel hereby certifies that an original and ten (10) photocopies of the foregoing Motion to Intervene were served and filed by hand delivery to the Hon. Helen C. Helton, Executive Director, Public Service Commission, 730 Schenkel Lane, Frankfort, Kentucky 40601; furthermore, it was served by mailing a true and correct copy of the same, first class postage prepaid, to William J. Senter, Western Kentucky Gas Company, 2401 New Hartford Road Owensboro, KY, 42303; Mark R. Hutchinson, Sheffer, Hutchinson & Kinney, 115 East Second Street, Owensboro, KY, 42303; John N. Hughes, 124 West Todd Street, Frankfort, KY, 40601; and Douglas Walther, Atmos Energy Corporation, P.O. Box 650205, Dallas, TX, 75265, all on this 4th day of June, 1999.

David Edward Spensard
Assistant Attorney General



COMMONWEALTH OF KENTUCKY
PUBLIC SERVICE COMMISSION

730 SCHENKEL LANE
POST OFFICE BOX 615
FRANKFORT, KY. 40602
(502) 564-3940

May 28, 1999

William J. Senter
V.P. Rates & Regulatory Affairs
Western Kentucky Gas Company
2401 New Hartford Road
Owensboro, KY. 42303 1312

Honorable Mark R. Hutchinson
Attorney at Law
Sheffer Hutchinson Kinney
115 East Second Street
Owensboro, KY. 42303

Honorable John N. Hughes
Attorney for Western KY Gas
124 West Todd Street
Frankfort, KY. 40601

RE: Case No. 99-070

We enclose one attested copy of the Commission's Order in
the above case.

Sincerely,
Stephanie Bell

Stephanie Bell
Secretary of the Commission

SB/hv
Enclosure

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF WESTERN)
KENTUCKY GAS COMPANY)
FOR AN ADJUSTMENT OF RATES)

CASE NO. 99-070

O R D E R

On March 1, 1999, Western Kentucky Gas Company ("Western") filed a notice of intent to file a rate case, together with a request to use an abbreviated form of published notice of its proposed rates. On May 5, 1999, the Commission, citing several deficiencies in the notice form, denied Western's request. On May 12, 1999, in response to the concerns expressed by the Commission, Western submitted an amended abbreviated notice form along with a Motion for Reconsideration.

The Commission, having considered the motion for reconsideration and the amended proposed abbreviated notice form and being otherwise sufficiently advised, HEREBY ORDERS that the use of the amended proposed abbreviated notice form submitted to the Commission on May 12, 1999 is approved, provided that the notice is corrected to reflect the correct dates and amounts.

Done at Frankfort, Kentucky, this 28th day of May, 1999.

By the Commission

ATTEST:


Executive Director

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

The Application of Western)
Kentucky Gas Company) Case No. 99-070
for an Adjustment of Rates)

RECEIVED
MAY 12 1999
PUBLIC SERVICE
COMMISSION

MOTION FOR RECONSIDERATION

Western Kentucky Gas Company, by counsel, moves the Commission to reconsider its Order of May 5, 1999 denying the use of an abbreviated public notice of its pending rate application.

The attached revised notice addresses the issues raised in the Commission's Order. The information required in any rate notice is included for residential customers. As with any notice, it provides that the complete application and list of rates may be obtained by contacting the Company. Additionally, Western has made the information available on its WEB site.

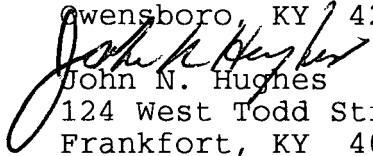
The cost to publish the complete rate list is approximately double the proposed abbreviated notice as the attached analysis shows. This cost burden can be minimized for the Company and its customers with the proposed notice sought by Western.

For these reasons, Western requests that the Order of May 5, 1999 be modified to allow for the amended notice attached to this motion.

Submitted By:

Douglas Walther
Atmos Energy Corporation
P.O. Box 650205
Dallas, TX 75265

Mark R. Hutchinson
SHEFFER - HUTCHINSON -
KINNEY
115 E. Second St.
Owensboro, KY 42303


John N. Hughes
124 West Todd Street
Frankfort, KY 40601

Attorneys for Western
Kentucky Gas Company

MEMORANDUM

DATE: May 7, 1999
TO: Bill Senter
FROM: Tom Higdon
SUBJECT: Costs associated with advertising our "notice to customers" for WKG's 1999 Rate Case Filing

=====

As asked, I identified the daily and non-daily newspapers throughout our service territory that would ensure appropriate coverage for our "notice to customers." I am listing below what the costs would be to run 3 advertisements, one per week beginning within 7 days of our filing.

Our account executive with the Owensboro Messenger-Inquirer, Ms. Julia Bailey, judged that the abbreviated notice was of the size to require a 1/4 page ad and that the full notice (using our 1995 Notice as an example) would require a 1/2 page ad. Pricing follows below:

<u>NEWSPAPER</u>	<u>Abbreviated</u>	<u>Full</u>
<u>Daily Newspapers</u>		
DAILY NEWS in Bowling Green	\$ 1204.89	\$2409.75
THE ADVOCATE-MESSENGER in Danville	782.46	1564.92
GLASGOW DAILY TIMES in Glasgow	713.52	1330.00
KENTUCKY NEW ERA in Hopkinsville	897.60	1881.00
THE MESSENGER in Madisonville	1063.14	1738.80
THE MESSENGER IN Mayfield	680.40	1393.20
MESSENGER-INQUIRER in Owensboro	2269.89	3468.00
THE PADUCAH SUN in Paducah	1749.18	3498.39
<u>Non-Daily Newspapers</u>		
CENTRAL KENTUCKY NEWS-JOURNAL in Campbellsville	550.94	1101.87
THE ANDERSON NEWS in Lawrenceburg	540.84	1060.38
TIMES-LEADER in Princeton	375.21	708.84
NEWS-DEMOCRAT AND LEADER in Russellville	485.10	971.40
SENTINEL-NEWS in Shelbyville	671.88	1403.76
Totals	\$11985.05	\$22530.31



COMMONWEALTH OF KENTUCKY
PUBLIC SERVICE COMMISSION

730 SCHENKEL LANE
POST OFFICE BOX 615
FRANKFORT, KY. 40602
(502) 564-3940

May 5, 1999

William J. Senter
V.P. Rates & Regulatory Affairs
Western Kentucky Gas Company
2401 New Hartford Road
Owensboro, KY. 42303 1312

Honorable Mark R. Hutchinson
Attorney at Law
Sheffer Hutchinson Kinney
115 East Second Street
Owensboro, KY. 42303

Honorable John N. Hughes
Attorney for Western KY Gas
124 West Todd Street
Frankfort, KY. 40601

RE: Case No. 99-070

We enclose one attested copy of the Commission's Order in
the above case.

Sincerely,

A handwritten signature in cursive script that reads "Stephanie Bell".

Stephanie Bell
Secretary of the Commission

SB/sa
Enclosure

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF WESTERN)
KENTUCKY GAS COMPANY)
FOR AN ADJUSTMENT OF RATES)

CASE NO. 99-070

O R D E R

On March 1, 1999, Western Kentucky Gas Company ("Western") filed a notice of intent to file a rate case, together with a request to use an abbreviated form of published notice of its proposed rates, which the Commission will treat as a motion. Western filed a draft notice with the Commission for its review on April 14, 1999.

The Commission, having considered the motion and draft notice and being otherwise sufficiently advised, finds that Western has not shown good cause to use its proposed abbreviated form of notice.

Commission regulation 807 KAR 5:001, Section 10(3)(a)(b) and (c) requires the notice to disclose: 1) the amount of rate change requested in both dollars and percentage for each customer class; 2) the present and proposed rates for each customer class; and 3) the effect upon the average bill for each customer class. While the abbreviated form of notice proposed by Western sets forth certain required information, it places the burden on the customers to request a schedule of the proposed rate changes in order to make an informed decision on whether to intervene or object. In addition, Western has made no showing that it is unable to include the

above-cited information in the notice; nor has it shown that including such information would be unduly burdensome or result in excessive costs.

IT IS THEREFORE ORDERED that Western's motion to use an abbreviated form of notice is denied.

Done at Frankfort, Kentucky, this 5th day of May, 1999.

By the Commission

ATTEST:


Executive Director

RONALD G. SHEFFER
MARK R. HUTCHINSON
JEFFREY R. KINNEY¹
GENE E. BROOKS¹
CHARLES B. WEST
BURKE B. TERRELL
CARL B. BOYD, JR.²
REBECCA T. KASHA³
PETER B. LEWIS²
HOWARD E. FRASIER, JR.⁴
JAMES A. SIGLER
JOHN A. SHEFFER
EDWIN A. JONES
MARC A. LOVELL
C. TERRELL MILLER
C. THOMAS MILLER
DAWN S. KELSEY²
TINA R. McFARLAND²
A. J. MANION³
DONNA M. SAUER²
LIZBETH L. BAKER

·The Law Firm Of·

sheffer·hutchinson·kinney

115 EAST SECOND STREET
OWENSBORO, KENTUCKY 42303
(502) 684-3700
FAX (502) 684-3881
www.kylaw.com

BRIAN F. HAARA²
SCOTT A. HOOVER
WILLIAM H. MAY²
KERRY SIGLER MORGAN
CHRISTOPHER C. WISCHER²
ANNE G. DEDMAN²
MICHAEL L. MEYER²
JULIE V. OVERSTREET
JENNIFER CASTELLI¹
TARA RODNEY BECKWITH
JOHN S. HARRISON
AMY JO HARWOOD

OF COUNSEL

JOHN N. HUGHES
ROBERT A. MARSHALL

¹ ADMITTED TO IN BAR
² ADMITTED TO IN AND KY BAR
³ ADMITTED TO IN AND OH BAR
⁴ ADMITTED TO KY AND TN BAR
⁵ ADMITTED TO IN, IL AND KY BAR
ALL OTHERS ADMITTED IN KY ONLY

April 27, 1999

RECEIVED

APR 28 1999

PUBLIC SERVICE
COMMISSION

Kentucky Public Service Commission
720 Schenkel Lane
Frankfort, Kentucky 40601

Attention: Helen Helton, Executive Director

RE: Supplemental Notice of Intent to File Rate Application
Case No. 99-070

Dear Helen:

By letter to you of February 26, 1999, I notified the Commission of the intent of Western Kentucky Gas Company ("Western") to file a general rate adjustment application on or after April 1, 1999. Although Western was unable to file its application on April 1, 1999, as expected, it still intends to file a general rate adjustment application with the Commission.

Western accordingly withdraws its prior notice and notifies the Commission, pursuant to Section 8 of 807 KAR 5:011, that it now intends to file the general rate adjustment application on or after May 28, 1999, and intends to use a forecasted test period. We would request that the Commission continue to use the case number previously assigned to this rate proceeding (99-070).

Western has submitted to the Commission a proposed abbreviated form of newspaper notice. Pursuant to Section 8 of 807 KAR 5:011, Western would further request the Commission's permission to use the abbreviated form of newspaper notice previously submitted.

We are also mailing a copy of this supplemental notice to the Kentucky Attorney General's Rate Intervention Department as required by applicable law.

If there are any questions or problems with this supplemental notice, please advise. Thanks.

Very truly yours,

SHEFFER HUTCHINSON KINNEY

A handwritten signature in cursive script, appearing to read "Mark R. Hutchinson".

Mark R. Hutchinson

O:\USERS\BKK\WKG\PSC\RATE\PSC.LTR

JOHN N. HUGHES
Attorney at Law
Professional Service Corporation
124 WEST TODD STREET
FRANKFORT, KENTUCKY 40601

Telephone:
(502) 227-7270

Telecopier:
(502) 875-7059

April 14, 1999

RECEIVED
APR 14 1999
PUBLIC SERVICE
COMMISSION

Ms. Helen Helton
Executive Director
Kentucky Public Service Commission
730 Schenkel Lane
Frankfort, KY 40602

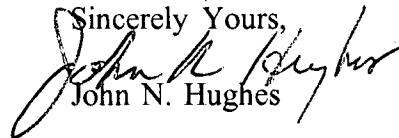
Re: Case No. 99-070

Dear Ms. Helton:

In its notice of intent to file for an adjustment of rates dated February 26, 1999, Western Kentucky Gas Company requested approval of the use of an abbreviated notice of the rate changes to be proposed in its application. Attached is a copy of a draft notice the notice Western proposes to publish in the local newspapers. It does not specify the amounts of the increases because they are not yet determined. However, if this format is acceptable or if there are changes that the Commission believes necessary, please notify me so that we may proceed.

Thank you for your assistance, and if there are any questions about this matter or if additional information is needed, please contact me.

Sincerely Yours,


John N. Hughes

Attorney for Western Kentucky
Gas Company

cc: Attorney General

NOTICE

**OF PROPOSED CHANGES IN GAS TARIFFS
WHICH WILL RESULT IN INCREASED CHARGES**

Notice is hereby given that Western Kentucky Gas Company, a public utility furnishing natural gas service within the Commonwealth of Kentucky, on/or about the 30th day of April, 1999, pursuant to Kentucky Revised Statute 278.310 and the Rules of the Kentucky Public Service Commission, respecting tariffs, filed its notice to the Kentucky Public Service Commission ("KPSC"), proposing to change its gas rates, effective June 1, 1999. The residential rates proposed by Western Kentucky Gas Company include:

- A Monthly Base Charge for Residential Service of \$0.00.
- A Distribution Charge (excludes gas costs) of \$0.00 per Mcf.
- A Premises Charge applicable to certain new customers of \$0.00 per month.

The average residential bill will be \$0.00 per month. The average residential bill will increase 00.0 percent per month. Other rates and changes to residential, commercial and industrial rates are also proposed.

Any corporation, association, or person with a substantial interest in this matter may, by written request to the KPSC, within thirty (30) days after publication or mailing of this notice of the proposed rate changes, request to intervene; intervention may be granted beyond the thirty (30) day period for good cause shown. Requests to intervene should set forth the grounds for the request including the status and interest of the party be submitted to the KPSC at the address listed below.

Any person who has been granted intervention by the KPSC may obtain copies of the rate application and any other filings made by the utility by contacting:

Western Kentucky Gas Company
Attention: Mr. William J. Senter
2401 New Hartford Road
Owensboro, Kentucky 42303
502-685-8072

Any person may examine the rate application and any related filings at the office of Western Kentucky Gas Company or the KPSC, as listed below:

Western Kentucky Gas Company
2401 New Hartford Road
Owensboro, Kentucky 42303
502-685-8072

Kentucky Public Service Commission
730 Schenkel Lane
P.O. Box 615
Frankfort, Kentucky 40602
502-564-3940

Any person wishing to receive a copy of the Present Rates, the Proposed Rates and Miscellaneous Tariff Changes may do so by redeeming the coupon below by mailing to the Western address above to the attention of Mariam Tucker or by accessing the company's Web Site at <http://www.westernkentuckygas.com>.

.....

Name

Company, if applicable

Address City State Zip Code



COMMONWEALTH OF KENTUCKY
PUBLIC SERVICE COMMISSION

730 SCHENKEL LANE
POST OFFICE BOX 615
FRANKFORT, KY. 40602
(502) 564-3940

March 1, 1999

William J. Senter
V.P. Rates & Regulatory Affairs
Western Kentucky Gas Company
2401 New Hartford Road
Owensboro, KY. 42303 1312

Honorable Mark R. Hutchinson
Attorney at Law
Sheffer Hutchinson Kinney
115 East Second Street
Owensboro, KY. 42303

RE: Case No. 99-070
WESTERN KENTUCKY GAS COMPANY
(Rates - General)

This letter is to acknowledge receipt of notice of intent to file a rate application in the above case. The notice was date-stamped received on March 1, 1999 and has been assigned Case No. 99-070. In all future correspondence or filings made in connection with this case, please reference the above case number.

If I can be of any help on procedural matters, please feel free to contact me at 502/564-3940.

Sincerely,
Stephanie Bell

Stephanie Bell
Secretary of the Commission

SB/jc

RONALD G. SHEFFER
MARK R. HUTCHINSON
JEFFREY R. KINNEY
GENE E. BROOKS
CHARLES B. WEST
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sheffer·hutchinson·kinney

115 EAST SECOND STREET
OWENSBORO, KENTUCKY 42303
(502) 684-3700
FAX (502) 684-3881
www.kylaw.com

RECEIVED

MAR - 1 1999

PUBLIC SERVICE
COMMISSION

BRIAN F. HAARA
SCOTT A. HOOVER
WILLIAM H. MAY
KERRY SIGLER MORGAN
CHRISTOPHER C. WISCHER
ANNE G. DEDMAN
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ADMITTED TO IN BAR
ADMITTED TO IN AND KY BAR
ADMITTED TO IN AND OH BAR
ADMITTED TO KY AND TN BAR
ADMITTED TO IN, IL AND KY BAR
ALL OTHERS ADMITTED IN KY ONLY

February 26, 1999

Kentucky Public Service Commission
720 Schenkel Lane
Frankfort, Kentucky 40601

Attention: Helen Helton, Executive Director

RE: Notice of Intent to File Rate Application

case 99-070

Dear Helen:

Pursuant to Section 8 of 807 KAR 5:011, this is to notify the Kentucky Public Service Commission ("Commission") of the intent of Western Kentucky Gas Company ("Western") to file a general rate adjustment application on or after April 1, 1999. Western intends to file this rate application using a forecasted test period.

Western further requests the Commission's permission, pursuant to Section 8 of 807 KAR 5:011, to use an abbreviated form of newspaper notice.

Lastly, we are also this day mailing a copy of this Notice of Intent to the Kentucky Attorney General's Rate Intervention Department as required by applicable law.

If you have any questions please advise. Thanking you now for your attention to this matter.

Very truly yours,

SHEFFER HUTCHINSON KINNEY



Mark R. Hutchinson

cc: Kentucky Attorney General

Western Kentucky Gas Company

May 8, 2002

RECEIVED

MAY 10 2002

PUBLIC SERVICE
COMMISSION



Honorable Thomas M. Dorman
Executive Director
Kentucky Public Service Commission
211 Sower Boulevard
P.O. Box 615
Frankfort, Kentucky 40602


Subject: GTI Collections and Annual Report

Dear Mr. Dorman:

Enclosed is an annual report on the Gas Technology Institute Research & Development programs being funded by Western Kentucky Gas Company customer contributions as provided for in Case No. 1999-070. I apologize for the relatively late date of its filing but the report was only recently finalized. A total of \$35,784.70 was collected in calendar year 2001 through the GRI (now GTI) R&D Unit Surcharge and invested in the GTI programs described in the report. This amount excludes GTI funds still being collected on a transitional basis by the interstate pipelines through their charges to Western Kentucky Gas.

Should the Staff or the Commission have any questions, please call me at 270-685-8072.

Sincerely yours,


William J. Senter
VP - Rates & Regulatory Affairs

Enclosures

Summary/update of the Gas Technology Institute (GTI) Non-FERC Mutual Funds (NFMFs) for Atmos Energy April 2002

Atmos Energy has elected to participate in four of GTI's existing non-FERC mutual funds (NFMFs) and the Sustaining Membership Program (SMP).

The GTI mutual funds are similar to financial mutual funds in that an objective is established and the investors choose R&D projects that have deliverables that are consistent with the mutual funds objective. Each of the funds has a GTI employee who acts as the fund manager – his/her responsibility is to coordinate the projects, work with the investors and the project managers. Following is a list of the funds, the Atmos funding level and the Atmos company contact for each of the funds:

- Residential Commercial Customer Growth Non-FERC Mutual Fund, Kevin Akers = primary contact
- Identifying Opportunities in Distributed Generation Markets Non-FERC Mutual Fund, Bob Kerley & Gary Smith = primary contacts
- Reducing Barriers to Residential and Commercial Markets non-FERC mutual fund, Fred Neu = primary contact
- Operations & Maintenance and Cost Effective Pipe Installation Non-FERC Mutual Fund, Kevin Akers = primary contact

Updates on each of these NFMFs can be found on pages 2-6 of this summary.

Meetings: the fund managers organize teleconferences on a frequent basis and conduct at least one meeting annually in conjunction with a gas industry meeting.

The Sustaining Membership Program

Objective: To conduct R&D to build a natural gas technology base - focusing on ideas and concepts beyond the near term horizon (mid-long term). Most, if not all, of the projects rely heavily on leveraging Government and Industry R&D investments.

Meetings: Two membership meetings are held each year in Chicago (Spring and Fall).

SMP Focus: Operations, Environmental Science & Technology, Energy Utilization and Energy Systems

Projects summaries are enclosed as a separate document.

Additional information: If you have any questions relating to this report or any other GTI initiative please contact Ron Snedic, Regional Manager Customer Relations, GTI/SGA at 972-620-4018 or email him at ron.snedic@gastechnology.org.

Residential Commercial Customer Growth Non-FERC Mutual Fund

Fund Objective: This fund strives to develop technology to cost-efficiently extend distribution systems to reach new customers and provide greater customer satisfaction.

Fund Manager = Tim Cole 847-768-0854 tim.cole@gastechnology.org

Joint Trenching (Report published and mailed to investors)

- GTI's joint trenching project provides the knowledge you need to confidently promote and implement joint trenching.
- GTI will provide a complete look at common utility placement practices, providing analysis from both a technical and economic point of view.
- New equipment was identified (available or prototype) and a list of contractors was compiled who have experience in joint trench construction.
- GTI studied and reported on the benefits and limitations of placing different utilities in a common trench or performing a simultaneous installation of utilities.
- Project Completed Fall 2001

Residential Burner Tip Growth (Draft report available May 2002)

- Recent new and enhanced product development in gas-consuming outdoor applications – gas barbecue units/grills, outdoor lighting, outdoor fireplaces, patio heaters and spa/whirlpool heaters – have gathered increased gas industry attention as residential burner-tip growth opportunities.
- However, the recent sales growth of outdoor products and their future potential have not been adequately characterized.
- Key challenges to fully exploiting this opportunity have not been fully assessed. For example, the costs of gas delivery to specific appliances may be difficult to recover in increased throughput.
- GTI will conduct a market study to characterize this market, estimate the load potential, and determine what incentives or other creative packages could be created to attract new customers.
- Conducted eight focus groups with Builders and Homeowners).
- Completed 31 in-depth expert interviews from nine segments of the building industry.
- This study is nearing completion, Art Barnard from Primen is the performer.

Home Generator (Project cancelled – funding used for additional work in the Burner Tip Growth Project).

- Two PowerSaver 5 kw generators will be demonstrated in Alabama, one will be at a residential customer site and the other will be at a commercial customer site during 2001. The PowerSaver has a unique switching capability. It is designed to provide both air conditioner load shedding and standby application.
- Detailed reports will be available to investors regarding the unit's performance and economics.

Identifying Opportunities in Distributed Generation Markets Non-FERC Mutual Fund

Fund Objective: This fund promotes informed decision making in developing a power generation strategy within your company through product demonstrations, comparative solution data, and information dissemination.

Fund Manager = John Kelly 847-768-0665 john.kelly@gastechnology.org

DG Target (Customized) Market Research (Anticipated completion 4Q2002)

Deliverables Include:

- Model Results Binder with detailed modeling of DG
- DGen Pro Version 3.0 economic screening software for future modeling by investors
- 1/2 day workshop for Principals and Anchors
- Executive Summary and Optional Presentation for Anchors, Extended custom services.
- Final Report

Target Market Research

- Helps Investors: Understand Niche Markets for DG in their Areas & Develop Those Markets by Providing Tools & Data
- This project was re-scoped to provide additional benefit to investors.
- Primen, OnSite Energy and GTI are the performers on this project

Small Fuel Cell Market Research (Completed report sent to investors in 2001)

Deliverables Include:

- Summary Report for all Investors
- 1/2 day workshop reviewing key aspects, findings, and implications of the results, presentations, and executive summaries for Principals and Anchors depending on level of investment.
- Primen (Performer)
- Fuel Cell Market Research
- Initiated Late Summer
- Topic Guide and IDI Screener complete
- 300 Candidates > 75; 75 to be contacted for interviews > 25
- Helps Investors realistically understand FC Product Potential & Commercialization Path/Timing through Industry Expert Interviews
- Completed in 2001

Microturbine Product and Technology Assessment (Field demonstration in process)

Project Kick-Off 10/2000

Unit Delivery, Installation, Start-up, Testing & Laboratory Evaluation (complete)

Demonstration Unit running at customer facility – data is being compiled.

Deliverables Include:

- Pre-commercial (I-R) Beta Microturbine (Co-gen)
- Independent Evaluation by GTI Performing Labs
- Factory Training for Anchor level participants
- Access to operational data via web site by 3Q2002.
- Final Summary Report on Development of Site Selection Process, including focus on how to reduce costs.
- Final report pending operating experience and data collection.

Fuel Cell Field Demonstration (Negotiations in progress)

This project has been delayed due to lack of available product. GTI has recently developed and sent out a bid package for a number of fuel cells to be used in this project and the 2001 DG Mutual Fund.

Deliverables Anticipated to include small fuel cell:

- Field Testing, Monitoring and Evaluation
- Anchor Plus Investors Proposed for "Host" Sites
- Current Review: IFC, Plug Power, Mosaic, Others

Fuel Cell Market Research: Technical & Business Insights for top 15-20 PEM, and SOFC manufacturers (Completed 2001)

Deliverables Include:

- Detailed Technical and Business summary reports on top 15-20 fuel cell manufacturers.
- Principals and Anchors receive copy on CD-Rom
- Anchor Investors will receive an Executive Summary of the Report Findings in PowerPoint Format
- Completed 2001

Reducing Barriers to Residential and Commercial Markets non-FERC mutual fund

Fund Objective: This Fund aims to reduce the time and cost associated with retaining the gas option in commercial and residential markets. Barriers are reduced through assessing market needs and characteristics, technology solutions development, product development and emerging issues assessments.

Fund Manager = Dave Kalensky 847-768-0944 dave.kalensky@gastechnology.org

Food Service Profile Tool Update (Anticipated completion 2Q2002)

Objective: To provide a spreadsheet tool to your marketing and sales force can use to assess the load and customer cost savings potential that can realized by maximizing gas equipment use in selected foodservice establishments.

Deliverables:

- Energy consumption profiles on selected foodservice establishments.
- Algorithm to adjust and customize restaurant energy profiles.
- Easy-to use computer-based tool to analyze customer load profiles.
- Workshop on tool use, profiles and analysis.

Status:

- Data gathering complete. Alpha and Beta versions of software were tested and improved.
- Final revisions of commercial version underway.
- Manual nearing completion.

Universal Vent System Update (Anticipated completion 2Q2002)

Objective: Specify and design a low-cost universal residential vent system that could be used to assure proper venting and operation of various types of standard gas appliances in homes with unusually tight building construction and high levels of house depressurization.

Deliverables:

- Defined product specifications for a low-cost universal vent system.
- Proof-of-Concept modeling.
- Business plan outlining the product path to market.
- Intellectual property generated and defined.
- Potential manufacturing partners identified.

Status: The draft final report was received in January 2002 and it revealed that testing results surpassed expectations. We are currently securing Patents to protect intellectual property that was identified in the project. We anticipate the report will be available in the near future.

Cost Saving Operations & Maintenance Practices and Cost Effective Pipe Installation Non-FERC Mutual Fund

Fund Objective: Participants in this fund receive technical information on new products, support for the development of improved technologies and products and workshops to provide a collection of technical solutions for natural gas operations. Program results show participants how to incorporate advanced technologies into operations activities. Successful implementation will result in lower operations and maintenance costs and increased productivity.

Fund Manager = Paul Beckendorf 847-768-0889 paul.beckendorf@gastechnology.org

One Step Pavement - Permanent Cold Patches (Anticipated completion in 1Q2003)

- Develop Specifications for cold mixes that would qualify them for use by LDCs as permanent patches
- Develop simplified tests
- Improve present mixes based on actual test results and field feedback
- Consider other types of materials

Ethane Methane Detector (EMD) (Anticipated completion in 1Q2003)

- A next generation, vehicle mounted leak detector that will separate methane and ethane gases
- Work now underway at Carnegie Mellon Research Institute:
- Determine the sensitivity of the system in the laboratory
- Mount system on a vehicle and test outdoors under controlled conditions
- Determine system sensitivity to ethane

Coated PE Pipe Options

History

1. GTI identified a coated PE pipe manufactured by Uponor in England, called Profuse.
2. GTI initiated discussions with Uponor US (Shawnee, OK) to make this pipe available in the US.
3. Uponor is preparing to market Profuse in the US.

Alternative Coated Pipe

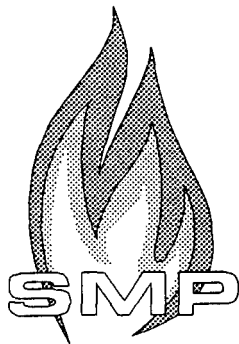
- Egeplast PE pipe - manufactured in Germany
- Used for water and natural gas
- Samples obtained for evaluation at O&M Fund Anchor member
- Positive test results in November 2000.
- Egeplast is currently evaluating US market potential for this product.

EMERGING TECHNOLOGIES FOR NATURAL GAS

GAS TECHNOLOGY INSTITUTE

SMP

DESCRIPTION



www.gastechnology.org/pub/smp/index.html

VF Rev 04/2002

PROGRAM DESCRIPTION

OBJECTIVE: Conduct research to build a natural gas technology base for SMP companies, with the aim of developing ideas and concepts beyond the near-term horizon.

NEED: Market forces are driving manufacturers, developers, and supporting institutions toward near-term deployment of well-developed concepts. Global competition and capital resource limitations prevent manufacturers from accepting the risks and costs associated with the development of new and innovative technologies. There is a missing mid-term link in the development of natural gas technologies that will allow our SMP companies to take advantage of new market opportunities and compete effectively in tomorrow's marketplace. The SMP provides this missing mid-term link. The program strives to develop new and innovative technology concepts that will build and protect natural gas markets and will reduce the cost of transmission and distribution operations for member companies.

STATUS: SMP continues to receive substantial support from companies that were Basic Members. The roster of all the Participants that have joined this program is given in Table 1.

SMP was started in October 1985; with, five research areas to address.

1. Gas Operations
2. Environmental Science & Technology
3. Energy Utilization
4. Energy Systems

Within these research areas, over twenty projects are in progress. Twenty one projects have been concluded. A listing of current projects is given in Table 2. Efforts to date have resulted in over 50 patents and a number of successful commercial products. Information on our intellectual property and our commercial products is provided in Appendices A and B respectively.

With GTI's business directions, SMP continues to play an even more important role in laying the foundation in the earlier stages of applied R&D.

ADMINISTRATION:

- Members receive the benefit of a research effort dedicated to natural gas utility needs. All dues are pooled together to fund a balanced slate of projects designed to build a technology base and thus provide a highly leveraged research effort for individual contributors
- GTI also shares in the cost of this program. Sustaining Membership Research provides much more in direct labor hours for each dollar of dues expended by GTI when handled as Sustaining Membership research, compared with sponsored projects. This is made possible by essentially eliminating the costs of proposal preparation, reports, billing, marketing, contract administration, invoice collection, and fees.
- The SMP, which receives a high priority at GTI, is guided by a strategic top-level advisory committee from the gas industry called SIMRAC (Sustaining GTI Member Research Advisory Committee). The 10 members of the current committee are listed in Table 3, and an organization chart is shown in Figure 1. The Technical Guidance Committee includes 7 SMP utility representatives who work with 7 specialized gas industry individuals and its chair to identify technologies to fund.
- GTI is fully responsible for the conduct of the Sustaining Membership research program, not as sponsored projects, but in the way that GTI has been responsible for managing the education program with Basic Membership dues. Management costs are maintained at less than ten percent.
- Two semiannual conferences (1 to 2 days each) are held for Sustaining Members to receive reports on both new emerging technology initiatives, and on products entering the market place. Advisory input, principally through SIMRAC and membership feedback, is regularly solicited at these conferences to provide guidance for our program.
- All patents resulting from work on SMP, GTI-FERC or DOE coordinated projects are assigned to GTI. Sustaining Members receive preferential treatment on licensing over non-members. International utility members are granted the right-of-first refusal to license SMP technologies in their respective territories. GTI's share of royalties is returned to fund additional research in the Sustaining Membership Program.

FUNDING:

Currently GTI collects between \$1.5 and \$2.0 million per year from the SMP participants. GTI leverages these funds to a total program level exceeding \$7 million through participation by U.S. EPA, U.S. DOE, industry, and GTI-FERC. GTI continues to receive significant coordinated funding from GTI for projects that are consistent with GTI-FERC's research plan.

**MEMBERSHIP
DUES:**

Dues are collected annually before the beginning of the research year from Sustaining Members. The dues formula:

1. Is scaled according to company size based on the company's most recent NOI (Net Operating Income, after depreciation and taxes, but before capital and interest charges).
2. Ranges from a minimum of \$5,000 annually to a maximum of \$100,000.

<u>NOI, U.S. \$ million</u>	<u>Annual Dues, U.S. \$</u>
Less than 5	5,000
Between 5.0 and 24.9	15,000
Between 25.0 and 49.9	40,000
Between 50.0 and 79.9	75,000
80 and over	100,000

**MEMBERSHIP
TERM:**

Initial 3-year commitment, automatically renewed annually for an additional 1-year term unless canceled in writing by the Sustaining Member 90 days before the end of the term.

**RESEARCH
HIGHLIGHTS**

Project summary sheets are attached and provide both a brief description and the research status for each project currently in progress.

INFORMATION:

For additional information about GTI's Sustaining Membership Program, please contact:

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PHONE: 847/768-0847
FAX: 847/768-0501
e-mail: vince.fiore@gastechnology.org

Gas Technology Institute
1700 S. Mt. Prospect
Des Plaines, IL 60018 USA

Information contained in this document is available on our Internet home page:
<http://www.gastechnology.org/pub/smp/index.html>

Table 1.

SMP PARTICIPANTS¹

Alabama Gas Corp. (Energen Corporation)**
 Algonquin Gas Transmission Co.
 American Meter Co. (Ruhrgas Industries)**
 Atlanta Gas Light Co. (AGL Resources)**
 Atmos Energy Corp.**

Bay State Gas Co.(NiSource)**
 Berkshire Gas Co. (Energy East)**

Central Hudson Gas & Electric Corp.*
 City of Richmond
 City of Public Service, San Antonio
 Columbia Gas System Service Corp. (NiSource)
 Connecticut Natural Gas Corp. (Energy East)*
 Consolidated Edison Co. of NY, Inc.**

Delmarva Power & Light Co. (Connectiv)*
 Distrigas of Massachusetts Corp.*
 Dominion East Ohio *

Elizabethtown Gas Co. (NUI Corp.)**
 Energy East +
 EnergyNorth Natural Gas, Inc.**
 Enron Corp.*
 Equitable Gas Co. (Equitable Resources, Inc.)**

Gas Authority of India, Ltd.
 Gaz de France**
 Gaz Metropolitan, Inc.

Indiana Gas (Vectren)**

KeySpan Energy Delivery New England **
 KeySpan Energy Delivery New York**
 Korea Gas Corp.
 Krupp Uhde GmbH

Laclede Gas Co.

Memphis Gas Light & Water
 Michigan Consolidated Gas Co. (Detroit Edison)**
 MidAmerican Energy Co.**
 MidCon Corp.**
 Middle Tenn. Natural Gas Util. Dist.*
 Minnegasco (Reliant Energy)*

National Fuel Gas Distribution Corp.**
 New England Gas Company (Southern Union)**
 New Jersey Natural Gas Co.**
 Nicor Gas**

North Central Public Service Co.
 NiSource, Inc.**
 Northwestern Public Service**

Oklahoma Natural Gas Co. (ONEOK)**
 Osaka Gas Co., Ltd.**

Pacific Gas & Electric Co.**
 Panhandle Eastern Pipe Line Co.**
 Peoples Energy**
 Peoples Gas System (TECO)
 Philadelphia Gas Works
 Piedmont Natural Gas Co., Inc.**
 Public Gas Investment Pool
 Public Service Electric & Gas Co.**

Questar Gas (Questar)**

San Diego Gas & Electric Co. (Sempra)
 SIGCO (Vectren)**
 Southern California Gas Co. (Sempra)**
 Southern Connecticut Gas Energy East Co(Energy East).**
 Southern Natural Gas Co.**
 Southwest Gas Corp.

Tenneco Gas*
 Texas Gas Transmission Corp.*
 Toho Gas Co., Ltd.*
 Tokyo Gas Co., Ltd.**
 Transcontinental Gas Pipe Line Corp.*
 TXU Gas (Oncor)**

United Energy Resources, Inc.

Washington Energy Co.*
 Washington Gas**
 Williston Basin Interstate Pipeline Co.
 and Montana-Dakota Utilities Co.*
 Wisconsin Gas Co.*
 Wisconsin Electric Power Co.**

Yankee Gas Services Co. (Northeast Utilities System)

¹ *Investors in 2001 and prior*

**Sustaining Member for 5 or more years.*

***Sustaining Member for 10 or more years*

+New Member in 2002

() Parent Companies

Table 2.
CURRENT RESEARCH PROJECTS

GAS OPERATIONS

Advanced Acoustic Distribution Instruments^b
Automated Field Data Acquisition^b
Smart Cathodic Protection Monitor^b
Paging Technology Applications^{a, b}
Piping Stress Detection^a
Micro-Excavation
Inert Base Gas for Natural Gas Storage Fields^a
System for Upgrading Subquality Natural Gas^{a, b}
Third-Party Damage Detection^a
High-Pressure Liners^{a, b}

ENVIRONMENTAL SCIENCE & TECHNOLOGY

Remediation of Town Gas sites^a
Microbial Leak Detection & Control

ENERGY UTILIZATION

High-Efficiency Process Heating^{a, b}
Low-NO_x Boiler Burners^{a, b}
METHANE de-NOX[®] Reburn Process for Coal/Biomass-Fired Stoker Boilers^{a, b}
Oscillating Combustion Systems^{a, b}
High-Capacity Gas-Fired Paper Drying^b
SuperBoiler^{a, b}
Self Optimizing Combustion Systems^{a, b}
Submerged Combustion Melter^b

ENERGY SYSTEMS

BCHP/Advanced Cooling Systems^a
NGV Fueling Station and Components^{a, b}
DETC/Advanced Distributed Generation Controls

^a GTI-SMP Coordinated/Cofunded Project.

^b Co-funded by DOE, EPA, or Industry.

Table 3.

**SMP
RESEARCH ADVISORY COMMITTEE
(SIMRAC)**

David C. Carroll
Vice President
GTI

Wade Stinston
Vice President
Memphis Light Gas & Water Div.

Peter A. Cistaro
Vice President
Public Service Electric & Gas

Dennis J. Seeley
President
National Fuel Gas Supply Corp.

Donald M. Field
President
Peoples Energy

Kenneth A. Smith
Vice President
Alabama Gas Corp.

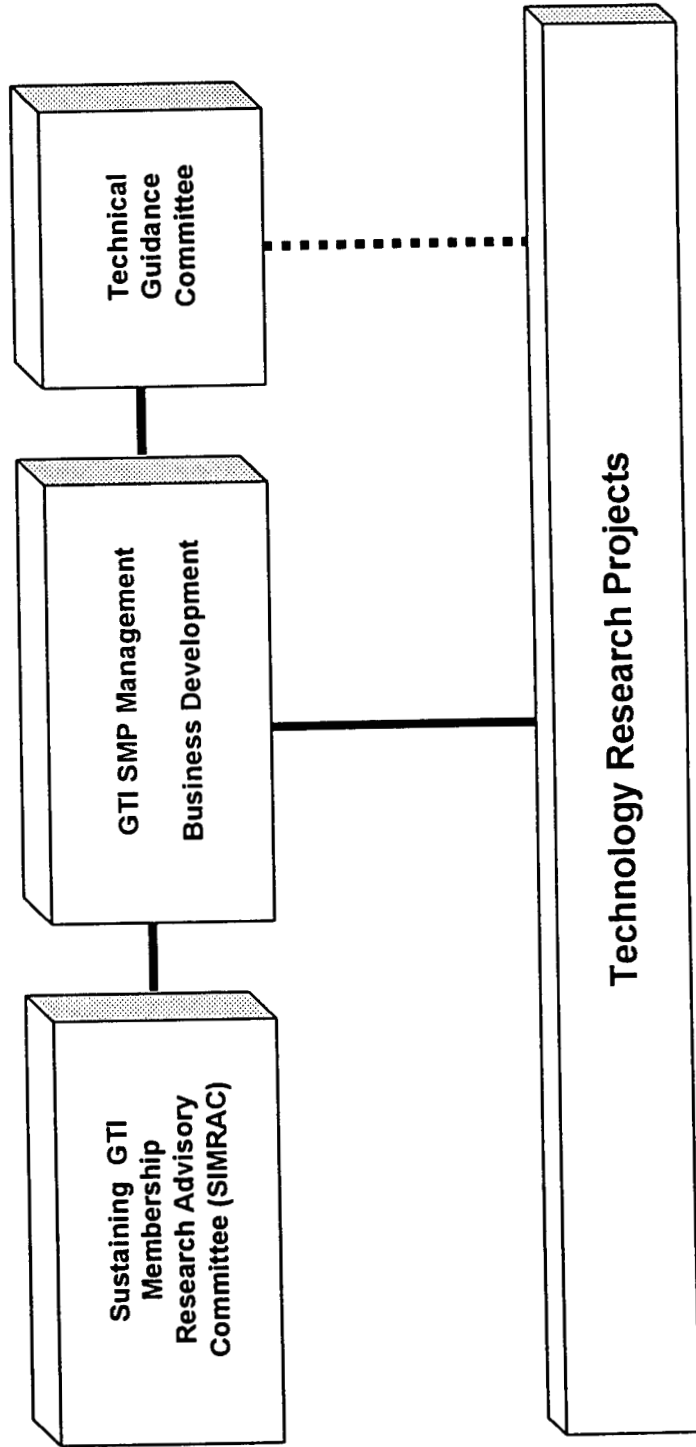
Jean-Pierre Roncato
Vice President
Gaz de France

Steven A. Vitale
Vice President
KeySpan Energy

Lee Stewart
President, ETS
Southern California Gas Co.

**PROGRAM MANAGEMENT & COORDINATION
GTI – Vince Fiore**

Figure 1. SMP Management Structure



PROJECT SUMMARY SHEETS

GAS OPERATIONS

ADVANCED ACOUSTIC DISTRIBUTION INSTRUMENTS

Project: 80017 **Period:** 10/1/88 - Present

Project Manager: James E. Huebler **Principal Investigator:** Christopher J. Ziolkowski
e-mail: jim.huebler@gastechnology.org

Objective: To develop improved acoustic field instruments by applying microprocessor-based, digital signal processing (DSP) techniques.

Description: The current emphasis of this project is the development of a digital sonic leak pinpointer (DSLPP) for gas distribution systems. The development of an efficient leak pinpointer would significantly reduce gas utility operating costs by avoiding 'dry holes' and recalls due to secondary leaks. In addition, the same basic software/hardware can be adapted to other applications. One such application is third party damage detection. See project 80038. A spin-off of the DSLPP technology was applied to the problem of controlling district regulators to automatically minimize pressure in a gas distribution system. The resulting product, GridBoss™, won an R&D 100 Award as one of the 100 best new technical innovations in 2000.

The DSP technique of adaptive filtering has proven effective at noise management of the background signals encountered at most leak sites. This technique minimizes slowly varying sounds, such as approaching traffic. Adaptive filtering is also effective at removing periodic noises, such as 60 Hz and its harmonics. When combined with signal gating, adaptive filtering substantially improves an instrument's ability to pinpoint gas leaks. Signal gating is a method of minimizing loud intermittent background noise, including traffic noise.

Status: All field trials in the Chicago area and both coasts have demonstrated the effectiveness of the background noise management techniques. The DSLPP has correctly pinpointed leaks incorrectly pinpointed with the CGI. It has pinpointed a variety of leaks, including low-pressure - (6 inches of water column) cast-iron joint leaks. However for unknown reasons, the results have not been uniform across the country - excellent in Chicago and Sacramento, disappointing in New York and Los Angeles. In a few cases, leaks have not been acoustically pinpointed in sandy soil because colonies of microbes create encrustations of soil around the leak, reducing the amount of gas escaping and the production of sound.

The next step would be to redo the DSLPP with new hardware, making improvements to sensitivity, noise management, and ruggedness. These changes will also greatly reduce the cost and make it easy to put units into utility hands. The next round of testing should be performed by utility crews.

AUTOMATED FIELD DATA ACQUISITION

Project: 80020 **Period:** 10/1/90 - Present

Project Manager: John A. Kinast
e-mail: john.kinast@gastechnology.org

Objective: To develop PC and palm computer software applications for productivity improvements in the gas industry.

Description: Our current efforts focus on developing techniques and applications to automate the collection and processing of data taken in the field. These software developments reduce costs by automating data collection and reporting functions.

Status: With a series of requested enhancements, an application that automates the data collection process for work site inspections is in widespread use at an SMP member company. This application replaces manual entry on paper forms with palm computer data entries and automated data transfer to a centralized database. Results indicate that we met the goals of increasing the accuracy of data entries, accelerating data analysis and reducing the overall cost of data collection.

A second application, started after the Fall 2000 meeting, was just completed. It provides a replacement for a laptop computer program for another SMP member. Testing of the application has shown it to be easy-to-use, flexible, and meeting the needs of the company and its customers.

With distribution by GTI of the Ovality and Scratch Tester kits, feedback from a number of utilities indicated that they are very easy to use, and save considerable time in the field; the kits include a Palm 111xe™ with our Ovality and Scratch Tester applications installed.

Current efforts focus on completing the application for assisting in leak surveying.

SMART CATHODIC PROTECTION MONITORS

Project: 80034 **Period:** 12/15/95-Present

Project Manager: Christopher J. Ziolkowski **Principal Investigator:** Paul Seger
e-mail: chris.ziolkowski@gastechnology.org

Objective: To develop a wireless system for reading cathodic protection currents and voltages using a buried, low-cost transponder and sacrificial anode.

Description: Cathodic protection (CP) test points are often difficult to access in urban environments. They can be paved over or otherwise lost because of construction activities. Even accessible test points can expose crews to traffic hazards. The goal of this project is to develop a wireless, buried monitor that can be read during a walk-by or drive-over. Commercialization of this approach will significantly improve productivity by eliminating most of the manual labor of obtaining CP readings. This work is co-sponsored by Brooklyn Union and the Gas Authority of India.

Status: GTI reviewed commercially available technology for tagging plastic pipe and adapted it for acquiring cathodic protection data. Low-cost digital micro controllers were used to collect the data. Current from the sacrificial anode in conjunction with low voltage technologies provides a viable power supply. Prototype units, deployed at KeySpan Energy, are direct burial modules for galvanic installations. Low frequency RF is used for good ground penetration. Further cost and size reduction for manufacturing is being addressed. A compact antenna and enclosure that will considerably ease fabrication was developed. These improved prototypes are being evaluated in field tests with KeySpan.

The companion portable reading device stores both the CP readings and a serial number, along with a time and date stamp for later downloading. A Palm compatible version of the reader is being designed.

There are a wide variety of cathodic protection test boxes already installed at utilities. This represents a large market for transponders that can be retrofitted to test boxes without excavation. GTI developed a unique antenna design that is easily installed and effective for obtaining CP readings at these test boxes.

The basic technology is also being extended to meet the needs of impressed-current cathodic protection systems.

PAGING TECHNOLOGY APPLICATIONS

Project: 80037 **Period:** 10/1/97 - Present

Project Manager: Christopher J. Ziolkowski **Principal**
e-mail: chris.ziolkowski@gastechnology.org **Investigator:** Paul Seger

Objective: To apply recent advances in paging technology to telemetry and information gathering needs in the gas industry. The first application to be addressed is a customer account management system that enables punitive setback of the thermostat for non-payment.

Description: Recent advances in paging technology have produced a means for two-way wireless transfer of packet data at very reasonable costs. This allows utilities to install data collection and control points on their systems without the necessity of first installing a communication infrastructure. Very low power consumption allows telemetry installations that are completely self-contained.

The first two-way paging application will address a customer account management system. It is being co-funded by KeySpan Energy, the NY Gas Group, and GTI/FERC. The system utilizes a wall-mounted thermostat that communicates with the utility via the paging system and short-range radio to the meter-set. The customer and the utility can monitor consumption and account balances in real time. The thermostat also has all the functionality of a normal programmable thermostat.

The system also provides the utility with a realistic alternative to service termination for non-payment by setting back the thermostat temperature until the account is settled. This setback feature could also be invoked temporarily for load shedding.

Status: The system is currently in the process of being deployed at several gas utilities for field testing. An LCD display and keypad allows customer interaction. The system obtains meter readings and tamper status from a commercially available RF meter index, as well as send and receive messages over the public paging network.

The most recent wireless technologies from Motorola and Internet Telemetry Corporation have been integrated into the system. Fifty thermostat systems are being constructed for deployment to the participating utilities.

PIPING STRESS DETECTION

Project: 80039 **Period:** 10/1/98 - Present

Project Manager: William Rush, Jr.
e-mail: bill.rush@gastechnology.org

Objective: To reduce the cost of operation for steel and cast iron gas mains by developing a system that detects the amount of bending stress on a buried metal pipe from a sensor traveling inside the pipe or used on the outside.

Description: Pipe breakage due to bending stress is the second most frequent cause of cast iron main failure (after third party damage). This stress can arise from soil settling, freeze-thaw cycles, traffic vibration, and soil disturbances. Bending stresses can also rapidly increase corrosion in steel mains.

GTI initially screened a wide variety of potential stress measurement techniques. This included measurements of stress-induced changes in sound velocity in the pipe wall, acoustic emission, laser profile scanning, magnetostriction, the Barkhausen effect, acoustic bi-refrindexence, and acoustic and electromagnetic focusing from the surface. We determined that detecting acoustic bi-refrindexence holds the most promise and this became the basis for the system.

Status: The acoustic bi-refrindexence technique measures shear horizontal stress waves along the inside of the pipe wall. Proof-of concept experiments show that there is enough change in velocity with stress to make the measurement possible. However, pipe wall roughness, particularly on the outside of corroded pipe, makes standard acoustic, through-the-wall measurements impractical. GTI worked with a manufacturer and the National Institute of Standards and Technology (NIST) to design an Electro-Magnetic Acoustic Transducer (EMAT) to generate and detect the required shear waves that will only travel along the inside wall of the pipe. GTI is now conducting a series of tests to make the measurements needed to design a prototype field unit.

Because of the complexity of the problem, initial effort is directed toward determining the bending stress in the idealized case of a clean metal pipe with no corrosion, no wall thinning, and no internal contamination or deposits. Additional complications found in the field will be addressed after the fundamental technical concept has been proven. Sonic Sensors, a manufacturer and developer of acoustic bi-refrindexence systems, and GTI have designed a specialized 4-sensor E-MAT detection system. The unit is currently being used for measurements of steel and cast iron samples that were removed from field installations. The samples are placed under bending stress and the change of velocity is measured as a function of stress level.

MICRO-EXCAVATION

Project: 80046 **Period:** 01/1/02 - Present

Project Manager: Paul Beckendorf **Principal Investigator:** Paul Beckendorf
e-mail: paul.beckendorf@gastechnology.org

Objective: To develop equipment, tools and sensors to allow operators to access and repair gas mains through a 6" or smaller diameter hole.

Description: A major gas industry expense is accessing gas mains and services for maintenance and repair activities. Annually, the gas industry digs about 1,100,000 bell holes (3 foot by 4 foot) at an average cost exceeding of \$1,000 per bell hole. The total annual system cost of this work is \$1.1 billion. Because of these high costs, considerable work is being done to reduce the size of the excavation through the use of keyhole technologies. Keyhole excavations are typically 18 inches by 18 inches. Keyhole is gaining popularity as a proven method to cost-effectively perform the required work. New keyhole tools are expanding the range of repair activities that can be conducted.

The next logical developmental step, after keyhole, is micro-excavation; a much smaller opening. The project will develop tools and equipment that can operate through a 6" diameter opening. If this phase proves successful, future phases will look to reduce the opening diameter, with the goal of achieving a 1" diameter opening. Through a micro-excavation, tools could be inserted that would access and repair the gas main. With micro-excavations, paving settlement issues would no longer exist. Pavement cutback would not be an issue. Excavation and restoration costs would be drastically reduced.

The objectives of the Micro-Excavation Equipment Development Program are:

- Determine, from the gas industry, what procedures they would like to see accomplished through the use of micro-excavation.
- Through a world-wide survey, determine if any micro-excavation procedures
- Evaluate micro-surgical methods to determine how they can be adapted for use in micro-excavation.
- Identification of any patent and license issues.
- Develop and prototype equipment.

This program addresses the feasibility of performing maintenance work on a gas main or service through a micro-opening. This micro-opening will serve as a pathway for an assortment of small, remotely-operated tools. This initial work is "un-intelligent," requiring very accurate location of the facilities. It is our hope that the successful completion of this work will lead to additional work to develop an intelligent device that will have sensors, enabling it to home in on the problem area as it descends from the surface.

The cost of this program is estimated to be \$500,000. GTI is seeking SMP funding as well as cofunding from the gas industry and/or FERC funds.

Status: Currently reworking the proposal, and discussing with and looking for cofunders of this proposed effort. If possible, would like to initiate in the fourth quarter of 2001.

INERT BASE GAS FOR NATURAL GAS STORAGE FIELDS

Project: 80007 **Period:** 10/1/85 - Present

Project Manager: Yusuf A. Shikari **Principal Investigator:** Stephen E. Foh
e-mail: Yusuf.Shikari@gastechnology.org

Objective: Demonstrate the use of inert base gas as a technically feasible and economically viable option for reducing the cost of operating underground natural gas storage facilities.

Description: GTI researchers are evaluating the use of nitrogen as an inert gas in underground natural gas storage fields to reduce base gas cost. The project consists of three phases: 1) laboratory studies on inert and natural gas mixing properties in underground storage media, 2) a field demonstration at an existing gas storage field in the U.S., and 3) technology transfer efforts toward wide-scale implementation.

Status: Field experience obtained from France, -- where inert gas has successfully reduced base gas requirements in underground gas storage fields by as much as 20%--, suggested that this approach is technically feasible. Laboratory tests on a number of cores from storage fields in the United States and France, representing different rock types and covering a wide range of porosity and permeability distribution, were completed to verify that mixing of natural gas and inert gas is generally limited to a very narrow zone. This allows replacement of base gas with a lower cost inert gas. A systematic approach consisting of site selection, data evaluation, modeling, and implementation planning was developed for the selection of candidate storage fields and minimization of the risk of gas mixing during inert gas application.

Current work is focused on a field demonstration at the Shirley storage field, operated by Equitrans. Selection of the inert gas injection target area and reservoir modeling, to characterize the storage reservoir and predict long-term storage operations in the presence of inert gas, have been completed. The long-term (20 years) predictive model runs indicated that a significant portion of the base gas can be replaced with nitrogen without jeopardizing the pipeline quality of withdrawal gas. In addition, inert gas injection in the Shirley field should prove beneficial in terms of cutting down natural gas migration.

Equitrans prepared the necessary FERC filings and received approval during the summer of 1996 to inject inert gas in the Shirley field. Equitrans completed the necessary contracts for the purchase of nitrogen. Gas withdrawal from the target area has begun, and to date, more than 150 MMcf of natural gas has been withdrawn. Inert gas will then be injected into this target area. Plans are to initially inject 300-MMcf of nitrogen representing 5% of the total base gas, over a period of two years while simultaneously withdrawing natural gas. Since this project is demonstrating success in the field, only periodic monitoring of ongoing work is needed with very little added cost to SMP.

SYSTEM FOR UPGRADING SUBQUALITY NATURAL GAS

Project: 80018 **Period:** 4/1/90 - Present

Project Manager: Raj Palla
e-mail: raj.palla@gastechnology.org

Objective: To reduce the cost of upgrading subquality natural gas by developing cost-effective solvents and absorption systems.

Description: Essentially all of the natural gas in the United States is treated, to some degree, prior to its introduction into the pipeline system for transportation to the consumer. This DOE coordinated project focuses on the commercialization of our Morphysorb[®] process that uses the physical solvent, N-Formyl-Morpholine (NFM) and such additives as N-Acetyl Morpholine (NAM).

Status: A new physical solvent process, Morphysorb, has been developed for subquality gas upgrading. This technology is effective in removing H₂S and CO₂ from subquality natural gas with minimal removal of valuable hydrocarbons. The high performance of Morphysorb reduces gas treatment investment and operating costs by up to 60% over existing, state-of-the-art physical solvent technologies. In lieu of operating cost savings, existing plant capacities may be significantly increased. Extensive field trials were carried out on a slipstream of subquality natural gas at the Shell Fandango plant site in south Texas.

The technology is licensed to Krupp Uhde USA, which is an affiliate of Krupp Uhde GmbH (KU), Germany. KU is a major engineering contractor in Germany with worldwide experience in the field of process plants for refineries and, petrochemical, coal gasification facilities, coking plants, and coke oven gas processing. Efforts are being concentrated in getting the first demonstration scale plant installed.

Pursuing an opportunity with a client plant (500 MMscFd) in BC, Canada for bulk acid gas removal (20 to 12% CO₂). Client is interested in application of Morphysorb process for their existing plant to increase capacity.

Obtaining funding from DOE (NETL) to support Morphysorb process demonstration (simulation, test data collection/analysis only) at a client site.

In addition to the above, GTI, along with its commercial developer will jointly pursue conversion of existing commercial gas plants to Morphysorb process. There are little or no major modifications needed to the existing plants for introduction of Morphysorb technology in place of the current.

THIRD-PARTY DAMAGE DETECTION

Project: 80038 **Period:** 12/1/98 - Present

Project Manager: James E. Huebler
e-mail: jim.huebler@gastechnology.org

Objective: The objective of this program is to develop and deploy a cost effective, acoustic-based detection system that will notify pipeline operators of 3rd-party damage. Initial deployment will be at construction sites and highly trafficked urban sites.

Description: Transmission pipelines may be subjected to large impact forces from 3rd-party excavating equipment. Such impacts may immediately create a hazardous condition or increase maintenance and rehabilitation costs for utility companies. It is possible to damage the pipe in a manner that results in a leak several years later. Such developing leaks are very hard and expensive to identify and locate. A system that can detect the initial contact and quickly alert the pipeline operator would permit prompt corrective action.

When an excavating tool makes contact with the pipe, it creates acoustic waves that can propagate for great distances. It is possible to use these sound waves to detect contact with the pipeline and alert the pipeline operator to a potentially damaging incident. Many applications require operation of damage detection systems in areas that are subject to significant background noise. Thus, it is important to minimize any false alarms. An effective system must filter out background noises created close to the sensor while detecting small impact signals that propagate long distances from the point of impact.

The SMP approach is to utilize adaptive filtering techniques that have successfully suppressed background noise in acoustic leak-pinpointing as the first step in noise management. These signal processing techniques would be combined with commercial hardware including sensors capable of very small acoustic signals, a single board computer, and a commercial communication system. The hardware shall be compact enough to be installed with keyhole excavations, thereby minimizing installation costs.

Status: Even before the combination of IGT and GRI into GTI, third party damage detection had a high priority. Separate programs were funded by FERC and SMP. Both programs are based on acoustic detection of the impact signal. The efforts have been consolidated. With FERC funding, SMP researchers are helping demonstrate the GTI FERC system in New Jersey. Currently, the SMP funded effort is on hold and will be resumed when and if appropriate.

HIGH-PRESSURE LINERS

Project: 80040

Period: 4/1/99 - Present

Project Manager: Bruce Campbell
e-mail: bruce.campbell@gastechnology.org

Objective: To develop cured-in-place liners for high-pressure applications.

Description: Cured-in-place liners are a family of trenchless pipe rehabilitation methods that can seal existing pipe leaks and prevent future leakage due to corrosion, joint failure, or third-party damage. The high-pressure liner (HPL) system will utilize a woven elastomer jacket coated on one side with an extruded elastomer coating. An epoxy adhesive, applied under pressure, will glue the jacket to the inside of the pipe. The woven elastomer jacket provides structural strength to the liner, while the coating acts as a natural gas barrier preventing the migration of gas through the liner.

The development of the HPL is targeted at two major pipeline industry needs. The first is the rehabilitation of gas pipelines to seal existing leaks or prevent future leakage. This includes current or anticipated leaks in buried pipelines at oxy-acetylene and other girth welds, at third-party damage points, or to prevent joint failures due to earth movement. River crossings may also warrant the extra protection. The second pipeline industry issue addressed by the HPL is the adverse effect of a change in DOT pipeline class location on pipeline operations. Under DOT regulations, the encroachment of habitable buildings or areas of frequent public gatherings near a pipeline right-of-way may require that a pipeline reduce its operating pressure or replace segments of the pipeline with higher strength pipe. Although this provides for a greater margin of operational safety, it also represents two negative impacts on pipeline operations: a reduction in gas throughput, and thus revenues, or a significant expense in pipe replacement. A less expensive and disruptive alternative to these choices is the use of the HPL.

Status: GTI and its commercial partner, Karl Weiss GmbH & Co., have developed a detailed development plan that we are following. To date, this is a partial list of the following work that has been completed.

- Analyzed ASME B31G code for appropriate test parameters to prove liner strength. GRI reports and the people that managed them are an important part of our work. Work by expert consultants in the transmission field was effective. We have to prove it is stronger than plain steel, obviously, but also to get a class change improvement.
- Designed test pipes. We had to make the vast matrix of possible tests reasonable. We did. We purchased the test heads and are building the pressure test facility useable to 3000 psig.
- Developed and tested candidate liner fabrics for burst strength. Our German friends did a great job. Marketing study suggest staged introduction, 150#, 500#, and 1000#.
- Identified and tested several low permeation coatings. Found excellent coating with required elastic strength. This coating is a major breakthrough, and is not known to our competitors. We have to prove it does not blister with pressure fluctuations – a past liner or two didn't pass this test.

HIGH-PRESSURE LINERS con't

- The Stage 1 HP Liner (up to 250 psig) has been manufactured. The project has been delayed due to lack of funding to build the new pressure drum for installation. This drum would facilitate field trials in 2002.

PROJECT SUMMARY SHEETS

ENVIRONMENTAL SCIENCE & TECHNOLOGY

REMEDICATION OF TOWN GAS SITES

Project: 80014 **Period:** 10/1/86 - Present

Project Manager: Vipul J. Srivastava **Principal**
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Objective: To develop and deploy cost-effective remediation technologies and site management strategies for the remediation of major types of wastes at former manufactured gas plant (MGP) sites.

Description: Since the year 2000, the focus of this research program, coordinated with significant funding by GTI-FERC and industry, is on the development and deployment of primarily *in-situ* remediation technology for a highly concentrated source material and "dense non-aqueous phase liquids" (DNAPL). This technology, ThermoChemical Solidification will work in tandem with previously developed SMP funded technology, integrated chemical-biological treatment (CBT) process for moderately contaminated soils at the MGP site. GTI has received three patents including U.S. Patent Numbers. 5,610,065 and 5,955,350 for CBT process and is submitting applications for two patents associated with ThermoChemical Solidification (TCS) technology. GTI has agreements in place with several commercial firms for deployment of the CBT Process as well as a mechanism within GTI to offer commercial service associated with CBT and TCS technologies. In addition, this project is developing risk-based approaches to managing contaminates sediments. The sediment management approach is based upon a highly successful program of GTI, the environmentally acceptable endpoint (EAE) program.

Status: TCS technology has the potential to successfully render DNAPL and other highly contaminated material "non-hazardous" in an *in-situ* manner. Research will develop data necessary to design the field implementation protocols during 2001-2002.

Our CBT Process can degrade PAHs at a faster rate and to a greater extent than conventional bio-remediation. Full-scale remediation using land-farming techniques, as well as, field experiments using slurry tanks have demonstrated the effectiveness of this integrated process. Field tests confirm that this process can meet some of the most stringent state clean-up guidance standards. Treatment costs for CBT is very reasonable.

A couple of full-scale remediation projects are, already underway that utilize GTI developed processes and/or site management practices.

MICROBIAL LEAK DETECTION & CONTROL

Project: 80047 **Period:** 01/01/2002-Present

Project Manager: J. Robert Paterek **Principal Investigators:** J. Robert Paterek
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Objective: To develop and deploy a biosensor system to detect and pinpoint pipeline leaks while concurrently originating/employing a pipeline leak "patch" using complementary bioengineered technology developed in the first objective.

Description: Leak pinpointing using biosensor system. Most bacterial species produce hormone or pheromone-like chemicals while growing in communities, such as found in leaking pipelines in sandy soils, i.e. encrustations, nesting, and paydirt. These compounds enable bacteria in these communities (consortia or biofilms) to monitor and even control their population density in a process known as "quorum sensing." These compounds which are used for a very sophisticated bacterial communication system may be detectable from the surface using biosensors to pinpoint leak locations without massive excavation. Since these bacteria communities consume the natural gas and coat or nest around the leaks, these activities minimizes the successful application of commonly used detectors, such as explosive gas detectors and sonic sensors. The proposed biosensor would use these microbial activities to detect the leak in sandy soils and possibly other backfill material. The biosensor can be extremely sensitive and the signal quantified to ease in pinpointing and sizing the pipeline leak in order to supplement or replace the commonly employed leak detectors mentioned above.

Pipeline leak control by bioengineered patch technology. The widely reported observation of the occurrence and activity of microorganisms associated with pipeline leaks reported as encrustation, nesting, or paydirt indicate the possibility to use this phenomenon to minimize or block these leaks. By understanding how and why encrustations occur (in "real world" and simulated sites), a bioengineered technology could be created to increase the rate of encrustation formation and broaden their occurrences under various soil or backfill conditions. This technology has a number of financial and safety advantages, for example, the "biological patch" would minimize or block the leak without excavation at low cost with the concurrent removal of natural gas from the leak vicinity to minimize explosion risk.

Status: Our laboratory is prepared to initiate this technology development in both leak pinpointing and leak mitigation (biological leaking pipeline patches) with the award of the requested funding. Expertise with the causative microorganisms from encrustations, biosensors, and soil microbial ecology need for "biological patches" exists in our laboratory. Preliminary work on previously collected encrustations from pipeline leaks have indicated proof-of-concepts for the proposed technologies, as well as identified some techniques required.

PROJECT SUMMARY SHEETS

ENERGY UTILIZATION

HIGH-EFFICIENCY PROCESS HEATING (GLASS, ALUMINUM, STEEL, ETC.)

Project: 80024 **Period:** 4/1/91 - Present

Project Manager: David Rue
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Objective: To reduce NO_x emissions from regenerative glass melting furnaces while providing higher productivity and maintaining melt quality.

Description: A technique of oxygen-enriched air staging (OEAS) has been developed for reducing NO_x emissions from glass melters with funding from SMP, GTI, Southern California Gas Co., and the U.S. Department of Energy. The technique requires only minor plant modifications. It reduces the combustion air to the burner to retard NO_x formation and injects air (with oxygen enrichment) downstream in the furnace to complete the combustion. This technology also improves furnace production rates and avoids expensive options such as oxy-gas firing and electric boosting, thus avoiding plant closings in a market that uses over 200 BCF/y of natural gas. The OEAS process received an *R&D 100* award in 1996. U.S. Patent No. 5,203,859, Canada Patent No. 2,094,690 and EPC Patent No. 567131B1 have been issued.

Status: GTI and its commercial partner, Combustion Tec, Inc. (CTI), a division of Eclipse Combustion, first demonstrated the OEAS technology on **endport** regenerative glass furnaces. Three furnaces, operated by Anchor Glass Corporation, were converted: a 150 ton/d furnace producing flint glass in Huntington Park, CA; a 200 ton/d furnace producing amber glass in Houston, TX; and a 320 ton/d flint glass furnace, also in Huntington Park, CA. As a result of the successful field conversions, showing 50% to 70% NO_x reduction, CTI and Air Products and Chemicals both licensed the OEAS technology.

OEAS was subsequently extended to **sideport** furnaces. Sideport furnaces provide nearly 65% of U.S. glass production. Owens-Brockway Glass Containers, the largest container glass producer in the U.S., hosted a field test of the OEAS technology on one of its sideport furnaces in Vernon, CA. The modified furnace has been in operation since February 1997. A 40% reduction in NO_x levels is providing a low-cost control method for compliance with present local and state emission regulations.

Commercial introduction has been very successful. OEAS has been installed on 7 endport and 3 sideport glass furnaces. Additional American and European furnace are being considered for OEAS application.

GTI, with funding from SMP, GRI, NYSERDA, and U.S. DOE, is also investigating the use of a high luminosity burner to further reduce NO_x and increase productivity on oxy-gas glass furnaces. U.S. Patent No. 5,725,366 has been issued. Prototype 0.5 and 3 MM Btu/h oxy-gas, high-luminosity burners have been tested at GTI and CTI laboratories. These burners were found to increase thermal efficiency by more than 10 percent. Field testing of a 3 MMBtu/h commercial-scale burner on an Owens Corning fiberglass furnace and a 20 MMBtu/h burner on a PPG flat glass furnace has been ongoing since Nov. 2001. Both burners are performing well. GTI and Combustion Tec will complete the full conversion of the OC fiberglass furnace in the spring of 2002, and a new DOE NICE3 project will allow full conversion of a PPG flat glass furnace to high luminosity burners. This technology is expected to become commercial in 2002.

LOW-NO_x BOILER BURNERS

Project: 80029 **Period:** 6/1/94 - Present

Project Manager: Richard A. Knight **Principle Investigator:** David F. Cygan
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Objective: To develop low emission burners for firetube and watertube boilers. One burner line will be designed to produce less than 10 vppm NO_x.

Description: Currently, a premixed, two-stage burner designed to force internal recirculation (FIR) of combustion products is under development. This concept avoids the need for external flue gas recirculation with its associated high capital and maintenance costs. A unique design brings secondary air either through or around the primary combustion zone. This enhances internal recirculation and lowers flame temperatures, thereby greatly reducing the formation of both 'thermal' and 'prompt' NO_x. The design also maximizes heat transfer to the process fluid surrounding the combustion zone.

This project receives significant co-funding from U.S. DOE and GTI-FERC. Our industrial partner is Coen Company Inc. for watertube boilers, Johnston Boiler Company for firetube boilers, and Peabody Engineering Corporation for mult-fuel watertube boilers in the steel industry. Two patents, U.S. Patent No. 5,350,293 and No. 5,462,430 have been awarded. See also concluded project 80022 entitled "Low-NO_x Burner for Firetube Boilers."

Status: After initial tests of smaller concept burners at GTI, a 20 X 10⁶ Btu/hr prototype FIR burner was designed and is in operation on a watertube boiler system at Detroit Stoker's production plant in Monroe, Michigan. NO_x emissions have been lowered from 85 vppm to less than 10 vppm. Both CO and unburned hydrocarbon emissions are very low. The burner is able to achieve these low emissions over a 4 to 1 turndown ratio without flue gas recirculation or diluent injection. The burner has demonstrated stable performance over a three year period of continuous operation.

More recently, a 60 X 10⁶ Btu/hr burner was installed on a Keeler watertube boiler at a Brewery in Southern California. Performance targets for NO_x and CO emissions were met at 18 to 60 X 10⁶ Btu/hr NO_x <9vppm and CO <30 vppm were achieved. The ability of the burner to achieve full load was demonstrated. The burner has been prepared to operate in automatic regime and providing steam for plant operations since July 2000.

In a parallel effort, the FIR burner technology was chosen by the Department of Defense (DOD) for a demonstration at the Vandenberg Air Force Base (AFB) in California for small firetube and firebox boiler systems. This is a joint program between DOD and U.S. EPA entitled ENVironmental INVestment (ENVVEST) which aims to bring defense installations into regulatory compliance. Vandenberg AFB has been selected as a DOD showcase. Our burner has already logged over two years of operation and is successful in meeting the design goals for this site: NO_x emissions of less than 20 vppm.

GTI is now working with our commercialization partners to transfer and license know-how for the manufacturer of a new low-emission family of FIR burners.

**METHANE de-NO_x[®] REBURN PROCESS FOR
COAL/BIOMASS-FIRED STOKER BOILERS**

Project: 80030 **Period:** 10/1/94 - Present

Project Manager: Bruce Bryan
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Objective: To demonstrate the use of the METHANE de-NOX[®] reburn process as a control technique for reducing emissions from coal/biomass-fired stoker boilers.

Description: About 6,000 stoker boilers are currently in operation in the United States. Historically, stokers have had problems with gaseous and particulate emissions, erosion, slagging, and fouling. Many are turning to ammonia/urea injection to control NO_x emissions; however, ammonia-slip and maintenance problems are causing serious concern and cost increases. This provides the opportunity for natural gas to capture a portion of this load by injecting 10% to 25% natural gas for NO_x control.

GTI has developed a natural gas reburning technology, METHANE de-NOX[®] with funding support from SMP, GRI, DOE, and several gas utilities. See U.S. Patent Nos. 5,020,456, 5,205,227, 5,307,746 and related foreign patents. The technology reduces NO_x emissions below current EPA regulation levels without increasing other undesirable emissions. Natural gas is injected together with recirculated flue gases (for enhanced mixing) above the combustion grate to create an oxygen-deficient zone. Overfire air is then injected at a higher furnace elevation to burn out the combustibles. This process effectively reduces NO_x emissions by 50 to 70% and improves boiler efficiency by 1 to 2%. This technology received an *Environmental Prize* in Japan, a *GRI Pace Setters Award*, a *1997 R&D 100 Award*, and in 1999 an a *1999 American Forest and Paper Association Environmental and Energy Achievement Award*.

Status: System designs are based on extensive pilot-scale development work and successful field evaluations. Technology demonstrations were conducted on a coal-fired plant owned by Cogentrix in Richmond, Virginia, on municipal solid wastes at the modern Olmsted County waste-to-energy facility in Rochester, Minnesota and by TAKUMA CO., LTD in Japan. Current project work further demonstrated this NO_x control technique on a wood- and sludge-fired stoker boiler. A METHANE de-NOX[®] system was retrofitted on Boise Cascade's hog fuel boiler at it's paper mill in International Falls, Minnesota. At present, the system has logged over 27 months of full-scale continuous operation. During this time the technology demonstrated stable and operator-friendly performance characteristics. No negative impacts from long-term operation have been observed.

Results from a long-term performance comparison of the hog fuel boiler by the I. Falls mill showed that for the year 2000 with METHANE de-NOX[®] in operation, \$770,000 was realized in savings compared to 1999 without METHANE de-NOX[®]. Annual sludge disposal and handling was reduced by 3,900 tons and emissions of NO_x decreased by 52 tons.

**METHANE de-NOX® REBURN PROCESS FOR
COAL/BIOMASS-FIRED STOKER BOILERS con't**

Commercial introduction of this technology has been highly successful. The METHANE de-NOX® reburn process is in operation on all eight coal-fired stoker boilers at the 240 MWe Cogentrix power plant in Richmond, Virginia. In Japan, TAKUMA has announced two commercial sales for municipal waste-to-energy plants. Furthermore, Boise Cascade is seriously considering the technology for its hog fuel boilers at their Wallula, DeRidder, and Jackson pulp and paper mills. Baseline boiler testing for a METHANE de-NOX® retrofit at Wallula and also at a GEORGIA-PACIFIC mill in Port Hudson, LA.

This technology promises to capture a significant new load for natural gas. TAKUMA CO., LTD has licensed the process in Japan and license negotiations are underway for the U.S. with Energy Systems Associates.

OSCILLATING COMBUSTION SYSTEMS

Project: 80031 **Period:** 1/17/95 - Present

Project Manager: Harry S. Kurek **Principal Investigator:** John Wagner
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Objective: To develop a simple, cost-effective retrofit technology to increase productivity and reduce NO_x emissions from natural gas-fired, high-temperature industrial furnaces such as melters, reheat furnaces, calciners and forging furnaces.

Description: Oscillating combustion uses oscillation of the fuel and/or oxidant flow rate(s) to a combustor to create successive, fuel-rich and fuel-lean zones within the flame. This increases heat transfer (and therefore productivity) by enhancing flame luminosity and turbulence. NO_x formation is reduced by avoiding stoichiometric combustion. In its simplest form, oscillating combustion is obtained by installing an oscillating valve and controller on the fuel supply line of existing burners.

GTI has obtained a patent (U.S. Patent No. 4,846,665) and has teamed with Air Liquide to develop this technology. GTI efforts are aimed at developing air-gas oscillating combustion, while Air Liquide, with substantial in-kind co-funding, has been developing oxy-gas oscillating combustion. This strategic collaboration project has been co-funded by the California Air Resources Board, Columbia Energy Group - Energy Consulting Services, Gas Technology Canada, GTI-FERC, Southern California Gas Company, and the U.S. Department of Energy - Office of Industrial Technologies.

In coordinated efforts, CeramPhysics, Inc. developed a solid-state proportioning (SSP) valve, now licensed to Safmatic (an Air Liquide affiliate), and GT Development Corporation developed a rotating disc valve ideal for use with oscillating combustion.

Status: We have evaluated oscillating combustion on standard industrial burners used in the steel, glass, metals, and ceramics industries. Tests at GTI and Air Liquide on these commercial burners have shown that oscillating combustion can provide up to a 13% increase in heat transfer while reducing NO_x emissions by up to 75%.

Several field demonstrations have been completed on air-gas fired furnaces. Oscillating combustion was tested on a stack annealing furnace at a Bethlehem Steel plant, with results of 2-5% energy savings and 32% NO_x reduction. Test on a forging furnace at Shultz Steel showed a fuel savings of up to 3% and a NO_x reduction of up to 49%. A steel plate reheating furnace will soon be converted at a Bethlehem Steel site. A recent oxy-gas conversion on a glass melter in Texas, now in operation for 28 months, was highly successful. Fuel use and oxygen use have been reduced by 4% and 10-12%, respectively, while NO_x emissions have been reduced by 55%. The crown temperature has been reduced by 30°-50°F, which leads to improved furnace operation. Conversion costs for this technology are very low. Air Liquide has obtained a worldwide, exclusive license for oxy-gas applications and a non-exclusive license for air-gas applications. GTI has recently licensed Synergistic Partners, Inc., a combustion and process control equipment supplier, for air-gas applications.

HIGH CAPACITY GAS-FIRED PAPER DRYING

Project: 80042 **Period:** 8/15/95 - Present
Project Manager: Harry S. Kurek **Principal Investigator:** Yaroslav Chudnovsky
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Objective: The primary objective of this project is to provide experimental confirmation of the technical and economic feasibility of an innovative, low cost, natural gas-fired cylinder paper dryer based on the dimple combustion concept, which would be suitable for both retrofit and new installations.

Description: GTI is developing an innovative approach to natural gas-fired combustion systems designed for applications in paper dryers. This has the potential of significantly improving the drying efficiency, decreasing specific energy consumption and overcoming the limitations of pre-mixing while still producing stabilized combustion. The approach involves combusting natural gas and combustion air in relatively small-diameter hemi-spherical dimples. Natural gas is injected inside the dimple, while combustion air is supplied on the outside. The flow of combustion air generates a vortex inside the dimple, which result in excellent mixing of natural gas and air and creates highly stable combustion within the cavities. Each fired cavity forms its own flame that interacts with the flames from other dimples forming the vortex flame pattern. Preliminary tests have shown that combustion is stable over a wide range of air velocities. The flow of combustion gases together with radiation from the flame provides high convective as well as radiative heat transfer rates. Combustion air is progressively preheated by hot exhaust gases, thereby resulting in a thermal efficiency of over 75%.

Status: A Consulting Agreement between GTI and Professor Raymond Viskanta (Purdue University) was fully executed.

A dimple-combustion bench-scale unit (BSU) was fabricated according to the set of drawings by a local manufacturer (National Metal Fabricators, Inc.):

- set of 5 dimpled plates
- set of 20 natural gas injectors
- two test sections (1.5" and 3/8" height)
- inlet air preparation chamber
- two transition sections
- exhaust section
- frame and stand
- natural gas flow control unit (17 rotameters and valves)

During the BSU fabrication period GTI worked closely with the manufacturer in engineering support of fabrication. The BSU was delivered to GTI's Applied Combustion Laboratory (09-21-01), assembled and shakedown.

Two site-review visits have been made to Western Michigan University in Kalamazoo, Michigan, to obtain pertinent information about the pilot scale paper dryer. A Test Matrix was prepared and testing was undertaken. Test results are currently being evaluated.

SUPER BOILER

Project: 80043

Period: 11/01/00 - Present

Project Manager: Richard Knight
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Objective: To develop advanced steam generation technologies to meet industrial needs in the next 20-25 years. It is envisioned that the Super Boiler will achieve ultra-high efficiency, will be smaller and lighter, cost less to manufacture and maintain, and produce ultra low emissions. Specifically, it is aimed at providing to gas customers: (1) 95% boiler thermal efficiency (2) 25% less manufacturing and maintenance cost (3) a foot print that is 50% smaller than similar sized conventional boilers; and (4) units that meet emission regulations beyond 2005.

Description: This project will investigate and apply fundamental concepts in combustion, heat transfer, and heat recovery related to steam generation. Modern boiler design concepts will be scrutinized in the process of developing a long-range RD&D program plan. At the same time, a first-generation Super Boiler will be designed and demonstrated with several innovative technical concepts in order to move significantly toward the stated goals. These advanced concepts include ultra-low-emissions combustion technology, high-intensity heat transfer methods, and heat recovery through flue gas moisture removal and latent heat recovery. All of these elements will be integrated into a compact boiler design. This prototype Super Boiler will then be built and field evaluated.

Status: GTI and its funding partners, DOE, SoCal Gas, and SMP are focused on the first task of developing the concept for the Super Boiler. This includes designing a laboratory scale design using various technologies that will undergo vigorous testing to meet or exceed both the environmental and ultra efficiency goals. The work is expected to result in a prototype design, fully evaluated and ready for scale up by early 2005. A technology and economic assessment study is scheduled for completion by mid-2002. The eventual product is aimed at serving the majority of large industrial, commercial, and institutional boilers throughout the world. Estimated savings to U.S. industry alone with Super Boilers capturing a majority of the market would be over \$10 billion per year.

SELF OPTIMIZING COMBUSTION SYSTEM

Project: 80044 **Period:** 8/15/95 - Present

Project Manager: David Rue **Principal Investigator:** Serguei Zelepouga
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Objective: To develop an advanced natural-gas-fired, high-temperature melting and/or fixation process.

Description: To successfully meet the targets of this advanced combustion system, several proven combustion control technologies must be combined. These include:

- Firing a burner in a reverberatory furnace under oxygen-enriched conditions to improve energy efficiency, raise furnace production rate, reduce NO_x emissions, and not damage the refractory
- Designing and operating a burner with an adjustable flame shape, a 'flex-flame' burner, that can undergo flame shape adjustment at constant firing rate and can maintain flame shape at changing firing conditions
- Using a non-intrusive optical sensor, such as a chemi-luminescent C2+ sensor, to monitor and control the flexible burner
- Maintaining a hybrid flame with two reaction zones: a fuel-rich reaction zone above the surface of the bath to prevent oxidation and dross formation, and a fuel-lean combustion zone on the top of the flame to complete burnout of carbon monoxide and unburned hydrocarbons
- Decreasing dross formation by eliminating bath exposure to oxygen and by controlling temperature of the bath
- Integrating the flex-flame burner(s) with the optical sensor using an advanced combustion control system

All of these combustion system characteristics are to be combined in the high-efficiency low-dross combustion system for reverberatory furnaces to provide increased production rate, higher energy efficiency, and significantly lower dross generation.

Status: To date, the following has been accomplished:

- Lab-scale flex flame burner was designed, fabricated, and tested
- Flue gas – aluminum melt chemical physical and interactions were investigated.
- Flame sensor was designed, fabricated, assembled and tested
- SOCS computerized flow control system has been designed fabricated and tested.
- Varies flame's configurations, including oxidizer controlled hybrid flames have been established and tested
- Optical measurements of the flex flames parameters have been validated with conventional flame and flue gas measurements

Next: A pilot-scale version of the flex-flame burner is currently being designed. This burner will be tested independently and together with the flame rich/lean sensor. After successful laboratory trials, a commercial-scale burner will be fabricated and tested on an aluminum reverberatory furnace for scrap aluminum melting.

SUBMERGED COMBUSTION MELTER

Project: 80033

Period: 8/15/95 - Present

Project Manager: David Rue
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Objective: To develop an advanced natural-gas-fired, high-temperature melting and/or fixation process.

Description: Submerged combustion melting is a natural gas-fired combustion technology with applications in a wide range of industries. Natural gas and oxidants are fired into and under the surface of a bath of melted material. Combustion products bubbling through the bath create turbulence, which provides very effective heat transfer and enhances melt homogeneity. The overall gas temperature is reduced, and NO_x formation is consequently lower. In addition, feed materials are added in a manner that traps condensables and returns them to the bath. The thermal efficiency of the melter is increased by complete conversion of any organic material in the melt. Producing a melt by this process has significant cost and operating advantages over other high-temperature melting methods. U.S. Patent No. 4,877,449 has been issued.

This technology is already in commercial use in the Ukraine and Belarus for the production of mineral wool using air-natural gas firing techniques. Further development using oxygen-natural gas (oxy-gas) firing should provide an effective method for producing a number of mineral melts and should be more effective in treating difficult wastes with a minimum of pretreatment.

Status: A 500 lb/hr submerged combustion melter has been installed at GTI. Oxy-gas fired demonstration tests have been conducted using basalt, basalt/dolomite, cement kiln dust (CKD), and sodium silicate feed materials. Excellent melt products were produced over a wide range of operating conditions. Efforts are focused on developing SCM for the most promising applications. Engineering feasibility studies have identified these applications, and they include production of mineral wool, glass melting (sodium silicate, fiber, etc.), recycle of scrap fiberglass, blended cement production from cement kiln dust, and vitrification of hazardous and non-hazardous wastes such as electric arc furnace (EAF) dust and spent aluminum potliner.

SCM engineering feasibility studies have been completed for three mineral wool plants. These studies show significant savings and dramatic reductions in solid and gaseous wastes over current production methods while providing a 2 to 4-year return on investment for sites in Indiana and North Carolina. A detailed engineering assessment, conducted with SMP and GRI support, has been completed for one of these mineral wool companies.

Licensing negotiations are in progress for the first U.S. submerged combustion melting plant. An independent company will use this facility to convert electric arc furnace dust and other wastes to valuable by-products including loose grain blast abrasives.

PROJECT SUMMARY SHEETS

ENERGY SYSTEMS

BCHP/ADVANCED COOLING SYSTEMS

Project: 80016 **Period:** 10/1/88 - Present

Project Manager: Marek Czachorski **Principal Investigators:** Marek Czachorski
e-mail: marek.czachorski@gastechnology.org KenKountz
William Ryan

Objective: To assess, design, and test new concepts for natural gas cooling systems.

Description: The goal of this project is to evaluate new and advanced gas cooling concepts designed to offer a significant improvement in overall efficiency and to reduce the cost of gas cooling equipment. Significant co-funding is provided by GTI-FERC.

Status: A computer program is available that analyzes the effectiveness of using mixed refrigerants in heat pumps. Two patents, U.S. Patent No. 5,165,254 and No. 5,186,012 have been granted.

In the previous stage of the program studies of using spray absorbers in multi-effect absorption systems to reduce cost and unit size were completed. In cooperation with Trane Co. we evaluated the effectiveness of this spray system in a new triple-effect absorption chiller and developed an initial design concept that showed a definite cost saving potential.

Currently, we are working on advanced desiccant systems. We are evaluating a broad range of desiccant materials and matrices. These are the most important and expensive building blocks of desiccant cooling and dehumidifying machines. New, low-cost and low reactivation temperature desiccant wheels have been identified and performance testing is in progress. We are also designing improved desiccant dehumidifier control systems.

In a concurrent effort, two sophisticated software tools have been developed to aid in the evaluation and marketing of gas cooling equipment. The first, DESICALC[®], allows users to run simulations that compare building energy costs for desiccant dehumidifier-enhanced equipment versus a wide range of conventional air-conditioning units. The second, a Gas Cooling Guide, provides easy-to-understand technology descriptions, a large library of case studies, an extensive product catalogue, and economic analyses for numerous gas cooling applications. The tool compares the performance of conventional electric equipment with natural gas absorption, engine-driven, or desiccant cooling systems. Both software tools include templates for 14 typical commercial applications and include the DOE 2.1E computational engine to assure accuracy. Both programs accept user supplied utility rates. Typical utility rates for 16 major North American cities are provided. In addition, the most current weather database - NREL TMY2 - for over 230 cities in the United States is incorporated. To distribute these software products InterEnergy Software, Inc. has been formed.(See www.interenergysoftware.com). Over 1,200 professionals are already using the products purchased from this company. Newest version of the Gas Cooling Guide, GCG Pro serves the needs of HVAC designers, facilities managers and operators, and utilities and equipment marketing professionals. This version of the software also allows evaluation of HVAC equipment retrofit options. Currently, an upgraded 32-bit version of all three software products, compatible with Windows 2000 operating system, are being released.

NGV FUELING STATION AND COMPONENTS

Project: 80009

Period: 10/1/85- Present

Project Manager: John A. Kinast/ William E. Liss
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Principal Investigators: John Kinast

Objective: Develop a dedicated natural gas-fueled vehicle technology base to support the use of natural gas as a transportation fuel.

Description: The focus of this coordinated GTI research project is to reduce the cost and/or improve the performance of NGV fueling stations. Current activities include (1) the design and development of a new CNG dispenser, (2) testing and deployment of an integrated CNG fueling system, and (3) revision to the GTI-developed CASCADE NGV fuel station sizing program. The revised CASCADE program will incorporate new features, including an option for hydrogen fueling.

Status: In the advanced dispenser task, we are working with Tulsa Gas Technologies – a leading dispenser manufacturer. The TGT lower-cost CNG fueling dispenser, provides advanced features such as an integrated card reader, keypad, and receipt printer. The dispenser provides a lower installed-cost alternative to the separate dispenser and customer pedestal currently in use. The new dispenser consolidates functions within one cabinet and reduces the overall component count. The dispenser electronics have received CSA approval. The dispenser allows "near plug and play" upgrading from the basic model with card reader or printer when desired by the owner.

In the fueling station task, the City of Chicago approved an ordinance to sole-source the project to GTI. GTI is working with Chicago and the other Municipalities to deploy nine standardized CNG stations packaged. The stations will be installed during 2001.

These fueling stations will be similar in design to support replication and relocation. In addition to the station installation, GTI will provide start-up and operational training and coordinate maintenance services and emergency backup supply. This will serve as input into the industry effort to develop a "best practice" guideline for NGV fueling stations. A Phase II program will target the installation of other stations during 2002 in the Chicago metro area.

On the CASCADE fuel station sizing task, work has begun to update this program to make it compatible with current versions of Windows and to add in new features requested by users. The revised version will also include an option to permit fill analysis using hydrogen.

DETC – Advanced Distributed Generation Controls

Project: 80041 **Period:** 2/1/00 – Present

Project Manager: Ted Bronson **Principal Investigators:** Todd Kollross
e-mail: ted.bronson@gastechnology.org Mike Connolly

Objective: To provide a facility and expertise for testing and monitoring of small (10-300 kW) power generation equipment (microturbines, reciprocating engines, fuel cells, and associated heat recovery equipment) geared for distributed generation applications in commercial and residential markets.

Description: The Distributed Energy Test Center (DETC) is being designed for two primary purposes: 1) To provide a facility to prove performance (efficiencies and emissions) of equipment, systems, and control schemes associated with small scale Distributed Generation applications prior to its implementation in the field and major utility investment, and 2) To provide remote web- based monitoring capability of multiple installations to build a case for the reliability performance of these distributed generation units. It is the intent of the DETC that it be utilized by member utilities to test and prove applications that are designed specifically for use at their client's facilities (such as specific hotels, convenient stores, supermarkets, nursing homes, etc.). The testing performed will be designed specifically for each unique application and installation to minimize risks associated with installation of this equipment at member client's facilities. An advisory group of SMP members (the DEAG) has been established to provide direction to the DETC and to advise GTI of additional projects that can accelerate deployment of DG technologies.

The original facility design has been steered towards the testing of microturbines. To prove that the equipment will perform under worst case environmental conditions, the test center is designed to vary electrical load, intake air temperature, gas pressure, air intake pressure, and exhaust pressure, and record parameters on a data acquisition system. To put electrical load on the equipment, the initial test center is equipped with load banks, however, interconnection and enhanced power quality monitoring capability is currently being added. Remote monitoring system development involves the design and construction of a monitoring box that will be installed on each machine. This box will be connected through the internet to a password protected web-site. Web based software will be designed to provide real time data and graphs on equipment performance.

Status: The DETC has been constructed, test procedures have been developed and microturbine testing has been completed for one utility. The remote monitoring system and its web interface have been constructed (alpha version), lab tested, and installed at a utility site. Work currently underway includes expanding the facility to provide for grid interconnection, enhanced power quality monitoring system beta version; development of a "DG Equipment Intelligence Report", as directed by the DEAG, and; additional microturbine testing.

APPENDIX A

INTELLECTUAL PROPERTY

**Invention Disclosures
Patents
Licenses**

SMP INVENTION DISCLOSURES

GAS OPERATIONS

- 95-1362 • Pressure Invariant Gas Safety Shutoff Valve
- 97-1394 • Acoustic Locator
- 97-1401 • An Ultra-Low Power Method of Transmitting Information
- 97-1402 • Customer Account Display Enhanced Thermostat
- 99-1432 • Enhanced Acoustic Detection of Gas Leaks in Underground Pipes
- 00-1447 • Electronic Marker for Buried Valve Boxes
- 00-1448 • Electronic Marker for Metallic Valve Covers
- 96-1388 • NFM Process for Removal of Impurities From Gas Streams

ENVIRONMENTAL SCIENCE & TECHNOLOGY

- 96-1380 • Use of Sodium Citrate as Chelator for Enhancement in Fenton's Reaction
- 00-1451 • Thermochemical Solidification of Dense Nonaqueous Phase Liquids at Contaminated Sites
- 00-1467 • The Use of Vapor Pressure Characterization to Identify Sources of Rapidly Released Contaminants at Contaminated Sites
- 00-1468 • A Novel Method of Operation of Zero Head Space Conditions for Volatile and Semi-Volatile Compounds for Partitioning and Contaminant Release Rate Determination

ENERGY UTILIZATION

- 95-1369 • Staged Combustion Utilizing Forced Internal Recirculation
- 97-1393 • High-Efficiency, Low-Pollutant Emission Cyclonic Firetube Boiler
- 99-1427 • Advanced METHANE de-NOX[®] for Stoker Boilers
- 99-1431 • Advanced Forced Internal Recirculation Burner
- 99-1434 • Self-Recuperated, Low-NO_x Flat Radiant Panel
- 00-1466 • Method and Apparatus for Advanced Two-Stage Combustion Utilizing Forced Internal Recirculation

ENERGY SYSTEMS

- 94-1350 • A Simplified Air-Cooled Lithium Bromide Absorption Air Conditioner Utilizing Sprays
- 96-1385A • Cooking Procedure to Eliminate Discoloration (Pink Color) From Cooked Meat
- 00-1440 • Novel High Efficiency Deep Fryer
- 00-1441 • High-Efficiency Ultra Low-Emission Boiler/Heater
- 00-1443 • Bakery Oven Steam Generator
- 02-1485 • Method for Locally Deploying Pipeline Protection Compounds on demand

* New Addition in 2002

SMP PATENTS

GAS OPERATIONS

80-928 • Sonic Detection of Gas Leaks in Underground Pipes

-- U.S. Patent No. 4,455,863 (June 26, 1984).

Inventors: James E. Huebler and Jeffrey M. Craig.

Abstract: An apparatus and process for locating gas leaks in underground pipelines by detection of sound waves created by the leaking gas. The Apparatus and process uses a sound transducer attached to an elongated probe inserted in the ground for a substantial portion of its length. The passive sonic detection apparatus and process of this invention provides improved sensitivity for detection of sounds created by leaking gas and thereby more accurate pinpointing of the gas leak in an underground pipeline.

87-1096A • Interchangeable Automated Porting Valve and Assembly

87-1096C

--U.S. Patent No. 4,987,924 (January 29, 1991) and U.S. Patent No. 5,232,018 (August 3, 1993).

Inventors: William F. Rush, Dennis L. Sadowski and Hyman A. Todres.

Abstract: Covers a remotely-operated plug valve capable of being repaired or modified in place. The use of several plug valves results in a parallel porting valve assembly.

88-1161 • Method and Apparatus for Injecting Acoustic Signals Into Live Gas Mains

-- U.S. Patent No. 5,027,644 (July 2, 1991).

Inventors: Christopher J. Ziolkowski and James E. Huebler.

Abstract: A modified pressure regulator concept is used to inject acoustic signals into pressurized gas mains. Such signals can be used to locate piping or help in mapping distribution systems.

89-1175 • Process and Apparatus for Insertion of Robots in Gas Distribution Systems

-- U.S. Patent No. 5,660,202 (August 26, 1997).

Inventors: William F. Rush, Jr., Bruce K. Campbell, Kenneth C. Hardy and Lynn A. Sweetwood.

Abstract: A hot tap apparatus for insertion of a controllable device into an in-service pipeline. The insertion end of the housing is sealable. The apparatus includes cutting apparatus for cutting an opening in the pipe sized to receive the controllable device disposed in the housing.

SMP PATENTS (Cont.)

- 96-1384** • **Method for Application of Protective Polymer Coating**
-- U.S. Patent No. 6,146,709 (November 14, 2000); Applications filed in Mexico and Canada
Inventors: Joseph M. Katz, William F. Rush, Jr., Victor Tamosaitis

Abstract: A process for application of a protective coating to a steel, concrete, or wooden structure so as to provide protection against corrosion, weathering, or other environmental damage in which the surface to be protected is heated to a temperature in a range of about 75°F. to about 150°F. after which a liquid thermoset primer is applied to the heated material in two stages. The first portion is solidified by heating and then coated with a second portion, forming an uncured liquid thermoset outer primer layer. A melted polymer powder layer is then applied by flamespraying over the uncured liquid thermoset primer layer, forming an intermediate polymer powder layer embedded in the uncured liquid thermoset primer layer. The intermediate melted polymer powder layer is then heated to a flow temperature of the polymer powder and a second layer of melted polymer powder is applied over the intermediate polymer powder layer which then cools to form the final protective coating.

- 97-1390** • **Remote Cathodic Protection Monitoring System**
-- U.S. Patent No. 5,999,107 (December 7, 1999); Applications filed in PCT Countries (India, Japan, and European France Patent Office). Inventors: Joel Cooper, Albert W. Gershman, Joe W. McCarty, Arthur Shapiro and Christopher J. Ziolkowski

Abstract: A cathodic protection monitoring system for metal objects comprising a transponder, a sacrificial anode and a reference electrode buried underground in close proximity to the buried metal object to be protected. The system further comprises a portable transceiver disposed above ground tuned to a frequency of the transponder. Power for the operation of the transponder is drawn from the cathodic protection circuit, thereby obviating the need for connections to above ground power supplies.

ENVIRONMENTAL SCIENCE & TECHNOLOGY

- 91-1272** • **Cyclonic Thermal Treatment and Stabilization of Industrial Wastes**
-- U.S. Patent No. 5,307,748 (May 3, 1994) and Canada Patent No. 2,109,995 (June 16, 1998).
Inventors: Mark J. Khinkis and Hamid A. Abbasi.

Abstract: A process and apparatus for thermal treatment and stabilization of waste materials in which waste material is introduced into an uppermost first combustion-zone of a vertically oriented combustion chamber and a fuel and an oxidant are tangentially injected into the first combustion zone, oxidizing at least a portion of any organic material in the waste materials and melting at least a portion of any inorganic material in the waste materials. A second portion of fuel and oxidant is injected into a second combustion zone immediately below and in communication with the first combustion zone, melting any remaining inorganic material in the waste material.

SMP PATENTS (Cont.)

90-1229 • Integrated Chemical/Biological Treatment of Organic Waste

90-1252B

-- U.S. Patent No. 5,610,065 (March 11, 1997); Applications filed in Canada and Mexico.

Inventors: Robert L. Kelley, Andy H. Hill, Vipul J. Srivastava, W. Kennedy Gauger and John J. Kilbane.

Abstract: A process for improved remediation of polynuclear aromatic hydrocarbon and/or polychlorinated hydrocarbon contaminated materials by integrated chemical/biological treatment comprising contacting the organic waste with hydrogen peroxide in the presence of ferrous ion oxidizing the organic waste and producing more readily biodegradable hydrocarbon product materials, and then biodigesting the product materials by aerobic and/or anaerobic biodigestion.

91-1279 • Adsorption of PCBs Using Biosorbents

-- U.S. Patent No. 5,750,065 (May 12, 1998).

Inventor: John J. Kilbane, II.

Abstract: A method for producing biosorbents for adsorption of PCB's in which at least one proteinaceous material is contacted with a molar excess of at least one PCB congener mixture, forming a protein/PCB congener mixture. The protein/PCB congener mixture is dried after which the PCB congeners are extracted from the dried protein/PCB congener mixture forming a biosorbent in the form of an imprinted protein.

95-1363 • Sequential Biological/Chemical/Biological Treatment of Organic Wastes

-- U.S. Patent No. 5,955,350 (September 21, 1999); Applications filed in the EPC, Canada, India, Japan and Mexico.

Inventors: Bhupendra K. Soni, Kevin Kayser, Robert L. Kelley and Vipul J. Srivastava.

Abstract: A process for remediation of contaminated solid materials comprising polynuclear aromatic hydrocarbon contaminated solid materials, polychlorinated hydrocarbon contaminated materials, and mixtures thereof by sequential biological/chemical/biological treatment.

ENERGY UTILIZATION

86-1090 • Process and Apparatus for High-Temperature Combustion (Abandoned)

-- U.S. Patent No. 4,828,481 (May 9, 1989).

Inventors: Sanford A. Weil, Tian-yu Xiong and Donald K. Fleming.

Abstract: Covers a process and apparatus for high-temperature combustion in a combustion chamber with two opposed porous plates, whereby increased combustion temperatures are achievable through internal radiant energy recuperation. The high-temperature combustion apparatus and process can achieve superadiabatic combustion temperatures that are especially suitable for applications such as waste disposal and incineration.

SMP PATENTS (Cont.)

85-1069 • Fuel Combustion

-- U.S. Patent No. 4,846,665 (July 11, 1989).

Inventors: Hamid A. Abbasi.

Abstract: Process and apparatus for fuel combustion providing oscillation of fuel or combustion air provided to a burner to generate successive fuel-rich and fuel-lean zones in a flame thereby reducing NO_x emissions.

82-987 • Vertical Shaft Melting Furnace and Method of Melting

-- U.S. Patent No. 4,877,449 (October 31, 1989).

Inventor: Mark J. Khinkis.

Abstract: A vertical shaft, melting furnace wherein meltable solids are charged to the upper region of a bed supported only by a fluid cooled support grid having openings smaller than the average diameter of the charged solids. Submerged combustion is maintained in a melt pool below the bed of solids and combustion product gases are passed upwardly through the bed of solids preheating and melting a substantial portion of the solids.

87-1091 • Ultra-Low Pollutant Emission Combustion Process and Apparatus

87-1091A

-- U.S. Patent Nos. 5,013,236 (May 7, 1991) and 5,158,445 (October 27, 1992); for the latter see also EPC (Belgium, France, Italy, Netherlands, and United Kingdom) Patent No. 463,277 (September 21, 1994); German Patent No. 69,012,805 (March 16, 1995); and Japan Patent No. 2,619,973 (March 11, 1997).

Inventor: Mark J. Khinkis.

Abstract: An apparatus and method for ultra-low pollutant emission combustion of fossil fuel wherein an elongated cyclonic primary combustion chamber introduces the first fuel portion of about 1 percent to about 20 percent of the total fuel and primary combustion air. A second fuel portion is introduced into the secondary combustion chamber with secondary combustion air. In preferred embodiments, cyclonic flow is maintained through the combustor. This device is ideal for direct air heating applications.

87-1125 • Process and Apparatus for Emissions Reduction From Waste Incineration

-- U.S. Patent No. 5,020,456 (June 4, 1991); Canadian Patent No. 2,036,944 (September 19, 1995); EPC (Denmark, France, Germany, Netherlands, Sweden, and United Kingdom) Patent No. 445,070 (July 14, 1993); and Japan Patent No. 2,026,049 (February 26, 1996).

Inventors: Mark J. Khinkis, Hamid A. Abbasi, Robert A. Lisauskas and Daniel C. Itse.

87-1125B

--U.S. Patent No. 5,205,227 (April 27, 1993).

Inventors: Mark J. Khinkis and Hamid A. Abbasi.

87-1125BD

-- U.S. Patent No. 5,307,746 (May 3, 1994).

Inventors: Mark J. Khinkis and Hamid A. Abbasi.

Abstract: A process and apparatus for combustion of waste such as municipal solid waste, refuse derived fuel or other comparable solid waste. Natural gas injection into the combustor chamber and flue gas recirculation (for mixing) are used to simultaneously reduce nitrogen oxides, carbon monoxide, chlorinated hydrocarbon and other emissions. The process has been termed METHANE de-NOX.SM

SMP PATENTS (Cont.)

87-1125A • Process and Apparatus for Reducing Pollutant Emissions in Flue Gases

-- U.S. Patent No. 5,105,747 (May 26, 1992) and Japan Patent No. 2,643,720 (May 2, 1997).

Inventors: Mark J. Khinkis, Jitendra G. Patel, and Amirali G. Rehmat.

Abstract: A combustion process and apparatus for simultaneously reducing nitrogen oxides, sulfur oxides and hydrogen chloride in a high temperature furnace. A combustible material is introduced and combusted within the furnace, forming a primary combustion zone. Combustion air, sorbent and a first portion of hydrocarbon fuel are mixed and combusted within a calciner to form a product gas/calcined sorbent mixture. The product gas/calcined sorbent mixture and a remaining portion of fuel are injected into the furnace, forming an oxygen deficient secondary combustion downstream of the primary combustion zone. Overfire air is injected into the furnace, forming an oxidizing tertiary combustion zone downstream of the oxygen deficient secondary combustion zone. The process has been termed METHANE de-TOX.

86-1088 • Temperature Measuring Pyrometer Probe That Compensates for Radiation Heat Transfer and Pneumatic Losses (Abandoned)

-- U.S. Patent No. 5,116,137 (May 26, 1992).

Inventors: Tian-yu Xiong and Lloyd McHie.

Abstract: An apparatus and process for a temperature measuring pyrometer probe that measures gas temperatures above the melting point of conventional thermocouple material. The apparatus is used to calculate radiation heat losses and compensate for pneumatic cooling from the thermocouple junction of the pyrometer probe. A thermocouple junction is mounted within a throat section of a nozzle. The pyrometer probe is intermittently cooled with gas by pulsing reverse cooling gas flow through the pyrometer probe. A computing system calculates radiation heat transfer losses, pneumatic cooling of the pyrometer probe, and instantaneous gas temperatures.

92-1294 • Method for Two-Stage Combustion Utilizing Forced Internal Recirculation

-- U.S. Patent No. 5,350,293 (September 27, 1994).

Inventors: Mark J. Khinkis, H. Abbasi, and David F. Cygan.

Abstract: A method and apparatus for two-stage combustion in which a mixture of fuel and primary combustion air is burned in a primary combustion zone, the primary combustion air comprising less than a stoichiometric requirement for complete combustion of the fuel, and where a portion of cooled partial combustion products formed in the primary combustion zone is recirculated. Additional combustion air is introduced into a secondary combustion zone.

SMP PATENTS (Cont.)

88-1166 • Process and Apparatus for Cyclonic Combustion

88-1169A

-- U.S. Patent No. 5,462,430 (October 31, 1995) and Japan Patent No. 2,662,175 (June 13, 1997).

Inventor: Mark J. Khinkis.

Abstract: A process and apparatus for cyclonic combustion with ultra-low pollutant emissions and high efficiency wherein a fuel and primary combustion air mixture is tangentially injected into a reducing primary combustion zone of a cyclonic combustor. Secondary combustion air is tangentially injected into an oxidizing secondary combustion zone of the cyclonic combustor. Primary combustion products from the reducing primary combustion zone are mixed with the tangentially injected secondary air for completing combustion within the oxidizing secondary combustion zone. The walls of both zones are cooled, making this device ideal for watertube boilers.

87-1126 • Low Pollutant-Emission, High-Efficiency Cyclonic Burner for Firetube Boilers and Heaters

87-1127

87-1131

87-1132

-- U.S. Patent No. 5,209,187 (May 11, 1993).

Inventors: Mark J. Khinkis.

Abstract: A low pollutant emission, high efficiency cyclonic burner and cyclonic combustion process for firetube boilers and heaters in which the combustion air required for complete combustion is introduced into the cyclonic burner in stages.

91-1254 • Oxygen-Enriched Combustion Method

-- U.S. Patent No. 5,203,859 (April 20, 1993); Canada Patent No. 2,094,690 (June 16, 1998); and EPC (France, Germany, Italy, and United Kingdom) Patent No. 567131B1 (December 11, 1997); Application filed in Mexico.

Inventors: Mark J. Khinkis and Hamid A. Abbasi.

Abstract: A process and apparatus for oxygen-enriched combustion of a fuel in an industrial furnace in which a preheated primary oxidant from a heat exchanger and a fuel to be combusted are introduced into a combustion chamber and ignited. A secondary oxidant having an oxygen concentration in excess of the concentration of oxygen in air is introduced into the combustion chamber downstream of the flame, submerged combustion, and the resulting combustion products are exhausted. This process has been termed OEAS.

87-1126 • Cyclonic Combustion

87-1127

87-1131

87-1132A

-- U.S. Patent No. 5,220,888 (June 22, 1993); and Japan Patent No. 2,955,432 (July 16, 1999); Canada Patent No. 2075150 (September 21, 1999)..

Inventors: Mark J. Khinkis and Hamid A. Abbasi.

Abstract: A process for cyclonic combustion whereby fuel and oxidant are mixed prior to injection into the combustion chamber. This device is ideal for firetube boilers.

SMP PATENTS (Cont.)

92-1293 • Gas-Fired, Porous-Matrix, Surface Combustor-Fluid Heater

-- U.S. Patent No. 5,375,563 (December 27, 1994); Canada Patent No. 2,127,742 (May 20, 1997) Abandoned 5.30.01; Japan Patent No. 2,688,325 (August 22, 1997) Abandoned 5.30.01; and Korea: Patent No. 240836 (October, 29, 1999)

Inventors: Mark J. Khinkis and Tian-yu Xiong.

Abstract: A porous matrix, surface combustor-fluid heating apparatus that includes a combustion chamber with a cooled flow distributor supporting a stationary porous bed within the combustion chamber, porous bed heat exchanger means embedded in the stationary porous bed and a means for introducing a fuel/oxidant mixture into the bed. Said fuel/oxidant mixture burning in the stationary porous bed.

94-1337 • Staged Combustion in a Porous-Matrix Surface Combustor to Promote Ultra-Low NO_x Emissions

94-1293B

-- U.S. Patent No. 5,476,375 (December 19, 1995); Mexico Patent No. 188,857 (May 7, 1998); and France Patent No. 9,512,285 (October 9, 1998); Canada Patent No. 2159870 (February 13, 2001)

Inventors: Mark J. Khinkis, Hamid A. Abbasi, and Thomas D. Briselden.

Abstract: A porous matrix, surface combustor-fluid heating apparatus in which combustion of a fuel/oxidant mixture is carried out in stages within a stationary porous bed disposed in a combustion chamber. A fuel-rich fuel/oxidant mixture is burned within a region of the stationary porous bed disposed near the inlet end of the combustion chamber, forming a primary combustion zone. A secondary oxidant is introduced into the stationary porous bed downstream of the primary combustion zone forming a secondary combustion zone. Finally, heat resulting from the combustion is removed by fluid flowing through heat exchanger tubes embedded within the stationary porous bed.

92-1293A • Gas-Fired, Porous-Matrix, Combustor-Steam Generator

-- U.S. Patent No. 5,544,624 (August 13, 1996).

Inventor: Tian-yu Xiong.

Abstract: A porous matrix, surface combustor-fluid heating apparatus, as practiced in U.S. Patent No. 5,476,375, that uses at least one vertically oriented, fluid-cooled tube within the porous bed.

93-1320A • High-Heat Transfer, Low-NO_x, Oxygen-Fuel Combustion System

-- U. S. Patent No. 5,725,366 (March 10, 1998); and Pakistan Patent No. 135792 (May 12, 1999); Applications filed in Canada, the EPC, India, Japan, and Mexico.

Inventors: Mark J. Khinkis, Hamid A. Abbasi and Roman E. Grosman.

Abstract: A process and apparatus for combustion of a fuel/oxidant mixture in which at least a portion of the fuel is preheated and, thereafter, burned with any remaining portion of fuel in a flame having fuel-rich zones, thereby forming soot within the resulting flame to produce a luminous, high heat transfer, low NO_x flame.

SMP PATENTS (Cont.)

93-1319 • Process and Apparatus for Homogeneous Mixing of Gaseous Fluids

-- U.S. Patent No. 5,881,756 (March 16, 1999); Pakistan (Patent No. 135798 [June 7, 1997]) and application filed in India.

Inventors: Hamid A. Abbasi, Mark J. Khinkis and David F. Cygan.

Abstract: A process and apparatus for premixing a gaseous fuel and air.

97-1397 • Process and Apparatus for Emissions Reduction Using Partial Oxidation of Combustible Material*

-- U.S. Patent No. 5,934,892 (August 10, 1999); Applications filed in the PCT Countries of EPC, Canada, India and Japan.

Inventors: Iosif K. Rabovitser, Mark J. Khinkis and Michael J. Roberts.

Abstract: A process for combustion of a combustible material in which a primary combustible material is introduced into a combustion chamber having an upstream primary combustion zone and a downstream zone. A secondary combustible material is partially combusted in a combustor forming partial combustion products which are then injected into the combustion chamber downstream of the primary combustion zone.

96-1386 • Reburn Process

-- U.S. Patent No. 5,937,772 (August 17, 1999); Applications filed in Canada, India, the PCT, Mexico, South Africa and Taiwan.

Inventors: Mark J. Khinkis, Iosif K. Rabovitser and Michael J. Roberts

Abstract: A process and apparatus for combustion in which a combustible material is introduced into a combustion chamber and oxidant is supplied to this primary combustion chamber. A mixture of flue gases and flyash having an organic content is injected into the combustion chamber downstream of the primary combustion zone to create an oxygen-deficient reburn zone.

87-1123 • Mixed Basic Metal Oxide Catalyst for Oxidative Coupling of Methane (Abandoned)

-- U.S. Patent No. 4,826,796 (May 2, 1989) and U.S. Patent No. 4,935,572 (June 19, 1990).

Inventors: Erek J. Erikson and Anthony L. Lee.

Abstract: Covers a catalyst and a process for oxidative coupling of methane, the catalyst being a mixed basic metal oxide. One preferred catalyst is a boron/alkali metal-promoted metal oxide. One possible application is in the conversion of natural gas to ethylene and other olefins.

87-1123 • Mixed Basic Metal Sulfide Catalyst (Abandoned)

-- U.S. Patent No. 4,945,078 (July 31, 1990).

Inventors: Erek J. Erikson, Anthony L. Lee, S. Peter Barone, Irvine J. Solomon.

Abstract: The catalyst is useful for oxidative coupling of methane and aliphatic and alicyclic hydrocarbon compounds with an aromatic compound to produce higher molecular weight hydrocarbons and for dehydrogenating hydrocarbon compounds to produce unsaturated aliphatic and alicyclic chains.

SMP PATENTS (Cont.)

88-1156 • **Oxidative Coupling of Aliphatic and Alicyclic Hydrocarbons with Aliphatic and Alicyclic**

88-1158 **Substituted Aromatic Hydrocarbons (Abandoned)**

-- U. S. Patent No. 4,950,827 (August 21, 1990).

Inventors: EreK J. EreKson and Anthony L. Lee.

Abstract: The catalyst is a mixed basic metal oxide catalyst. Reaction of methane with toluene and oxygen results in conversion to styrene.

88-1171 • **Mixed Basic Metal Oxide/Sulfide Catalyst (Abandoned)**

-- U.S. Patent No. 4,956,327 (September 11, 1990).

Inventors: EreK J. EreKson, Anthony L. Lee, S. Peter Barone, Irvine J. Solomon.

Abstract: Covers a mixed basic metal oxide/sulfide catalyst with tolerance for sulfur containing feedstocks. The catalyst is useful for oxidative coupling of methane and aliphatic and alicyclic hydrocarbon compounds with an aromatic compound to produce higher molecular weight hydrocarbons and for dehydrogenating hydrocarbon compounds to produce unsaturated aliphatic and alicyclic chains.

87-1123C • **Oxidative Coupling of Aliphatic and Alicyclic Compounds and Mixed Basic Oxide Catalyst (Abandoned)**

-- U.S. Patent No. 5,043,505 (August 27, 1991).

Inventors: EreK J. EreKson, Anthony L. Lee, S. Peter Barone, Irvine J. Solomon.

Abstract: A process for gas phase oxidative coupling of aliphatic and alicyclic hydrocarbon compounds to higher molecular weight hydrocarbon compounds using a mixed basic metal oxide or sulfide catalyst.

89-1201 • **Liquid Catalyst for Oxidative Coupling Reactions (Abandoned)**

-- U.S. Patent No. 5,097,086 (March 17, 1992).

Inventors: Anthony L. Lee, Robert Zabransky, EreK J. EreKson, S. Peter Barone, Irvine J. Solomon.

Abstract: Covers a liquid catalyst composition for the oxidative coupling of methane and other hydrocarbon compounds to produce higher hydrocarbons and for the oxidative dehydrogenation of aliphatic and alicyclic hydrocarbon compounds, aliphatic and alicyclic substituted aromatic hydrocarbons, and mixtures thereof.

90-1209 • **Anionically Stabilized Lithium Catalysts and a Method for Stabilizing the Lithium Catalysts (Abandoned)**

-- U.S. Patent No. 5,204,308 (April 20, 1993).

Inventors: Anthony L. Lee, EreK J. EreKson, James T. Semrau, S. Peter Barone, Irvine J. Solomon.

Abstract: An anionically stabilized lithium catalyst wherein the anion is sulfate, phosphate, aluminate, silicate, and mixtures thereof. The catalyst may be used to promote reactions such as oxidative coupling of aliphatic and alicyclic hydrocarbons to produce higher molecular weight compounds and oxydehydrogenation of aliphatic and alicyclic hydrocarbons to produce unsaturated hydrocarbons or to change the functional group of the hydrocarbon.

SMP PATENTS (Cont.)

97-1396 • **Method and Apparatus for Controlled Mixing of Fluids**-- U.S. Patent No. 6,203,187 (March 20, 2001).

Inventors: Hamid Abbassi, Iosif Rabovitser, John Wagner

Abstract: A method for mixing fluids in which a continuously variable flow rate stream of an injection fluid is introduced into a substantially constant flow rate stream of a primary fluid in a direction substantially transverse with respect to the direction of flow of the substantially constant flow rate stream of the primary fluid.

ENERGY SYSTEMS

86-1079 • **Isothermal Thermo-cyclic Processing**

-- U.S. Patent No. 4,971,605 (November 20, 1990) and Japan Patent No. 2,008,828 (January 11, 1996), abandoned.

Inventor: Paul B. Tarman.

Abstract: Applies to all types of cyclic exothermic/endothermic (heat release/heat absorption) processes. The normal temperature swing of such processes is eliminated by use of a phase-change material that absorbs heat during the exothermic portion of the cycle and releases heat during the endothermic portion. Elimination of temperature swing improves cyclic process performance.

90-1233 • **Counterflow Air-to-Refrigerant Heat Exchange System (Abandoned)**

-- U.S. Patent No. 5,165,254 (November 24, 1992).

Inventors: Kenneth J. Kountz and Marek Czachorski.

Abstract: A heat exchange system for a heat pump in which the cooled fluid and the cooling fluid are maintained in counterflow in both the heating and cooling modes of operation.

90-1234 • **Refrigerant Composition Control System for Use in Heat Pumps Using Non-azeotropic Refrigerant Mixtures (Abandoned)**

-- U.S. Patent No. 5,186,012 (February 16, 1993).

Inventors: Marek Czachorski and Kenneth J. Kountz.

Abstract: A heat pump system, that uses non-azeotropic refrigerant mixtures, comprising a main refrigeration circuit, an engine coolant circuit, and a refrigerant rectifier circuit interfacing with a main refrigeration circuit, and the engine coolant circuit. The refrigerant rectifier circuit is used to adjust the relative concentrations of lower boiling point refrigerant, and higher boiling point refrigerant in the non-azeotropic refrigerant mixture thereby changing the cooling or heating capacity of the heat pump system.

SMP LICENSES & AGREEMENTS

GAS OPERATIONS

- On October 28, 1998, **Gas Authority of India, Ltd.** was granted a license for the exclusive, time-limited use of our **Smart Cathodic Protection Monitor Technology** in India, Philippines, Thailand, Indonesia, Singapore, Malaysia, Brunei Darussalem and Vietnam. This technology provides the capability to monitor and communicate the status of pipeline corrosion protection in a cost-effective and timely manner. The agreement covers the technology described in U.S. Patent No. 5,999,107 (December 7, 1999), "*Remote Cathodic Protection Monitoring Systems*," and related know-how.
- On December 27, 1996, **Krupp Uhde GmbH** was granted a worldwide license for the exclusive, time-limited use of our **NFM (Morphysorb[®]) Process** for acid-gas removal from natural gas and synthesis gas. **Morphysorb** is estimated to save 20% in construction costs and up to 60% in operating costs when compared to the best commercial alternative process. This agreement covers the technology described in the invention disclosure, IGT Case No. 96-1388 and related know-how.
- On January 22, 1999, **Commercial Resins Inc.** was granted a license for the exclusive, time-limited use of our **Field Applied Coating Technology** in the U.S.A. However, Sustaining Members of GTI retain the right to obtain a royalty-free license for their own use. This technology uses epoxy coatings and a flame-spray overlay to achieve protection of piping equal to fusion-bonded epoxy coatings. The agreement covers the technology in the invention disclosure, IGT Case No. 96-1384 and related know-how.
- On March 15, 2000, **Gas Authority of India, Ltd.** was granted a license for the exclusive, time-limited use of our **Field Applied Coating Technology** in India, Philippines, Thailand, Indonesia, Singapore, Malaysia, Brunei Darussalem, and Vietnam. This technology uses epoxy coatings and a flame-spray overlay to achieve protection of piping equal to fusion-bonded epoxy coatings. The agreement covers the technology in the invention disclosure, IGT Case No. 96-1384 and related know-how.*

ENERGY UTILIZATION

- On November 25, 1992, **TAKUMA CO., LTD.** signed a Technology Development Agreement and Optional Agreement to license the **Cyclonic Burner Technology** for firetube boilers in Japan. In the cyclonic boiler burner, fuel and oxidant are pre-mixed prior to injection into the combustion chamber. The highly efficient, compact burner significantly reduces NO_x, CO, and total hydrocarbon emissions and is ideal for firetube boilers. The agreement covers the technology described in U.S. Patent No. 5,220,888 (June 22, 1993), "*Cyclonic Combustion*," and related know-how.
- On November 1, 1993, **American Air Liquide, Inc.** and **L'Air Liquide, S.A.** were jointly granted a worldwide co-license for the exclusive, time-limited use of the **Oscillating-Combustion Technology** for all applications. On December 18, 1997, the license agreement was amended to grant back to IGT/SMP the world-wide non-exclusive rights for air-fuel applications. This technology employs oscillating fuel and/or oxidant to reduce nitrogen oxide emissions from natural gas-fired industrial burners. The agreement covers the technology described in U.S. Patent No. 4,846,665 (July 11, 1989), "*Fuel Combustion*," and related know-how.

SMP LICENSES & AGREEMENTS (Con't)

- On June 13, 1994, **TAKUMA CO., LTD.** was granted a license for the exclusive, time-limited use of our **METHANE de-NOX[®]** reburn technology for municipal solid waste (MSW) applications in Japan. This process uses natural gas injection (reburn) to reduce nitrogen oxide emissions without increasing other undesirable emissions. The agreement covers the technology described in U.S. Patent No. 5,020,456 (June 4, 1991), and Japan Patent No. 2,026,049 (February 26, 1996); U.S. Patent No. 5,105,747 (May 26, 1992), and Japan Patent No. 2,643,720 (May 2, 1997); U.S. Patent No. 5,205,227 (April 27, 1993); and U.S. Patent No. 5,307,746 (May 3, 1994); "*Process and Apparatus for Emissions Reduction From Waste Incineration,*" and related know-how.
- On July 9, 1997, **Detroit Stoker Company** was granted a license for the exclusive, time-limited use of the **METHANE de-NOX** reburn technology for coal, biomass and MSW applications in the U.S.A., Canada, and Mexico. The agreement covers the technology described in U.S. Patent No. 5,020,456 (June 4, 1991), and Canada Patent No. 2,036,944 (September 19, 1995); U.S. Patent No. 5,205,227 (April 27, 1993); and U.S. Patent No. 5,307,746 (May 3, 1994); "*Process and Apparatus for Emissions Reduction From Waste Incineration,*" and related know-how.
- On December 1, 1994, **Eclipse Combustion, Inc.** and **Air Products and Chemicals, Inc.** were jointly granted a worldwide co-license for the exclusive, time-limited use of our **Oxygen-Enriched Air Staging (OEAS) Combustion Method** for industrial furnaces. This technology reduces nitrogen oxide emissions from certain natural gas-fired, high-temperature industrial furnaces such as glass melters. The agreement covers the technology described in U.S. Patent No. 5,203,859 (April 20, 1993); Canada Patent No. 2,094,690 and EPC (France, Germany, Italy, and United Kingdom) Patent No. 567131B1 (December 11, 1997); "*Oxygen-Enriched Combustion Method,*" and related know-how.

ENERGY SYSTEMS

- On February 26, 1999, **Alkar Division, DEC International Inc.** was granted a non-exclusive, license for a **Cooking Process** in the U.S.A. This technology prevents the discoloration of products during the cooking process. The agreement covers the technology described in the invention disclosure, IGT Case No. 96-1385 and related know-how.

APPENDIX B

**Commercial Products/Processes
Commercial Services
Commercial Software**

SMP COMMERCIAL PRODUCTS/PROCESSES

CYCLOMAX® Low-NO_x Gas Burners: Line of burners for low-temperature air heating. Over 1000 burners sold. See products listing for Nozzle Mixing Burners on www.maxoncorp.com.

Global Contact: Mr. Mark R. Phillips
General Sales Manager
Maxon Corporation
Ph: 765-284-3304
e-mail: mphillips@maxoncorp.com

Compact Vacotin Water Heater: A line of water heaters using low-NO_x cyclonic burners (GFL-1000, 1250).

Japan Contact: Mr. Toshiro Nomura
Managing Director & Engineer-In-Chief
TAKUMA CO., LTD.
Ph: 81-6-6483-2710
e-mail: nomura@takuma.co.jp

METHANE de-NOX® Reburn Process: Combustion modifications for stoker boilers firing coal, municipal solids waste (MSW), or biomass (wood), designed to reduce NO_x emissions by 50%-75%. Eight coal boilers converted at the Cogentrix plant in Richmond, VA., and one wood waste boiler at Boise Cascade Paper Mill in International Falls, MN, have been converted. Demonstrations on wood and MSW in progress.

North American Contact: Mr. Robert Schrecengost
ESA Environmental Solutions
564 Washington Avenue
Pittsburgh, PA 15106
Ph: 412-429-2713
Web Address: www.energysystemassoc.com

Japan Contact: Mr. Toshiro Nomura
Managing Director & Engineer-In-Chief
TAKUMA CO., LTD.
Ph: 81-6-6483-2710
e-mail: nomura@takuma.co.jp

MORPHYSORB® Process for Upgrading Subquality Gas: Retrofit or new installation designed to remove high concentrations of CO₂ and H₂S from natural gas. In operation on landfill gas.

Global Contact: Mr. H. Maxwell Hooper
Senior Manager, Business Development
Krupp Uhde Corp. of America
Phone: 713-407-7537
e-mail: max_hooper@parsons.com

SMP COMMERCIAL PRODUCTS/PROCESSES (Cont.)

OEAS Process for Glass Melters: Combustion modification for end-port and side-port glass melters designed to reduce NO_x emissions by 50%-75%. Ten furnaces have been converted in North America.

Global Contact: Mr. Daniel Wishnick
Vice President, Glass Technology
Eclipse Combustion, Inc.
Ph: 407-299-7317
e-mail: dwishnick@combustiontec.com

OSCILLATING COMBUSTION Process: Combustion train modification for high-temperature furnaces designed to reduce NO_x emissions by about 50% and increase heat transfer to furnace products. Demonstrations at steel and glass plants are in progress.

**Global Contact
for OXY-GAS:** Mr. John Barney
Business Development Manager
American Air Liquide
Ph: 708-579-7723
e-mail: John.Barney@airliquide.com

**Global Contact
for AIR-GAS:** Dr. Suresh Babu
Director, Technology Planning
Gas Technology Institute
Ph: 847-768-0509
e-mail: suresh.babu@gastechnology.org

SMP COMMERCIAL SERVICES

FLAMESPRAY Coatings: Two-step pipeline coating process using an epoxy base overcoated with plastic flamespray for repair and protection of field repairs. Provides protection equal to fusion-bonded epoxy coatings. Site license available for SMP member companies.

**North American
Contact:** Mr. Russ Langly
Vice President, Technical Services
Commercial Resins Corporation
Ph: 918-438-6522
e-mail: russ@commercialresins.com

**India & Surrounding
Territories:** Dr. Ashutosh Rastogi
Deputy General Manager, (Technology)
Gas Authority of India, Ltd.
Ph: 91 11 672580, Ext. 6103
e-mail: rastogi@gail.emet.in

MGP-REM and PCB-REM Processes: Bio-chem remediation of town gas soils and soils contaminated with PCBs. Full scale land-farming demonstration in fourth season at a MidAmerican Energy Co. site. Slurry and in-situ field pilot tests completed.

Contact: Mr. Vipul Srivastava
Director,
Biotechnology and
Environmental Engineering
Gas Technology Institute
Ph: 847-768-0539
e-mail: vipul.srivastava@gastechnology.org

Business Affiliates

- GRS Valtech
- Inland Environmental, Inc.
- IT Corporation
- North American Realty Advisory Services
- Tetra Tech, Inc.
- Woodard-Curran, Inc.

Commercial Partners

- Barr Engineering
- URS Corporation
- Environmental Resource Management
- ARCADIS Geraghty & Miller

SMP COMMERCIAL SOFTWARE

CASCADE, NGV Gas Blend & BIDSPEC: Design and operating aids for natural gas vehicle fueling stations.

Contact: Mr. John Kinast
Senior Engineer Systems Development
Gas Technology Institute
Ph: 847-768-0555
e-mail: john.kinast@gastechnology.org

DESICALC & GAS COOLING GUIDE: Software aids for architects, engineers, and marketing staff that assist in the selection of gas cooling options including desiccant systems. Software supplied by InterEnergy Inc., a joint venture of GRI and GTI-SMP.

Contact: Mr. Marek Czachorski
Senior Mechanical Engineer
Gas Technology Institute
Ph: 847/768-0526
e-mail: marek.czachorski@gastechnology.org

PALM COMPUTING APPLICATIONS: Software applications that automate and simplify field data acquisition.

Contact: Mr. John Kinast
Senior Engineer Systems Development
Gas Technology Institute
Ph: 847-768-0555
e-mail: john.kinast@gastechnology.org

UTILITY COMMUNICATIONS PROTOCOLS: Standards protocols using open architecture designs for communication and automation systems in utility operations.

Contact: Dr. William F. Rush, Jr.
Assistant Institute Physicist
Gas Technology Institute
Ph: 847-768-0554
e-mail: bill.rush@gastechnology.org

APPENDIX C

CONCLUDED SMP PROJECTS

LIST OF CONCLUDED SMP PROJECTS

GAS OPERATIONS

Advanced Gas Distribution Systems
Rotating Gas-Liquid Contactor Evaluation
Improved Field-Applied Coatings

ENVIRONMENTAL SCIENCE & TECHNOLOGY

Reducing Hazards in the Refrigerated Storage of Liquids
Basic Studies of a Novel Gas-Fired Incinerator
Two-Stage Waste Combustor
Advanced, Gas-Fired Cyclonic Waste Combustion Systems
Supercritical Extraction
PCB Remediation

ENERGY UTILIZATION

Air Partial Oxidation of Natural Gas in a Fluidized Bed
A Study of the Catalytic Oxidative Coupling of Methane
NO_x and CO Emissions Reduction from MSW Combustors
METHANE de-TOX Process for MSW Combustors
Surface Combustor for Process Heaters
High Temperature Indirect Heating
Microbial Production of Chemicals from Methane
Natural Gas Burner for Direct Air Heaters
Low-NO_x Burner for Firetube Boilers
Advanced Heat Treating Furnace

ENERGY SYSTEMS

Catalysts for Emissions Reduction from Natural Gas Engines

NOTE: An addendum document is available upon request that will summarize these projects.

For information contact:

**Vincent B. Fiore
Director, Emerging Technologies
Gas Technology Institute
1700 S. Mt. Prospect
Des Plaines, IL 60018**

847/768-0847 (Phone)

847/768-0501 (Fax)

vince.fiore@gastechnology.org (E-mail)

<http://www.gastechnology.org/pub/smp/index.html>

Case #
99-070
Public Service
Comm



CITY OF HOPKINSVILLE
KENTUCKY
42241

WILLIAM WALLACE BRYAN, JR.
EX - MAYOR

Ex today
... hard copy
VIA U.S. MAIL
RECEIVED

DEC 13 1999

PUBLIC SERVICE COMMISSION
P.O. BOX 707
502/687-4000

462
12-10-99

Public Service Commission:

I lost my last Mayor's race and have been out of office for almost a year. Clearly I don't officially represent our people but having, on occasions past, stood before you to protest unconscionable residential rate proposals, I again voice concern. It is the same old game ... Ask for a huge increase then grin behind closed doors when it is modestly reduced and approved. I'm very disappointed that the state Attorney General's office didn't better see through this - now they are sleeping with the enemy! WKB →

has many Fine Employees (especially
The old timers from Kentucky) and
They provide us with a needed
and valuable resource that our
good God put in the ground
for us. Have back bone I urge
you ... and watch those guys
from Texas. Unless VERY VERY VERY
Extraordinary conditions are
present, I urge you, Our
Public Service Commission, to
restrict any rate hike to
the range of inflation. I
Appreciate you all and value
your resolve in our behalf.

With respect,
Wally Bryan

Case #
99-070

WKG agrees to lower rate increase

OWENSBORO, Ky. (AP) — Following objections from the state attorney general's office, Western Kentucky Gas has agreed to a sharp cut in the rate increase it requested.

Rates will go up but not nearly as much as the Owensboro-based company asked for in July.

The settlement agreed to by WKG and the attorney general's office was filed Friday with the state Public Service Commission, which has a hearing set for Dec. 14 in Frankfort.

WKG originally filed for an increase that would have raised residential bills 13.5 percent, or about \$4.85 a month.

For all customers, the rate increase would have averaged 11.7 percent and added \$14.12 million in revenue a year for the company, which provides natural gas to more than 170,000 customers in 38 Kentucky counties.

The attorney general's office requested that the total increase be reduced by 30 percent, to which WKG agreed.

NOTICE OF HEARING

Notice is hereby given that the Public Service Commission of the Commonwealth of Kentucky has scheduled a public hearing on the application of Western Kentucky Gas Company for a general adjustment to its rates, Case No. 99-070, for 9:00 a.m., Eastern Standard Time, December 14, 1999, in the Commission's offices, Hearing Room 1, 730 Schenkel Lane, Frankfort, Kentucky for the purposes of presentation of evidence and the cross-examination of witnesses.

SS
y!
AY!

STOLL, KEENON & PARK, LLP

ROBERT F. HOULIHAN
LESLIE W. MORRIS II
LINDSEY W. INGRAM, JR.
WILLIAM L. MONTAGUE
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**WESTERN KENTUCKY OFFICE:
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December 10, 1999

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PALMER G. VANCE II
RICHARD A. NUNNELLEY
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RICHARD C. STOLL (1876 - 1949)
WILLIAM H. TOWNSEND (1890 - 1964)
RODMAN W. KEENON (1882 - 1966)
JAMES PARK (1892 - 1970)
JOHN L. DAVIS (1913 - 1970)
MURRAY HARVILLE (1921 - 1978)
RAY E. A. MOHNEY (1906 - 1980)
WILLIAM SWINFORD (1921 - 1986)

Hon. Helen Helton
Executive Director
Public Service Commission
730 Schenkel Lane
P.O. Box 615
Frankfort, KY 40602

Re: Western Kentucky Gas Company
Case No. 99-070

Dear Ms. Helton:

We deliver herewith for filing an original and twelve (12) copies of the fully executed affidavit of Dale R. Lawrence which is the last page of his Settlement Testimony submitted yesterday on behalf of WBI Southern, Inc. in the above-captioned case. We would appreciate your placing the affidavit with his testimony in the case. Thank you for your kind assistance.

Sincerely,



Robert M. Watt, III

rmw
encl.

cc: Counsel of Record (w/encl.)
Keith A. Tiggelaar, Esq. (w/o encl.)

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PUBLIC SERVICE
COMMISSION

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PUBLIC SERVICE
COMMISSION

The affiant, Dale R. Lawrence, being duly sworn, deposes and states that the testimony attached hereto made a part hereof, constitutes the testimony of this affiant in Case No. 99-070, in the Matter of the Application of Western Kentucky Gas Company for an Adjustment of Rates, and that if asked the questions propounded therein, this affiant would make the answers set forth in the attached testimony.

Affiant further states that he will be present and available for cross examination and for such additional direct examination as may be appropriate at any hearing in Case No. 99-070 scheduled by the Commission, at which time affiant will further reaffirm the attached testimony as his testimony in such case.

Dale R. Lawrence
Dale R. Lawrence

STATE OF North Dakota)
)
COUNTY OF Burleigh)

Subscribed and sworn to before me by Dale R. Lawrence on this the 9th day of December, 1999.

My commission expires: 3-15-02

Arllis Brown
Arllis Brown
Notary Public



COMMONWEALTH OF KENTUCKY
PUBLIC SERVICE COMMISSION
730 SCHENKEL LANE
POST OFFICE BOX 615
FRANKFORT, KY. 40602
(502) 564-3940

December 10, 1999

To: All parties of record

RE: Case No. 1999-070

We enclose one attested copy of the Commission's Order in
the above case.

Sincerely,

Stephanie D. Bell
Stephanie Bell
Secretary of the Commission

SB/hv
Enclosure

William J. Senter
V.P. Rates & Regulatory Affairs
Western Kentucky Gas Company
2401 New Hartford Road
Owensboro, KY 42303 1312

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Attorney at Law
Sheffer Hutchinson Kinney
115 East Second Street
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124 West Todd Street
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Atmos Energy Corporation
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Dallas, TX 75265

Honorable David Edward Spenard
Assistant Attorney General
1024 Capital Center Drive
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Hon. Robert M. Watt,
Hon. J. Mel Camenisch, Jr.
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Mr. Keith Tiggelaar
Manager-Regulatory Affairs
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December 9, 1999

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GLADNEY HARVILLE (1921 - 1978)
GAYLE A. MOHNEY (1906 - 1980)
C. WILLIAM SWINFORD (1921 - 1986)

Hon. Helen Helton
Executive Director
Public Service Commission
730 Schenkel Lane
P.O. Box 615
Frankfort, KY 40602

Re: Western Kentucky Gas Company
Case No. 99-070

Dear Ms. Helton:

We deliver herewith for filing an original and twelve (12) copies of the Settlement Testimony of Dale R. Lawrence on behalf of WBI Southern, Inc. in the above-captioned case. We would appreciate your placing the testimony with the other papers in the case and bringing it to the attention of the Commissioners. Please note that the affidavit accompanying the testimony contains the conformed signature of Mr. Lawrence. We were unable to obtain Mr. Lawrence's signature in time to meet the filing deadline, but will file it tomorrow when we receive the signature page. Thank you for your kind assistance.

Sincerely,



Robert M. Watt, III

rmw
encl.

cc: Counsel of Record (w/encl.)
Keith A. Tiggelaar, Esq. (w/ encl.)

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DEC 09 1999

PUBLIC SERVICE
COMMISSION

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF THE)
APPLICATION OF WESTERN) CASE NO. 99-070
KENTUCKY GAS COMPANY FOR)
AN ADJUSTMENT OF RATES)

SETTLEMENT TESTIMONY OF DALE R. LAWRENCE

- 1 Q. Please state your name and business address.
- 2 A. My name is Dale R. Lawrence. My business address is 1250
3 West Century, Bismarck, North Dakota 58501.
- 4 Q. What is your position with WBI Southern, Inc.?
- 5 A. I am a Supervisor in the Regulatory Affairs Department of
6 WBI Southern, Inc. (WBI Southern or Company).
- 7 Q. Please describe your educational and professional background.
- 8 A. I graduated Cum Laude from Harding University in 1982,
9 receiving a Bachelor of Science degree in Business
10 Administration with a major in Accounting. In June 1982, I
11 was employed by Tenneco Gas in the Accounting Department as an
12 entry level accountant and held various other positions with
13 that company in the accounting and regulatory areas until my
14 employment with Williston Basin in December 1991.
- 15 Q. Mr. Lawrence, please explain the purpose of this testimony?
- 16 A. The purpose of this testimony is to explain why
17 modifications to the proposed Rate T-5, resulting from the
18 Joint Stipulation and Settlement (Settlement) between Western
19 Kentucky Gas Company (Western Kentucky) and WBI Southern are

1 fair, just and reasonable.

2 Q. Please explain again why WBI Southern intervened and filed
3 testimony in the instant proceeding?

4 A. WBI Southern's intervention in Western Kentucky's
5 application was due to the imposition of Rate T-5 and its
6 originally proposed terms, conditions and charges. As Mr.
7 Tiggelaar stated in his earlier testimony, the \$0.10 per Mcf
8 charge for all parties utilizing an alternate receipt point on
9 Western Kentucky's system under Rate T-5 is excessive and
10 would stifle competition by not allowing competitively priced
11 supplies of natural gas on Western Kentucky's system. In
12 fact, this charge could virtually eliminate any new gas supply
13 alternatives on Western Kentucky's system, to the detriment of
14 not only any potential new customer but also to Western
15 Kentucky's existing customers.

16 Q. Mr. Lawrence, please explain the modifications to the proposed
17 Rate T-5 Tariff resulting from the Settlement between Western
18 Kentucky and WBI Southern and why these modifications are
19 fair, just and reasonable.

20 A. The first modification revises the \$0.10 per Mcf charge to
21 a fixed \$50.00 per month Administrative Charge. WBI Southern
22 estimates that it could deliver one Bcf or more per year into
23 Western Kentucky's pipeline system. If all of these volumes
24 on Western Kentucky's system were charged a rate of \$0.10 per
25 Mcf, shippers on Western Kentucky would pay an additional
26 \$100,000 annually for the use of Kentucky Pipeline and Storage

1 Company, Inc.'s (KYPSCO) East Diamond Storage Field
2 interconnection, in addition to the charges necessary to
3 utilize KYPSCO's facilities. This level of activity would
4 clearly allow Western Kentucky to overcollect the
5 administrative costs it estimates to incur in implementing
6 Rate T-5. WBI Southern believes a fixed \$50.00 per month
7 administrative charge to be a more reasonable charge and to
8 better reflect the additional administrative costs Western
9 Kentucky will incur in implementing Rate T-5. The flat
10 monthly charge will also encourage marketers and other
11 suppliers of natural gas to maximize throughput, as no
12 additional charges will occur when the level of throughput
13 utilizing alternate receipt points increases.

14 Additional modifications to Rate T-5 exclude the \$50.00
15 Administrative Charge imposed by Rate T-5 for service provided
16 under Rate T-3, Interruptible Carriage Service, and the \$50.00
17 administrative charge imposed by Rate T-5 if, during the
18 month, the alternate receipt point represents the only point
19 of receipt utilized by the customer. These modifications are
20 appropriate since no additional administrative charges are
21 estimated to be incurred by Western Kentucky for Rate T-5
22 service when provided under Rate T-3 or when only one point of
23 receipt per month, whether primary or alternate, is utilized
24 by the customer.

25 Q. Mr. Lawrence, are there additional reasons why you believe the
26 modifications to the proposed T-5 Tariff to be fair, just and

1 reasonable to all parties.

2 A. WBI Southern believes these modifications will give
3 Western Kentucky's end-users an incentive to increase gas
4 usage because there will be more competitively priced gas
5 supply choices along with the concomitant increased system and
6 supply reliability such supply choices will bring. In
7 addition, new markets may develop for the competitively priced
8 natural gas.

9 In addition, we believe that the modified Rate T-5 more
10 closely approximates the costs Western Kentucky will
11 experience in providing the service than did the original
12 version of the tariff. Thus, the modified Rate T-5 will not
13 adversely affect other Western Kentucky customers.

14 In summary, unlike Western Kentucky's original Rate T-5
15 proposal, these modifications will result in a lower cost gas
16 supply and higher gas usage, which will benefit Western
17 Kentucky, WBI Southern and consumers.

18 Q. Mr. Lawrence, does this conclude your testimony?

19 A. Yes, it does.

AFFIDAVIT

The affiant, Dale R. Lawrence, being duly sworn, deposes and states that the testimony attached hereto and made a part hereof, constitutes the testimony of this affiant in Case No. 99-070, in the Matter of the Application of Western Kentucky Gas Company for an Adjustment of Rates, and that if asked the questions propounded therein, this affiant would make the answers set forth in the attached testimony.

Affiant further states that he will be present and available for cross examination and for such additional direct examination as may be appropriate at any hearing in Case No. 99-070 scheduled by the Commission, at which time affiant will further reaffirm the attached testimony as his testimony in such case.

/s/ Dale R. Lawrence
Dale R. Lawrence

STATE OF North Dakota)
)
COUNTY OF Burleigh)

Subscribed and sworn to before me by Dale R. Lawrence on this the ____ day of December, 1999.

My commission expires: 3-15-02

Arllis Brown
Notary Public

JOHN N. HUGHES
Attorney at Law
Professional Service Corporation
124 WEST TODD STREET
FRANKFORT, KENTUCKY 40601

RECEIVED

DEC 09 1999

PUBLIC SERVICE
COMMISSION

Telecopier:
(502) 875-7059

Telephone:
(502) 227-7270

December 8, 1999

Ms. Helen Helton
Executive Director
Kentucky Public Service Commission
730 Schenkel Lane
Frankfort, KY 40602

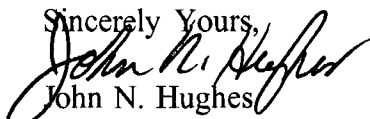
Re: Case No. 99-070

Dear Ms. Helton:

Please file the attached affidavits verifying the rebuttal testimony of Western's witnesses. These were unintentionally omitted from the filing on Monday.

Thank you for your assistance, and if there are any questions about this matter or if additional information is needed, please contact me.

Sincerely Yours,



John N. Hughes
Attorney for Western Kentucky
Gas Company

attachments

cc: Intervenors

RECEIVED

COMMONWEALTH OF KENTUCKY

DEC 09 1999

BEFORE THE PUBLIC SERVICE COMMISSION

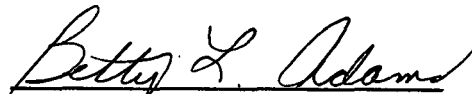
PUBLIC SERVICE
COMMISSION

IN THE MATTER OF)
RATE APPLICATION OF)
WESTERN KENTUCKY GAS COMPANY)

Case No. 99-070

CERTIFICATE

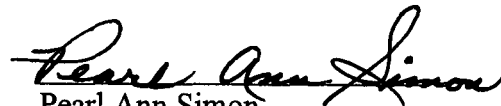
I, Betty L. Adams, have answered the foregoing questions propounded to me in the above enumerated Docket. These answers and exhibits constitute and I hereby adopt, under oath, these answers as my prepared rebuttal testimony in said case, which is true and correct to the best of my information and belief.



Betty L. Adams
Vice President & Controller
Western Kentucky Gas Company

COMMONWEALTH OF KENTUCKY)
) S.S.
COUNTY OF DAVIESS)

SUBSCRIBED AND SWORN TO before me by Betty L. Adams, on this 6th day of December, 1999.



Pearl Ann Simon
Notary Public
State of Kentucky At Large.

My Commission expires: September 26, 2001.

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF)
RATE APPLICATION OF)
WESTERN KENTUCKY GAS COMPANY)

Case No. 99-070

CERTIFICATE

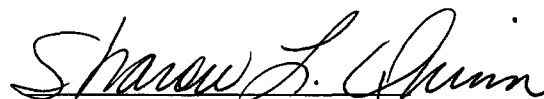
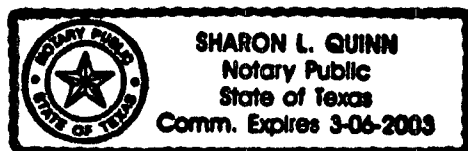
I, Donald P. Burman, have answered the foregoing questions propounded to me in the above-enumerated Docket. These answers and exhibits constitute and I hereby adopt, under oath, these answers as my prepared rebuttal testimony in said case, which is true and correct to the best of my information and belief.



Donald P. Burman
Assistant Controller
Atmos Energy Corporation

STATE OF TEXAS)
) S.S.
COUNTY OF DALLAS)

SUBSCRIBED AND SWORN TO before me by Donald P. Burman, on this 6th day of December 1999.



Sharon L. Quinn
Notary Public
State of Texas.

My Commission expires: 03-06-2003

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

RECEIVED
DEC 09 1999
PUBLIC SERVICE
COMMISSION

In the Matter of:)
THE APPLICATION OF WESTERN) Case No. 99-070
KENTUCKY GAS COMPANY)
FOR AN ADJUSTMENT OF RATES)

RESPONSE BY THE ATTORNEY GENERAL
TO THE 6 DECEMBER 1999, PSC ORDER

Comes now the Attorney General, by and through his Office of Rate Intervention, and submits his Response to the Public Service Commission's 6 December 1999, Order in this case.

The Attorney General responds to the Commission's request by providing answers to each applicable question. Because the Settlement was reached by the Office of the Attorney General rather than its consultants, the Attorney General submits his position in this fashion rather than through direct testimony of any of his experts.

Respectfully submitted,

A.B. CHANDLER III
ATTORNEY GENERAL

David Edward Spenard

David Edward Spenard
Assistant Attorney General
1024 Capital Center Drive
Frankfort, Kentucky 40601-8204
(502) 696.5457

Certificate of Service and Filing

Counsel hereby certifies that an original and twelve (12) photocopies of the foregoing Response by the Attorney General to the 6 December 1999, PSC Order were served and filed by hand delivery to the Hon. Helen C. Helton, Executive Director, Public Service Commission, 730 Schenkel Lane, Frankfort, Kentucky 40601; furthermore, it was served by mailing a true and correct copy of the same, first class postage prepaid, to William J. Senter, Western Kentucky Gas, 2401 New Hartford Road, Owensboro, KY 42303 1312, Mark R. Hutchinson, Sheffer, Hutchinson & Kinney, 115 East Second Street, Owensboro, KY 42303, John N. Hughes, 124 West Todd Street, Frankfort, KY 40601, Douglas Walther, Atmos Energy Corporation, P.O. Box 650205, Dallas, TX 75265, Keith Tiggelaar, WBI Southern, Inc., P.O. Box 5601, Bismark, ND 58506 5601, and Robert M. Watt, Jr., J. Mel Camenisch, Jr., 201 E. Main Street, Suite 1000, Lexington, KY 40507-1380, all on this 9th day of December 1999.

Davis Edith Spence
Assistant Attorney General



90000 SERIES
10% P.C.W.

1. The Settlement includes an increase in Western's revenues of \$9,940,000 with increases to the various customer classes as follows:

- a. Residential - \$6,238,259, or 9.1 percent
- b. Commercial - \$2,385,006, or 6.9 percent
- c. Industrial - \$901,580, or 5.4 percent
- d. Other revenues - \$415,089, or 55 percent

To the extent that the amount of increase and the allocation of the increase varies from what was proposed in either Western's or the intervenors' case in chief, as reflected in the original testimony filed in this proceeding, explain how the total amount as well as the amounts for individual rate classes included in the Settlement can be considered fair, just, and reasonable when the total amount of increase and the distribution of the increase proposed in each party's original testimony was also presented as being fair, just and reasonable.

Response

The Office of the Attorney General (OAG) intervened in this case to participate in the Public Service Commission's consideration of the Western Kentucky Gas Company's request for an adjustment in rates. Thereafter, the Office reviewed the Application, documents submitted in support of the Application, and materials provided by Western in response to data requests.

Using information then available in the record as a factual basis, the Office of the Attorney General subsequently filed direct testimony addressing the reasonableness of Western's request for an adjustment in rates as well as the

allocation of the rate increase proposal. The testimony reflects the application of rate-making principles believed by the OAG to be the most appropriate in light of information that was available at the time.

The OAG took the position that \$7,417,710 was an appropriate increase in Western's annual revenues (Morgan, pre-filed Direct Testimony, p. 4), and the OAG also took the position that a proportional increase in class revenue responsibility for any rate increase ordered in this case was reasonable (Galligan, pre-filed Direct Testimony, pp. 22, 23).

With respect to the revenue requirement, the Attorney General notes that reasonable minds can differ on virtually every aspect of utility rate-making. Thus, there is a significant amount of discretion in setting rates that are reasonable and lawful, and, consequently, the rate-making process revolves around selecting a point within a range or zone of reasonableness.

The initial positions by the OAG reflect advocacy of a set of rate-making policies and economic theories. As noted above, such positions do not reflect the exclusive means to set rates. Further, as noted, the initial amount was a point within an overall zone or range of lawful outcomes.

During the process of negotiation, the Office reconsidered this mix of policies and theories as well as the evidence upon which a determination could be made. The Office made a determination that the revenue requirement Settlement amount was an amount within the range of amounts that could be lawfully supported by the evidence. Further, the Office made a determination

that the amount represents an amount that is within a range of reasonable outcomes consistent with the Office's initial position in light of factors such as existing Commission precedent and additional information. In sum, the revenue requirement Settlement amount is consistent with the evidence, and it reflects a balancing of interest whereby the parties were able to identify a result consistent with each party's belief of an appropriate outcome within each party's range of reason.

With respect to the allocation of the rate increase, the OAG initially sought an across-the-board increase for the adjustment in rates (Galligan, pre-filed Direct Testimony, pp. 22, 23). Under the Settlement, the reduction in Western's revenue request is not an across-the-board scaling back. The Residential class will receive a greater portion of the Settlement reduction in Western's revenue requirement than the Industrial class, which has the greatest potential to secure additional benefits outside of a general rate case as a result of competition, whose reduction will be more modest.

Because the Residential class is the group least likely to be able take advantage of competition, the additional reduction reflects a reasonable balancing of the benefits of the rate request reduction. Additionally, considering the entire mix of tariff provisions under the Settlement, the ultimate allocation of the actual increase also reflects a reasonable balancing of interest.



90000 SERIES
10% P.C.W.

2. To the extent that the tariffs included in the Settlement differ from, or are not consistent with, the position taken by Western, the AG, or WBI on said tariffs in their case in chief, as reflected in their original testimony, explain why the tariffs that have been included, excluded, or modified by virtue of the Settlement, are fair, just and reasonable.

Response

The Office of the Attorney General took the following positions with respect to the tariffs of Western Kentucky Gas Company. The OAG objected to the recovery of past DSM costs (Morgan, pre-filed Direct Testimony, page 18), the premises charge proposal, the lost margin recovery mechanism, and the proposed increase in Western's fixed base charge (Galligan, pre-filed Direct Testimony, pp. 4, 25 - 29). The OAG also noted that Western should provide evidence that its Interruptible Service offering is a different service from its firm service (Galligan, pre-filed Direct Testimony, pp. 4; 24, 25).

There is no difference between the OAG's initial position and the Settlement with respect to the issues of the past DSM costs and the premises charge proposal. With respect to Western's Interruptible Service offering, this feature of Western's tariff was in effect prior to this case. Thus, it is a matter that has previously been determined fair, just and reasonable. The OAG did not object to this practice per se in that it did not recommend modification or exclusion of this feature of Western's tariffs.

Under the Settlement, Western will have a margin loss recovery mechanism. The mechanism per the Settlement differs significantly from the mechanism per the Application. Consequently, the mechanism per the Settlement is simply not the same provision addressed by Mr. Galligan's direct testimony, and that prior position is not directly applicable to the modification. In sum, the mechanism per the Settlement is consistent with the observations raised by the Attorney General's direct testimony.

The only actual change in position for the Office of the Attorney General concerns the residential customer charge increase from \$5.10 to \$7.50. On this point, the record includes evidence that could support a lawful finding consistent with either the OAG's position to leave the amount at \$5.10, or Western's position to increase the charge to \$9.00 a month, or, alternatively, a decision by the Commission to set the amount at a point between this two positions. Hence, the \$7.50 amount reflects an amount within the range of reason supported by the evidence.



90000 SERIES
10% P.C.W.

3. (Additional Question Number 2). Western and the AG shall address the appropriateness of applying a late payment charge to only one customer classification.

Response

The understanding of the Office of the Attorney General is that the late payment charge applies to all customers - residential, commercial, public authority, and industrial - receiving service under Western's Rate G-1 service option. It is the OAG's further understanding that the remaining customers who do not receive service under this tariff have different billing characteristics than their Rate G-1 counterparts. The billing characteristics of this group appear to be so unique as to afford the discretion to allow a reasonable basis for separate treatment.



COMMONWEALTH OF KENTUCKY
PUBLIC SERVICE COMMISSION
730 SCHENKEL LANE
POST OFFICE BOX 615
FRANKFORT, KY. 40602
(502) 564-3940

December 6, 1999

To: All parties of record

RE: Case No. 1999-070

We enclose one attested copy of the Commission's Order in
the above case.

Sincerely,

Stephanie D. Bell
Stephanie Bell
Secretary of the Commission

SB/sh
Enclosure

William J. Senter
V.P. Rates & Regulatory Affairs
Western Kentucky Gas Company
2401 New Hartford Road
Owensboro, KY 42303 1312

Honorable Mark R. Hutchinson
Attorney at Law
Sheffer Hutchinson Kinney
115 East Second Street
Owensboro, KY 42303

Honorable John N. Hughes
Attorney for Western KY Gas
124 West Todd Street
Frankfort, KY 40601

Mr. Douglas Walther
Atmos Energy Corporation
P.O. Box 650205
Dallas, TX 75265

Honorable David Edward Spenard
Assistant Attorney General
1024 Capital Center Drive
Frankfort, KY 40601 8204

Hon. Robert M. Watt,
Hon. J. Mel Camenisch, Jr.
STOLL, KEENON & PARK, LLP
201 E. Main Street, Suite 1000
Lexington, KY 40507 1380

Mr. Keith Tiggelaar
Manager-Regulatory Affairs
WBI Southern, Inc.
P.O. Box 5601
Bismark, ND 58506 5601

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE RATE APPLICATION OF WESTERN)
KENTUCKY GAS COMPANY FOR AN) CASE NO. 99-070
AN ADJUSTMENT OF RATES)

O R D E R

On December 3, 1999, Western Kentucky Gas Company ("Western"), the Attorney General of the Commonwealth of Kentucky ("AG"), and WBI Southern, Inc. ("WBI") filed a Joint Stipulation and Settlement ("Settlement") which the parties state represents a reasonable resolution of all the issues in this proceeding and is fair, just, and reasonable to the shareholders and ratepayers of Western. The Commission has determined that additional information is needed from the parties in order to permit the Commission the opportunity to conduct an adequate review of the terms of the Settlement and make a well informed determination as to whether the Settlement represents a reasonable resolution of all the issues in this proceeding.

IT IS THEREFORE ORDERED that Western, the AG, and WBI, shall each file the original and 12 copies of direct testimony, in written form, with the Commission, with a copy to all parties of record, by the close of business on Thursday, December 9, 1999. The testimony shall address the following issues, to the extent those issues were addressed in the original testimony of Western, the AG or WBI.

1. The Settlement includes an increase in Western's revenues of \$9,940,000 with increases to the various customer classes as follows:

- a. Residential – \$6,238,259, or 9.1 percent
- b. Commercial - \$2,385,006, or 6.9 percent
- c. Industrial - \$901,580, or 5.4 percent
- d. Other revenues - \$415,089, or 55 percent

To the extent that the amount of increase and the allocation of the increase varies from what was proposed in either Western's or the intervenors' case in chief, as reflected in the original testimony filed in this proceeding, explain how the total amount as well as the amounts for individual rate classes included in the Settlement can be considered fair, just, and reasonable when the total amount of increase and the distribution of the increase proposed in each party's original testimony was also presented as being fair, just and reasonable.

2. To the extent that the tariffs included in the Settlement differ from, or are not consistent with, the position taken by Western, the AG, or WBI on said tariffs in their case in chief, as reflected in their original testimony, explain why the tariffs that have been included, excluded, or modified by virtue of the Settlement, are fair, just and reasonable.

IT IS FURTHER ORDERED that:

1. Western shall file, as it did with its existing tariffs and the Settlement tariffs in Exhibit C of the Settlement, a side-by-side comparison of its proposed tariffs in this proceeding and the Settlement tariffs included in Exhibit A of the Settlement.

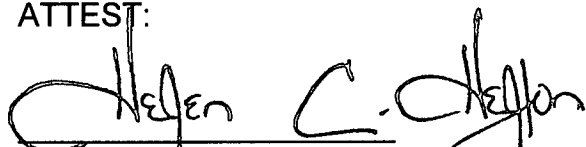
2. Western and the AG shall address the appropriateness of applying a late payment charge to only one customer classification.

3. Western shall address its timeliness in sending out customers' bills and whether customers should be reasonably able to remit payment within the time prescribed on their bills.

Done at Frankfort, Kentucky, this 6th day of December, 1999.

By the Commission

ATTEST:


Executive Director



COMMONWEALTH OF KENTUCKY
PUBLIC SERVICE COMMISSION
730 SCHENKEL LANE
POST OFFICE BOX 615
FRANKFORT, KENTUCKY 40602
www.psc.state.ky.us
(502) 564-3940
Fax (502) 564-1582

Ronald B. McCloud, Secretary
Public Protection and
Regulation Cabinet

Helen Helton
Executive Director
Public Service Commission

Paul E. Patton
Governor

December 3, 1999

Mark R. Hutchinson, Esq.
Sheffer-Hutchinson-Kinney
115 East Second Street
Owensboro, Kentucky 42303

RE: Western Kentucky Gas Company
Case No. 99-070
Petition for Confidential Protection

Dear Mr. Hutchinson:

The Commission has received the petition filed November 15, 1999, on behalf of Western Kentucky Gas Company to protect as confidential the data modification related to tariff revision due to finalization of a special contract. A review of the information has determined that it is entitled to the protection requested on the grounds relied upon in the petition, and it will be withheld from public inspection.

If the information becomes publicly available or no longer warrants confidential treatment, you are required by 807 KAR 5:001, Section 7(9)(a) to inform the Commission so that the information may be placed in the public record.

Sincerely,

A handwritten signature in black ink, appearing to read "Helen C. Helton".

Helen C. Helton
Executive Director

cc: All parties of record



JOHN N. HUGHES
Attorney at Law
Professional Service Corporation
124 WEST TODD STREET
FRANKFORT, KENTUCKY 40601

Telephone:
(502) 227-7270

Telecopier:
(502) 875-7059

November 15, 1999

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NOV 15 1999

PUBLIC SERVICE
COMMISSION

Ms. Helen Helton
Executive Director
Kentucky Public Service Commission
730 Schenkel Lane
Frankfort, KY 40602

Re: Case No. 99-070

Dear Ms. Helton:

On October 7, 1999, Western Kentucky Gas Company filed fourteen special contracts and supplemental information about the revenue effects those contract reformations had on the pending rate case. At that time, Western indicated that there was one outstanding contract to be renegotiated and that additional information would be filed by November 15th.

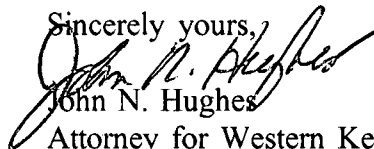
We are pleased to inform you that the customer accepted Western's proposal for continued transportation service, electing not to bypass the Company's system. An executed contract has been received from the customer and will be filed later this week.

As a result of the requirement that the special contract be filed with the Commission, the revenue requirement filed with the application in this case must be modified to include the effect of this latest contract reformation. Consequently, Exhibits GLS-1, GLS-3, and GLS-7 (testimony of Gary Smith, vol. 2 of 10, tab 11); FR10(10)n - schedule 2 of 2 (vol. 10, tab 13); and Commission data requests: PSC DR#1-47(a) and PSC #3-9 as updated are attached.

Because some of the information included in these responses is confidential, a petition for confidentiality is also being filed.

If there are any questions about this matter or if additional information is needed, please contact me.

Sincerely yours,



John N. Hughes

Attorney for Western Kentucky
Gas Company

cc: Intervenors

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

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NOV 15 1999

PUBLIC SERVICE
COMMISSION

IN THE MATTER OF:

**RATE APPLICATION OF WESTERN KENTUCKY
GAS COMPANY**

Case No. 99-070

**PETITION FOR CONFIDENTIALITY OF CERTAIN INFORMATION
PROVIDED IN VARIOUS REVISED APPLICATION SCHEDULES**

Comes now Western Kentucky Gas Company ("Western"), pursuant to 807 KAR 5:001, Section 7, and all other applicable law, and for its Petition for Confidentiality, states as follows:

Since the filing of its application in this proceeding, Western finalized fourteen (14) special contracts, all of which were filed with the Commission. As a result of the finalization of those contracts, it was necessary for Western to revise certain of its application schedules to reflect the anticipated changes in revenue. Since that time Western has finalized one additional special contract which will also be filed with the Commission. It is accordingly necessary for Western to again modify the application schedules to reflect the effect on revenue created by this additional special contract.

Western has therefore modified the following application schedules: Exhibits GLS-1, GLS-3, and GLS-7 (Testimony of Gary Smith at Volume 2 of 10, Tab 11), and FR 10(10)n-Schedule 2 of 2 (Volume 10, Tab 13).

The information contained in Exhibit GLS-1 Schedules 2 through 4 of 4 and Exhibit GLS-7 Schedules 2 through 4 of 4 reveal volume and discount levels for the special contract industrial customer for whom a discount has been negotiated. The Commission has previously ruled in this proceeding that proprietary information of this nature is entitled to confidential protection for the reasons set forth below.

Pursuant to KRS 61.878(1)(c) the following documents are eligible for confidential treatment:

"Upon and after July 15, 1992, records confidentially disclosed to an agency or required by an agency to be disclosed to it, generally recognized as confidential or proprietary which is openly disclosed would permit an unfair commercial advantage to competitors of the entity that disclosed the records--".

This is the same standard adopted by the Commission pursuant to 807 KAR 5:0001, Section 7. Company specific details concerning volumes and confidentially negotiated discounts with private enterprises are generally recognized as confidential and proprietary. Disclosure of details pertaining to a particular customer's volume and discount, are likely to cause substantial competitive harm to Western. Knowledge of these facts will provide Western's competitors with a substantial advantage in future business negotiations with Western's customers. Western's competitors would have clear advantage in competing for these customers since knowledge of existing Western discounts would enable them to slightly undercut Western's charges. On the other hand, Western's unregulated competitors are not required to make public similar information.

Accordingly, the value of the information is derived by not being readily ascertainable by Western's competitors who would have a clear economic advantage upon disclosure.

Negotiations concerning the discount were maintained with strict confidentiality. None of this information is posted or otherwise generally made available within the company or without.

Only those employees of Western who have a legitimate need to know have knowledge of this information.

Additionally, disclosure of this information would put Western at a disadvantage in future negotiations of special contracts with other industrial customers. There would be little room for bargaining when a potential customer knows exactly what discounts Western has negotiated with other industrial customers. This likewise would put Western at an unfair commercial disadvantage.

WHEREFORE, Western respectfully requests that the attached be treated as confidential. One copy of the attached has been submitted with the confidential portions highlighted for review and consideration by the Commission. Redacted copies of these documents have been submitted with Western's filing.

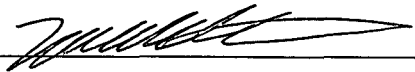
Respectfully submitted this 15 day of November, 1999.

Douglas Walther
Atmos Energy Corporation
P.O. Box 650205
Dallas, TX 75265

SHEFFER - HUTCHINSON - KINNEY
Mark R. Hutchinson
115 E. Second St.
Owensboro, KY 42303


John N. Hughes
124 West Todd Street
Frankfort, KY 40601

Attorneys for Western
Kentucky Gas Company

By: 

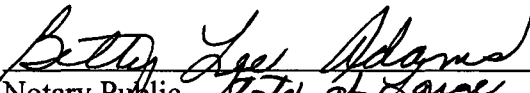
VERIFICATION

I, Gary Smith, being duly sworn under oath, state that I am Vice President of Marketing of Western Kentucky Gas Company, and that the foregoing statements are true of my own knowledge except as to those matters therein stated on information and belief, and as to those matters I believe them to be true.


Gary Smith

STATE OF KENTUCKY
COUNTY OF DAVIESS

SUBSCRIBED AND SWORN to before me by Gary Smith on this the 12th day of November, 1999.

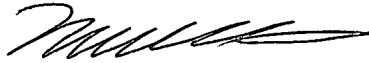

Notary Public State of Large
My Commission: 7-25-2000

CERTIFICATE OF SERVICE

I hereby certify that on the 17 day of November, 1999, this Petition, together with fifteen (15) copies, was filed with the Kentucky Public Service Commission, 730 Schenkel Lane, Frankfort, Kentucky 40602, and a true copy thereof mailed by first class mail to the following named persons:

Hon. David Spenard
Assistant Attorney General
Office of Rate Intervention
1024 Capitol Center Drive
Frankfort, Kentucky 40601

Hon. Mel Camenisch, Jr.
Stoll, Keenon & Park, LLP
201 E. Main Street
Suite 1000
Lexington, Kentucky 40507-1380



Mark R. Hutchinson