A. Schedule BRL-10 is a worksheet prepared by ANG personnel that summarizes the 1981 NGPL storage inventory. The January 1, 1981 balance of Mcf and cost is set forth first, followed by monthly entries for injections and withdrawals.

Q. Please describe Schedule BRL-11.

A. Schedule BRL-11 is the July 1981 NGPL invoice which plainly shows that the NGPL invoice supports the company prepared worksheet. Page 1 shows that 18,600 Mcf was injected into storage in July 1981. Schedule BRL-10 clearly reflects the 18,600 Mcf injection as an increase to storage inventory. Schedule BRL-11, page 1 plainly shows that ANG was billed for commodity charges on two components: (1) mainline deliveries (i.e., deliveries to ANG's system) amounting to 38,513 Mcf and (2) injections to storage of 18,600 Mcf. Both components were billed at 2.5327. Thus, the $47,108.22 cost of injections into storage set forth on Schedule BRL-10 was calculated by multiplying 18,600 Mcf by $2.5327.

Q. Please describe Schedule BRL-12.

A. Schedule BRL-12 is the NGPL invoice for November 1981, which was a month that withdrawals from storage were made. The November commodity charge is determined by first determining the amount of mainline deliveries purchased. Thus, mainline deliveries of 62,046 Mcf (i.e., deliveries to ANG's system) are reduced by the withdrawals from storage which were 7,640 Mcf to determine the

Mcf purchases of 54,406. The commodity rate of $2.6606 is applied to purchases of 54,406 to determine the purchase cost of $144,752.60.

Q. Please explain the withdrawals referenced on Schedule BRL-12.

A. The withdrawals of 7,640 Mcf had been purchased previously and injected into storage. At that time the cost was reflected as an increase to storage inventory. Now that the withdrawal has taken place, the $17,499.06 cost of the 7,640 Mcf withdrawn is removed from storage as shown on Schedule BRL-10.

Q. Do you have any further evidence?

A. Yes. The international accounting firm of Deloitte, Haskins, and Sells (DH&S) examined ANG's financial statements for a number of years from the early '70s through 1987. As a part of their work, the NGPL inventory volumes were confirmed directly with NGPL. I have attached a copy as Schedule BRL-13 for December 31, 1982, which appears to have been sent first by ANG to NGPL, and then from NGPL to DH&S. The last two columns appear to reflect DH&S indications of ANG's (i.e., "Client") inventory balances and calculated differences between NGPL's records and ANG's records.

Q. Why would ANG possess a DH&S workpaper?

A. There are several good reasons. One reason is that in the event ANG later came to believe that a discrepancy had occurred, it would help to have a confirmed balance at the end of the most recent year end. Another, and perhaps the more likely reason is that DH&S was obligated to advise ANG of the discrepancy so that ANG could take action if deemed necessary.

Q. Do you have any evidence that DH&S personnel gave any thought to the existence of the LNG inventory balance?

A. The LNG inventory was maintained by ANG personnel, so there wouldn't be a confirmation from a third party as there was for NGPL. However, it is quite likely that DH&S personnel would have performed audit procedures on the LNG inventory.

Q. Why do you consider it quite likely that DH&S personnel would have performed audit procedures on the LNG inventory?

A. I have a DH&S publication titled "Introduction to Accounting and Auditing – Public Utility Industry," (copyright 1980) which addresses the steps that should be taken for gas stored by a client on pages 36 and 37. I have attached these pages as Schedule BRL-14.

Q. What do you conclude from the foregoing?

A. I conclude that not only does ANG have its storage inventory records supporting the recoverable inventory balance, but that these records were subject to examination by DH&S. I have examined the storage workpapers and find that there is no indication that DH&S had proposed any adjustments aside from bringing minor items such as the 91 Mcf discrepancy to ANG's attention. And, as I said above, the gas storage inventories have been maintained in a manner consistent with the operation of Sheet 44. I have demonstrated that fact and conclude that it is true. I further conclude that this demonstrates that the volume in storage inventory as of July 8, 1982, was not recovered prior to that date. Sheet 44 accomplishes recovery from customers based on billed consumption. The volumes in storage inventory as of July 8, 1982, had not passed through a customer meter and therefore they had not ever been consumed.

Q. Why was ANG's investment in storage gas included in jurisdictional rate base?

A. The cost at issue in this proceeding is referred to as an asset, specifically gas storage inventory. The American Institute of Certified Public Accountants has defined assets as ". . . economic resources devoted to business purposes within a specific accounting entity; they are aggregates of service-potentials available for or beneficial to expected operations." The service potential which is inherent in this instance is the provision of gas in winter periods. Wherever possible, the accounting process reflects the cost of something that is physically observable or measurable. For example, a car is purchased by a company and the accounting records for assets will reflect the cost of that item as long as it exists and is owned by the company.

In the case at issue, ANG recorded as an asset on its books the cost of gas stored in inventory as it was injected, and ANG removed the asset cost from its books as the storage gas was taken out (withdrawn) from storage. The physical existence of this was tracked monthly by ANG. Additionally, ANG has evidence that the existence of the NGPL inventory was confirmed by ANG's auditors, which at the time were Deloitte, Haskins and Sells. The physical existence of the storage gas inventory was evident from contemporaneous records maintained by ANG's employees and was subject to observation by ANG's auditors. It is very clear that ANG recorded increases and decreases in the cost of its storage inventory as gas flowed into and out of storage inventory. That is, as purchased gas flowed into inventory, the cost of gas storage inventory was increased and as stored gas flowed out of gas storage inventory, the cost of the gas storage inventory was decreased.

Customers simply paid a base and PGA rate for gas as consumed throughout the year and gas storage inventory mirrored that consumption. Where gas was purchased for injection the inventory cost was increased accordingly. Where gas was withdrawn for consumption, the inventory cost was decreased accordingly. Because customers were paying only for the volume of gas consumed there could not have been recovery of storage gas not yet consumed. In conclusion, the gas in storage was not previously recovered from customers. Therefore, gas storage is a necessary utility investment and should be included in jurisdictional rate base.

Q. In the last twenty years, have the Staff, ANG, and other Missouri gas utilities generally included the investment in storage gas in rate base?

A. Yes, even though all Missouri gas utilities have at one time had a "standard" PGA, the investment in storage gas has been consistently included in rate base.

Q. How many general rate proceedings have occurred since the implementation of the Pre July 1982 PGA in October 1970?

A. It appears that there have been at least nine general rate proceedings since October 1970, which have involved ANG or its predecessor in interest, Arkansas-Missouri Power Company. The docket numbers of these proceedings are as follows:

- Case No. 18,101 & 18,103
- Case No. 18,600 & 18,601
- Case No. 18,651 & 18,652
- Case No. GR-79-126
- Case No. GR-82-126
- Case No. GR-83-205
- Case No. GR-86-86

- Case No. GR-90-152
- Case No. GR-97-272

Q. Did the Staff and ANG include the Missouri jurisdictional portion of the investment in storage gas in rate base in all of these general rate proceedings?

A. Yes, both the Staff and ANG generally included the Missouri jurisdictional portion of the investment in storage gas in rate base in all of these general rate proceedings. I have included exerpts from a few of the direct testimonies submitted by ANG and the Staff in these proceedings as follows:

- Schedule BRL-15 – Case No. GR-79-126
- Schedule BRL-16 – Case No. GR-82-108
- Schedule BRL-17 – Case No. GR-83-205

The Staff did oppose the inclusion of storage gas in rate base in Case No. GR-90-152. However, for the same reasons discussed at length in this testimony, ANG disagreed with Staff's position then just as it does now.

Other Independent Reviews

Q. Can you summarize what you believe to be the essence of the Staff's position, as reflected in the Staff memorandum and its testimony from Case No. GR-96-227?

A. The essence of the Staff's position is that for ratemaking purposes, a net asset shown on ANG's books since 1982 of approximately $800,000 isn't really there, and hasn't been there since sometime prior to 1982. The Staff asserts that ANG has previously recovered the gas cost associated with the LNG and NGPL non-S2 storage volumes.

Q. Do you have any concerns that the Staff is recommending that the balance of gas in storage be treated differently for ratemaking purposes than the accounting method used for financial reporting?

A. Yes. Although, in certain cases it is appropriate to have a difference in the amount or in the timing between what a utility places on its books for financial reporting purposes and recovery for ratemaking, in this instance Staff's position of treating this inventory as nonexistant is clearly wrong.

However, in regard to this proceeding, I believe that financial statements, regulatory filings, Securities and Exchange Commission ("SEC") data submittals, presentations to financial analysts, Commission Orders, and accounting records produced and reviewed by probably scores of regulatory and utility experts from ANG, the Staff, the Commission, and independent agencies over the last twenty years all categorically contradict the Staff's assertion that the investment in storage gas has already been recovered through the PGA. All of this past documentation indicates instead that storage gas costs have not yet been collected from ANG's jurisdictional customers.

It appears to me from a review of material from Case No. GR-96-227 that the Staff was in the somewhat awkward position of attempting to conduct its investigation 15 to 20 years after the fact. Mr. Wallis testified that he did not look at the filings made under Sheet 44; he was just relying on his reading of it. In contrast, these previously mentioned examinations were based on a timely and contemporaneous review of the data submitted at the time, with ready access to all pertinent information.

Fallacy of Key Staff Assumption

Q. What does Staff's assertion that "ANG has previously recovered the volumes of gas injected into gas storage but not yet consumed by jurisdictional customers" imply?

A. The detailed review of the application of the Pre July 1982 PGA discussed earlier in my testimony makes it very clear that customers provided gas cost recovery **only** as their usage was billed. Where gas was purchased to meet current month customer requirements and to meet the need for storage injections, then the recovery from the customer would only reflect the portion consumed currently by the customer. This is because the customer billing is a function of consumption. Where customers were supplied with gas purchased as well as gas that was withdrawn from storage, the recovery of gas cost would be based on the volume of gas consumed, which would include purchases and withdrawals from storage. No where on Sheet 44 are customers required to also pay for volumes in storage but not yet consumed by jurisdictional customers. Such an assertion does not comport with the intended purpose or actual operation of the PGA clause.

Retroactive ratemaking

Q. Since you have said the Pre July 1982 PGA had a two-month lag and undercollected gas costs, was there a transition adjustment required when the ACA process was implemented?

A. It is very clear that the Pre July 1982 PGA mechanism provided the only means for gas cost recovery. Under recoveries could not be recovered in the future and over recoveries could not be refunded in the future. The recovery is what the recovery is. It is much like the situation pertaining to base rates now and then. As long as recovery is within a tolerable range over or under actual cost, then recovery is reckoned as sufficient. If recovery is outside of a range tolerable to any of the affected parties, then a rate proceeding will be instituted to address future recoveries. Past recoveries cannot be addressed because to do so would constitute retroactive ratemaking.

Therefore, ANG was not entitled to record a transition adjustment to attempt to fully recover incurred but not fully recovered purchase gas costs when the switch to the ACA process began in July 1982. An entry of this nature would require a retroactive ratemaking adjustment. Neither the Staff nor ANG recommended a retroactive transition adjustment during the transition from the Pre July 1982 PGA to the ACA.

Q. Earlier, you stated that the Staff has reached back into history over 17 years to make the unsupported assertion that ANG previously recovered gas in storage when it did not even totally recover the cost of purchased gas consumed by jurisdictional customers. Is the Staff's proposed adjustment an example of retroactive ratemaking?

A. Yes. The Staff is proposing to reduce the current recovery of the actual annual cost of purchased gas consumed by jurisdictional customers for the year-ended August 31, 1997 to prevent an alleged "double recovery" because Staff alleges current gas in inventory was recovered sometime before July 1982. Just as it was inappropriate to record a transition adjustment in 1982 to reflect the implementation of the ACA, Staff's proposed adjustment should not be approved because it also represents an inappropriate retroactive ratemaking adjustment. Sheet 44 by design and actual operation only provided for recovery of the cost of gas actually consumed. The tariff simply did not allow for recovery of gas storage inventory.

FERC Order 636

Q. Did the Commission address the impact of FERC Order 636 in its Report and Order in Case No. GR-96-227?

A. Yes. As I mentioned earlier, the Commission's order stated the following:

> "Before the Federal Energy Regulatory Commission (FERC) issued Order 636, interstate natural gas pipeline companies provided local distribution companies with a bundled gas supply, transportation and storage. FERC Order 636 required interstate natural gas pipelines to unbundle their gas supply service from their transportation and storage services. Prior to FERC Order 636, components of gas supply service included fixed and variable storage charges, fixed and variable transportation charges and all gas supply costs, irrespective of whether that gas supply flowed directly to the city gate or was injected into storage. Thus, fixed and variable storage charges would have been included on pipeline supplier invoices in the pre-Order 636 environment in which tariff sheet 44 operated."

Q. Based on your understanding of Order 636, does it have any direct impact on this proceeding?

A. No. There is no dispute that the wholesale current rate in the Pre July 1982 PGA monthly rate computation was based on the most recent supplier invoices. There is no dispute that the 1978 through 1982 period predates FERC Order 636. There is also no dispute that invoices ANG received from interstate pipelines in 1978 through 1982 were "bundled" in the sense that they contained all of the pipeline services. The fact that all of the costs were bundled on one invoice, as opposed to being "unbundled" into two or three invoices in a Post Order 636 environment, has no impact on any issue being discussed in this proceeding.

The relevant issue of whether ANG has previously recovered the gas cost associated with the LNG and NGPL non-S2 storage volumes has been addressed at length in this testimony.

Summary

Q. Please summarize your testimony.

A. Staff argued in GR-96-227 that it could evaluate Sheet 44 and reach a conclusion. However, Staff failed to understand Sheet 44 and, accordingly Staff failed to reach a logical and correct conclusion. It is very clear that the inventory balance as of July 8, 1982, had not been recovered prior to that date.

A summary of some of the major reasons why the Commission should reject the Staff's proposed adjustment which are addressed in my testimony are as follows:

- ANG's sole objective in this proceeding is to recover the annual cost of purchased gas consumed by jurisdictional customers for the year ended August 31, 1997 as allowed by its PGA tariff.
- ANG's recommendation in this proceeding is based on sound ratemaking principles which have been successfully and consistently utilized by both the Commission and ANG for the last thirty years and is consistent with the fundamental ratemaking assumptions which have been incorporated in both the ACA and the Pre July 1982 PGA.
- The logical result of accepting Staff's conclusion is that the Commission has inappropriately granted ANG millions of dollars of base rate recovery over the last 20 years -- and that is completely inaccurate and contra-intuitive given the number of times ANG's books have been reviewed during that time.

- In Case No. GR-96-227, the Staff did not demonstrate an understanding of Sheet 44 and the purpose and operation of the Pre July 1982 PGA, and that lack of understanding is carried over to this case.
- The overall purpose of the Pre July 1982 purchased gas adjustments is to provide a reasonable opportunity to recover the current actual annual cost of purchased gas consumed by jurisdictional customers which is administratively practical given the inherent nature of the gas utility business. Purchased gas adjustments are not intentionally designed to recover storage gas not yet consumed.
- The Pre July 1982 PGA was not a "dollar tracker". Sheet 44 did not provide for the collection of an "exact amount" of purchased gas costs, but rather provided for the application of a current PGA rate to all units of jurisdictional sales. This, in combination with the level of purchased gas per MCF included in base rates, provided the opportunity over an annual period to collect a "representative level" of the current actual annual cost of purchased gas <u>actually delivered and sold</u> to jurisdictional customers; <u>not</u> the amount that was put in storage and <u>not delivered</u> to customers.
- The computation of the monthly PGA rate in the Pre July 1982 PGA in accordance with Sheet 44 produced a PGA rate that was reflective of the current actual annual cost of purchased gas consumed by ANG's jurisdictional customers.

- The fact that the Pre July 1982 PGA predates FERC Order 636 has no impact on any issue being discussed in this proceeding.
- ANG generally undercollected purchased gas costs under the Pre July 1982 PGA due to the two month billing lag and rapidly increasing wholesale gas prices. Therefore, the Staff is making the unsupported assertion that ANG previously recovered gas in storage when in reality ANG did not even totally recover the cost of gas consumed by jurisdictional customers.
- Staff's implication that jurisdictional customers have paid for more gas than they have consumed is unsupported, totally inaccurate, and in conflict with the way Sheet 44 was worded, and the way it worked.
- Staff's proposed adjustment should not be approved because it represents an inappropriate retroactive ratemaking adjustment.
- ANG's books regarding gas storage inventories have been maintained in a manner consistent with the operation of Sheet 44.
- The pre-1982 storage balance which has been reflected on ANG's books for all these years is not some "phantom" entry.
- Rejecting the Staff's adjustment in this proceeding will not provide ANG with an opportunity to "double recover" the cost of storage gas not yet consumed.

Q. Does this conclude your direct testimony at this time?

A. Yes, it does.

Associated Natural Gas
A Division of Arkansas Western Gas Company
Summary of Gas Cost Recovery - 1996/97 ACA
Case No. GR-97-191

	Southeast Missouri		
	Firm	Interruptible	Total
Purchased Gas Cost	$15,037,877	$1,704,550	$16,742,427
Less: Base Recovery	13,371,976	1,372,483	14,744,459
PGA Recovery	1,852,963	190,355	2,043,318
Current Period (Over Recovery)	(187,062)	141,712	(45,350)
Correction of error in Prior Year	(20,436)	(4,361)	(24,797)
ACA Balance at 8/31/97	(161,055)	(88,162)	(249,217)
Final ACA Balance - Per ANG	(368,553)	49,189	(319,364)
Staff Adjustments:			
1995/1996 Withdrawals	(234,909)	(19,567)	(254,476)
1996/1997 Withdrawals	(343,388)	(38,774)	(382,162)
Total Staff Adjustments	(578,297)	(58,341)	(636,638)
Final ACA Balance - Per Staff	($946,850)	($9,152)	($956,002)

Schedule BRL-1

FORM NO. 13 P. S. C. MO. No. 5 original SHEET No. 44

CANCELLING P. S. C. MO. No. All Previous Schedules SHEET No.

ASSOCIATED NATURAL GAS COMPANY FOR See Index

COMMUNITY, TOWN OR CITY

RECEIVED 1978 MISSOURI PUBLIC SERVICE COMMISSION

GAS RATE SCHEDULE
PURCHASED GAS ADJUSTMENT CLAUSE (PGA)

The charges which the Company makes for gas shall be subject to increases or decreases because of increases or decreases in the cost of gas charged by any or all suppliers serving areas described as follows:

Cape Girardeau, Dunklin, Iron, Mississippi, New Madrid, Pemiscot, Ripley, Scott, Stoddard, and Wayne Counties in Missouri: and Clay Craighead, Greene, and Mississippi Counties in Arkansas.

A. Each month the Company will determine its average cost of gas by using the most recent supplier invoices to compute the appropriate adjustment applicable to its rates as follows:

CANCELLED JUL - 8 1982 BY PUBLIC SERVICE COMMISSION OF MISSOURI

1. The cost of gas purchased in the most recent twelve month period shall be priced on two bases:

   (a) at the wholesale base rates of -
   Demand: $2.0905 per Mcf per month; Commodity: $[illegible] per Mcf; and

   (b) at the wholesale rates in effect during the most recent purchase month.

2. The difference in annual cost determined above shall be divided by the CCF sold during the same twelve month period and the rate per CCF determined to the nearest $ .00001 will be used as a net adjustment applicable to monthly billings under all of the Company's Gas Rate Schedules not having a purchased gas adjustment clause as part of the schedule. When the Company pays a legally imposed franchise tax based upon gross revenue, the adjustment computed above shall be increased to recover the associated increase in franchise tax.

3. The adjustment so determined shall be applied to customer's billing in the next following revenue month.

B. Each month before applying any purchased gas adjustment, the Company shall transmit to the Commission an Adjustment Statement showing:

1. The computation of the amount of the annual increase or decrease in the cost of purchased gas as determined above.

2. The rate per CCF to be used in computing the Net Adjustment to Company's Gas Service Schedules.

GAS AUTHORITY
ORDER NO. 675

DATE OF ISSUE May 19, 1978 DATE EFFECTIVE JUN 2 1978

ISSUED BY E. E. Brown (NAME OF OFFICER) Treasurer (TITLE) Sikeston, Missouri

Schedule BRL-2

Associated Natural Gas
Division of Arkansas Western Gas Company

Summary of Injections and Withdrawals by Year
Case No. GR-97-191

	Injections (MCF)	Withdrawals (MCF)	Injections Minus Withdrawals (MCF)	% Difference
79/80	161,638	148,622	13,016	8.76%
80/81	117,695	162,815	(45,120)	-27.71%
81/82	167,848	188,769	(20,921)	-11.08%
82/83	111,845	138,557	(26,712)	-19.28%
83/84	182,062	162,539	19,523	12.01%
84/85	177,451	148,438	29,013	19.55%
85/86	200,677	224,143	(23,466)	-10.47%
86/87	145,553	180,232	(34,679)	-19.24%
87/88	154,389	131,737	22,652	17.19%
88/89	159,096	121,618	37,478	30.82%
89/90	221,063	216,815	4,248	1.96%
90/91	120,920	152,600	(31,680)	-20.76%
91/92	151,223	153,849	(2,626)	-1.71%
92/93	156,509	151,651	4,858	3.20%
93/94	213,519	228,188	(14,669)	-6.43%
94/95	199,885	148,204	51,681	34.87%
Total	2,641,373	2,658,777	(17,404)	-0.65%

Associated Natural Gas Company

P.O. BOX [illegible] • BLYTHEVILLE, ARKANSAS [illegible] • [illegible]

December 16, 1981

RECEIVED
DEC 18 1981
OFFICE OF THE SECRETARY
PUBLIC SERVICE COMMISSION

Mr. Harvey G. Hubbs, Secretary
Missouri Public Service Commission
Jefferson State Office Building
Jefferson City, Missouri 65101

Dear Mr. Hubbs:

Enclosed is a copy of the Purchased Gas Adjustment calculation and supporting data for our January, 1982, revenue month. The adjustment will be applied to billings beginning December 28, 1981.

The January Purchased Gas Adjustment applicable to the SEMO District is down due to a decrease in the demand charge and to variations in the results of operations for the twelve months ended October, 1981, versus the results of operations for the twelve months ended November, 1981.

The January Purchased Gas Adjustment applicable to the Butler District is down from last month's calculation because of variations in the results of operations for the twelve months ended October, 1981, versus the results of operations for the twelve months ended November, 1981.

The January Purchased Gas Adjustment applicable to the Kirksville District is up from last month's calculation due to an increase in the commodity charge.

Very truly yours,

Robin Singleton

Robin Singleton
Rates and Statistics

RS:mn

cc - Mr. L. T. McSpadden
Mr. E. L. McKenzie

RECEIVED
DEC 18 1981
MISSOURI
PUBLIC SERVICE COMMISSION

FILE # 8200357

ASSOCIATED NATURAL GAS COMPANY
GAS ADJUSTMENT CALCULATION
FOR SUPPLY MONTH NOVEMBER, 1981
APPLICABLE TO REVENUE MONTH OF JANUARY, 1982

SUPPLIER	A ANNUAL BILLING DEMAND IN MCF	B ANNUAL BILLED VOLUME IN MCF	C PRESENT DEMAND RATE $/MCF	D PRESENT COMM. RATE $/MCF
Kirksville MICH. WISC. PIPELINE CO.	140,904	1,154,759	2.4991	3.7349
Butler PANHANDLE EASTERN	45,000	467,759	2.0035	2.4109
TEXAS GAS & ARK.-LA	118,690	2,529,809	3.0080	2.6375
TEXAS EASTERN TRANS. CO.	698,280	6,399,978	2.8143	2.3385
NATURAL GAS PIPELINE CO.	87,144	739,367	3.2885	2.6606
MISSISSIPPI RIVER TRANS.	76,280	914,379	4.0503	3.3814
COMBINED LAST 4 SUPPLIERS	918,384	9,879,731	2.9197	2.3928

GAS SERVICE AREA	ANNUAL GAS COST IN DOLLARS ① PRESENT RATE	② BASE RATE	INCREASE	ANNUAL SALES IN MCF	GAS ADJ $/CCF
KIRKSVILLE	4,695,185	1,620,317	3,074,873	1,185,795	.20057 .26376
BUTLER	1,245,148	438,080	807,068	438,639	.19687 .18399
HEARL-STND	28,297,573	9,462,069	18,835,504	9,752,914	.19678 .19313

GAS SERVICE AREA	E BASE DEMAND RATE $/MCF	F BASE COMM. RATE $/MCF
KIRKSVILLE	3.4680	.9783
BUTLER	1.2718	.8142
HEARL-STND	2.0905	.7634

① = (A×C) + (B×D)
② = (A×E) + (B×F)

Associated Natural Gas

A Division of Arkansas Western Gas Company

U.S. Average Price of Natural Gas Production

Case No. GR-97-191

Year	Average Price ($/MCF)	Annual % Change
1970	$0.17	
1971	0.18	6%
1972	0.19	6%
1973	0.22	16%
1974	0.30	36%
1975	0.44	47%
1976	0.58	32%
1977	0.79	36%
1978	0.91	15%
1979	1.18	30%
1980	1.59	35%
1981	1.98	25%
1982	2.46	24%
1983	2.59	5%
1984	2.66	3%
1985	2.51	-6%
1986	1.94	-23%
1987	1.67	-14%
1988	1.69	1%
1989	1.69	0%
1990	1.71	1%
1991	1.64	-4%
1992	1.74	6%
1993	2.04	17%
1994	1.85	-9%
1995	1.55	-16%

Source: EIA Natural Gas Annual

Schedule BRL-5

Associated Natural Gas
A Division of Arkansas Western Gas Company
Average Price ANG Storage Gas Injections
Case No. GR-97-191

Year	Annual Average Price ($/MCF)	Annual % Change
1979-80	1.99	
1980-81	2.44	23%
1981-82	2.83	16%
1982-83	3.27	15%
1983-84	2.87	-12%
1984-85	3.02	5%
1985-86	2.65	-12%
1986-87	2.32	-12%
1987-88	2.04	-12%
1988-89	2.10	3%
1989-90	2.31	10%
1990-91	2.05	-11%
1991-92	1.97	-4%
1992-93	2.33	18%
1993-94	2.17	-7%
1994-95	1.64	-25%

Associated Natural Gas Company
LNG Storage
164.2020'
1982

#1 Period Ending	#2 Reading in feet	#3 Reading in inches	#4 Gallons #3 x 2400	#5 MCF #4 ÷ 12104	MCF	Withdr… Unit Price
4-30-82	26' 9½"	321.5	771 600	63 748	(1586)	1.53092395
5-31-82	25' 3½"	303.5	728 400	60 178	(3767)	1.681513 882 1.6778447
6-30-82	24' 2"	290	696 000	57 502	(3371)	1.6755880 1.6736275
7-31-82	22' 6"	270	648 000	53 536	(3966)	1.6918829
8-31-82	25' 7½"	307.5	738 000	60 972	(595)	1.6918828
9-30-82	30' 10"	370	888 000	73 364		
10-31-82	34' 7½"	415.5	997 200	82 386	(198)	2.23062592
11-30-82	36' 3¼"	435.25	1044 600	86 302	(1091)	2.39653169
12-31-82	38' 2½"	458.5	1100 400	90 912	(1338)	2.46693877
1-31-83	40' 7½"	487.5	1170 000	96 662	(694)	2.542 176 01
2-28-83 2 bills, 2 Rates	42' 5"	509	1221 600	100 925	(843)	2.614 029 5
3-31-83	41' 9½"	501.5	1203 600	99 438	(3013)	2.639 153 3
4-30-83	40' 7"	487	1168 800	96 563	(4065)	2.642 981
5-31-83	44' 10"	538	1291 200	106 675	(1140)	2.647977
6-30-83	42'-10"	514	1233 600	101 917	(4758)	2.6905762
7-31-83	40'- 9¾"	489.75	1175 400	97 108	(4809)	2.6919563
8-31-83	38'- 7½"	463.5	1112 400	91 904	(5204)	2.6919563
9-30-83	37' - 2"	446	1070 400	88 434	(4164)	2.6919563
10-31-83	39' - 1¼"	469.25	1126 200	93 044	(17851)	2.6915485
11-30-83	43' - 11½"	527.5	1266 000	104 593		

Total $	Injection MCF	Injection Unit Price	Injection Total $	Total Adjustment MCF	Total Adjustment Unit Price	Total Adjustment Total $
(2428.05)	3420	4.34	14842.80	1834	-	12414.75
	342048	(.0251)	(85.84)	2071.12		(85.84)
(6334.26)	198	3.20	61.88	(3569)		(6272.38)
(6321.72)	198	(.0278)	(5.50)			(5.50)
(5648.41)	694	3.18	2206.92	(2677)		(3441.49)
(5641.80)	694	.0086	5.97			5.97
(6710.01)	-			(3966)		(6710.01)
(1006.67)	8031	3.61	28991.91	7436		27985.24
	-	.0128	102.80			102.80
	12392	3.63	44982.96	12392		44982.96
May	adj		591.72			
August	8031	.003	24.09			
Sept.	12392	.0063	78.07			673.88
(441.66)	9220	3.64	33560.80	9022		33119.14
	9220	(.0037)	(34.11)			(34.11)
(2614.62)	5007	3.64	18225.48	3916		15610.86
	5007	(.0231)	(115.66)			(115.66)
(3300.76)	5948	3.6169	21513.32	4610		18212.56
(1764.27)	6444	3.62	23327.28	5750		21563.01
	6444	.0005	(3.22)			3.22
(2203.63)	5106	3.11	15879.66	4263		13676.03
	992	.0095	9.42			9.42
	4114	(.0566)	(232.85)			(232.85)
(8110.12)	1586	3.02	4789.72	(1487)		(3320.40)
	1586	.0138	21.89			21.89
(10743.72)	1190	3.03	3605.70	(2875)		(7138.02)
	1190	.0174	20.71			20.71
(3018.69)	11252	3.05	34318.60	10112		31299.91
	11252	.0120	140.65			140.65
(12801.76)	-0-			(4758)		(12801.76)
(12945.62)	-0-			(4809)		(12945.62)
(14008.94)	-0-			(5204)		(14008.94)
(11209.31)	694	2.64	1832.16	(3470)		(9377.15)
(4804.41)	6395	2.66	17010.70	4610		12206.79
	6395	(.0085)	(54.36)			
(801.44)	11847	2.60	30802.20	11549		

Schedule BRL-7

Page 2 of 3

Associated Natural Gas Company
LNG Storage
164.2020

		Inventory			
		Cost	MCF	Unit Price	
		94 859 11	61 962	1.530 923 95	
		107 273 86	63 796	1.681 513 888	
7 7?	106 980 90	107 188 62	63 796	1.67818441	
		100 915 64	60 227 (63748)	1.6755880	
55534)	100 715 56	100 910 14	60 178 / 60 227		1.67362757
		97 468 65	57 550	1.6936342	
728 9 1(-)	97 286 65	97 474 62	57 502 / 57 550	1.6937380	1.6918829
		90 576 64	53 536	1.6918828	
		118 561 88	60 972	1.9445299	
		118 664 68	60 972		
		163 647 64	73 364	2.2306259 2	
		197 440 66	82 386	2.39653169	
		197 406 55	82 386		
		213 017 41	86 302	2.468 278 95	
		212 901 75	86 302	2.46693877	
		231 114 31	90 912	2.542 176 06	
		252 677 32	96 662	2.6140295	
		266 356 57	100 925	2.6391533	
		262 812 74	99 438	2.6429810	
		262 834 63			
		255 696 61	96 563	2.647977	
		287 017 23	106 675	2.6905762	
		287 157 88			
		274 356 12	101 917	2.6919563	
		261 410 50	97 108	2.6919563	
		247 401 56	91 904	2.6919563	
		238 024 41	88 434	2.6915485	
		250 230 70	93 044	2.6893802	
		280 177 10	104 593	2.678 736	

[illegible]

LIQUEFACTION AND STORAGE REPORT

Date: July 1, 1982

Volume of LNG in Storage Tank as of June 1 25 Ft. 3 in.

LNG Activity for the Month of June

Amount of LNG put into Storage Tank Daily – 8:00 a.m. to 8:00 a.m.

Date	(Boil-Off) To Transmission Line	~~Injection~~ (~~Vaporization~~)	Date	(Boil-Off) to tank	Injection (Vaporization)	Date	(Boil-Off) to tank	~~Injection~~ (~~Vaporization~~)
1	-1200	25'-3"	11	-2400	24'-9"	21	-1200	24'-2 1/4"
2	-1200	25'-2 1/2"	12	-2400	24'8"	22	-1200	24'-1 3/4"
3	-1200	25'-2"	13	-1200	24'7 1/2"	23	-1800	24'-1"
4	-1800	25'-1 1/4"	14	-1200	24'-7"	24	+3600 to TANK	24'-2 1/2"
5	-1800	25'-1/2"	15	-1200	24'-6 1/2"	25	+4800 To Tank	24'-4 1/2"
6	-1200	25'-0"	16	-2400	24'-5 1/2"	26	-1800	24'-3 3/4"
7	0	25'-	17	-1200	24'-5"	27	-600	24-3 1/2"
8	-2400	24'-11"	18	-1200	24'-4 1/2"	28	-1200	24'-3"
9	-1200	24'-10 1/2"	19	-2400	24'-3 1/2"	29	-1200	24'-2 1/2"
10	-1200	24'-10"	20	-1800	24'-2 3/4"	30	-1200	24'-2"
						31		

Inject 8400 ÷ 12,104 = 694
Withdrawal 40800 ÷ 12,104 = 3371

Schedule BRL-8

Gas Stored Underground

1642010

158-

		Injections	Withdrawal		
Bal 1-1-82	$			294475	549416 70
	MCF				294475
Jan	$		66967 65		
	MCF		33655		
Feb	$		59430 05		
	MCF		28008		
Mar	$		15057 43		
	MCF		7837		
Apr none					
May	$	84037 90			
	MCF	31006 (1500)			
June	$	81327 00			
	MCF	30000			
July	$	84037 90			
	MCF	31000 (250)			
Aug	$	59829 56			
	MCF	22070 (832)			
Sept		—	—		
Oct		—	—		
Nov	$		21267 85		
	MCF		7640		
Dec	$		83057 50		
	MCF		34348		
12-31-82				294475	612 368 57

Schedule BRL-9

164 2010

Gas Stored underground - NSPC

1981

	Injection	withdrawal	Balance
Balance 1-1-81			468 700 89 309 057
Jan		(38 657 90) (26 407)	430 042 95
Feb		(45 070 33) (29 008)	384 972 62
Mar		(28 011 96) (21 223)	356 960 66
May	59 724 60 21 750		416 685 26
adjustment for 1980 + Feb 81		(2 022 59) (8 218)	414 662 67
June	19 500 49 428 18	~~49 428 18~~	464 090 85
July	18 600 47 108 22	~~47 108 22~~	511 199 07
Aug	17 050 43 182 54	~~43 182 54~~	554 381 61
Sept	16 500	42 970 95	597 352 56
Oct	13 240 4848	37 482 53	634 835 09
Nov		(7 640) (17 499 06)	617 336 03
Dec		(34 348) (67 919 33)	

Schedule BRL-10

NATURAL GAS PIPELINE COMPANY OF AMERICA

04787

122 SOUTH MICHIGAN AVENUE
CHICAGO, ILL. 60603
PHONE: 312-431-7786

ASSOCIATED NATURAL GAS COMPANY
C/O ARKANSAS - MISSOURI POWER CO.
MR. R. WAFLER, MANAGER - GAS OPERATIONS
BLYTHEVILLE, ARKANSAS 72315

INVOICE NO. 0781-09
TERMS—NET

PLEASE SEND ALL REMITTANCES TO NATURAL GAS PIPELINE COMPANY OF AMERICA
CONTROLLER'S OFFICE, 122 SOUTH MICHIGAN AVENUE, CHICAGO, ILLINOIS 60603

JULY, 1981

DESCRIPTION	VOLUME—M.C.F.	PRICE PER M.C.F.	AMOUNT
FOR NATURAL GAS PER ATTACHED STATEMENT			
RATE SCHEDULE DMQ1			
DEMAND CHARGE 4,477 MCF @ $3.0600			$ 13,699.62
COMMODITY CHARGE			
MAINLINE DELIVERIES	38,513		
-WITHDRAWALS FROM STORAGE			
MAINLINE DELIVERIES BILLED	38,513		
+INJECTIONS TO STORAGE	18,600		
	57,113	2.5327	144,650.10
TOTAL RATE SCHEDULE DMQ1	57,113		158,349.72
INCREMENTAL PRICING SURCHARGES			.00
NET SALES BILLED	57,113		$ 158,349.72
	803.2115		
INVOICE RENDERED ON AUGUST 10, 1981			
PAYMENT DUE ON AUGUST 20, 1981		OK	REG 8-11-81
	AUG 14 1981		RW. 8-11-81
** INTEREST CHARGEABLE FOR LATE ** ** PAYMENT WILL BE ASSESSED SUB- ** ** JECT TO PARAGRAPH 8 OF THE ** ** GENERAL TERMS AND CONDITIONS ** ** OF NATURAL'S FERC GAS TARIFF ** ** VOLUME I. **			

Schedule BRL-11

00209 ASSOCIATED NATURAL GAS COMPANY

DATE	S-1 INJECTION	S-1 WITHDRAWAL	LS-1 INJECTION TOP	LS-1 INJECTION CUSHION	LS-2 INJECTION TOP	LS-2 INJECTION CUSHION	LS-2 INJECTION FUEL
7-01-81					600		
7-02-81					600		
7-03-81					600		
7-04-81					600		
7-05-81					600		
7-06-81					600		
7-07-81					600		
7-08-81					600		
7-09-81					600		
7-10-81					600		
7-11-81					600		
7-12-81					600		
7-13-81					600		
7-14-81					600		
7-15-81					600		
7-16-81					600		
7-17-81					600		
7-18-81					600		
7-19-81					600		
7-20-81					600		
7-21-81					600		
7-22-81					600		
7-23-81					600		
7-24-81					600		
7-25-81					600		
7-26-81					600		
7-27-81					600		
7-28-81					600		
7-29-81					600		
7-30-81					600		
7-31-81					600		
TOTAL					18,600		

NATURAL GAS PIPELINE COMPANY OF AMERICA
STORAGE SUMMARY

00209 ASSOCIATED NATURAL GAS COMPANY

DATE	MS-1 INJECTION TOP	MS-1 INJECTION CUSHION	MS-1 INJECTION FUEL	MS-2 INJECTION	MS-3 INJECTION TOP	MS-3 INJECTION FUEL	--ALL STORAGE SERVICE-- INJECTION TOTAL	--ALL STORAGE SERVICE-- WITHDRAWAL TOTAL
7-01-81							600	
7-02-81							600	
7-03-81							600	
7-04-81							600	
7-05-81							600	
7-06-81							600	
7-07-81							600	
7-08-81							600	
7-09-81							600	
7-10-81							600	
7-11-81							600	
7-12-81							600	
7-13-81							600	
7-14-81							600	
7-15-81							600	
7-16-81							600	
7-17-81							600	
7-18-81							600	
7-19-81							600	
7-20-81							600	
7-21-81							600	
7-22-81							600	
7-23-81							600	
7-24-81							600	
7-25-81							600	
7-26-81							600	
7-27-81							600	
7-28-81							600	
7-29-81							600	
7-30-81							600	
7-31-81							600	
TOTAL							18,600	

NATURAL GAS PIPELINE COMPANY OF AMERICA

ASSOCIATED NATURAL GAS COMPANY
C/O ARKANSAS - MISSOURI POWER CO.
MR. R. WAFLER, MANAGER - GAS OPERATIONS
BLYTHEVILLE, ARKANSAS 72315

122 SOUTH MICHIGAN AVENUE
CHICAGO, ILL. 60603
PHONE: 312-431-7786

1181-09

INVOICE NO.
TERMS—NET

NOVEMBER, 1981

PLEASE SEND ALL REMITTANCES TO NATURAL GAS PIPELINE COMPANY OF AMERICA
CONTROLLER'S OFFICE, 122 SOUTH MICHIGAN AVENUE, CHICAGO, ILLINOIS 60603

DESCRIPTION FOR NATURAL GAS PER ATTACHED STATEMENT	VOLUME—M.C.F.	PRICE PER M.C.F.	AMOUNT
RATE SCHEDULE DMQ1			
DEMAND CHARGE 4,477 MCF @ $3.4200			$ 15,311.34
COMMODITY CHARGE			
MAINLINE DELIVERIES	62,046		
-WITHDRAWALS FROM STORAGE	7,640		
MAINLINE DELIVERIES BILLED	54,406		
+INJECTIONS TO STORAGE			
	54,406	2.6606	144,752.60
TOTAL RATE SCHEDULE DMQ1	54,406		160,063.94
INCREMENTAL PRICING SURCHARGES			.00
NET SALES BILLED	54,406		$ 160,063.94
INVOICE RENDERED ON DECEMBER 09, 1981			OK REG 12/11/81
PAYMENT DUE ON DECEMBER 20, 1981			RW 12-11-81
** INTEREST CHARGEABLE FOR LATE ** ** PAYMENT WILL BE ASSESSED SUB- ** ** JECT TO PARAGRAPH 8 OF THE ** ** GENERAL TERMS AND CONDITIONS ** ** OF NATURAL'S FERC GAS TARIFF ** ** VOLUME I. **	8032115 2-50		

Schedule BRL-12

NATURAL GAS PIPELINE COMPANY OF AMERICA
STORAGE SUMMARY

NOVEMBER,1981

39 ASSOCIATED NATURAL GAS COMPANY

ATE	MS-1 WITHDRAWAL TOP	MS-1 WITHDRAWAL CUSHION	MS-1 WITHDRAWAL FUEL	MS-2 WITHDRAWAL	MS-3 WITHDRAWAL TOP	MS-3 WITHDRAWAL FUEL	--ALL STORAGE SERVICE INJECTION TOTAL	WITHDRA TOTAL
01-81	50				139			1
02-81	50				139			1
03-81	50				139			1
04-81	50				139			1
05-81	50				139			1
06-81	50				139			1
07-81	50				139			1
08-81	50				139			1
[illegible]	50				139			1
1[illegible]	50				139			1
11-81	50				139			1
12-81	50				139			1
13-81	50				139			1
14-81	50				139			1
15-81	50				139			1
16-81	50				139			1
17-81	50				139			1
18-81	50				139			1
19-81	50				139			1
20-81	50				139			1
21-81	50			197	139			3
22-81	50			197	139			3
23-81	50			197	139			3
24-81	50			197	139			3
25-81	50			197	139			3
26-81	50			197	139			3
27-81	50			197	139			3
28-81	50			197	139			3
29-81	50			197	139			3
30-81	50			197	139			3
TA	1,500			1,970	4,170			7,6

NATURAL GAS PIPELINE COMPANY OF AMERICA

30209 ASSOCIATED NATURAL GAS COMPANY — MONTHLY BILLING SUMMARY — NOVEMBER, 1981 — PAGE 501-0002

DATE	VOLUME DELIVERED METERED	VOLUME DELIVERED 1000 BTU	STORAGE INJECTION	STORAGE WITHDRAWAL	NET VOLUME BILLED	COMMODITY VOLUME	E-1	W/S	AOR-1	OVERTAKE
11-01-81	1,430	1,472		189	1,283	1,283				
11-02-81	1,450	1,492		189	1,303	1,303				
11-03-81	1,445	1,488		189	1,299	1,299				
11-04-81	1,452	1,495		189	1,306	1,306				
11-05-81	1,478	1,520		189	1,331	1,331				
11-06-81	1,556	1,596		189	1,407	1,407				
11-07-81	1,500	1,538		189	1,349	1,349				
11-08-81	1,466	1,503		189	1,314	1,314				
11-09-81	1,761	1,809		189	1,620	1,620				
11-10-81	1,768	1,816		189	1,627	1,627				
11-11-81	1,703	1,754		189	1,565	1,565				
11-12-81	1,945	1,997		189	1,808	1,808				
11-13-81	1,904	1,955		189	1,766	1,766				
11-14-81	1,828	1,877		189	1,688	1,688				
11-15-81	1,725	1,772		189	1,583	1,583				
11-16-81	1,866	1,916		189	1,727	1,727				
11-17-81	1,835	1,883		189	1,694	1,694				
11-18-81	1,680	1,727		189	1,538	1,538				
11-19-81	2,699	2,787		189	2,598	2,598				
11-20-81	2,885	2,981		189	2,792	2,792				
11-21-81	2,773	2,863		386	2,477	2,477				
11-22-81	2,602	2,686		386	2,300	2,300				
11-23-81	2,595	2,675		386	2,289	2,289				
11-24-81	2,734	2,819		386	2,433	2,433				
11-25-81	2,276	2,342		386	1,956	1,956				
11-26-81	2,276	2,344		386	1,958	1,958				
11-27-81	2,404	2,476		386	2,090	2,090				
11-28-81	2,397	2,466		386	2,080	2,080				
11-29-81	2,440	2,511		386	2,125	2,125				
11-30-81	2,416	2,486		386	2,100	2,100				
TOTAL	60,294	62,046		7,640	54,406	54,406				

DAILY DEMAND VOLUME 4,477

DAILY QUANTITY ENTITLEMENT 4,477

QUANTITY ENTITLEMENT 90,000

Schedule BRL-12

Page 3 of 3

[illegible] 2/1/83

Associated Natural Gas Company

405 WEST PARK ST. • BLYTHEVILLE, ARKANSAS 72315 • (501) 762-3513

E. L. McKENZIE
Vice President
Secretary & Treasurer

December 31, 1982

* [illegible] NCE [illegible] AMOUNT AND AMOUNT [illegible] DIFFERENCE ESTIMATED TO BE [illegible] #181.[illegible] (91 [illegible] X 2.03) DIFFERENCE [illegible]

p. 1

Natural Gas Pipeline Company
122 South Michigan Avenue
Chicago, IL 60603

Attn: Chief Auditor

Dear Sir:

In connection with the examination of our financial statements by Deloitte Haskins & Sells, P. O. Box 121, Blytheville, Arkansas 72315, please furnish them with the following information with regard to our gas stored with you as of December 31, 1982:

Rate Schedule	Top Balance MCF @ 1000 Btu	Cushion MCF @ 1000 Btu	Total	PER CLIENT	DIF[illegible]
S-1	82,710	–	82,710	82617	<91
LS-1	6,900	20,000	26,900	26900	-0-
LS-2	41,400	120,000	161,400	161400	-0-
MS-1	1,950	2,500	4,450	4450	-0-
MS-2	11,623	–	11,623	11623	-0-
MS-3	7,483	–	7,483	7483	-0-
Other					
Total	152,066	142,500	294,566	294475 (4020-2A)	<9[illegible]

A stamped, self-addressed envelope is enclosed for your convenience, as your assistance in this matter will be appreciated.

Very truly yours,

E. L. McKenzie

E. L. McKenzie

ELMcK:pw
Enclosure

[illegible] Joseph Henderson, Supervisor
January 18, 1983

Schedule BRL-13

Deloitte
Haskins+Sells

Introduction to Accounting and Auditing

Public Utility Industry

Participant's Guide

60-161

The procedures for physical inventory of liquid fuels stored in tanks generally consist of:

- measuring the depth from the top of the tank to the level of liquid or using a gauge reading to determine the level of the fuel
- converting depth measurements to volume measurements adjusted for temperature variances.

When we determine that it is necessary to observe liquid fuel inventories, we should obtain specification charts for the tanks so that the volume specifications can be reviewed for reasonableness during our physical observation.

NUCLEAR FUEL

Because of the nature and life of nuclear fuel, it is classified as utility plant under the USOA. Amortization is provided using the useful life of the fuel inserted in the nuclear core to reflect consumption of the fissionable material.

The firm has prepared an "Audit Program For Nuclear Fuel" (Form 7490B) which should be used as a guide in testing nuclear fuel and nuclear fuel expense for overstatement, and the accumulated provision for amortization of nuclear fuel for understatement. You should review this program to gain a general familiarity with its contents. Also note that modification of the program is required if nuclear fuel is leased.

GAS INVENTORIES--DISTRIBUTION COMPANIES

In general, gas distribution companies purchase natural gas from pipeline companies under tariffs approved by the FERC. These tariffs normally include a demand charge and a commodity charge. The demand charge is intended to recover the fixed costs associated with the pipeline service and is based on the maximum daily quantity of gas under the contract. The pipeline company is required to supply the distribution company's requirements up to this maximum daily demand. Therefore, unit costs for gas purchased are lowest when maximum daily demand quantities are being purchased. This is difficult to achieve, however, because most distribution companies have a large number of heating customers whose requirements vary significantly with the temperature.

The use of underground storage reservoirs has increased in recent years to balance pipeline supplies with varying demand requirements. Gas purchased by a distribution company for storage is generally maintained in a storage field owned and administered by the pipeline company.

Liquified natural gas can also be stored by a distribution company to meet peak daily requirements or to meet base load.

Where gas is stored by a pipeline company that is independent of our client, we should confirm quantities with the company. For gas stored by our client, we should:

. review the method used to determine volume

. review the controls and procedures as they relate to injections of gas or liquid into storage and withdrawals from storage

. test injections and withdrawals to meter records

. analytically review volumes in storage in relation to gas purchases and sales

. where significant, consider whether it is necessary to engage a specialist to measure stored gas.

We should also review the client's method of accounting for nonrecoverable gas and determine that such balances are included in the appropriate property account rather than in inventory.

OPERATING REVENUES OF ELECTRIC, GAS AND WATER UTILITIES

Although the primary objective of testing utility revenues is the same as it is for other business enterprises, there are certain characteristics of utility service which should be emphasized.

Utility service is generally provided by a direct connection between the company's facilities and the customer premises (wire or pipe) and is generally measured by a meter located on the customer premises. Furthermore, the utility prices are subject to price regulation and the utility is often required to record and report revenues by customer classification.

In testing revenues for reasonableness we should:

. review client procedures for accounting for meters. Meters installed should be reconciled with accounts billed. Meters in stock and installed should be reconciled to continuing property records.

. make sure that the client retains meter read cards if we are going to use them as an independent sales record.

TONY V. TURNER

Q. Please state your name and business address.

A. I am Tony V. Turner and my business address is 7373 West 107th Street, Overland Park, Kansas, 66212.

Q. What is your occupation and by whom are you employed?

A. I am a public utility consultant in the firm of Drees Dunn Lubow and Company. My primary responsibilities with the firm include assisting in engagements by public utility companies, state commissions and intervenors relating to such utility matters as utility rate case accounting, cost of service studies, rate of return determinations and rate design studies.

Q. Would you summarize your background?

A. I graduated from the University of Missouri at Columbia in December of 1971, receiving a Bachelor of Science Degree in Business Administration, with a major in accounting. In December, 1977, I received a Master of Business Administration degree, with a finance concentration, from the University of Missouri.

From 1972 until 1976, I was employed by the Missouri Public Service Commission where I was primarily involved in analyzing utility company rate filings and presenting staff findings in regard to those filings.

Since January, 1978, I have continued my work in the public utility field with the firm of Drees Dunn Lubow and

GR-79-126

Q. Would you describe how the adjusted test year rate base was developed in the Company's Exhibit.

A. Yes, sir. The rate base supporting Associated's gas service operations is detailed in Sections 3 through 6. A summary of the components of the adjusted Missouri gas utility rate base or investment, in total and by district, is shown on Schedule 1 of Section 3 while the remaining schedules in Sections 3 through 6 serve as supporting evidence for the summary. The utility rate base for Missouri operations, in total and by districts, summarized on Schedule 1 of Section 3 is carried forward to Section 2B, Schedule 2, and used in the computation of the required increase in gross revenue.

The adjusted utility rate base was developed in a manner consistent with the determination of the corresponding level of operations in that the recorded balances were adjusted and normalized to reflect a test period level of investment. Furthermore, rate base components were identified by district either by direct assignment or by allocation. On schedules where rate base components are allocated, the basis of allocation is cross-referenced to Section 12.

Q. Returning now to your determination of operating income as adjusted, would you describe the adjustments listed on Schedule 5 of Section 9A?

A. Operating revenues have been increased by $385,200 to recognize the revenues that would have been reported had the Company's present tariffs been in effect throughout the twelve months

Section 3
Schedule 1

ASSOCIATED NATURAL GAS COMPANY

RATE BASE AND RATE OF RETURN

FOR TWELVE MONTHS ENDED DECEMBER 31, 1977

	Total Missouri Jurisdictional	Sikeston Associated	Sikeston Acquired
Utility plant in service	$21,498,165	$9,520,994	$6,738,886
Less: Accumulated reserve for depreciation and amortization	7,072,239	3,557,529	2,251,045
Net utility plant in service	14,425,926	5,963,465	4,487,841
Deferred cost of purchased gas	621,765	371,771	114,574
Materials and supplies	117,219	50,755	38,541
Stores expense undistributed	27,827	17,952	-
Gas stored	201,095	171,289	29,806
Prepayments	14,168	4,733	6,848
Cash working capital allowance	498,967	301,676	103,457
Accrued taxes	(498,967)	(301,676)	(103,457)
Accumulated deferred income taxes -unbilled revenues	713,512	425,139	147,291
Accumulated deferred income taxes	(499,232)	(144,861)	(274,676)
Total utility rate base	$15,622,280	$6,860,243	$4,550,225
Operating income as adjusted	$ 956,601		
Current rate of return	6.12%		
Proposed rate of return	10.60%		

NOTE: The acquired operations are derived from Volume II.

GR-79-126

ASSOCIATED NATURAL GAS COMPANY

CASE NO. GR-79-126

Prepared Testimony of Richard C. Kwentus

Q. What is your name and address?

A. Richard C. Kwentus, St. Louis County, Missouri.

Q. What is your position with the Missouri Public Service Commission?

A. I am a Public Utility Accountant.

Q. Please describe your educational background.

A. I attended the University of Missouri - St. Louis, from which I received a Bachelor of Science in Business Administration, with a major in accounting, in December 1977.

Q. What has been the nature of your duties while in employ of the Commission.

A. I have, under the direction of the Assistant Director of Utilities, Division of Accounting, participated in rate case audits to determine the validity of proposed rate increases, along with other miscellaneous duties within the Accounting Department.

Q. With reference to Case No. GR-79-126, which schedules and adjustments are you sponsoring?

A. I am sponsoring the following schedules:

Schedule 1 - Balance Sheet as Recorded at October 31, 1978

Schedule 2 - Plant in Service as Recorded and Adjusted

Schedule 3 - Adjustments to Plant in Service

Schedule 4 - Reserve for Depreciation and Amortization

Schedule 5 - Adjustments to Reserve for Depreciation and Amortization

Schedule 6 - Computation of Working Capital

Schedule 7 - Rate Base

Additionally, I am sponsoring all the adjustments relating to Plant in Service on schedule 3, and adjustments to Reserve for Depreciation on schedule 5. I am also sponsoring adjustments A-14-1, A-14-2, A-14-3, A-15-1, A-16-3 on schedule 9. All of the above adjustments are described in the appropriate schedule.

Q. Does this conclude your testimony?

A. Yes, sir, it does.

Schedule 5

ASSOCIATED NATURAL GAS COMPANY
Case No. GR-79-126

Computation of Working Capital

	Total Gas (1)	Arkansas (2)	Sikeston 1 (3)	Sikeston 2 (4)	Kirksville (5)	Butler (6)	Total Missouri Jurisdiction (7)
Operation & Maintenance Expenses As Adjusted	$20,821,549	$5,626,990	$2,835,913	$8,671,544	$2,771,763	$915,339	$15,194,559
Less: Purchased Gas Expense	15,387,855	3,980,591	1,989,307	6,471,350	2,350,650	595,957	11,407,264
Operation & Maintenance Expenses Requiring an Outlay of Cash	$ 5,433,694	$1,646,399	$ 846,606	$2,200,194	$ 421,113	$319,382	$ 3,787,295
Cash Working Capital Requirement Based on a 45 day lag	$ 679,212	$ 205,800	$ 105,826	$ 275,024	$ 52,639	$ 39,923	$ 473,412
Materials and Supplies	182,701	48,123	31,516	72,843	16,662	13,557	134,578
Stores Expenses Undistributed	29,160	7,681	5,030	11,626	2,659	2,164	21,479
Prepayments	14,228	3,754	2,450	5,675	1,295	1,054	10,474
LNG Stored	135,797	44,541	23,004	68,252	-	-	91,256
Gas Stored Underground	268,972	-	-	268,972	-	-	268,972
	$ 1,310,070	$ 309,899	$ 167,826	$ 702,392	$ 73,255	$ 56,698	$ 1,000,171
Less: Funds Available Through Accruals	1,135,109	296,463	195,535	454,136	103,750	85,225	838,646
Total Working Capital Requirement	$ 261,692	$ 13,436	$ -0-	$ 248,256	$ -0-	$-0-	$ 248,256

GR-79-126

Schedule 7

ASSOCIATED NATURAL GAS COMPANY
Case No. GR-79-126

Rate Base

	Total Gas (1)	Arkansas (2)	Sikeston 1 (3)	Sikeston 2 (4)	Kirksville (5)	Butler (6)	Total Missouri Jurisdiction (7)
Utility Plant in Service, Schedule 2	$31,989,693	$8,436,175	$5,542,093	$12,749,712	$2,901,993	$2,359,720	$23,553,518
Less: Accumulated Reserve for Depreciation, Schedule 4	11,528,394	3,223,088	2,057,980	4,839,247	835,586	572,493	8,305,306
Net Plant in Service	$20,461,299	$5,213,087	$3,484,113	$ 7,910,465	$2,066,407	$1,787,227	$15,248,212
Working Capital, Schedule 6	261,692	13,436	-0-	248,256	-0-	-0-	248,256
Less: Accumulated Deferred Taxes - Accelerated Depreciation	(1,029,986)	(271,916)	(178,188)	(410,964)	(93,729)	(75,189)	(758,070)
Rate Base	$19,693,005	$4,954,607	$3,305,925	$7,747,757	$1,972,678	$1,712,038	$14,738,398

PREPARED TESTIMONY

OF

BRADLEY R. LEWIS

Q. Please state your name and address.

A. I am Bradley R. Lewis and my business address is 9101 West 110th Street, Overland Park, Kansas.

Q. What is your present occupation?

A. I am a Public Utility Consultant in the firm of Drees Dunn Lubow & Company. My responsibilities with the firm consist mainly of working on public utility matters, such as the determination of the cost of service, cost allocation, and rate design.

Q. What is your educational background?

A. I graduated from the University of Missouri at Columbia in December, 1974, with a Bachelor of Science Degree in Business Administration. I am a Certified Public Accountant and have completed a portion of the graduate work required for a Masters of Business Administration Degree.

Q. What experience have you had in the public utility field?

A. I was employed by the Missouri Public Service Commission as a utility accountant for approximately three years. My responsibilities included the review

Q. Please explain the two schedules included in Section F.

A. Schedules 1 and 2 provide the details supporting the accumulated reserve for depreciation and amortization of gas plant in service, including its jurisdictional allocation.

Q. Have you prepared schedules supporting the elements of the rate base labeled as cash working capital and accrued taxes?

A. Yes, Schedule 1 of Section G reflects the determination of cash working capital necessary for the Company to operate on a day-to-day basis. Based upon the investment required to meet expenses until such costs are recovered through the receipt of revenues from its customers, the Company must supply the funds necessary to pay expenses incurred in providing gas utility service. Cash working capital, to be included in the utility rate base, has been determined according to a 45 day lag between the incurrence of cash expenditures and the recovery through revenue receipts. Cash working capital allowance on a total company basis is $920,940; the total Missouri portion being $635,648.

Average accrued taxes for the Company have been calculated to be used as an offset to the cash working capital requirements. Schedule 3 of Section G is concerned with these accrued taxes. The cash working capital allowance was completely offset by accrued taxes, as is readily apparent on Schedule 1 of Section D.

Q. Please continue with your explanation of the remaining components of the rate base.

A. Materials and supplies, liquified natural gas stored, stores expense undistributed, deferred cost of purchased gas, and gas stored underground are items of investment which vary throughout the year due to seasonal fluctuations. In order to arrive at a representative amount for these components of the rate base, average balances were calculated on Schedule 4 of Section G.

Average balances for prepayments were also included in the rate base. Schedule 2 of Section G shows the calculation of the average balances for prepayments.

Q. Why have you included accumulated deferred income taxes in the utility rate base?

A. In addition to the Company's traditional sources of capital, tax savings resulting from timing differences can be utilized as a source of funds, in that amounts charged currently to income yet deferred for payment in future years are accumulated as reserves at no cost.

GR-82-108

SECTION G
SCHEDULE 4

ASSOCIATED NATURAL GAS COMPANY

OTHER RATE BASE ITEMS, THIRTEEN MONTH AVERAGES

FOR THIRTEEN MONTHS ENDED MAY 31, 1981

Line No.		Materials And Supplies	Liquid Natural Gas Stored	Store Expense Undistributed	Deferred Cost Of Purchased Gas	Gas Stored Underground
01	Balance at					
02	May 31, 1980	$ 199,814	$ 176,241	$ 37,238	$ 215,740	$ 277,493
03	June 30, 1980	166,105	185,383	32,100	47,665	326,574
04	July 31, 1980	173,591	180,586	34,292	15,045	373,232
05	August 31, 1980	160,473	185,184	34,290	-	419,842
06	September 30, 1980	182,025	193,532	37,555	54,597	464,514
07	October 31, 1980	180,803	194,471	35,843	728,758	504,204
08	November 30, 1980	181,517	204,235	33,006	1,790,898	523,494
09	December 31, 1980	185,207	207,217	38,109	3,899,170	468,701
10	January 31, 1981	190,048	199,943	38,983	3,970,754	468,701
11	February 28, 1981	180,848	178,699	39,530	2,716,685	430,073
12	March 31, 1981	201,110	172,584	40,545	1,951,985	385,003
13	April 30, 1981	197,400	166,597	44,998	646,785	356,990
14	May 31, 1981	197,170	161,577	47,173	449,405	356,990
15						
16	Total	$2,396,111	$2,406,249	$493,662	$16,487,487	$5,359,811
17						
18	Average	$ 184,316	$ 185,096	$ 37,974	$1,268,268	$ 411,985
19						
20	Allocation:					
21	Arkansas	$ 53,562	$ 64,006	$ 11,035	$ 421,826	$ 142,464
22	Southeast Missouri	98,757	121,090	20,347	659,753	269,521
23	Kirksville	18,100	-	3,729	137,353	-
24	Butler	13,897	-	2,863	49,336	-
25						
26	Total	$ 184,316	$ 185,096	$ 37,974	$1,268,268	$ 411,985
27						
28	Basis of allocation	(A)	(3)	(A)	(11)	(3)

A. Yes, I have, with the assistance of other members of the Missouri Public Service Commission Staff.

Q. Which schedules will you be sponsoring?

A. I will be sponsoring Schedules 11, 12, 13, 14, 15 and 16.

Q. Could you please explain these schedules?

A. Schedules 11, 12, 13 and 14 are Staff's computation of rate base for total Missouri and each respective district.

Schedule 11 - Total Missouri Rate Base
Schedule 12 - Southeast Missouri Rate Base
Schedule 13 - Kirksville Rate Base
Schedule 14 - Butler Rate Base

Staff computes the rate base for each of the above using the same methodology. Therefore, I will discuss the computations of the different categories to be applied to all schedules noting if an exception exists. "Total Plant-In-Service" was derived by taking December 31, 1981 plant balances. The "Depreciation Reserve" was derived by taking December 31, 1981 reserve balances. "Net Plant-In-Service" is computed by netting the "Depreciation Reserve" from "Total Plant-In-Service". "Materials and Supplies" and "Prepayments" were calculated by using a 13 month average of the book balances for each account. The figures for "Cash Working Capital" will be reflected in Schedules 17, 18, 19 and 20 and will be discussed by Staff Witness Baumhoer in her testimony. The "Tax Offset" and "Interest Offset" balances will also be addressed by Staff Witness Baumhoer. "Customer Deposits" and "Deferred Taxes" each represent December 31, 1981 balances as recorded. The "Rate Base" figure is computed by netting each figure together as prescribed on each schedule.

ACCOUNTING SCHEDULE 11
14:16 05/04/82
TOTAL MISSOURI

ASSOCIATED NATURAL GAS COMPANY
CASE NO: GR-82-108
TEST YEAR ENDED DEC. 31, 1981

RATE BASE

TOTAL PLANT IN SERVICE	$	24,350,980
LESS:		
DEPRECIATION RESERVE	$	9,896,895
NET PLANT IN SERVICE	$	14,454,085
ADD:		
CASH WORKING CAPITAL	$	-188,794
MATERIALS AND SUPPLIES		583,941
PREPAYMENTS		8,858
LESS:		
TAX OFFSET	$	72,795
INTEREST OFFSET		93,598
CUSTOMER DEPOSITS		404,129
DEFERRED TAXES		752,118
TOTAL RATE BASE	$	13,535,450

Exhibit No.:	
Witness:	Bradley R. Lewis
Type of Exhibit:	Direct Testimony
Company:	Associated Natural Gas Company
Case No.:	GR-83-205

Q. Have you prepared schedules supporting the elements of the rate base labeled as cash working capital and accrued taxes?

A. Yes, Schedule 1 of Section G reflects the determination of cash working capital necessary for the Company to operate on a day-to-day basis. Based upon the investment required to meet expenses until such costs are recovered through the receipt of revenues from its customers, the Company must supply the funds necessary to pay expenses incurred in providing gas utility service. Cash working capital, to be included in the utility rate base, has been determined according to a 45 day lag between the incurrence of cash expenditures and the recovery through revenue receipts. Cash working capital allowance on a total company basis is $970,284; the total Missouri portion being $662,710.

Average accrued taxes for the Company have been calculated to be used as an offset to the cash working capital requirements. Schedule 3 of Section G is concerned with these accrued taxes. The cash working capital allowance was reduced by $[illegible],373 for the Missouri jurisdictional rate base. As you can see, only the Southeast Missouri jurisdiction requires a cash working capital allowance over accrued taxes.

Q. Please continue with your explanation of the remaining components of the rate base.

A. Materials and supplies, liquified natural gas stored, stores expense undistributed, deferred cost of purchased gas, and gas stored underground are items of investment which vary throughout the year due to seasonal fluctuations. In order to arrive at a representative amount for these components of the rate base, average balances were calculated on Schedule 4 of Section G.

Average balances for prepayments were also included in the rate base. Schedule 2 of Section G shows the calculation of the average balances for prepayments.

Q. Why have you included accumulated deferred income taxes in the utility rate base?

A. In addition to the Company's traditional sources of capital, tax savings resulting from timing differences can be utilized as a source of funds, in that amounts charged currently to income yet deferred for payment in future years are accumulated as reserves at no cost to the company. They represent an interest free loan from the United States Treasury as an incentive to invest in capital goods.

Since these funds are available to the Company at zero cost, they should be recognized as a source of capital to support the utility investment. Based on previous findings of this Commission, accumulated deferred income taxes was limited to timing differences of over one year's duration. Those timing differences include: rate case expense, liberalized

GR-83-205

SECTION 6
SCHEDULE 4

ASSOCIATED NATURAL GAS COMPANY

OTHER RATE BASE ITEMS - THIRTEEN MONTH AVERAGES

FOR THIRTEEN MONTHS ENDED MARCH 31, 1983

	Materials and Supplies	Liquid Natural Gas Stored	Stores Expense Undistributed	Deferred Cost of Purchased Gas	Gas Stored Underground
Balance at					
March 31, 1982	$ 281,448	$ 94,492	$ 62,424	$ 1,811,023	$ 423,019
April 30, 1982	290,286	106,834	62,695	1,201,049	407,962
May 31, 1982	308,105	100,476	63,165	409,103	407,962
June 30, 1982	337,547	97,029	61,092	274,626	491,999
July 31, 1982	302,803	90,577	62,042	249,311	573,326
August 31, 1982	291,386	118,562	56,451	433,782	657,364
September 30, 1982	294,533	163,648	58,027	769,539	717,194
October 31, 1982	258,712	197,441	57,049	1,757,752	717,194
November 30, 1982	267,497	213,018	[illegible],911	2,985,996	717,194
December 31, 1982	260,475	231,115	[illegible],700	3,706,994	612,867
January 31, 1983	245,055	252,677	[illegible],841	4,454,169	612,869
February 28, 1983	287,[illegible]	266,357	62,975	2,679,416	530,990
March 30, 1983	252,[illegible]	262,813	61,216	1,564,523	463,006
Total	$3,657,1[illegible]	$2,195,039	$783,588	$22,295,283	$7,332,906
Average	$ 281,3[illegible]	$ 168,849	$ 60,276	$ 1,715,022	$ 564,070
Allocations:					
Arkansas	$ 83,4[illegible]	$ 60,296	$ 17,878	$ 655,795	$ 201,429
Southeast Missouri	150,6[illegible]	108,553	32,278	826,756	362,641
Kirksville	26,7[illegible]	-	5,732	126,200	-
Butler	20,4[illegible]	-	4,388	106,271	-
Total	$ 281,3[illegible]	$ 168,849	$ 60,276	$ 1,715,022	$ 564,070
Basis of Allocation	(A)	(S)	(A)	Analysis	(3)

Schedule BRL-17

GR-85-205

BEFORE THE

PUBLIC SERVICE COMMISSION OF MISSOURI

PREPARED DIRECT TESTIMONY

OF

LAVERNE E. HEITHOFF

Q. What is your name and address?

A. My name is LaVerne E. Heithoff. My business address is 2900 Power & Light Building, Kansas City, Missouri 64105.

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

A. I am a partner in the firm of Troupe Kehoe Whiteaker & Kent and am employed as a public utility consultant in the Utility Department.

Q. Would you explain the business activities of Troupe Kehoe Whiteaker & Kent?

A. The firm is a partnership engaged in the general practice of public accounting. The practice, in addition to the traditional auditing and tax services, provides system and management services, operational and management audits, computer services, economic analyses, and a complete public utility regulatory and consulting service including cost of service, rate of return, allocation of cost of service and rate design. The firm, with offices in Kansas City, provides client services on a nationwide basis.

Q. What type of clientele is represented by Troupe Kehoe Whiteaker & Kent in the field of utility regulation?

A. The firm has represented and presently represents all segments of the utility

Q. Please refer to Section C, Schedule 4 and discuss.

A. Schedule 4 merely shows a reconciliation of Company plant adjustments at March 31, 1983. Column B shows total plant as recorded by the Company. Column C shows plant Adjustment No. 1. Column D shows plant Adjustment No. 2. Column F shows the adjustment made by the Company in its application for plant intended to be sold to the City of Kennett. Column G shows adjusted plant in service at March 31, 1983. The sources of the various column amounts are shown on the bottom of the page.

Q. Please refer to Section C, Schedule 5 and discuss.

A. Schedule 5 shows gas plant in service as adjusted as of March 31, 1983. Total Missouri plant as adjusted is $25,503,420.

Q. Please refer to Section C, Schedule 6 and discuss.

A. Schedule 6 shows the accumulated reserve for depreciation and amortization as adjusted and as recorded at March 31, 1983. The only adjustment made to the reserve for depreciation is the deduction for the accumulated reserve related to plant to be sold to the City of Kennett. The total accumulated reserve for depreciation and amortization for the State of Missouri is $10,742,303, as shown in Column F.

Q. Please refer to Section D, Schedule 1 and discuss.

A. Schedule 1 of Section D shows the other rate base items included in rate base. These consist of the 13-month average balance of materials and supplies - Account 154; Liquid Natural Gas Stored Underground - Account 164; Stores Expense Undistributed - Account 163; and Gas Stored

Underground - Account 164.201. The average balances for these accounts are $281,319, $168,849, $60,276 and $564,070, respectively. The bottom half of Schedule 1 also shows the allocation of these various rate base items between Arkansas, Southeast Missouri, Kirksville and Butler. The amounts shown on this page are carried forward to Schedule 1 of Section B.

Q. Why did you use the 13-month average balances for these accounts?

A. I used the 13-month average balances for these accounts because this methodology tends to eliminate the fluctuation in the various accounts during any test period. In addition, the 13-month average balance methodology was used in Company's prior rate case proceeding and was accepted by the Staff in that proceeding.

Q. Please refer to Schedule 2 of Section D and discuss your schedule on prepayments.

A. Schedule 2 sets forth the 13-month average balances of prepaid insurance included in Account 165.001 and prepaid life insurance included in Account 165.002. The 13-month average balances for these accounts are $45,056 and a negative $619 balance respectively. The allocated amounts shown on the bottom of Schedule 2 are carried forward to Schedule 1 of Section B.

Prepayments represent a cash investment made by the Company upon which it should receive a return on the average balance.

Q. Did you include accumulated deferred income taxes on liberalized depreciation as a rate base item?

A. Yes. Reference to Schedule 1 of Section B shows that I have used

Exhibit No.________________
Witness: Noack, Kies, Heithoff
Type of Exhibit: Direct
Company: Associated Natural Gas Co.
Case No. GR-83-205

STATE OF MISSOURI

PUBLIC SERVICE COMMISSION

ASSOCIATED NATURAL GAS COMPANY

EXHIBITS OF THE CONSULTANTS

OF THE STAFF OF THE MISSOURI PUBLIC SERVICE COMMISSION

BASED ON TEST YEAR ENDING MARCH 31, 1983

CASE NO. GR-83-205

JULY 1983

TK
WK

TROUPE KEHOE
WHITEAKER & KENT
CERTIFIED PUBLIC ACCOUNTANTS

ASSOCIATED NATURAL GAS COMPANY

ORIGINAL COST RATE BASE - AS ADJUSTED

MARCH 31, 1983

Line	Description (A)	Schedule Ref. (B)	Total Company As Adjusted (C)	Less: Kennett (D)	Total Company Less Kennett (E)	Arkansas (F)	Missouri Total (G)	Missouri Southeast Missouri (H)	Missouri Kirksville (I)	Missouri Butler (J)	Basis of Allocation (K)
1	Gas plant in service - adjusted	C-1	$37,540,465 (a)	$1,357,837	$ 36,182,628	$10,679,208	[illegible]3,503,420	$ 19,[illegible]18,282	$ 3,446,312	$ 2,638,826	Schedule
2	Reserve for depreciation and amortization	C-6	16,107,556	802,712	15,304,844	4,562,541	10,742,303	8,174,851	1,430,276	1,137,178	Schedule
3	Net gas plant in service		21,432,909	555,125	20,877,784	6,116,667	14,761,117	11,243,431	2,016,038	1,501,648	
4	Materials and supplies	D-1	281,319	--	281,319	83,439	197,880	150,646	26,754	20,[illegible]	(A)
5	Liquid natural gas stored	D-1	168,849	--	168,849	[illegible]	108,553	108,553	--	--	(3)
	[illegible]		[illegible]	--	60,276	17,[illegible]	42,398	32,278	5,732	4,388	(A)
7	Gas stored underground	D-1	564,070	--	564,070	201,429	362,641	362,641	--	--	(3)
8	Prepayments	D-2	44,437	--	44,437	13,176	31,261	23,793	4,227	3,241	Schedule
9	Cash working capital allowance	D-3	103,149	-- (b)	103,[illegible]	-- (b)	103,149	25,077	34,747	43,325	Sec. D-3
10	Accumulated deferred income taxes - liberalized depreciation	D-4	(1,376,444)	--	(1,376,444)	(408,253)	(968,191)	(737,086)	(130,900)	(100,205)	(A)
11	Customer deposits	D-5	(586,494)	(36,707)	(549,787)	(164,166)	(385,621)	(302,933)	(50,690)	(31,998)	(12)
12	Pre-1970 ITC	D-6	(218,534)	(8,042)	(210,492)	(62,432)	(148,060)	(112,7[illegible]8)	(20,018)	(15,324)	(A)
13	TOTAL UTILITY RATE BASE		$20,473,537	$ 510,[illegible]	$ [illegible],163,161	$ 5,858,034	$14,105,127	$ 10,793,682	$ 1,885,890	$ 1,425,555	

(a) Reference Line 4, Column G, Schedule 3, Section E.
(b) Not computed - No case relevance to Missouri Application.

SECTION B
SCHEDULE 1
Page 1 of 1

ASSOCIATED NATURAL GAS COMPANY
OTHER RATE BASE ITEMS
THIRTEEN MONTHS ENDED MARCH 31, 1983

Line	Month (A)	Materials and Supplies A/C 154.201 (B)	Liquid Natural Gas Stored A/C 164.202 (C)	Stores Expense Undistributed A/C 163.101 (D)	Gas Stored Underground A/C 164.201 (E)
	Balance at:				
1	March 31, 1982	$ 261,448	$ 94,492	$ 62,424	$ 423,019
2	April 30	290,286	106,834	62,695	407,962
3	May 31	308,105	100,476	63,165	407,962
4	June 30	337,547	97,029	61,092	491,999
5	July 31	302,803	90,577	62,042	573,326
6	August 31	291,386	118,562	56,451	657,364
7	September 30	294,533	163,648	58,027	717,194
8	October 31	258,712	197,441	57,049	717,194
9	November 30	267,497	213,018	57,911	717,194
10	December 31	260,475	231,115	59,700	612,867
11	January 31, 1983	245,055	252,677	58,841	612,869
12	February 28	287,073	266,357	62,975	530,950
13	March 30	252,228	262,813	61,216	463,006
14	Total	$ 3,657,148	$ 2,195,039	$ 783,588	$ 7,332,906
15	Average	$ 281,319	$ 168,849	$ 60,276	$ 564,070
	Allocations:				
16	Arkansas	$ 83,439	$ 60,296	$ 17,878	$201,429
17	Southeast Missouri	150,646	108,553	32,278	362,641
18	Kirksville	26,754	--	5,732	--
19	Butler	20,480	--	4,388	--
20	Total	$ 281,319	$ 168,849	$ 60,276	$564,070
21	Basis of allocation	(A)(1)	(3)(1)	(A)(1)	(3)(1)

Line	District	Ratio (A) Percent	Ratio (3) Percent
22	Arkansas	29.66%	35.71%
23	Southeast Missouri	53.55	64.29
24	Kirksville	9.51	--
25	Butler	7.28	--
26	Total	100.00%	100.00%

(1) Source: General Ledger and Company W/P RB-230