Natural Gas Monthly

July 1990

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Preface

The *Natural Gas Monthly* (NGM) is prepared in the Data Operations Branch of the Reserves and Natural Gas Division, Office of Oil and Gas, Energy Information Administration (EIA), U.S. Department of Energy (DOE).

General questions and comments regarding the *NGM* may be referred to Kendrick E. Brown, Jr. (202) 586-6077, James M. Todaro, (202) 586-6305, or Eva M. Fleming, (202) 586-6113. Specific technical questions may be referred to the appropriate persons listed in Appendix E.

The *NGM* highlights activities, events, and analyses of interest to public and private sector organizations associated with the natural gas industry. Volume and price data are presented each month for natural gas production, distribution, consumption, and interstate pipeline activities. Producer-related activities and underground storage data are also reported. From time to time, the *NGM* features articles designed to assist

readers in using and interpreting natural gas information.

The data in this publication are collected on surveys conducted by the EIA to fulfill its responsibilities for gathering and reporting energy data. Some of the data are collected under the authority of the Federal Energy Regulatory Commission (FERC), an independent commission within the DOE, which has jurisdiction primarily in the regulation of electric utilities and the interstate natural gas industry.

Explanatory Notes supplement the information found in tables of the report. A description of the data collection surveys that support the *NGM* is provided in the Data Sources section. A glossary of the terms used in this report is also provided to assist readers in understanding the data presented in this publication.

All natural gas volumes are reported at a pressure base of 14.73 pounds per square inch absolute (psia) and at 60 degrees Fahrenheit.

Common Acronyms Used in the Natural Gas Monthly

AGA	American Gas Association	IOCC	Interstate Oil Compact Commission
Bbl	Barrels	LNG	Liquefied Natural Gas
BLS	Bureau of Labor Statistics, U.S. Department of Labor	Mcf	Thousand Cubic Feet
Bcf	Billion Cubic Feet	MMBtu	Million British Thermal Units
BOM	Bureau of Mines, U.S. Department of the Interior	MMcf	Million Cubic Feet
Btu	British Thermal Unit	MMS	United States Minerals Management Service, U.S. Department of the Interior
DOE	U.S. Department of Energy	NGL	Natural Gas Liquids
DOI	U.S. Department of the Interior	NGPA	Natural Gas Policy Act of 1978
EIA	Energy Information Administration, U.S. Department of Energy	OCS	Outer Continental Shelf
FERC	Federal Energy Regulatory Commission	PGA	Purchased Gas Adjustment
		Tcf	Trillion Cubic Feet

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Resurgence in Natural Gas Wellhead Productivity

by Phil Shambaugh

During the past 3 years, average production per gas well steadily increased, following 9 years of general decline. This turnaround in gas well productivity occurred at a time when the total number of active gas producing wells decreased, as producers engaged in less exploratory and developmental drilling while increasing abandonment of marginal wells. The purpose of this article is to explore the factors that contributed to the recent increases in natural gas wellhead productivity.

Overview

Since 1978, the natural gas marketplace has changed from a highly regulated and inflexible market, with shortage in the interstate supplies, to a largely deregulated and price-responsive market. A thriving spot market for natural gas has emerged, and price controls on most wellhead production were either formally removed or rendered nonbinding as market prices declined. Producers have more flexibility to negotiate wellhead prices based upon timely market signals. Pipeline companies have now become open access transporters, creating marketing opportunities for direct sales from the producer to end users, local distributors, and marketers.

With the introduction of partial price decontrol under the Natural Gas Policy Act of 1978 (NGPA), and increased prices for oil and gas, producers entered into an exuberant period of drilling which lasted into the early 1980's. They did so in spite of continuously decreasing consumption, hence production, occurring over the same period. As producers began to market more and more higher priced post-NGPA gas, consumers reacted by reducing consumption and switching to less expensive fuels. An economic downturn in 1982 only added to the buildup of surplus capacity.

Whereas consumption of dry natural gas in the lower 48 States totaled 20.1 trillion cubic feet in 1979, by 1983 it had fallen to 16.6 trillion cubic feet. And, while consumption increased briefly in 1984 (6.6 percent), it resumed its downward trend in 1985 and fell to 16.0

trillion in 1986. The largest declines of consumption in the mid 1980's occurred in the industrial and electric utility sectors.¹ These two classes of consumers, who in many instances were able to switch to alternate fuels, adjusted their consumption habits as oil prices declined faster than natural gas prices declined starting in 1981.

The intensive drilling and development of new production capabilities during the early years under the NGPA, combined with declining consumption, contributed to an excess in wellhead productive capacity for natural gas that has continued through the end of the decade. The inability of prices to decline due to contract rigidity helped maintain a persistent level of surplus productive capacity. During the mid-1980's the natural gas marketplace became less regulated, underwent a restructuring, and experienced a major downward movement in price levels. From 1982 through 1989 the following trends were noted:

- Exploratory drilling for natural gas dropped by 72 percent.
- Completions of new natural gas developmental wells dropped by 47 percent.
- Proved gas reserves in the lower 48 States decreased by 4 percent.
- The annual rate of well abandonments went from 5 to 7 percent of active wells.
- Average wellhead price in real (1989) dollars fell from \$3.02 to \$1.71 per thousand cubic feet.

Even so, recent increases in the consumption of natural gas have brought about the emergence of some new, positive trends within the Lower-48 natural gas wellhead market. Since 1986, consumption has turned around and has steadily increased, reaching 18.5 trillion cubic feet in 1989. The percentage increases for the past 3 years were 5.9, 4.6, and 4.4 percent, respectively. In addition:

- Even though exploratory drilling continued to decline, completions of new gas developmental wells increased in 1988 and 1989. The 1989 total

¹Consumption data for the years 1979 through 1988 may be found in the Energy Information Administration publication *Natural Gas Annual, 1988*, DOE/EIA-0131(88)/2, Tables 14 and 15. Data for 1989 may be found in the Energy Information Administration publication *Natural Gas Monthly*, DOE/EIA-0130(90/3), Table 3.

Table FE1. Number of Gas Wells, Oil Wells, and Dry Holes Drilled in the Lower 48 States and OCS by Completion Year, 1971-1989 (Depth in Feet)

Completion Year	Well Type										Total
	Dry			Oil			Gas			Total	
	Number of Wells	Percent	Average Depth	Number of Wells	Percent	Average Depth	Number of Wells	Percent	Average Depth		
Development Wells											
1971	4,387	23.0	4,608	11,212	58.7	4,012	3,510	18.4	5,639	19,109	4,448
1972	4,811	23.6	4,716	10,735	52.7	4,222	4,824	23.7	5,261	20,370	4,585
1973	4,428	22.2	4,861	9,580	48.1	4,232	5,894	29.6	5,281	19,902	4,683
1974	5,311	22.1	4,587	12,769	53.1	3,667	5,063	24.8	5,156	24,043	4,240
1975	6,527	22.2	4,421	15,949	54.3	3,808	6,907	23.5	5,213	29,383	4,274
1976	6,947	22.0	4,465	16,548	52.4	3,737	8,075	25.6	4,953	31,570	4,208
1977	7,631	21.4	4,697	17,474	49.0	3,883	10,555	29.6	5,043	35,660	4,400
1978	8,534	21.9	4,634	17,825	45.7	3,874	12,610	32.4	5,055	38,969	4,423
1979	8,560	20.8	4,549	19,300	47.0	3,804	13,247	32.2	5,075	41,107	4,369
1980	11,300	19.9	4,245	30,393	53.5	3,698	15,127	26.6	5,085	56,820	4,176
1981	14,985	20.7	4,275	40,034	55.3	3,811	17,371	24.0	5,149	72,390	4,228
1982	14,864	21.9	4,200	36,294	53.5	3,660	16,690	24.6	5,461	67,848	4,221
1983	13,808	22.5	4,024	34,683	56.6	3,568	12,743	20.8	5,202	61,234	4,011
1984	14,096	20.4	4,256	39,836	57.5	3,680	15,319	22.1	5,190	69,251	4,131
1985	11,629	20.2	4,341	33,017	57.3	3,757	12,961	22.5	5,168	57,607	4,192
1986 ^b	7,232	22.4	4,199	17,598	54.5	3,808	7,453	23.1	5,163	32,283	4,209
1987 ^b	6,264	21.8	4,402	15,389	53.5	3,881	7,119	24.7	5,168	28,772	4,313
1988 ^b	5,380	21.0	4,713	12,581	49.0	4,089	7,702	30.0	5,138	25,662	4,535
1989 ^b	4,419	19.1	4,625	9,859	42.6	3,873	8,839	38.2	4,868	23,117	4,397
Exploratory Wells											
1971	5,991	84.1	5,763	663	9.3	5,695	472	6.6	7,654	7,126	5,882
1972	6,191	82.1	5,858	690	9.2	5,858	658	8.7	7,380	7,539	5,991
1973	6,028	77.7	5,780	652	8.4	6,167	1,078	13.9	6,558	7,758	5,921
1974	6,887	76.9	5,633	868	9.7	5,818	1,202	13.4	6,433	8,957	5,758
1975	7,192	76.2	5,646	985	10.4	5,851	1,260	13.4	6,715	9,437	5,810
1976	6,848	73.6	5,571	1,100	11.8	5,903	1,362	14.6	6,748	9,310	5,782
1977	7,378	72.9	5,538	1,181	11.7	5,809	1,560	15.4	6,565	10,119	5,728
1978	8,041	73.0	5,778	1,189	10.8	5,973	1,791	16.3	6,604	11,021	5,933
1979	7,464	69.7	5,706	1,334	12.4	5,980	1,918	17.9	6,577	10,716	5,896
1980	9,017	70.0	5,530	1,779	13.8	5,674	2,094	16.2	6,558	12,890	5,717
1981	12,283	70.3	5,593	2,664	15.2	5,782	2,530	14.5	6,722	17,477	5,785
1982	11,268	70.9	5,351	2,465	15.5	5,443	2,164	13.6	6,820	15,897	5,565
1983	10,148	72.9	4,772	2,111	15.2	4,997	1,655	11.9	6,206	13,914	4,977
1984	11,327	74.3	5,186	2,332	15.3	5,350	1,594	10.5	6,250	15,253	5,330
1985	9,375	74.8	5,289	1,874	15.0	5,594	1,283	10.2	6,436	12,532	5,452
1986 ^b	5,501	76.1	5,414	989	13.7	5,953	736	10.2	6,823	7,226	5,631
1987 ^b	5,175	77.2	5,214	858	12.8	6,019	673	10.0	6,528	6,706	5,449
1988 ^b	4,739	76.6	5,605	790	12.8	6,097	659	10.6	6,556	6,188	5,769
1989 ^b	3,980	77.1	5,319	564	10.9	5,811	621	12.0	6,198	5,165	5,479
Total Wells											
1971	10,378	39.6	5,275	11,875	45.3	4,106	3,982	15.2	5,878	26,235	4,837
1972	11,002	39.4	5,359	11,425	40.9	4,321	5,482	19.6	5,515	27,909	4,965
1973	10,456	37.8	5,391	10,232	37.0	4,355	6,972	25.2	5,479	27,660	5,030
1974	12,198	37.0	5,178	13,637	41.3	3,804	7,165	21.7	5,370	33,000	4,652
1975	13,719	35.3	5,063	16,934	43.6	3,926	8,167	21.0	5,445	38,820	4,648
1976	13,795	33.7	5,014	17,648	43.2	3,872	9,437	23.1	5,212	40,880	4,560
1977	15,009	32.8	5,111	18,655	40.8	4,005	12,115	26.5	5,239	45,779	4,694
1978	16,575	32.2	5,189	19,014	38.0	4,006	14,401	28.8	5,247	49,990	4,756
1979	16,024	30.9	5,088	20,634	39.8	3,945	15,165	29.3	5,265	51,823	4,685
1980	20,317	29.1	4,816	32,172	46.2	3,807	17,221	24.7	5,264	69,710	4,461
1981	27,268	30.3	4,869	42,698	47.5	3,934	19,901	22.1	5,349	89,867	4,531
1982	26,132	31.2	4,696	38,759	46.3	3,773	18,854	22.5	5,617	83,745	4,477
1983	23,956	31.9	4,341	36,794	49.0	3,650	14,398	19.2	5,318	75,148	4,190
1984	25,423	30.1	4,675	42,168	49.9	3,772	16,913	20.0	5,290	84,504	4,348
1985	21,004	29.9	4,764	34,891	49.7	3,856	14,244	20.3	5,282	70,139	4,418
1986 ^b	12,733	32.2	4,724	18,587	47.0	3,922	8,189	20.7	5,312	39,509	4,469
1987 ^b	11,439	32.2	4,769	16,247	45.8	3,994	7,792	22.0	5,285	35,478	4,527
1988 ^b	10,118	31.8	5,131	13,371	42.0	4,208	8,361	26.3	5,250	31,850	4,775
1989 ^b	8,309	29.7	4,954	10,423	36.9	3,978	9,460	33.5	4,955	28,281	4,595

^b Estimates based on preliminary data.

Note: The API is an industry trade organization; these data are not to be construed as official EIA approved data.

Source: American Petroleum Institute (API), Well Ticket tapes.

represents an increase of 24 percent above the 1987 level (Table FE1).

- The average gross withdrawal per active gas well has been increasing for the past 3 years, after a 9-year decline (Figure FE1 and Table FE2).
- Reactivation of gas wells that had been shut in for at least 1 year doubled in 1987 and remained close to the 1987 high value for the past 2 years (Figure FE3).
- The average age of active wells and the average life span of wells prior to abandonment have been rising, while at the same time the abandonment rate has also been rising. This would seem to indicate that, overall, the remaining wells are more productive than the remaining active wells in previous years (Table FE3).

Total drilling, gas well exploratory drilling, and oil well exploratory and developmental drilling all continued to fall in 1989, but for the second year in a row there was an increase in gas well developmental drilling. Coincidentally, the average natural gas well productivity in 1989 was the highest since 1983. These two changes reverse previous trends in developmental drilling and production flows and indicate some closing of the gap between excess productive capacity and demand. Such a turnaround, while small, may provide producers with some degree of optimism about the future market for natural gas.

Background: Factors Influencing Productivity Levels

Gross withdrawals of natural gas (excluding Alaska) peaked at 23.9 trillion cubic feet in 1971². This was followed by a general decline, averaging about 4 percent per year, that reached a low of 17.69 trillion cubic feet in 1986. At the same time, the number of new gas wells drilled from 1972 to 1981 continued to increase each year (Table FE1). Even after 1981, the number of active gas wells increased each year until 1986, as abandonments remained well below the number of new additions (Figure FE2). The increase in natural gas producing wells, coupled with the decrease in total production, resulted in a steady decline in average annual production per well (Figure FE1) that persisted until 1987.

Well productivity levels are determined partly by marketing decisions, and partly by production related factors that are not totally within the control of the producer. For instance, a number of physical and economic factors control how much an individual well is able to produce in any given year. To maximize short-term revenue, a producer would prefer to have wells produce at or close to their maximum capacity each

year. The maximum capacity in turn is controlled by physical factors of well quality, remaining reservoir pressure, and production facilities. In general, as reservoir size (ultimate recoverable gas) increases, annual production and the total lifetime production from the well increases. Also, a well in a deep field generally produces more per year than a well in a shallow field of comparable size, because of increased reservoir pressure at greater depths.

Individual well productivity decline --due to the laws of physics-- is inevitable. Decline will occur over the long term, but recent data show that variations in production per well are not unusual as producers set the production levels up or down to suit economic conditions³. The fastest means of accommodating to changes in market conditions is to alter individual well flow rates. However, production from an individual well can increase only up to its maximum, and once this maximum is reached a well must decline from that point onward. Thus, there is a limit to how much gas can be produced from any given set of wells. Additional production requirements above the capability that exists in the current stock of wells can be met through new drilling, well workovers, and installation of additional compression facilities.

Overall bottom-hole pressure drops as gas is produced from a reservoir, and all wells in that reservoir will decline in productivity, that is, the maximum rate of production over a given time. Typical declines for gas wells will vary according to the reservoir, but generally range from 10 to 30 percent per year. To maintain economic production levels, continuous drilling is necessary to replace or supplement production from wells that have declined. Since all wells decline as they age, on average, newly drilled wells have greater productivity.

The changes in average production per well indicate that market forces in the 1980's were more contributing factors than geologic limitations in determining well productivity. In fact, conscious reductions in flow rates and temporary shut-ins were common occurrences during the mid-1980's. Producers may eventually cease to produce (shut-in) some wells, in the hope that the wells will become more profitable to operate at a later time.

When a decrease in production levels is warranted by a decreasing demand environment such as that in the early 1980's, a producer may also decide not to drill new wells to replace depleted ones. Further, a producer may decide to abandon (plug and cement) marginal wells permanently, rather than perform rework operations to improve or maintain production. On the other hand, if demand increases, thus raising price, producers would be expected to expand both developmental and exploratory drilling. Shorter-term responses to in-

²Energy Information Administration, *Natural Gas Annual 1988, Volume II* DOE/EIA-0131(88)/2, Table 5.

³Energy Information Administration, *Natural Gas Production Responses to a Changing Market Environment, 1978-1988* DOE/EIA-0532.

creased demand would be reactivation of shut-in wells, and reworking of marginal wells.

Another influence on recent productivity levels has been the fact that smaller and less productive fields were found and developed in the 1980's than in earlier decades⁴. This was due in part to cutbacks in overall exploratory and developmental activities, the increasing scarcity of new large fields, and the incentives provided in the post-NGPA period to develop high-cost gas sources (e.g. tight sands) whose wells flow at lower production rates. The wells in these fields now produce a significant portion of the current annual production, since wells of earlier decades either are late in their life-cycle or have been abandoned.

Beyond specific factors that will affect productivity levels, the development of general trends at the well-head may also result in changes in overall average production across a large group of wells. For instance, increases in overall productivity could occur as a result of:

- Actual increases in gross withdrawals for individual wells, which is possible only for those wells that previously operated below maximum capacity.

- An increase in the proportion of newer wells in the universe of active wells. Initial flow rates, prior to decline, are higher, and thus the average production rate is higher.
- Increased abandonment of lower producing wells that have declined. The remaining stock of wells will be, on the average, more productive.

In 1989, average well productivity was higher than any other time since 1983. The influencing factors outlined above will be examined in detail to determine their contribution to this recent resurgence.

Decreases in Active Gas Wells

The number of active gas wells declined slightly in 1989, continuing the pattern of the previous 4 years. The number has fluctuated between the 1984 low of 138,619 and the 1985 high of 141,525. The number of oil wells that produce gas (which account for approximately 20 percent of total natural gas production) dropped by 5 percent, compared to the less than 1 percent drop in active gas wells (Table FE2). From 1978 through 1985, the total number of producing gas wells increased each year, reaching a level that was 50 percent higher than the level in 1978. Since 1986, the

Figure FE1. Average Annual Gross Withdrawals From Gas Wells, by Vintage and Abandonment Status, 1977-1989

Note: New gas category begins in 1978. Average production of wells abandoned in 1989 appear as 1988, their last year of production.
Source: Dwight's Energydata, Inc., Tape Files

⁴Energy Information Administration, *An Economic Analysis of Natural Gas Resources and Supply*. DOE/EIA-0481(86).

Figure FE2. Number of New, Reactivated, and Abandoned Gas Wells by Vintage of Gas, 1978-1988

Source: Dwight's Energydata, Inc., Tape Files.

number of gas wells has varied between 1 and 3 percent below the 1985 level.

These well counts are the net sum of new wells, abandonments, and reactivated shut-ins. Before 1986, more gas wells were added annually to the stock of wells producing gas than were abandoned. The number of gas-well abandonments increased each year from 1978 to its peak in 1987, and then dropped slightly in 1988. The number of abandonments more than doubled between 1978 and 1987, from under 5,000 to over 11,000 (Figure FE2). At the same time, the number of new gas wells added peaked in 1981, and then generally fell each year, dropping below the number of annual abandonments in 1986 and subsequent years.

Recent Changes in Productivity per Well

Starting in 1987, average (gross withdrawal) production per gas well reversed a 9-year decline (Figure FE1 and Table FE2). By 1989, the average production per well was 12 percent above the 1986 level. Comparatively, from 1977 to 1986 the average production per active gas well dropped by 50 percent, reaching its lowest point of 94 million cubic feet per well in 1986. Thereafter, the annual average increased to 100, 104,

and then, in 1989, to 105 million cubic feet per well. This increase occurred across all regions, except the West Coast region (Table FE3). Data for the Appalachian-Illinois Region (See notes at the end of this article) were not available.

The observation that there has been a 12-percent increase in production per well would seem to imply that on the average all wells increased at that level. For individual wells this may not be true, because the data include production from newly drilled wells, and the production level changes of older wells can be obscured. As stated earlier, the production from existing wells can be expected to decline 10 to 30 percent per year⁵. By observing all wells that were active in 1985 and following their decline patterns, one can see whether the 12-percent increase is due to shifts in production from older wells, or due merely to the effect of newly added wells.

Gas wells active in 1985 produced an average of 92 million cubic feet per well in 1986. Average production from these wells declined by only 2 percent in 1987 and 1988, to 90 and 88 million, respectively, and then by 10 percent in 1989, to 81 million cubic feet per well. These declines are much smaller than the expected 10 to 30 percent per year, which indicates that producers

⁵Energy Information Administration, *Natural Gas Production Responses to a Changing Market Environment, 1978-1988* DOE/EIA-0532.

Table FE2. Average and Total Gross Withdrawals from Gas Producing Wells, by Well Type, 1978-1989.

Year	Oil Wells			Gas Wells			All Wells		
	Wells	Total ^a	Average ^b	Wells	Total ^a	Average ^b	Wells	Total ^a	Average ^b
1978	271,132	2.88	11	86,008	16.53	172	367,140	19.41	53
1979	281,025	2.80	10	103,569	17.15	166	384,594	19.96	52
1980	294,875	2.78	9	112,241	16.77	149	407,116	19.55	48
1981	321,900	2.95	9	121,309	16.52	136	443,209	19.47	44
1982	334,177	3.30	10	128,667	14.98	116	462,844	18.28	39
1983	341,958	3.38	10	132,223	13.35	101	474,181	16.73	35
1984	356,348	3.65	10	138,619	14.48	104	494,967	18.13	37
1985	353,574	3.74	11	141,525	13.61	96	495,099	17.36	35
1986	341,248	3.79	11	140,788	13.23	94	482,036	17.01	35
1987	334,553	3.64	11	139,394	13.93	100	473,947	17.56	37
1988	326,438	3.58	11	140,713	14.65	104	467,151	18.22	39
1989	282,026	3.42	12	139,782	14.71	105	421,808	18.14	43

^a Total Annual Gross Withdrawal in Trillion Cubic Feet.

^b Average Annual Gross Withdrawal in Million Cubic Feet.

Note: Does not include data from Alaska and the Appalachian/Illinois Region.
Source: Dwight's Energydata, Inc., Tape Files.

were utilizing the excess capacity of existing wells to supply the increased consumption.

While consumption was increasing from 1987 through 1989, gas producers were drilling fewer new wells and abandoning more wells than they did in the early and mid-1980's (Table FE1, Table FE3, and Figure FE1). An excess deliverability capability, or an ability to produce more gas than was needed, had existed in the natural gas market for several years. While some excess is normal, by the mid-1980's the excess was far above the amount producers would need to meet seasonal/peak demands. Because the stock of wells was slowly being reduced, the rise in consumption had to be satisfied by increases in the volumes produced by some of the individual wells already in existence.

The minimal productivity declines of pre-1986 wells in 1987 through 1989 would indicate that a large surplus capacity existed, which enabled the wells to be produced at little decline. The 1989 decline of 10 percent may indicate that the surplus capacity situation is ending, because this was a larger decline in the face of increased consumption. Given that fewer new wells were drilled while consumption was rising, producers naturally tended to increase production from existing wells. The larger decline in 1989 implies that additional productive capacity may not have been available from this group of wells.

Abandonment and Well Productivity

As natural gas consumption declined in the mid-1980's, and producers were unable to market gas from some wells, temporary abandonment (i.e., longer term shut-ins) became somewhat common. Indeed, most States either changed their regulations or the implementation of their regulations in order to accommodate the trend.

For example, in December 1986, Texas extended the period that a well could be shut in without abandonment from 90 days to 1 year.

In addition to increases in temporary abandonments, both in absolute terms and the rate at which they occurred, the number of permanent abandonments also increased in the mid and late 1980's. While abandonment can be forced by technical and geologic factors, such as by water encroachment, in most instances abandonments are forced by economic factors, such as a price that is insufficient to cover the costs for maintenance and operation. The effect of abandonment in general on well productivity is to remove lower producing wells from the active stock, which raises the average productivity level of active wells. This is shown in Figure FE1, where the average gross withdrawal for wells in their last year of production was about half that of active wells during all of the period covered.

In general, abandoned wells are those that were poor producers to start with (just as dry holes are drilled, wells of low capacity are drilled, even in fields with good producers), or wells that have declined from an initially higher level of productivity to a point of marginal productivity. Exceptions occur more often in the South Texas, South Louisiana, and Offshore regions, regions where water drives may flood a well prematurely.

In addition to an increase in the number of well abandonments, during the past 3 years there was also an increase in the average volume produced by gas wells prior to their abandonment. This could indicate that the residual stock of wells is of better quality, or it can simply reflect that all wells, about to be abandoned or not, have increased their productivity.

Figure FE3. New Gas Well Rates, Abandoned Gas Well Rates, and Reactivated Gas Well Rates, 1978-1989

Source: Dwigths EnergyData Inc, Tape Files.

Abandonment Levels and Rates

In 1989 fewer gas wells were abandoned than in 1988, continuing the downturn in abandonments begun after 1987, the year of peak abandonments. Gas-well abandonments overall had increased from 1978 through 1987, from under 5,000 per year in 1978 to over 10,000 wells in 2 of the past 4 years. As seen in Figure FE3, the rate of abandonment (annual abandonments divided by the wells active during the year) followed a different pattern than that of either the actual number of abandonments or new drilling (Figure FE2). The annual abandonment rate stayed fairly level from 1977 to 1984 at 5 to 6 percent, but then increased to a new plateau from 1987-to-1989. The lowest rates corresponded to the 1978-to-1982 drilling surge period, when higher prices could be obtained for new gas.

The recent increase in the abandonment rate of gas wells appears to be more the result of increased new-gas (since the NGPA in 1978) well abandonments, rather than the increased abandonments of old-gas (pre-1978 vintage) wells. New-gas well abandonment rates rose from 4.3 percent in 1979 to over 10 percent in 1987, then fell back to the 8- percent range in 1988 and 1989. One might expect that the abandonment rates for old-gas wells would have increased, since the minimum age of active old-gas wells increased to 13 years and the average age increased to 25 years by the end of the decade. Through the 1980's, however, both the

absolute number of old-gas wells abandoned and their rates of abandonments declined. Their abandonment rates were near 6 percent before 1980. They then dropped to a low in 1984, and oscillated around 4.5 percent until the 1989 decrease to 4.1 percent. The number of old-gas wells abandoned has ranged from 2,164 to 2,739 per year for the past 8 years. At that rate, the current stock of old-gas gas wells (53,181) will not be exhausted this century.

South Louisiana and the Offshore Regions have the highest gas well abandonment rates. Wells in these regions are produced at higher rates, both because it is possible and because such rates are needed to recover the higher initial costs. Also, the life span of these wells is often limited by water encroachment and other technical problems. The Midcontinent and Rocky Mountain Regions have the lowest gas-well abandonment rates. The San Juan Basin fields and the Hugoton field in these regions have extremely long-lived, slow producing wells. In the early 1980's the regional data was very similar to the data for these dominant fields. As newer fields of smaller size were developed during that period, the abandonment rates for these regions began to increase.

Comparison of Rates for New and Abandoned Gas Wells

A comparison of the rates of new well additions with those of well abandonment (Figure FE3) provides another perspective on current productivity trends. The recent period from 1987 through 1989 was one in which well abandonment rates were higher than new well additions. This was the cumulative effect of diminished drilling activity and increased abandonments in the gas market of the late-1980's, a market characterized by oversupply and low prices. In contrast, two new wells were brought on line for each abandoned well between 1978 and 1982, while between 1982 and 1986 a transition period of increasing abandonment and decreasing new wells occurred.

The low abandonment versus high new addition rate that existed during the period from 1978 to 1982 reflected producers' expectations of increasing sales with good price levels in an energy short market. This period was followed by a 3-year period of declining prices and increasing marketing difficulties. Then, from 1986 through 1989, the outlook was very pessimistic, as producers did not even replace the number of abandoned wells with new wells. This would imply that producers either had large excesses of supply or that they felt the increased consumption period was short-lived.

Regional variations also exist in the abandoned-to-new ratio (Table FE3). The Southeast region had a lower ratio than any other region for the past 5 years, with more abandoned wells than new wells only in 1988 (1,261 versus 1,132). At the other end of the scale is the South Louisiana Region, with more abandonments than new gas wells in each of the past 5 years.

Changes in Shut-in and Reactivation Levels

Compared to the late 1970's and early 1980's, there was an increased rate of well shut-ins during the mid-1980's.⁶ This was probably a consequence of short-term compromises by producers between continued maintenance with marginal profits, or abandonment with replacement by new drilling. While an upswing in consumption or in price could encourage reworking a marginal well or reactivating a shut-in well in the short-term, a longer term response would be to drill new wells.

The ratio of reactivated wells (brought back into production after temporary shut in) to all active wells more than tripled by 1988 from its low period between 1980 and 1982 (Figure FE3). Other than a slight drop in 1983, this ratio increased steadily until 1987, when

it increased by a factor of 2. This seemed to indicate that producers reactivated shut-in wells to supply some of the increased consumption in 1987 and 1988.

An even more sensitive indicator of market conditions and producer reactions can be derived by comparing reactivated wells to new wells. In this case, both rates are direct actions taken by producers each year, and the ratio changes more rapidly than a ratio with total wells as part of the rate. Further, the ratio of the two producer actions amplifies the trend of producer actions and the impact of reactivated wells.

From 1978 to 1986, the ratio increased five-fold as reactivations grew and new wells dropped. In 1987, the ratio doubled again as reactivated wells increased rapidly. One-fifth (22 percent) of all gas wells starting production that year were reactivated, or had not produced the previous year, up from less than 4 percent prior to 1981. The Rocky Mountain Region had the highest ratio, with a reactivated well for every three new wells brought into production. The ratio decreased slightly in 1988 and 1989, down to 17 percent.

The 1987 and 1988 reactivations came in response to the upswing in gas consumption while new drilling continued to fall. This provided a less costly response to short-term changes in market conditions than that possible from new drilling. By 1989, there were fewer wells available to be reactivated, after a 3-year increase in consumption, so the rate could not be maintained at the 1988 level. Instead, the drilling of new gas development wells continued to increase.

Recent Trends in Well Length of Service

The mix of vintages of wells in the pool of abandoned wells each year influences the annual average length of service. If more old-gas wells than recent wells were in the mix, for instance, then that might explain the increase in average length of service in recent years (Table FE3). Because the percentage of old-gas wells in the mix is actually down, producers must be keeping all wells in service for longer times. Several factors could explain this.

One factor is that fewer marginal wells are left in the producing stock, wells that have a relatively short productive life. When producers were first able to obtain higher prices and drilled large quantities of new wells, some of those wells were less productive than those wells drilled in previous years. Given an average life of 6 years, the less productive wells from the drilling surge had been abandoned by 1987. By the mid-1980's, in a market environment of lower prices and reduced consumption, only better wells with higher productiv-

⁶Energy Information Administration, *Natural Gas Production Responses to a Changing Market Environment, 1978-1988* DOE/EIA-0532, Table 35

Table FE3. Productivity, Abandonment, and Other Rates by Region and Year, 1985-1989

Region	Length of Service	Years in Service	Gross Withdrawal Per Well	Reactivated Rate	Abandoned Rate	New Well Rate	Abandoned to New Ratio	Active Wells	New Wells	Abandoned Wells	Reactivated Wells
1989											
All Regions	7.9	13.7	105	0.96	6.7	5.5	1.2	139,782	7,649	9,308	1,335
MidContinent	9.9	17.9	66	1.29	5.2	3.6	1.4	44,436	1,598	2,300	572
Rocky Mountain ..	8.2	15.0	53	.43	2.7	2.0	1.3	29,480	591	792	128
Southeast	8.4	12.1	66	.46	6.7	7.2	.9	21,235	1,535	1,429	98
South Louisiana ...	6.4	8.6	337	2.09	18.3	11.2	1.6	3,781	424	691	79
South Texas	6.7	8.7	134	1.31	13.0	10.9	1.2	16,262	1,772	2,107	213
West Coast	-	-	91	1.16	13.9	6.4	2.2	1,469	94	204	17
West Texas	8.9	11.5	52	.88	5.6	4.7	1.2	18,771	873	1,057	165
Offshore	6.0	6.2	981	1.45	16.7	17.5	1.0	4,348	762	728	63
1988											
All Regions	7.4	13.1	104	1.17	7.0	5.7	1.2	140,332	7,976	9,758	1,643
MidContinent	7.7	17.3	65	1.06	5.4	4.5	1.2	44,393	2,005	2,406	470
Rocky Mountain ..	10.2	14.0	48	.90	3.5	3.0	1.2	29,804	893	1,057	269
Southeast	9.4	11.4	65	.96	5.8	5.3	1.1	21,530	1,151	1,255	207
South Louisiana ...	6.1	8.4	342	1.80	17.1	11.0	1.6	3,891	428	664	70
South Texas	6.2	8.4	137	1.67	14.0	11.6	1.2	16,244	1,889	2,282	272
West Coast	-	-	99	1.84	13.1	8.8	1.5	1,578	139	206	29
West Texas	7.3	11.0	54	1.29	6.8	4.9	1.4	18,699	912	1,279	242
Offshore	5.7	6.4	1,004	2.00	14.5	13.3	1.1	4,193	559	609	84
1987											
All Regions	6.0	12.7	100	1.20	8.1	5.6	1.5	139,006	7,759	11,289	1,669
MidContinent	6.2	16.8	59	1.58	6.8	5.1	1.3	44,184	2,250	2,990	698
Rocky Mountain ..	5.3	13.6	47	.94	6.3	2.9	2.2	29,273	854	1,846	275
Southeast	7.9	11.3	62	.48	4.5	5.2	.9	20,826	1,093	941	99
South Louisiana ...	5.5	8.1	334	1.66	18.4	11.1	1.7	3,986	444	734	66
South Texas	5.9	8.2	135	1.78	15.8	10.0	1.6	16,254	1,623	2,565	289
West Coast	-	-	102	1.79	9.0	5.1	1.8	1,620	82	145	29
West Texas	6.2	10.4	50	.78	8.1	4.9	1.7	18,761	911	1,515	147
Offshore	5.3	6.3	985	1.61	13.5	12.2	1.1	4,102	502	553	66
1986											
All Regions	5.7	12.0	94	0.56	7.4	6.0	1.2	140,535	8,373	10,418	791
MidContinent	6.1	16.2	56	.65	5.6	5.1	1.1	44,047	2,250	2,482	288
Rocky Mountain ..	5.5	12.6	37	.40	4.1	3.3	1.2	29,914	994	1,232	121
Southeast	7.1	10.8	61	.28	4.5	6.8	.7	20,673	1,407	933	58
South Louisiana ...	5.4	7.7	338	.96	18.7	10.8	1.7	4,174	450	782	40
South Texas	5.3	7.8	135	.74	16.4	9.5	1.7	16,850	1,599	2,771	125
West Coast	-	-	114	1.04	11.6	7.2	1.6	1,629	118	189	17
West Texas	5.7	9.7	48	.43	7.0	5.4	1.3	19,175	1,041	1,350	83
Offshore	5.7	6.0	884	1.45	16.7	12.6	1.3	4,073	514	679	59
1985											
All Regions	5.7	11.4	96	0.54	6.5	8.1	0.8	141,211	11,504	9,239	759
MidContinent	6.4	15.6	59	.56	4.7	6.4	.7	44,007	2,836	2,068	245
Rocky Mountain ..	4.2	12.2	46	.40	4.4	4.5	1.0	29,280	1,307	1,275	117
Southeast	7.6	10.3	61	.30	3.4	8.5	.4	20,327	1,734	692	60
South Louisiana ...	5.3	7.3	330	.77	16.9	13.8	1.2	4,434	610	749	34
South Texas	5.6	7.3	125	.74	13.6	14.5	.9	17,884	2,592	2,440	132
West Coast	-	-	125	2.04	8.5	13.2	.6	1,713	226	145	35
West Texas	6.5	9.1	52	.46	6.1	8.2	.7	19,386	1,594	1,183	89
Offshore	5.6	5.8	837	1.12	16.4	14.5	1.1	4,180	605	687	47

- Data not available.

Note: Updated from data previously published in the Energy Information Administration publication: *Natural Gas Production Responses to a Changing Market Environment, 1978-1988, DOE/EIA-0532.*

Source: Dwight's Energydata Inc., Tape Files.

ity were considered to be profitable. These prospects would have life spans that tend to be longer than those from the 1981 period.

A second factor is that the excess productive capacity that developed in the mid-1980's caused producers to

set the flow rates for existing wells at lower rates than had been set in previous years. This reduced the annual volumes but increased the number of years that wells would be able to produce. The previously discussed reduction in average production per well, coupled with this increased service time, seems to support this explanation.

Conclusion

For the past 3 years consumption of natural gas has increased. At the same time, both the number of active gas wells and the rate of drilling new gas wells have not increased. So far, the increased consumption has been supplied by pushing the existing stock of gas wells to produce more, through increased productivity and reactivated shut-in wells. These methods were quick, short-term solutions to satisfy an increase in consumption. Virtually all analysts have agreed that the natural gas industry was in a situation of unusually large surplus capacity condition in 1986, and thus was able to increase productivity. There are physical limits to how much wells can be pushed. Further, the length of service data show that the current stock of gas wells has been kept in production far longer than any time in the past 12 years. All of these facts would indicate that either drilling must increase if production levels are to remain high, or producers will not be able to meet continued requirements.

It is possible that producers have been weeding out poor producing wells from the active stock, and only completing better prospects for production when new drilling is performed, so that the current stock of wells is simply able to be even more productive than the market has demanded. This alternate conclusion could be drawn, given that exploratory drilling has not increased and producers are not replacing declining and abandoned wells.

Notes on Data Sources

Except for Table FE1, all data in this article are the result of data processing performed on Dwight's Energydata Inc. tape files. These data files represent a continuously updated compendium of monthly well production data for all wells in the United States except for States in the Appalachia/Illinois basins (Michigan, Indiana, Illinois, Kentucky, West Virginia, Virginia, Tennessee, New York, and Pennsylvania). The total volume of gas not covered by these data is on the order of 5 percent of the total U.S. production.

Dwight's data represent gross withdrawals of gas; thus gas that is reinjected, flared, vented, or removed in

processing to create dry marketed gas will also be included. The difference between gross withdrawal and dry marketed gas can be over 10 percent in some States. In Texas, the difference is 12 percent. The annual production estimates are non-EIA source data. As a result, production totals may not agree with those in EIA publications containing data at similar levels of aggregation such as Table 1 of the *Natural Gas Monthly*.

Because Dwight's data are continuously updated, even for past years, an estimated correction factor has been applied to the Federal Offshore 1989 production data in this article, an upward correction of 6 percent. This is the same adjustment as made by Dwight's to the 1988 data, when Dwight's updated the 1988 data with late information from Minerals Management Services 1 year after the 1988 files had been released. No other gas volume edits were applied to the Dwight's data for this article.

Aerial view of multi-level drilling platform operating in the Gulf of Mexico.

Overview

The Energy Information Administration (EIA) recently released the *Natural Gas Annual (NGA)*, finalizing data for 1989. According to the *NGA* several events and trends were noteworthy during the year. Among them: President Bush signed the Natural Gas Wellhead Decontrol Act of 1989, removing all remaining controls on natural gas wellhead prices by 1993. This is considered by many observers to be a watershed piece of legislation; however, it should be noted also that the natural gas industry has already evolved (and continues to evolve) from one constrained by regulation and unrealistically low prices to one that is more sensitive to market forces; the transformation is due primarily to the emergence of the spot market, which has grown in importance during the 1980's. The Natural Gas Futures Market of the New York Mercantile Exchange, approved in 1989 and put into operation in April 1990, should make the industry even more efficient at responding to market forces.

Also in 1989, the U.S.-Canada Free Trade Agreement went into effect. Here, too, rather than bringing about any significant or immediate changes in and of itself, the Act formalizes and reinforces trends in energy trade that have developed between the two nations during the 1980's.

Production has increased in each of the last 3 years, driven up by growing demand. Nevertheless, production is being outpaced by consumption; and imports, which reached a record high in 1989, are increasing to help compensate for the shortfall.

Imports from Canada are expected to grow, constrained not by import-export policies but by limits to pipeline capacity. New construction projects are being considered by the Federal Energy Regulatory Commission, which has jurisdiction over interstate pipelines, as well as by the various States that would be affected.

With demand for all energy increasing, natural gas is expected to play a growing role in the Nation's energy picture. It is becoming increasingly recognized as an efficient and environmentally clean fuel, although strict controls on offshore drilling could inhibit the development of large amounts of natural gas.

Indeed, Clean Air legislation was a top priority in 1989. With both the Senate and House approving separate

pieces of legislation, the House-Senate Conference Committee has begun to hammer out the differences.

Both bills provide for an alternate fuels program, requiring the use of compressed natural gas (CNG). The use of natural gas-powered vehicles could expand as they produce less smog and emit fewer greenhouse gases than gasoline-fueled vehicles. The American Gas Association reports that several States--Texas, Louisiana, California, and others--have already begun programs promoting natural gas as transportation fuel. Also according to *Gas Daily*, the United Parcel Service plans to convert its fleet of 2,700 trucks in Los Angeles to CNG over the next 5 years.

Certainly many opportunities exist for expanded use of natural gas: e.g., increased use of natural gas as a feedstock for methanol and for cofiring technology. And the growth of natural gas-fired cogeneration facilities in the Northeast remains strong. The availability of Canadian gas and the willingness of Canadian companies to enter into long-term contracts should result in more imported gas for future cogeneration plants.

Other trends and developments, which are discussed in the *NGA* (or other EIA sources as noted) are highlighted below.

Production

- Marketed production has gone up from 16.8 trillion cubic feet in 1986 to 18.0 trillion cubic feet in 1989. Dry production (marketed production minus extraction loss) has gone up from 16.0 trillion cubic feet to 17.3 trillion cubic feet.
- Dry production is slightly higher through the first 7 months of 1990 than the same period in 1989.
- The number of producing gas wells and gas condensate wells reached an all-time high of 262,483 in 1989, an increase of 2 percent over the 1988 level, which was achieved in spite of an annual average rig count down 7 percent from 1988 levels. Gas well completions increased in 1989, while oil well completions dropped sharply (*Monthly Energy Review*, April 1990.)

- Offshore production of natural gas is an important component of gas supply, accounting for approximately one-fourth of total gross withdrawals in 1989. Among recent developments in the Gulf of Mexico, operators have proceeded with plans to develop large fields in prolific areas. One is the Norphlet Trend, which includes the Mobile Bay area.
- Recent advances in platform design and drilling techniques have opened up new areas that were previously inaccessible. Offshore production is expected to increase to meet growing demand, but could be constrained by environmental restrictions: even before the Exxon Oil Spill in 1989, environmentalists were urging that offshore production (of oil and natural gas) be curtailed.

Proved Reserves

- As of December 31, 1989, proved reserves totalled 167 trillion cubic feet of natural gas according to the EIA publication, *U.S. Crude Oil*,

Natural Gas, and Natural Gas Liquids Reserves. These are reserves that geological and engineering data determine with reasonable certainty to be recoverable from known reservoirs under existing economic and operating conditions.

- Proved reserves of dry natural gas were down only 0.5 percent in 1989, a smaller than average decline reflecting relatively strong reserve additions. Indeed, proved natural gas reserves for the entire United States would have increased in 1989 were it not for a large negative revision (1,470 billion cubic feet) in New Mexico's reserves.
- Reserve additions from coalbed methane fields contributed 461 billion feet to U.S. natural gas reserves in 1989. Exploitation of the coalbed methane resource has rapidly expanded due to tax incentives and an improved understanding of the underlying technology. Total reserves attributed to coalbed methane reached 1,881 billion cubic feet in 1989.

This drilling rig is performing exploratory work in Northwest Georgia.

Estimated Total U.S. Proved Reserves of Dry Natural Gas, 1977 Through 1989
Billion cubic feet dry, 14.73 psia, 60 degrees F.

Year	Net ¹ Adjust- ments	Revision Increases	Revision Decreases	Net of ² Revisions and Adjust- ments	Exten- sions to old Reser- voirs	New Field Dis- coveries	New Reservoir Discoveries in old Fields	Total ³ Dis- coveries	Produc- tion	Proved ⁴ Reserves 12/31	Net Change from Prior Year
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1976	--	--	--	--	--	--	--	--	--	⁵ 213,278	--
1977	⁶ -20	13,691	15,296	-1,625	8,129	3,173	3,301	14,603	18,843	207,413	-5,865
1978	2,429	14,969	15,994	1,404	9,582	3,860	4,579	18,021	18,805	208,033	620
1979	-2,264	16,410	16,629	-2,483	8,950	3,188	2,566	14,704	19,257	200,997	-7,036
1980	1,201	16,972	15,923	2,250	9,357	2,539	2,577	14,473	18,699	199,021	-1,976
1981	1,627	16,412	13,813	4,226	10,491	3,731	2,998	17,220	18,737	201,730	2,709
1982	2,378	19,795	19,340	2,833	8,349	2,687	3,419	14,455	17,506	201,512	-218
1983	3,090	17,602	17,617	3,075	6,909	1,574	2,965	11,448	15,788	200,247	-1,265
1984	-2,241	17,841	14,712	888	8,299	2,536	2,686	13,521	17,193	197,463	-2,784
1985	-1,708	18,775	16,304	763	7,169	909	2,980	11,126	15,985	193,369	-4,094
1986	1,320	21,269	17,697	4,892	6,065	1,099	1,771	8,935	15,610	191,586	-1,783
1987	1,268	17,527	14,231	4,564	4,587	1,089	1,499	7,175	16,114	187,211	-4,375
1988	2,193	23,367	⁷ 38,427	-12,867	6,803	1,638	1,909	10,350	16,670	⁷ 168,024	-19,167
1989	3,013	26,673	23,643	6,043	6,339	1,450	2,243	10,032	16,983	167,116	-908

¹ Includes operator reported corrections for the years 1978 through 1981. After 1981 operators included corrections in revisions.

² Net of revisions and adjustments = Col. 1 + Col. 2 - Col. 3.

³ Total discoveries = Col. 5 + Col. 6 + Col. 7.

⁴ Proved reserves = Col. 10 from prior year + Col. 4 + Col. 8 - Col. 9.

⁵ Based on following year data only.

⁶ Consists only of operator reported corrections and no other adjustments.

⁷ An unusually large revision decrease to North Slope dry natural gas reserves was made in 1988. It recognizes some 24.6 trillion cubic feet of downward revisions reported during the last few years by operators because of economic and market conditions. EIA in previous years carried these reserves in the proved category.

-- = Not Applicable.

Notes: o "Old" means discovered in a prior year. o "New" means discovered during the report year. o The production estimates in this table are based on data reported in Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves," and Form EIA-64A, "Annual Report of the Origin of Natural Gas Liquids Production." They may differ from the official Energy Information Administration production data for crude oil, natural gas, and natural gas liquids for 1988 contained in the publications *Petroleum Supply Annual 1989*, DOE/EIA-0340(89) and *Natural Gas Annual 1989*, DOE/EIA-0131(89).

Source: *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves*, (1977 through 1989) annual reports, DOE/EIA-0216.

Prices

- The average wellhead price was the same in 1989 as in 1988 (\$1.69 per thousand cubic feet)--just 1 percent higher than in 1987. Prices are flat, and in fact declined for most of the early to mid 1980's, for a number of reasons: the spot market kept prices down; the 1986 plunge in oil prices depressed natural gas prices; and the market was characterized by supply surpluses.
- Wellhead prices jumped by 16 percent in January 1990 from December 1989, primarily due to the increased demand brought about by the record cold in December 1989. But these prices have declined throughout 1990, following traditional patterns of supply and demand.
- As of May 1990, the wellhead price was \$1.53 per thousand cubic feet, 5 percent below the May 1989 wellhead price.
- The average city-gate price averaged \$3.01 per thousand cubic feet in 1989--up from \$2.92 in 1988 and \$2.87 in 1987.
- Thus far in 1990, the city-gate price has followed the traditional seasonal pattern. The June 1990 price of \$3.00 per thousand cubic feet is slightly above the June 1989 price.
- Consumer prices increased by 3 percent over 1988 levels but were still well below the highs reached in the mid 1980's. Electric utility customers saw a 4-percent increase but paid the lowest prices in 1989: \$2.43 per thousand cubic feet. Industrial consumers paid a relatively low \$2.97 per thousand cubic feet, just 1 percent more than in 1988. Commercial customers paid \$4.74 per thousand cubic feet, a 3-percent increase over 1988 levels. And residential customers paid the highest prices, \$5.64 per thousand cubic feet, an increase of 3 percent.
- Through the first 6 months of 1990, residential prices were up 2 percent, commercial prices were up 3 percent, and industrial prices were the same as the first 6 months of 1989.

Consumption

- Nationally, natural gas consumption has been rising since 1986, when demand was the lowest in 21 years. Keeping with this trend, natural gas consumption rose by 4 percent in 1989, driven up by the surplus deliverability and lower prices that existed throughout much of the decade. By comparison, total energy consumption was just 1 percent higher in 1989; petroleum consumption actually declined slightly.

- Consumption rose in all sectors. Consumption in the residential sector, which depends largely on weather-related home heating demands, reached a record high of 4.8 trillion cubic feet. Despite the record cold in December, 1989 was only 2 percent colder than 1988, according to heating degree data reported by the National Oceanic and Atmospheric Administration, explaining, in part, why natural gas consumption rose by just 2 percent in this sector.
- While new housing starts declined slightly in 1989 (an indication that the economy was just beginning to slow), 58 percent of the new homes were designed to be heated with natural gas, and the number of residential customers rose by 2 percent, reaching a record 19.3 million.
- In the commercial sector, consumption rose by 2 percent in 1989, reaching a record high of 2.7 trillion cubic feet. The number of commercial customers rose by a little less than 2 percent, setting a record high for the fourth year in a row. As in the residential sector, consumption in the commercial sector depends on heating season requirements, the number of customers, conservation, and the efficiency of gas use; but also on changes in natural gas prices and fluctuations in the economy.
- Consumption in the industrial sector, historically the largest consuming sector for natural gas, rose again in 1989, reaching 6.8 trillion cubic feet. This sector is less affected by heating season requirements than by price competitiveness with alternative fuels, the level of industrial activity, total energy consumption (which rose by just 2 percent, compared with 7 percent for natural gas, in this sector), and to the health of the economy.
- While total electric power generation rose by just 3 percent in 1989, consumption of natural gas by the electric utility sector rose by 5 percent. In contrast with the other sectors in which natural gas has risen steadily since 1986, natural gas consumption has see-sawed in this sector: down in 1986, up in 1987, down in 1988, up in 1989. Through the first 6 months of 1990, electric utility sector consumption was down 6 percent from the first 6 months of 1989.
- Natural gas deliveries for the account of others rose to 5.8 trillion cubic feet in 1989, 16 percent higher than in 1988. Defined as deliveries to end-users by transporters that do not own the gas but deliver it for others, these deliveries play a significant roll in all but the residential sector. Of the total volumes delivered in 1989, 11 percent were for the account of others in the com-

mercial sector, 45 percent in the electric utility sector, and 64 percent in the industrial sector.

- In December 1989, when record cold gripped the eastern two-thirds of the Nation, the demand for all heating fuels, refined petroleum products, fuel oil, and propane shot up dramatically; demand for natural gas was almost 20 percent higher in December 1989 than in December 1988, when temperatures were near normal. Service to some interruptible industrial consumers was curtailed to meet the heavy demand of the high priority residential sector.

Withdrawals

- The Nation began the 1989 heating season with a record 3.3 trillion cubic feet of working gas in underground storage. However, in order to meet the December demand, withdrawals reached a record level (729 billion cubic feet), taxing the system to its limit. According to informal contacts with storage operators who service pipelines transporting gas to Northeastern States, working gas was depleted in some fields at the end of the cold snap.
- Because 1990 has been warmer than normal, storage levels were back to normal by the end of February. As of July 1990, working gas in underground storage totaled 2.7 billion cubic feet, 4 percent higher than July 1989.

Imports and Exports

- Imports reached the highest level in history and accounted for 7 percent of total U.S. consumption. Most of the imports, 97 percent, came from

Canada where prices declined by 1.1 percent from 1988 levels.

- The remaining imports came from Algeria in the form of liquefied natural gas (LNG). Imports of LNG more than doubled in 1989, rising to 42.2 billion cubic feet, the highest level since 1983. Through renegotiated Contracts with Algerian suppliers, prices declined by 18 percent, from \$2.71 per thousand cubic feet in 1988 to \$2.22 per thousand cubic feet in 1989.
- As requests for authorization to import LNG increase, plans call for recommissioning the two inactive U.S. terminals in Cove Point, Maryland, and Elba Island, Georgia. Currently LNG is received only through the terminals located in Everett, Massachusetts and Lake Charles, Louisiana.
- The United States no longer imports gas from Mexico, by mutual agreement of the two countries. With Canadian and U.S. prices declining, Mexican gas cannot compete. Also, Mexican gas enters the U.S. markets farther from consuming areas than Canadian gas, putting Mexican gas at an even bigger disadvantage.
- The United States exported 106.9 billion cubic feet of natural gas in 1989, the highest level in history and a 45 percent increase above the 1988 total. Of the gas exported by the United States in 1989, 36 percent went to Canada, 16 percent to Mexico. In both cases, the increase in sales was dramatic.
- Exports of LNG from Southern Alaska to Japan accounted for the lion's share of domestic exports, 48 percent, down considerably from the 70 percent reported in 1988, although the total volume remained the same.

Table 1. Summary of Natural Gas Production
(Billion Cubic Feet)

Year and Month	Gross Withdrawals	Repressuring	Nonhydrocarbon Gases Removed ^a	Vented and Flared	Marketed Production (Wet)	Extraction Loss	Total Dry Gas Production ^b
1984 Total	20,192	1,830	224	108	18,230	838	17,392
1985 Total	19,534	1,915	326	95	17,198	816	16,382
1986 Total	19,063	1,838	337	98	16,791	800	15,991
1987 Total	20,056	2,208	376	124	17,348	812	16,536
1988							
January	R 1,925	R 216	40	12	R 1,657	78	R 1,581
February	R 1,752	R 196	36	12	R 1,508	69	R 1,439
March	R 1,826	R 201	40	12	R 1,573	72	R 1,501
April	R 1,684	R 193	39	12	R 1,440	66	R 1,374
May	R 1,724	204	33	12	R 1,475	R 68	R 1,407
June	R 1,855	202	39	12	R 1,402	64	R 1,338
July	R 1,674	204	37	13	R 1,420	65	R 1,355
August	R 1,691	203	36	12	R 1,440	66	R 1,374
September	R 1,609	200	38	12	R 1,359	62	R 1,297
October	R 1,747	R 217	42	12	R 1,476	67	R 1,409
November	R 1,772	R 217	38	12	R 1,505	69	R 1,436
December	R 1,864	R 225	42	11	R 1,586	73	R 1,513
Total	R 20,922	R 2,478	460	R 143	R 17,841	R 817	R 17,026
1989							
January	R 1,859	R 217	R 34	R 11	R 1,597	R 70	R 1,527
February	R 1,709	R 191	R 29	R 11	R 1,476	R 64	R 1,412
March	R 1,804	R 195	R 31	R 13	R 1,564	R 68	R 1,496
April	R 1,734	R 201	R 29	R 12	R 1,491	R 65	R 1,426
May	R 1,786	R 212	R 31	R 12	R 1,511	R 66	R 1,445
June	R 1,677	R 190	R 28	R 12	R 1,449	R 63	R 1,386
July	R 1,710	R 197	R 30	R 12	R 1,474	R 64	R 1,410
August	R 1,701	R 205	R 28	R 12	R 1,460	R 63	R 1,397
September	R 1,637	R 205	R 28	R 12	R 1,393	R 60	R 1,333
October	R 1,718	R 209	R 29	R 12	R 1,469	R 64	R 1,405
November	R 1,782	R 213	R 31	R 12	R 1,525	R 66	R 1,459
December	R 1,901	R 217	R 33	R 12	R 1,635	R 72	R 1,563
Total	R 20,998	R 2,451	R 362	R 141	R 18,044	R 785	R 17,260
1990							
January	R 1,928	R 205	R 32	R 15	R 1,676	78	R 1,598
February	R 1,708	R 180	R 27	R 9	R 1,492	R 70	R 1,422
March	R 1,815	R 207	R 30	R 10	R 1,568	73	R 1,495
April	R 1,737	R 201	R 29	R 10	R 1,497	R 70	R 1,427
May	R 1,782	203	R 35	11	R 1,513	R 71	R 1,442
June	E 1,678	E 194	E 34	E 10	E 1,440	E 67	E 1,373
July	E 1,721	E 198	E 35	E 11	E 1,477	E 69	E 1,408
1990 YTD	12,346	1,388	222	76	10,663	498	10,165
1989 YTD	12,259	1,403	212	83	10,563	460	10,102
1988 YTD	12,240	1,416	264	85	10,476	480	9,995

^a See Appendix A, Explanatory Note 1 for a discussion of data on Nonhydrocarbon Gases Removed.

^b Equal to marketed production (wet) minus extraction loss.

^c Estimated Data.

^d Revised Data.

Notes and Sources: See the last page of this section.

Table 2. Supply and Disposition of Dry Natural Gas
(Billion Cubic Feet)

Year and Month	Supply				Total Supply/Disposition ^b	Additions to Storage ^a	Disposition		
	Total Dry Gas Production	Withdrawals from Storage ^a	Supplemental Gaseous Fuels	Imports			Exports	Consumption ^c	Unaccounted For ^d
1984 Total	17,392	2,098	110	843	20,443	2,295	55	17,951	143
1985 Total	16,382	2,397	126	950	19,855	2,163	55	17,281	366
1986 Total	15,991	1,837	113	750	18,692	1,984	61	16,221	427
1987 Total	16,536	1,905	101	993	19,534	1,911	54	17,211	359
1988									
January	R 1,581	586	12	139	R 2,318	47	5	R 2,187	R 79
February	R 1,439	462	R 11	117	R 2,029	50	5	R 2,038	R -84
March	R 1,501	259	R 10	113	R 1,883	90	6	R 1,887	R -89
April	R 1,374	92	8	96	R 1,570	165	6	R 1,464	R -65
May	R 1,407	46	R 7	94	R 1,554	288	4	R 1,302	R -40
June	R 1,338	36	7	93	R 1,474	280	8	R 1,170	R 16
July	R 1,355	42	R 7	100	R 1,504	300	5	R 1,177	R 22
August	R 1,374	52	7	94	R 1,527	288	6	R 1,222	R 11
September	R 1,297	46	R 6	95	R 1,444	314	7	R 1,099	R 24
October	R 1,409	92	8	106	R 1,615	202	6	R 1,232	R 175
November	R 1,436	159	R 9	121	R 1,725	117	7	R 1,453	R 148
December	R 1,513	397	R 11	127	R 2,048	62	9	R 1,820	R 157
Total	R 17,026	2,270	101	1,294	R 20,691	R 2,211	74	R 18,030	R 376
1989									
January	R 1,527	R 428	R 11	119	R 2,083	R 53	7	R 2,023	R 0
February	R 1,412	R 614	R 10	110	R 2,146	R 32	7	R 2,008	R 99
March	R 1,498	R 369	R 10	113	R 1,988	R 106	11	R 1,945	R -74
April	R 1,426	R 138	R 8	110	R 1,682	R 184	11	R 1,580	R -93
May	R 1,445	R 44	R 8	108	R 1,605	R 326	8	R 1,348	R -77
June	R 1,386	R 20	R 7	104	R 1,517	R 381	9	R 1,200	R -73
July	R 1,410	R 29	R 8	101	R 1,548	R 377	9	R 1,220	R -58
August	R 1,397	R 29	R 8	108	R 1,542	R 362	9	R 1,216	R -45
September	R 1,333	R 39	R 7	117	R 1,496	R 325	9	R 1,181	R -19
October	R 1,405	R 96	R 9	123	R 1,633	R 225	10	R 1,337	R 61
November	R 1,459	R 227	R 9	123	R 1,818	R 105	8	R 1,587	R 138
December	R 1,563	R 821	R 12	145	R 2,541	R 52	8	R 2,156	R 325
Total	R 17,260	R 2,852	R 107	1,382	R 21,599	R 2,529	107	R 18,760	R 182
1990									
January	R 1,598	R 339	18	149	R 2,102	R 91	R 8	R 2,088	R -85
February	R 1,422	R 324	14	118	R 1,878	R 70	R 8	R 1,784	R 16
March	R 1,495	R 256	14	115	R 1,880	R 124	R 10	R 1,749	R -3
April	R 1,427	R 140	13	122	R 1,702	183	8	R 1,550	R -39
May	R 1,442	R 45	11	108	R 1,606	R 289	R 8	R 1,357	R -48
June	E 1,073	R 42	11	R 114	R 1,540	R 327	R 9	R 1,253	R -49
July	E 1,408	27	12	122	1,569	325	8	1,261	-25
1990 YTD	10,165	1,173	91	848	12,277	1,409	59	11,042	-233
1989 YTD	10,102	1,840	62	765	12,569	1,459	62	11,324	-276
1988 YTD	9,995	1,523	62	752	12,332	1,229	39	11,205	-141

^a Monthly and annual data for 1984 through 1989 include underground storage and liquefied natural gas storage. Data for January 1990 forward include underground storage only. See Appendix A, Explanatory Note 7 for discussion of computation procedures.

^b "Total" data for 1984 through 1989 do not equal equivalent data in Table 1 of the 1989 *Natural Gas Annual* due to the exclusion of intransit receipts and deliveries in the NGM.

^c Consists of pipeline fuel use, lease and plant fuel use, and deliveries to consuming sectors as shown in Table 3.

^d Represents quantities lost and imbalances in data due to differences among data sources. See Appendix A, Explanatory Note 11 for full discussion.

E = Estimated Data.

R = Revised Data.

Notes and Sources: See the last page of this section.

Figure 1. Production and Consumption of Natural Gas in the United States

Source: *Natural Gas Annual* and the *Short Term Energy Outlook*.

Table 3. Natural Gas Consumption
(Billion Cubic Feet)

Year and Month	Lease and Plant Fuel	Pipeline Fuel	Delivered to Consumers				Total	Total Consumption
			Residential	Commercial	Industrial	Electric Utilities		
1984 Total	1,077	529	4,555	2,524	6,154	3,111	16,345	17,951
1985 Total	986	504	4,433	2,432	5,901	3,044	15,811	17,281
1986 Total	923	485	4,314	2,318	5,579	2,802	14,814	16,221
1987 Total	1,149	519	4,315	2,430	5,953	2,844	15,542	17,211
1988								
January	102	63	R 852	R 424	R 578	168	R 2,022	R 2,187
February	93	55	755	R 392	R 574	170	R 1,890	R 2,038
March	97	53	597	R 320	R 596	204	R 1,717	R 1,867
April	88	46	R 400	R 223	R 507	199	R 1,330	R 1,484
May	91	49	258	R 158	R 507	240	R 1,162	R 1,302
June	86	47	152	R 118	R 487	280	R 1,037	R 1,170
July	87	49	123	R 109	R 480	328	R 1,041	R 1,177
August	88	48	114	R 113	R 514	344	R 1,085	R 1,222
September	83	47	125	R 113	R 499	233	R 989	R 1,099
October	91	49	232	R 156	R 522	182	R 1,092	R 1,232
November	92	51	R 391	R 225	R 543	150	R 1,310	R 1,453
December	R 98	56	R 631	R 320	R 577	137	R 1,668	R 1,820
Total	R 1,096	614	4,630	2,670	6,383	R 2,636	R 16,320	R 18,030
1989								
January	R 95	57	R 751	R 376	R 598	140	R 1,871	R 2,023
February	R 88	57	R 742	R 380	R 570	171	R 1,863	R 2,008
March	R 93	54	R 645	R 342	R 602	209	R 1,798	R 1,945
April	R 88	49	R 414	R 233	R 563	233	R 1,443	R 1,580
May	R 89	51	R 256	R 159	R 544	249	R 1,208	R 1,348
June	R 86	50	R 155	R 121	R 529	258	R 1,084	R 1,200
July	R 88	50	R 129	R 110	R 525	318	R 1,082	R 1,220
August	R 87	50	R 121	R 110	R 539	308	R 1,079	R 1,216
September	82	48	R 139	R 113	R 532	286	R 1,051	R 1,181
October	87	49	R 228	R 152	R 568	252	R 1,201	R 1,337
November	R 90	50	R 405	R 231	R 603	187	R 1,427	R 1,567
December	97	R 65	R 790	R 391	R 643	170	R 1,994	R 2,156
Total	R 1,070	630	R 4,777	R 2,719	R 6,816	2,788	R 17,080	R 18,780
1990								
January	R 111	53	R 785	R 401	R 595	144	R 1,924	R 2,088
February	R 99	48	R 630	R 329	R 546	131	R 1,637	R 1,784
March	R 104	48	R 544	R 299	R 572	182	R 1,597	R 1,749
April	R 99	44	R 394	R 234	R 582	197	R 1,407	R 1,550
May	R 100	47	R 245	R 156	R 569	239	R 1,210	R 1,357
June	95	44	160	124	535	295	1,114	1,253
1990 YTD	608	284	2,757	1,543	3,399	1,189	8,888	9,781
1989 YTD	539	318	2,964	1,611	3,406	1,266	9,247	10,104
1988 YTD	557	313	3,014	1,635	3,248	1,261	9,158	10,028

R = Revised Data.

Notes and Sources: See the last page of this section.

Figure 2. Natural Gas Deliveries to Consumers

Source: Natural Gas Annual, Form EIA-857, and Form EIA-759.

Table 4. Selected National Average Natural Gas Prices
(Dollars per Thousand Cubic Feet)

Year and Month	Wellhead Price ^a	Major Interstate Pipeline Companies		City Gate	Delivered to Consumers				
		Imports ^b	Purchased from Producers ^b		Residential	Commercial ^c	Industrial ^c	Electric Utilities ^d	Overall Average ^e
1984 Annual Average	2.66	4.08	2.91	3.95	6.12	5.55	4.22	3.70	4.85
1985 Annual Average	2.51	3.19	2.85	3.75	6.12	5.50	3.95	3.55	4.72
1986 Annual Average	1.94	2.53	2.39	3.22	5.83	5.08	3.23	2.43	4.13
1987 Annual Average	1.67	2.17	2.10	2.87	5.54	4.77	2.94	2.32	4.05
1988									
January	1.96	1.64	2.04	R 2.91	5.08	R 4.60	3.18	2.60	R 4.41
February	1.84	2.03	2.22	2.95	R 5.09	R 4.69	3.22	2.56	R 4.39
March	1.70	2.09	2.03	2.87	5.18	4.69	R 3.13	2.32	R 4.25
April	1.59	2.01	2.12	2.79	5.35	R 4.71	2.97	2.20	R 4.10
May	1.52	2.02	2.17	2.75	R 5.87	4.61	2.76	2.10	R 3.84
June	1.53	1.98	2.05	R 2.87	6.50	R 4.53	2.67	2.16	R 3.54
July	1.56	2.34	1.94	2.87	6.74	R 4.48	R 2.54	2.23	R 3.36
August	1.62	1.88	2.09	R 2.92	R 6.92	R 4.37	R 2.66	2.36	R 3.39
September	1.53	2.00	2.13	3.05	6.79	4.41	2.70	2.36	R 3.61
October	1.68	1.94	2.31	2.92	5.95	R 4.53	2.80	2.40	R 3.95
November	1.76	1.98	2.19	2.98	5.56	4.69	3.00	2.58	R 4.31
December	1.89	2.14	2.25	3.08	5.39	R 4.78	3.31	2.57	R 4.56
Annual Average	1.69	2.00	2.13	R 2.92	5.47	4.63	2.95	R 2.33	4.09
1989									
January	R 1.99	1.77	2.35	R 3.17	5.41	R 4.81	R 3.39	2.64	R 4.67
February	R 1.81	2.21	2.16	3.10	5.38	R 4.80	R 3.33	2.44	R 4.60
March	R 1.69	1.99	2.17	2.89	R 5.45	R 4.79	R 3.12	R 2.33	R 4.46
April	R 1.56	2.01	2.22	2.83	R 5.54	R 4.77	R 2.91	2.31	R 4.18
May	R 1.61	2.02	2.11	2.94	R 5.93	R 4.64	R 2.80	2.39	R 3.94
June	1.65	2.04	2.04	2.98	R 6.58	R 4.57	R 2.69	2.40	R 3.72
July	R 1.65	1.88	1.99	3.08	R 6.92	R 4.65	R 2.70	2.40	R 3.59
August	R 1.61	2.24	2.05	3.04	R 7.07	R 4.61	R 2.71	2.38	R 3.57
September	R 1.55	2.02	2.07	2.99	R 6.80	R 4.67	R 2.67	2.33	R 3.67
October	R 1.58	2.17	2.04	2.84	6.06	R 4.61	R 2.75	2.39	R 3.86
November	R 1.66	2.13	2.23	2.98	R 5.56	R 4.71	R 2.98	2.56	R 4.30
December	R 1.92	2.08	2.39	3.10	5.30	R 4.81	R 3.32	2.85	R 4.61
Annual Average	R 1.69	2.04	2.17	3.01	R 5.64	R 4.74	R 2.97	2.43	R 4.22
1990									
January	2.23	2.04	2.42	3.25	5.42	4.99	R 3.52	3.01	R 4.77
February	1.87	2.25	2.18	3.10	5.63	5.05	R 3.40	2.76	R 4.82
March	R 1.58	1.99	1.94	2.95	5.58	4.94	R 3.08	2.37	R 4.50
April	R 1.56	2.00	2.17	2.84	5.62	R 4.83	R 2.84	2.29	R 4.23
May	1.53	2.08	1.98	2.81	5.97	R 4.64	R 2.67	2.19	R 3.84
June	NA	1.91	2.18	3.00	6.55	4.59	2.55	NA	NA
1990 YTD	NA	2.04	2.14	3.02	5.64	4.90	3.06	2.46	4.50
1989 YTD	NA	2.01	2.17	3.00	5.54	4.76	3.06	2.40	4.43
1988 YTD	NA	1.96	2.10	2.88	5.28	4.65	3.02	2.33	4.25

^a See Appendix A, Explanatory Note 8 for discussion of wellhead price.

^b See Appendix A, Explanatory Note 9 for discussion of major interstate pipeline company data.

^c See Table Notes and Sources for explanation of break in series for consumer prices in 1987.

^d Includes all steam electric utility generating plants with a combined capacity of 50 megawatts or greater.

^e = Revised Data.

NA = Not Available.

Notes and Sources: See the last page of this section.

Figure 3. Average Price of Natural Gas Delivered to Consumers

Source: *Natural Gas Annual*, Form FERC-11, and Form EIA-857.

Figure 4. Average Price of Natural Gas

Source: *Natural Gas Annual*, Form EIA-857, and Form FERC-423.

Table 5. Projected Volumes and Prices of Wellhead Purchases by NGPA Category
(Volumes in Billion Cubic Feet, Prices in Dollars per Thousand Cubic Feet)

Year and Month	Section 104 ^a		Section 105 ^b		Section 106 ^c		Old Gas ^d	
	Volume	Price ^m	Volume	Price ^m	Volume	Price ^m	Volume	Price ^m
1984 Total	3,961	1.46	53	2.60	283	1.15	4,301	1.45
1985 Total	3,549	1.48	57	2.54	358	1.18	3,964	1.47
1986 Total	2,675	1.41	58	2.26	320	1.13	3,053	1.39
1987 Total	2,035	1.34	33	2.03	260	1.15	2,327	1.33
1988								
January	160	1.36	2	2.37	22	1.22	185	1.35
February	160	1.36	2	2.37	22	1.22	184	1.36
March	155	1.41	2	2.33	21	1.23	179	1.40
April	129	1.50	2	2.28	14	1.30	145	1.49
May	129	1.46	2	2.28	14	1.32	146	1.46
June	123	1.46	2	2.22	14	1.42	139	1.47
July	110	1.40	2	2.33	12	1.42	125	1.42
August	94	1.40	2	2.35	12	1.43	110	1.42
September	108	1.44	2	2.26	12	1.37	122	1.45
October	134	1.69	2	2.16	13	1.55	149	1.68
November	133	1.70	3	2.22	14	1.51	150	1.69
December	135	1.82	2	2.12	14	1.56	152	1.80
Total	1,579	1.49	25	2.27	184	1.35	1,794	1.49
1989								
January	134	1.94	2	1.83	13	1.61	149	1.91
February	135	1.96	2	1.79	12	1.67	149	1.94
March	128	1.89	2	1.79	12	1.63	141	1.86
April	85	1.55	2	2.01	9	1.43	96	1.54
May	76	1.51	1	2.09	8	1.49	85	1.52
June	71	1.41	1	2.09	8	1.46	80	1.43
July	68	1.42	1	1.80	7	1.51	75	1.43
August	67	1.39	1	1.76	7	1.49	74	1.41
September	65	1.43	1	1.83	7	1.52	73	1.44
October	79	1.51	1	1.97	8	1.51	88	1.51
November	76	1.80	1	1.97	8	1.56	86	1.78
December	77	1.81	1	1.97	8	1.52	86	1.79
Total	1,060	1.69	15	1.90	108	1.55	1,183	1.68
1990								
January	69	1.92	2	1.04	8	1.70	79	1.88
February	59	1.97	2	.96	8	1.71	68	1.92
March	57	1.97	2	1.04	7	1.73	66	1.92
April	53	1.81	2	1.30	7	1.61	62	1.77
May	55	1.80	1	1.24	7	1.70	63	1.78
June	52	1.75	2	2.17	7	1.70	61	1.76
July	49	1.78	2	2.08	5	1.73	56	1.80
August	44	1.68	2	2.08	5	1.59	51	1.69

See footnotes at end of table.

Table 5. Projected Volumes and Prices of Wellhead Purchases by NGPA Category (Continued)
(Volumes in Billion Cubic Feet, Prices in Dollars per Thousand Cubic Feet)

Year and Month	Section 102 ^a		Section 103 ^f		Section 108 ^g		Section 109 ^h		New Gas ⁱ	
	Volume	Price ^m	Volume	Price ^m	Volume	Price ^m	Volume	Price ^m	Volume	Price ^m
1984 Total	2,587	3.84	913	3.26	189	4.17	191	2.58	3,879	3.65
1985 Total	2,780	3.73	945	3.39	207	4.27	257	2.80	4,189	3.62
1986 Total	1,907	3.13	723	3.03	173	3.92	204	2.51	3,007	3.11
1987 Total	1,494	2.64	500	2.61	175	3.30	191	2.29	2,360	2.65
1988										
January	120	2.39	35	2.46	14	3.35	13	2.29	182	2.47
February	119	2.40	35	2.45	14	3.36	12	2.31	180	2.47
March	119	2.40	35	2.46	14	3.34	12	2.34	179	2.48
April	114	2.32	36	2.39	11	3.35	12	2.17	174	2.39
May	114	2.31	37	2.41	12	3.38	12	2.19	176	2.40
June	102	2.30	37	2.40	15	2.64	12	2.11	165	2.34
July	95	2.29	31	2.31	14	2.61	11	2.10	152	2.31
August	84	2.34	30	2.30	14	2.51	11	2.02	139	2.33
September	84	2.39	31	2.39	12	2.80	12	2.02	139	2.40
October	97	2.46	33	2.47	13	2.88	12	2.10	155	2.47
November	122	2.38	33	2.49	10	3.20	11	2.18	176	2.43
December	124	2.44	33	2.45	10	3.15	12	2.13	179	2.47
Total	1,295	2.37	406	2.41	153	3.03	142	2.16	1,996	2.41
1989										
January	124	2.49	32	2.50	10	3.30	12	2.17	178	2.51
February	117	2.66	33	2.50	11	3.31	14	2.18	175	2.63
March	114	2.61	31	2.48	10	3.27	13	2.21	169	2.60
April	100	2.48	29	2.32	10	3.14	13	2.10	151	2.46
May	73	2.45	27	2.28	8	3.23	10	2.02	119	2.43
June	67	2.39	27	2.26	9	3.01	10	2.04	112	2.38
July	58	2.42	25	2.17	9	2.95	9	1.97	101	2.36
August	60	2.60	23	2.09	8	2.78	8	2.08	100	2.45
September	59	2.64	22	2.15	9	2.87	8	2.14	99	2.51
October	66	2.68	29	2.11	9	2.90	12	2.34	116	2.52
November	89	2.33	33	2.18	10	3.04	33	2.20	165	2.32
December	91	2.33	34	2.16	10	3.09	34	2.17	169	2.31
Total	1,018	2.51	346	2.28	113	3.08	176	2.15	1,653	2.46
1990										
January	85	2.41	32	2.29	10	3.19	31	2.17	157	2.39
February	75	2.53	31	2.27	9	3.13	24	2.28	139	2.47
March	76	2.52	30	2.28	9	3.07	23	2.29	138	2.47
April	79	2.43	25	2.17	8	3.11	25	2.20	137	2.38
May	59	2.39	24	2.15	8	3.27	16	2.00	107	2.34
June	56	2.36	23	2.08	7	3.11	16	1.99	102	2.29
July	47	2.34	23	1.97	7	2.99	15	1.93	92	2.23
August	45	2.15	21	1.86	7	2.66	15	1.87	89	2.08

See footnotes at end of table.

Table 5. Projected Volumes and Prices of Wellhead Purchases by NGPA Category (Continued)
(Volumes in Billion Cubic Feet, Prices in Dollars per Thousand Cubic Feet)

Year and Month	Section 107 ^l		Miscellaneous ^k		Total Gas ^l		Number of Companies ⁿ
	Volume	Price ^m	Volume	Price ^m	Volume	Price ^m	
1984 Total	856	5.35	10	2.77	9,081	2.78	46
1985 Total	738	4.71	*	--	8,890	2.75	48
1986 Total	426	3.48	*	--	6,487	2.32	46
1987 Total	417	2.72	*	--	5,104	2.05	46
1988							
January	38	2.75	*	--	405	1.99	40
February	37	2.78	*	--	401	1.99	40
March	37	2.86	*	--	395	2.03	40
April	37	2.63	*	--	356	2.05	40
May	39	2.66	*	--	360	2.04	41
June	40	2.48	*	--	345	2.00	43
July	38	2.55	*	--	315	1.99	46
August	35	2.49	*	--	292	1.98	45
September	36	2.49	*	--	297	2.02	43
October	38	2.55	*	--	342	2.14	42
November	30	2.61	*	--	356	2.14	41
December	31	2.57	*	--	362	2.19	41
Total	438	2.61	*	--	4,226	2.04	42
1989							
January	31	2.51	*	--	352	2.26	39
February	34	2.54	*	--	358	2.33	41
March	33	2.56	*	--	343	2.29	40
April	31	2.58	*	--	278	2.16	41
May	29	2.56	*	--	233	2.11	44
June	28	2.57	*	--	220	2.06	45
July	26	2.45	*	--	203	2.03	45
August	24	2.54	*	--	199	2.07	44
September	24	2.55	*	--	195	2.11	44
October	28	2.62	*	--	231	2.15	44
November	29	2.43	*	--	280	2.16	44
December	28	2.43	*	--	284	2.16	44
Total	347	2.53	--	--	3,182	2.18	38
1990							
January	25	2.38	*	--	261	2.23	41
February	22	2.61	*	--	230	2.32	42
March	23	2.59	*	--	227	2.32	42
April	24	2.72	*	--	223	2.25	41
May	24	2.60	*	--	195	2.19	41
June	24	2.61	*	--	188	2.16	42
July	22	2.36	*	--	170	2.10	40
August	20	2.02	*	--	160	1.95	42

- ^a Dedicated to interstate commerce.
 - ^b Existing intrastate contracts.
 - ^c Rollover contracts.
 - ^d Total of Sections 104, 105, and 106.
 - ^e New natural gas and certain natural gas produced from the Outer Continental Shelf.
 - ^f New onshore production wells.
 - ^g Stripper well natural gas.
 - ^h Other categories of natural gas.
 - ⁱ Total of Sections 102, 103, 108, and 109.
 - ^j High cost natural gas.
 - ^k Natural gas not identified by category in Purchased Gas Adjustments (PGA) filing.
 - ^l Total of old gas, new gas, high cost gas, and miscellaneous.
 - ^m All prices are weighted averages.
 - ⁿ Additional interstate pipeline companies have been included with the 20 major interstate pipelines starting with PGA filings effective July 1, 1984. See Appendix A. Explanatory Note 12 for expanded pipeline company list.
 - ^r -- = Revised Data.
 - = Not Applicable.
 - * = Volume is less than 500 million cubic feet.
- Notes and Sources: See the last page of this section.

Figure 5. Purchased Gas Wellhead Prices

Source: Purchased Gas Adjustment filings for interstate pipeline companies.

Table 6. Summary of Natural Gas Imports and Exports
(Volumes in Million Cubic Feet, Prices in Dollars per Thousand Cubic Feet)

Year and Month	Imports				Exports	
	Longterm Contracts		Spot Markets		Volume	Average Price
	Volume	Average Price	Volume	Average Price		
1985 Total	949,715	3.21	NA	NA	55,268	4.77
1986 Total	715,980	2.43	34,489	1.57	61,271	2.81
1987 Total	804,496	1.95	188,036	1.30	54,020	3.07
1988						
January	109,709	2.05	28,156	1.63	4,786	3.11
February	85,449	1.99	30,774	1.63	4,660	3.14
March	78,548	1.97	33,268	1.49	6,218	2.84
April	86,170	1.96	28,552	1.29	6,354	2.75
May	68,642	1.89	24,728	1.21	3,777	2.30
June	67,847	1.86	25,318	1.20	8,469	2.53
July	76,951	1.84	22,893	1.24	4,892	2.94
August	77,121	1.91	18,313	1.27	6,008	2.70
September	75,942	1.92	19,919	1.35	7,167	2.59
October	77,011	1.86	29,873	1.43	5,497	2.78
November	82,395	1.88	38,290	1.40	6,771	2.61
December	86,735	2.09	41,208	1.57	9,050	2.70
Total	952,520	1.96	341,292	1.41	73,638	2.74
1989						
January	82,813	2.23	39,804	1.69	6,722	2.69
February	71,892	2.11	34,873	1.53	7,253	2.41
March	82,655	2.04	35,016	1.38	11,127	2.41
April	74,433	2.08	38,611	1.32	11,137	2.34
May	68,812	2.02	36,713	1.37	3,030	2.44
June	69,355	2.01	35,343	1.35	8,943	2.57
July	67,405	1.94	34,225	1.31	8,661	2.55
August	73,288	2.29	32,701	1.29	9,148	2.48
September	80,435	2.09	34,566	1.22	8,998	2.70
October	83,324	2.22	37,676	1.24	10,453	2.62
November	80,124	2.08	41,876	1.48	7,909	2.71
December	98,801	2.06	47,199	1.70	8,471	2.74
Total	933,317	2.11	448,203	1.41	106,871	2.51
1990						
January	113,386	2.05	35,675	2.01	^R 8,207	2.92
February	88,212	2.28	30,872	1.76	^R 7,933	2.71
March	88,372	2.24	27,854	1.68	^R 9,846	2.49
April	76,113	2.22	36,281	1.50	8,124	2.48
May	69,224	2.19	33,692	1.48	7,833	2.51
June	68,667	2.21	31,504	1.41	8,617	2.58

^R Revised Data

NA Not Available

Notes and Sources: See the last page of this section.

Table 7. Marketed Production of Natural Gas by State
(Million Cubic Feet)

Year and Month	Alabama	Alaska	Arkansas	California	Colorado	Florida	Kansas
1984 Total	101,821	209,129	136,161	476,333	173,267	12,505	465,979
1985 Total	107,342	321,346	185,099	491,283	179,239	10,545	512,872
1986 Total	107,104	304,841	131,075	482,218	183,884	8,833	465,895
1987 Total	117,241	369,837	141,151	424,621	164,567	8,281	457,050
1988							
January	11,392	32,910	19,390	34,672	18,577	652	72,587
February	10,929	29,984	15,308	30,938	18,155	597	50,858
March	11,255	36,393	14,968	35,114	18,025	643	55,095
April	10,471	29,666	12,473	32,892	15,972	614	46,812
May	9,236	28,658	12,473	34,562	16,516	607	43,514
June	10,523	29,466	11,793	33,765	12,769	790	45,892
July	10,953	29,263	11,566	33,339	13,028	677	36,847
August	10,753	29,530	13,040	35,317	14,001	644	33,789
September	10,388	30,159	12,246	34,343	14,099	602	28,998
October	11,100	34,017	12,587	33,193	15,057	538	46,615
November	10,663	34,088	13,607	30,674	15,588	528	51,178
December	11,980	34,525	17,122	30,855	18,759	593	64,000
Total	129,524	370,638	166,573	399,663	191,544	7,484	576,274
1989							
January	12,166	35,680	20,100	30,377	22,258	639	57,650
February	10,588	33,405	15,300	28,008	19,088	550	48,563
March	11,626	35,180	15,900	30,661	17,871	577	55,638
April	11,028	33,821	12,800	30,396	15,564	597	47,092
May	11,340	24,870	12,500	31,088	18,010	660	50,559
June	10,914	32,380	11,900	30,379	15,551	571	42,180
July	11,212	32,531	11,500	32,013	15,750	638	47,766
August	10,599	30,266	13,200	31,718	15,420	645	43,662
September	10,119	30,257	12,000	29,806	16,468	665	36,719
October	9,709	34,951	12,400	30,677	19,373	708	41,051
November	9,137	34,619	13,900	28,134	21,568	611	46,650
December	9,973	35,789	16,800	29,623	21,818	673	57,710
Total	128,411	393,729	168,300	362,860	216,737	7,534	587,230
1990							
January	10,650	35,514	20,800	28,313	21,484	699	57,345
February	10,097	34,268	15,600	25,362	17,390	649	48,178
March	11,223	34,845	16,400	30,292	17,567	553	41,472
April	11,185	32,533	13,700	29,010	18,070	629	40,422
May	11,736	29,666	13,400	29,800	18,034	660	35,644
1990 YTD	54,871	166,826	79,900	142,777	92,545	3,190	223,259
1989 YTD	56,748	182,936	78,600	150,510	90,789	3,023	271,502
1988 YTD	53,283	157,589	74,612	168,176	88,244	3,113	268,866

See footnotes at end of table.

Table 7. Marketed Production of Natural Gas by State (Continued)
(Million Cubic Feet)

Year and Month	Louisiana	Michigan	Mississippi	Montana	New Mexico	North Dakota	Oklahoma
1984 Total	5,825,055	144,537	157,811	51,474	957,388	70,498	1,985,889
1985 Total	5,013,702	131,855	144,170	52,494	905,272	72,833	1,930,341
1986 Total	4,895,394	127,287	140,833	48,592	702,614	55,008	1,917,483
1987 Total	5,122,509	146,996	139,727	48,458	823,773	62,258	2,004,797
1988							
January	469,503	12,922	10,187	5,159	85,471	4,992	185,737
February	445,057	11,889	10,842	4,746	72,987	4,871	172,119
March	454,289	12,317	12,287	4,131	74,098	4,980	178,902
April	417,581	11,180	11,025	3,246	61,034	4,773	168,081
May	437,323	12,993	13,553	3,215	68,043	5,131	179,902
June	404,480	12,043	7,565	3,276	61,239	5,008	167,219
July	416,209	12,550	7,884	2,997	57,584	5,046	172,989
August	423,979	12,225	10,363	3,713	62,752	4,973	173,393
September	375,328	11,944	10,001	3,898	61,829	4,140	174,821
October	425,295	11,480	10,149	5,483	59,083	4,520	176,689
November	443,353	12,170	10,027	5,918	60,000	4,862	177,191
December	467,897	11,561	10,932	5,893	70,097	4,651	183,810
Total	5,180,267	146,145	124,053	51,854	791,819	57,747	2,106,832
1989							
January	456,935	12,129	9,885	5,285	78,385	4,534	171,407
February	412,186	12,715	8,724	4,740	71,990	3,874	170,435
March	447,078	12,837	8,780	4,789	72,558	4,309	178,868
April	425,344	12,683	9,384	4,372	67,421	4,252	182,017
May	431,478	12,812	9,204	3,797	65,558	4,417	180,207
June	408,474	14,724	8,932	2,541	60,528	4,138	183,485
July	403,879	12,898	8,893	3,165	67,229	4,488	185,458
August	403,686	12,807	8,987	3,389	70,748	3,771	180,743
September	381,306	13,898	8,984	4,257	67,447	3,935	174,864
October	402,885	13,328	7,194	4,858	70,808	4,586	185,799
November	427,222	13,955	7,632	5,038	80,013	4,418	190,129
December	477,852	11,828	8,288	5,098	83,938	4,494	191,814
Total	5,078,125	155,988	102,845	51,307	854,815	51,174	2,185,204
1990							
January	484,445	14,451	8,360	5,291	86,880	4,881	186,000
February	424,394	12,737	7,677	4,711	78,375	4,221	168,533
March	450,096	13,702	8,359	4,229	81,171	4,221	175,918
April	426,415	14,745	7,886	4,548	75,759	4,582	179,017
May	435,138	12,988	7,885	3,397	76,845	4,413	184,349
1990 YTD	2,220,488	68,623	40,187	22,174	399,810	22,577	893,817
1989 YTD	2,173,021	62,958	45,957	22,983	353,908	21,086	892,932
1988 YTD	2,223,733	61,281	57,954	20,497	359,633	24,547	880,741

See footnotes at end of table.

Table 7. Marketed Production of Natural Gas by State (Continued)
(Million Cubic Feet)

Year and Month	Texas	Utah	West Virginia	Wyoming	Other ^a States	U.S. Total
1984 Total	6,185,021	74,688	143,730	516,883	482,533	18,220,638
1985 Total	6,052,883	83,405	144,883	418,585	487,284	17,197,999
1986 Total	6,151,775	90,013	135,431	403,288	481,584	16,790,910
1987 Total	6,126,315	87,158	160,000	407,980	457,830	17,348,537
1988						
January	575,425	10,288	17,005	48,751	40,008	1,056,588
February	529,338	9,380	16,449	34,518	39,504	1,008,217
March	548,365	9,602	15,227	50,108	39,605	1,073,982
April	507,830	8,280	14,871	48,281	37,580	1,040,411
May	514,825	9,187	14,228	35,440	37,580	1,075,100
June	493,000	7,475	14,118	43,307	38,884	1,001,600
July	513,708	7,287	14,004	37,103	37,388	1,020,282
August	521,584	8,275	13,870	29,818	38,888	1,040,317
September	484,953	8,582	13,580	42,143	37,188	1,058,770
October	528,788	8,032	11,892	43,810	39,705	1,076,029
November	525,427	10,031	15,005	45,919	38,295	1,054,524
December	544,695	4,993	15,116	50,085	38,805	1,086,250
Total	6,286,029	101,372	174,942	509,058	482,056	17,841,474
1989						
January	545,995	11,583	20,100	63,140	41,235	1,097,461
February	498,338	10,631	19,700	54,794	40,722	1,078,349
March	541,753	10,348	18,200	58,284	40,824	1,083,885
April	518,207	9,313	18,700	51,886	38,773	1,081,410
May	525,157	10,134	15,900	58,519	38,978	1,051,166
June	508,113	7,824	16,800	52,138	37,850	1,049,198
July	520,968	10,082	15,300	51,504	38,363	1,073,505
August	518,598	9,588	14,000	50,036	38,898	1,000,435
September	491,862	8,482	14,500	51,023	38,158	1,002,528
October	512,554	9,473	12,700	55,332	40,722	1,088,888
November	517,874	10,130	18,400	58,195	39,288	1,024,909
December	544,010	12,533	17,200	64,948	40,820	1,034,787
Total	6,241,425	120,089	198,200	685,689	475,227	18,044,499
1990						
January	570,208	14,705	23,000	61,822	41,100	1,075,528
February	508,557	12,782	22,800	58,233	40,800	1,091,982
March	541,062	12,822	20,100	62,938	40,700	1,088,149
April	513,659	9,829	19,700	58,500	38,700	1,008,647
May	527,747	11,992	17,800	54,793	37,400	1,013,427
1990 YTD	2,659,233	61,936	103,000	282,028	198,500	7,745,713
1989 YTD	2,629,448	51,987	90,800	282,433	200,532	7,840,251
1988 YTD	2,675,784	48,718	77,578	217,074	194,295	7,853,898

^a Includes Arizona, Illinois, Indiana, Kentucky, Maryland, Missouri, Nebraska, New York, Ohio, Oregon, Pennsylvania, South Dakota, Tennessee, and Virginia. The 1990 monthly values for these States are estimated.

^b Total marketed production for Louisiana in January - May 1990 were estimated on the basis of production reported in January - December 1989, seasonally adjusted.

^c Total marketed production for Texas in February 1990 represents reported data for State onshore and estimated data for Outer Continental Shelf (OCS) producing areas.

^d Estimated Data.

^e Revised Data.

Notes and Sources: See the last page of this section.

Table 8. Well Determination Fillings
(Volume in Billion Cubic Feet)

Year and Month	Section 102 ^a			Section 103 ^b			Section 107 ^c		
	Number of Fillings ^a			Number of Fillings ^a			Number of Fillings ^a		
	Total	With Volumes	Estimated Annual Volume ^d	Total	With Volumes	Estimated Annual Volume ^d	Total	With Volumes	Estimated Annual Volume ^d
1984 Total	10,187	8,071	2,432	16,048	12,761	1,217	9,886	7,846	757
1985 Total	9,062	7,028	1,905	15,886	12,531	1,455	10,940	8,788	741
1986 Total	4,831	3,820	1,010	11,348	8,958	959	6,709	4,874	387
1987 Total	2,387	1,787	471	5,717	4,548	532	6,855	4,242	248
1988									
January	118	88	18	444	352	32	327	203	13
February	188	132	31	540	415	44	605	386	21
March	204	135	38	870	495	82	582	341	14
April	101	80	18	688	477	59	454	232	14
May	170	127	30	680	571	68	620	420	18
June	425	380	55	784	688	40	444	252	13
July	121	71	22	269	198	21	478	304	19
August	190	135	217	585	458	51	575	377	25
September	111	83	23	435	349	54	535	246	17
October	193	104	27	358	286	25	485	288	10
November	145	90	26	345	271	30	269	144	7
December	183	105	21	555	432	60	389	265	16
Total	2,147	1,508	528	6,359	5,004	563	5,743	3,494	185
1989									
January	124	97	25	389	300	31	385	286	14
February	134	103	28	400	303	54	288	219	14
March	104	78	22	392	317	23	351	234	10
April	131	93	24	384	279	40	286	217	15
May	135	107	29	405	285	30	295	192	21
June	68	44	13	294	199	18	214	136	6
July	137	110	24	482	339	38	286	218	14
August	124	91	26	313	236	24	341	250	28
September	74	61	102	269	195	32	314	268	17
October	87	73	24	448	338	57	385	293	20
November	91	69	21	233	143	20	364	302	22
December	55	41	7	205	126	13	362	229	14
Total	1,262	987	344	4,184	3,060	370	3,831	2,853	195
1990									
January	85	67	17	289	173	24	388	298	21
February	67	54	20	248	155	18	389	262	16
March	122	86	17	291	191	17	714	468	29
April	93	82	18	204	137	11	425	231	22
May	82	71	17	367	213	26	553	378	32
June	45	39	10	297	224	22	468	349	42
July	34	28	7	202	144	20	362	254	21
1990 YTD	528	427	105	1,898	1,227	137	3,299	2,240	184
1989 YTD	831	632	164	2,726	2,022	234	2,085	1,502	94
1988 YTD	1,325	991	212	4,083	3,206	344	3,510	2,174	111

See footnotes at end of table.

Table 8. Well Determination Filings (Continued)
(Volume in Billion Cubic Feet)

Year and Month	Section 108 ^d			Total		
	Number of Filings ^a			Number of Filings ^a		
	Total	With Volumes	Estimated Annual Volume ^f	Total	With Volumes	Estimated Annual Volume ^f
1984 Total	12,853	7,833	124	48,524	38,301	4,531
1985 Total	9,740	5,304	74	45,828	33,829	4,174
1986 Total	7,215	4,115	50	29,903	21,588	2,383
1987 Total	5,081	3,170	88	19,820	13,758	1,309
1988						
January	886	542	5	1,575	1,213	88
February	420	242	3	1,751	1,175	99
March	554	475	4	2,010	1,446	137
April	372	233	3	1,813	1,022	94
May	572	448	8	2,042	1,572	123
June	179	102	3	1,842	1,412	111
July	139	80	1	1,007	853	83
August	259	154	2	1,809	1,124	294
September	346	50	1	1,427	728	95
October	162	89	2	1,178	789	84
November	180	108	1	919	811	84
December	171	81	1	1,288	883	98
Total	4,020	2,802	34	18,289	12,608	1,309
1989						
January	120	71	1	1,018	754	71
February	136	78	1	938	703	96
March	142	81	1	989	690	58
April	170	103	1	971	692	80
May	408	328	1	1,243	910	81
June	183	101	1	737	480	38
July	389	344	2	1,254	1,011	78
August	92	75	1	870	681	78
September	144	80	3	801	604	153
October	380	338	3	1,300	1,042	104
November	145	85	1	833	579	83
December	92	39	1	714	435	35
Total	2,381	1,681	18	11,688	8,581	934
1990						
January	344	311	7	1,108	849	89
February	89	54	1	793	525	55
March	50	30	0	1,177	785	83
April	330	308	3	1,052	758	54
May	88	28	0	1,088	888	75
June	76	32	0	886	644	74
July	116	83	3	714	488	51
1990 YTD	1,071	824	15	6,796	4,718	441
1989 YTD	1,528	1,084	8	7,150	5,240	500
1988 YTD	2,922	2,122	28	11,840	8,493	894

^a New natural gas and certain natural gas produced from the Outer Continental Shelf.

^b New onshore production wells.

^c High cost natural gas.

^d Stripper well natural gas.

^e Not all filings report estimated volumes. The "With Volumes" columns show number reporting volumes.

^f Annual volumes are often estimated by producers prior to actual operations or based on short periods of operation. For this reason the accuracy of estimates may vary.

Notes and Sources: See the last page of this section.

Table 9. Well Determination Filings by State, July 1990
(Volume in Million Cubic Feet)

State	Section 102 ^a			Section 103 ^b			Section 107 ^c		
	Number of Filings ^d		Estimated Annual Volume ^f	Number of Filings ^d		Estimated Annual Volume	Number of Filings ^d		Estimated Annual Volume
	Total	With Volumes		Total	With Volumes		Total	With Volumes	
Alabama	7	7	1,200	0	0	0	89	87	3,459
Colorado	0	0	0	4	4	1,002	15	13	1,192
Kansas	0	0	0	0	0	0	0	0	0
Kentucky	0	0	0	11	8	88	14	12	238
Louisiana	3	3	434	0	0	0	1	1	912
Montana	0	0	0	0	0	0	0	0	0
New Mexico	0	0	0	22	16	4,053	55	15	4,800
New York	0	0	0	0	0	0	15	10	304
Ohio	0	0	0	10	8	290	50	48	1,542
Oklahoma	0	0	0	26	23	7,297	0	0	0
Pennsylvania	8	8	887	29	24	870	27	17	259
Texas	16	10	4,213	67	36	5,476	57	29	7,335
Utah	0	0	0	1	1	95	0	0	0
West Virginia	0	0	0	27	21	438	59	42	1,018
Wyoming	0	0	0	5	3	516	0	0	0
Total	31	28	6,714	202	144	19,925	302	254	21,059

See footnotes at end of table.

Table 9. Well Determination Filings by State, July 1990 (Continued)
(Volume in Million Cubic Feet)

State	Section 108 ^d			Total		
	Number of Filings ^e		Estimated Annual Volume ^f	Number of Filings ^e		Estimated Annual Volume ^f
	Total	With Volumes		Total	With Volumes	
Alabama	0	0	0	76	74	4,859
Colorado	0	0	0	19	17	2,194
Kansas	2	2	3	2	2	3
Kentucky	10	10	75	35	30	401
Louisiana	0	0	0	4	4	1,346
Montana	39	8	127	39	8	127
New Mexico	5	0	0	82	31	8,853
New York	0	0	0	15	10	304
Ohio	3	0	0	63	50	1,832
Oklahoma	22	18	2,411	48	41	9,708
Pennsylvania	0	0	0	64	49	1,796
Texas	12	4	28	152	79	17,052
Utah	0	0	0	1	1	95
West Virginia	22	20	158	108	83	1,814
Wyoming	1	1	23	6	4	539
Total	116	83	2,825	714	489	50,523

^a New natural gas and certain natural gas produced from the Outer Continental Shelf.

^b New onshore production wells.

^c High cost natural gas.

^d Stripper well natural gas.

^e Not all filings report estimated volumes. The "With Volumes" columns show number reporting volumes.

^f Annual volumes are often estimated by producers prior to actual operations or based on short periods of operation. For this reason the accuracy of estimates may vary.

Notes and Sources: See the last page of this section.

Table 10. Well Determination Filings by Category, July 1990
(Volumes In Million Cubic Feet)

NQPA Category	Total Filings	Filings Reporting Volume	Estimated Annual Volume ^{a b}
Section 102^c			
New OCS Lease	0	0	0
New Onshore Well (2.5 miles)	10	10	2,487
New Onshore Well (1,000 ft. deeper)	0	0	0
New Onshore Reservoir	18	14	3,483
New Reservoir on Old OCS Lease	5	3	434
Unspecified	1	1	300
Total	34	28	6,714
Section 103^d			
Less than 5,000 Feet Deep	108	71	6,809
5,000 Feet and Deeper	80	88	12,933
Depth Not Reported	14	5	183
Total	202	144	19,925
Section 107^e			
Deep	1	1	912
Geopressurized Brine	0	0	0
Coal Seam Gas	139	95	9,452
Devonian Shale	86	68	1,358
Production Enhancement	0	0	0
New Tight Formation	133	87	8,119
Recompletion Tight Formation	3	3	1,218
Unspecified	0	0	0
Total	362	254	21,059
Section 108^f			
Stripper Well	75	63	2,825
Seasonally Affected	0	0	0
Enhanced Recovery	10	0	0
Temporary Pressure Buildup	31	0	0
Unspecified	0	0	0
Total	116	63	2,825
Total All Sections	714	489	50,523

^a Includes all filings reporting volume.

^b Annual volumes are often estimated by producers prior to actual operations or based on short periods of operation. For this reason the accuracy of estimates may vary.

^c New natural gas and certain natural gas produced from the Outer Continental Shelf.

^d New onshore production wells.

^e High cost natural gas.

^f Stripper well natural gas.

Notes and Sources: See the last page of this section.

Table 11. Natural Gas Ceiling Prices by Category of Gas, Type of Sale, or Contract^a
(Dollars per Million Btu)

NGPA Category	Sept. 1990	Sept. 1989	Sept. 1988	Sept. 1987	Sept. 1986	Sept. 1985	Sept. 1984
Section 102							
New Natural Gas, Certain OCS Gas ^b	5.872	5.420	4.990	4.660	4.354	4.068	3.774
Section 103 (b)(1)							
New Onshore Production Wells ^b	3.626	3.474	3.321	3.220	3.125	3.031	2.925
Section 103 (b)(2)							
New Onshore Production Wells ^b	--	--	3.321	--	3.740	3.550	--
Section 105 ^c							
Intrastate Existing Contracts	5.571	5.188	4.821	4.546	4.288	4.043	--
Section 106 (b)(1)(B)							
Alternate Maximum Lawful Price for Certain Intrastate Rollover Gas ^d	2.075	1.988	1.899	1.843	1.787	1.735	1.671
Section 107							
Gas Produced from Tight Formations	7.252	6.948	6.642	6.440	6.250	6.062	5.850
Section 108							
Stripper Gas	6.289	5.804	5.343	4.990	4.663	4.354	4.042
Section 109							
Not Otherwise Covered	3.000	2.876	2.751	2.668	2.588	2.512	2.421
Section 104 and 106 (a)							
Post-1974 Gas: All Producers	3.000	2.876	2.751	2.668	2.588	2.512	2.421
1973-1974 Biennium Gas:							
Small Producer	2.531	2.428	2.322	2.254	2.188	2.124	2.051
Large Producer	1.941	1.859	1.777	1.723	1.672	1.620	1.563
Interstate Rollover Gas: ^e							
Small Producer	1.113	1.068	1.020	.991	.962	.932	.898
Large Producer	1.113	1.068	1.020	.991	.962	.932	.898
Replacement Contract Gas or Recompletion Gas							
Small Producer	1.426	1.366	1.305	1.264	1.227	1.193	1.150
Large Producer	1.089	1.044	.999	.972	.943	.913	.880
Flowing Gas:							
Small Producer	.719	.689	.660	.642	.622	.604	.582
Large Producer	.605	.581	.557	.542	.522	.510	.492
Certain Permian Basin Gas:							
Small Producer ^e	.848	.814	.778	.752	.732	.710	.686
Large Producer	.751	.718	.686	.668	.648	.629	.605
Certain Rocky Mountain Gas:							
Small Producer	.848	.814	.778	.752	.732	.710	.686
Large Producer	.719	.689	.650	.642	.622	.604	.582
Certain Appalachian Basin Gas:							
North Subarea Contracts dated after Oct. 7, 1969	.685	.655	.626	.611	.591	.573	.551
Other Contracts	.634	.606	.581	.566	.546	.528	.510
Minimum Rate Gas: All Producers (dollars per Mcf)	.372	.357	.345	.333	.324	.312	.300

^a See Appendix A, Explanatory Note 1U for discussion of Title I of the Natural Gas Policy Act.

^b Commencing January 1, 1985 and July 1, 1987, the price of some natural gas finally determined to be natural gas produced from a new, onshore production well under Section 103 is deregulated. Thus, for all months succeeding June 1987 publication of a maximum lawful price per MMBtu under NGPA Section 103(b)(2) is discontinued.

^c New category as of January 1, 1985.

^d Section 106(b) of the NGPA provides that for certain gas sold under an intrastate rollover contract, the maximum lawful price is the higher of the price paid under the expired contract, adjusted for inflation or an alternative Maximum Lawful Price specified in this table. This alternative Maximum Lawful Price for each month appears in this row.

^e The price for interstate rollover gas is the higher of the price listed in this table or the just and reasonable price under the expired contract as adjusted for inflation.

-- : Not Applicable.

Notes and Sources: See the last page of this section.

Table 12. Revenues, Expenses, and Income of Major Interstate Natural Gas Pipeline Companies
(Million Dollars)

Year and Month	Total Sales Volume ^a (Bcf)	Gas Operating Revenues	Gas Operating Expenses				Total Operating Income	Total Income Before Interest Charges and Extraordinary Expenses	Net Income ^c
			Operation and Maintenance	Depreciation, Depletion, and Amortization	Taxes ^b	Total Gas Operating Expenses			
1984 Total	12,596	53,629	42,250	1,693	630	50,467	3,168	5,279	3,227
1985 Total	11,286	48,470	42,071	1,655	666	45,835	2,582	4,303	1,791
1986 Total	8,130	34,541	28,538	1,672	602	32,250	2,335	3,761	1,490
1987 Total	6,758	27,469	21,871	1,520	552	25,151	2,333	3,493	1,414
1988									
January	1,152	3,860	3,147	137	56	3,500	360	485	306
February	939	3,337	2,711	155	54	3,033	304	423	255
March	606	2,414	1,855	133	50	2,151	263	441	240
April	378	1,720	1,312	126	48	1,648	185	339	160
May	317	1,550	1,193	118	46	1,376	174	325	163
June	308	1,515	1,468	123	46	1,568	-53	93	20
July	315	1,483	1,124	126	43	1,215	268	-62	-159
August	347	1,681	1,324	131	45	1,680	4	226	73
September	321	1,595	1,628	129	47	1,531	64	-67	-253
October	435	1,949	1,591	141	51	1,775	172	158	-43
November	504	2,395	2,387	133	48	2,467	-83	50	-148
December	792	3,138	2,900	127	48	2,996	145	939	752
Total	6,414	26,637	22,640	1,579	582	24,940	1,803	3,350	1,366
1989									
January	711	2,902	2,278	132	56	2,589	313	454	280
February	721	2,922	2,306	137	56	2,619	303	447	267
March	520	2,436	2,077	130	53	2,293	144	329	130
April	357	1,885	1,461	120	54	1,678	207	304	122
May	305	1,945	1,547	130	44	1,769	169	351	168
June	252	1,471	1,141	129	51	1,331	138	331	162
July	271	1,520	1,192	129	51	1,382	138	222	43
August	300	1,565	1,214	131	51	1,406	158	293	110
September	303	1,695	1,279	154	40	1,513	172	368	190
October	388	1,827	1,754	103	50	1,781	46	212	57
November	518	2,443	1,965	119	48	2,230	213	396	228
December	1,006	4,092	3,550	79	42	3,675	418	713	397
Total	5,652	26,703	21,764	1,493	596	24,266	2,419	4,420	2,154
1990									
January	710	3,106	2,495	130	59	2,783	323	492	326
February	584	2,501	1,977	121	57	2,240	262	401	243
March	440	2,200	1,638	96	56	1,899	301	456	355
April	343	1,733	1,329	124	53	1,550	183	365	208
May	278	1,525	1,183	111	52	1,371	154	294	141
June	246	1,460	1,110	108	52	1,270	189	398	234

^a Includes sales for resale and sales to ultimate consumers.

^b Excludes income taxes.

^c Total Income before Interest Charges and Extraordinary Expenses and Investment Tax Credits minus Income Taxes, Interest Charges, and Extraordinary Items.

Notes and Sources: See the last page of this section.

Table 13. Volumes and Prices of Natural Gas Sold by Major Interstate Natural Gas Pipeline Companies
(Volumes in Million Cubic Feet, Prices in Dollars per Thousand Cubic Feet)

Year and Month	To Industrial Users		To Other Ultimate Consumers		Total Sales to Ultimate Consumers		Sales For Resale		Total Sales of Natural Gas		Number of Companies
	Volume	Price ^a	Volume	Price ^a	Volume	Price ^a	Volume	Price ^a	Volume	Price ^a	
1984 Total	702,540	4.13	388,780	5.34	1,091,320	4.56	9,020,704	3.99	10,112,024	4.05	44
1985 Total	885,254	3.91	557,602	5.30	1,442,856	4.45	8,074,803	3.90	9,517,659	3.98	45
1986 Total	549,956	3.23	433,058	5.08	983,014	4.04	6,023,893	3.69	7,006,907	3.74	48
1987 Total	442,041	3.07	301,567	5.06	743,608	3.91	5,213,829	3.37	5,957,237	3.44	47
1988											
January	31,555	2.94	81,597	4.61	113,152	4.14	899,736	2.99	1,012,888	3.11	46
February	20,698	2.96	68,547	4.76	89,245	4.34	729,882	3.11	819,127	3.25	46
March	23,154	2.83	50,926	4.88	74,080	4.24	469,116	3.27	543,196	3.40	46
April	24,440	2.67	17,334	5.41	41,774	3.81	304,224	3.57	345,998	3.60	46
May	25,651	2.36	19,724	4.95	45,375	3.49	238,526	3.85	283,901	3.79	46
June	28,916	2.52	17,336	5.94	46,252	3.80	224,768	3.85	271,020	3.85	46
July	28,489	2.45	18,472	5.82	46,961	3.78	222,087	3.73	269,048	3.74	46
August	30,159	2.51	19,904	5.66	50,063	3.76	252,794	3.95	302,857	3.92	46
September	26,001	2.40	15,716	6.19	41,965	3.80	230,466	4.01	274,431	3.98	46
October	17,982	2.63	28,309	5.42	46,467	4.30	329,151	3.75	375,442	3.84	46
November	18,263	2.85	38,695	5.10	54,539	4.44	364,104	4.22	421,062	4.25	46
December	19,513	2.82	64,123	4.42	83,636	4.05	601,339	3.34	684,975	3.42	46
Total	294,821	2.65	440,683	4.99	735,509	4.05	4,866,193	3.47	5,603,945	3.55	46
1989											
January	23,906	2.80	64,345	4.83	88,251	4.28	540,346	3.32	628,597	3.45	46
February	57,581	2.45	69,901	4.73	127,474	3.74	556,103	3.37	683,577	3.44	46
March	34,247	2.29	56,503	4.96	90,750	3.95	379,148	3.47	469,898	3.57	47
April	31,606	2.69	34,276	5.40	65,882	4.10	248,753	3.80	314,469	3.85	48
May	32,223	2.66	21,016	5.59	53,239	3.82	205,407	4.19	258,454	4.11	49
June	27,766	2.68	14,648	6.19	42,414	3.89	R 171,725	R 4.19	R 214,139	R 4.13	49
July	41,014	2.44	17,461	5.57	58,475	3.37	182,379	3.49	240,854	3.46	48
August	32,280	2.51	18,844	4.92	51,124	3.40	221,426	3.40	272,550	3.40	49
September	33,768	2.50	16,516	5.76	50,284	3.57	225,373	3.33	275,657	3.38	50
October	29,222	2.62	25,710	5.61	54,932	4.02	289,586	3.26	344,518	3.38	50
November	25,864	2.70	41,965	5.06	67,829	4.16	408,232	3.40	476,061	3.51	50
December	23,366	3.03	84,407	4.49	107,773	4.18	795,655	3.30	903,428	3.41	50
Total	392,843	2.58	465,592	5.02	858,427	3.91	R 4,224,133	R 3.46	R 5,082,202	R 3.53	50
1990											
January	23,281	3.52	61,566	4.90	84,847	4.52	488,521	3.43	573,368	3.59	51
February	53,729	2.58	54,123	5.00	107,852	3.80	428,176	2.59	536,028	2.83	51
March	25,138	2.64	45,531	5.05	70,669	4.20	333,858	3.09	404,527	3.29	51
April	23,943	2.51	31,740	5.20	55,683	4.04	261,293	2.76	316,976	2.98	51
May	24,714	2.40	21,818	5.63	46,532	3.91	205,735	3.01	252,267	3.17	51
June	24,376	2.30	15,459	4.98	39,835	3.34	183,781	2.86	223,616	2.95	51

^a All prices are weighted averages.

R = Revised Data.

Notes and Sources: See the last page of this section.

Table 14. Volumes and Prices of Natural Gas Sold by Major Interstate Natural Gas Pipeline Companies, by Company, June 1990
(Volumes in Million Cubic Feet, Prices in Dollars per Thousand Cubic Feet)

Pipeline Company	To Industrial Users		To Other Ultimate Consumers		Total Sales to Ultimate Consumers		Sales For Resale		Total Sales of Natural Gas	
	Volume	Price*	Volume	Price*	Volume	Price*	Volume	Price*	Volume	Price*
Algonquin Gas	0	0.00	0	0.00	0	0.00	928	2.90	928	2.90
ANR	0	.00	0	.00	0	.00	3,430	2.78	3,430	2.78
Arkla, Inc.	2,700	2.86	8,089	6.32	10,859	5.43	235	1.34	11,094	5.34
Bear Creek Storage	0	.00	0	.00	0	.00	0	.00	0	.00
Canyon Creek Transm Co	0	.00	0	.00	0	.00	0	.00	0	.00
Colorado Interstate	88	2.49	0	.00	88	2.49	2,832	3.05	2,920	3.03
Columbia Gas Transm	0	.00	0	.00	0	.00	4,864	3.12	4,864	3.12
Columbia Gulf	0	.00	4	3.50	4	3.50	0	.00	4	3.50
Consolidated Gas	27	2.67	0	.00	27	2.67	953	1.00	980	1.05
East Tennessee	1,543	2.85	1	4.00	1,544	2.85	3,684	2.51	5,228	2.55
El Paso	3,115	2.32	0	.00	3,115	2.32	3,578	2.26	6,693	2.29
Equitrans	1,200	2.31	0	.00	1,200	2.31	519	3.70	1,719	2.75
Florida Gas	14,117	2.11	0	.00	14,117	2.11	6,545	2.34	20,662	2.18
Great Lakes Gas	0	.00	0	.00	0	.00	0	.00	0	.00
High Island Offshore	0	.00	0	.00	0	.00	0	.00	0	.00
K N Energy Inc.	82	2.98	1,964	4.40	2,046	4.34	965	3.17	3,011	3.96
Michigan Consolidated	121	4.76	5,043	3.30	5,164	3.33	1	2.00	5,165	3.03
Michigan Gas Storage	0	.00	0	.00	0	.00	1,326	2.58	1,326	2.58
Midwestern	0	.00	0	.00	0	.00	3,513	2.98	3,513	2.98
Mississippi River	219	2.74	0	.00	219	2.74	3,014	4.34	3,233	4.23
Mountain Fuel Res	0	.00	0	.00	0	.00	837	6.53	837	6.53
National Fuel	0	.00	0	.00	0	.00	3,957	3.87	3,957	3.87
Natural Gas Pipeline	2	3.00	0	.00	2	3.00	13,932	4.42	13,934	4.42
Northern Border	0	.00	0	.00	0	.00	0	.00	0	.00
Northern Natural	680	1.69	1	2.00	681	1.69	19,293	2.49	19,974	2.46
Northwest Alaskan	0	.00	0	.00	0	.00	30,065	1.24	30,065	1.24
Northwest Pipeline	1	2.00	0	.00	1	2.00	1,471	3.58	1,472	3.58
Overthrust Pipeline	0	.00	0	.00	0	.00	0	.00	0	.00
Pacific Gas Transm	0	.00	0	.00	0	.00	28,357	2.46	28,357	2.46
Pacific Interstate	0	.00	0	.00	0	.00	6,555	3.64	6,555	3.64
Panhandle Eastern	45	3.49	293	1.94	338	2.15	3,070	4.24	3,408	4.04
Sabine Pipeline Co	0	.00	0	.00	0	.00	0	.00	0	.00
Sas Robin Pipeline	0	.00	0	.00	0	.00	0	.00	0	.00
Southern Natural	18	3.89	0	.00	18	3.89	4,747	.50	4,765	2.51
Stingray Pipeline	0	.00	0	.00	0	.00	0	.00	0	.00
Tenneco, Inc.	134	2.60	0	.00	134	2.60	2,157	4.21	2,291	4.14
Texas Eastern	0	.00	0	.00	0	.00	14,090	4.39	14,090	4.39
Texas Gas Transm	0	.00	0	.00	0	.00	6,617	4.68	6,617	4.68
Trailblazer Pipeline	0	.00	0	.00	0	.00	0	.00	0	.00
Transco Gas	0	.00	0	.00	0	.00	0	.00	0	.00
Transcontinental	0	.00	0	.00	0	.00	19,456	2.22	19,456	2.22
Transwestern Pipeline	7	1.86	17	2.00	24	1.86	3,830	1.36	3,854	1.36
Trunkline Gas Co	1	2.00	43	2.02	44	2.02	7,703	3.77	7,747	3.76
Trunkline LNG	0	.00	0	.00	0	.00	0	.00	0	.00
U-T Offshore	0	.00	0	.00	0	.00	0	.00	0	.00
United Gas Pipeline	48	3.52	19	2.79	67	3.31	1,682	5.68	1,749	5.59
Valero Interstate Transm	0	.00	0	.00	0	.00	0	.00	0	.00
Viking Gas Company	0	.00	0	.00	0	.00	225	3.29	225	3.29
Williams Natural	138	3.37	5	1.60	143	3.31	2,086	3.77	2,229	3.74
Williston Basin	0	.00	0	.00	0	.00	142	3.18	142	3.18
Wyoming Interstate	0	.00	0	.00	0	.00	0	.00	0	.00
Total/Average Price*	24,376	2.30	15,459	4.98	39,835	3.34	206,659	2.89	246,494	2.96
Sales to Other Major Companies	--	--	--	--	--	--	22,878	3.09	22,878	3.09
Sales Excluding Sales to Major Companies	--	--	--	--	--	--	183,781	2.86	223,616	2.95

* All prices are computed weighted averages based on dollar and volume amounts reported, which may include or reflect out-of-period dollar or volume adjustments, restatements or revisions, or account reclassifications or provisions for ending regulatory adjustments. See Appendix A, Explanatory Note 9 for discussion of apparent anomalies.

-- Not Applicable.

Notes and Sources: See the last page of this section.

**Table 15. Natural and Other Gases Produced and Purchased by
Major Interstate Natural Gas Pipeline Companies
(Million Cubic Feet)**

Year and Month	Transported Gas ^a	Natural Gas ^b Production	Manufactured Gas, Liquefied Natural Gas, Gasified Coal, and Synthetic Gas Production	Purchased Natural Gas				
				From Producers	Intracompany Transfers	Imports	From Others	Total
1984 Total	7,652,245	365,796	2,121	9,190,510	NA	771,075	785,279	10,746,864
1985 Total	8,922,483	206,967	18,166	8,211,227	363,065	887,187	598,926	9,695,340
1986 Total	10,508,148	136,921	22,634	6,466,257	186,964	697,249	345,309	7,675,780
1987 Total	13,479,989	152,039	22,905	4,848,577	124,572	759,345	400,134	6,132,628
1988								
January	1,278,992	16,620	2,091	604,262	10,699	100,465	73,973	789,399
February	1,253,637	19,682	2,352	484,546	6,740	83,145	65,111	639,542
March	1,400,959	16,140	1,720	449,314	8,293	74,762	30,351	562,720
April	1,400,187	5,560	2,783	323,745	-283	75,279	8,917	407,658
May	1,291,115	7,126	2,288	324,784	4,750	67,846	13,869	411,249
June	1,230,313	9,760	2,071	308,585	7,046	68,915	8,376	392,922
July	1,222,281	11,270	993	314,460	4,886	79,748	13,880	412,954
August	1,245,290	10,678	1,635	307,875	5,057	86,241	21,116	420,289
September	1,178,750	9,996	1,854	285,403	4,054	80,533	17,737	389,579
October	1,378,349	10,478	1,814	325,497	4,363	71,791	11,894	411,011
November	1,406,500	11,449	1,789	341,016	6,544	89,842	34,112	471,514
December	1,664,134	10,862	2,570	446,633	4,730	83,816	75,667	610,846
Total	15,950,507	139,621	23,960	4,516,120	66,879	962,383	374,983	5,919,683
1989								
January	1,604,355	12,145	2,018	400,130	7,077	76,463	72,507	556,177
February	1,495,146	12,008	1,763	372,710	8,143	66,282	45,791	492,926
March	1,638,521	11,077	2,134	314,545	6,881	79,191	27,718	428,335
April	1,629,112	8,935	2,010	224,007	4,975	74,285	24,877	328,144
May	1,621,453	6,610	2,083	237,163	4,994	73,118	15,864	331,139
June	1,512,971	6,410	1,956	247,553	5,623	69,512	25,409	347,097
July	1,421,878	7,932	2,150	239,428	6,091	74,761	25,283	345,563
August	1,414,240	6,857	2,031	249,948	5,540	67,871	28,038	351,397
September	1,418,307	5,851	2,052	240,590	4,275	73,787	24,128	342,780
October	1,540,830	7,307	2,171	259,112	5,788	72,313	27,491	364,704
November	1,682,778	8,321	2,060	339,534	6,777	77,522	44,754	468,586
December	1,717,007	9,317	2,181	407,868	7,894	99,383	65,283	580,428
Total	18,696,398	102,770	24,609	3,532,588	74,058	903,488	427,143	4,937,276
1990								
January	1,843,090	9,249	2,064	487,025	7,656	102,640	73,255	670,576
February	1,653,276	7,301	1,948	356,499	5,752	77,018	27,028	466,297
March	1,777,624	8,806	2,295	297,445	6,243	79,441	23,978	407,107
April	1,660,666	6,844	2,095	221,754	4,621	81,523	24,224	332,122
May	1,666,594	6,608	2,141	248,608	5,278	79,549	19,329	352,764
June	1,500,305	6,476	1,971	237,229	4,376	78,303	20,390	340,298

^a Gas transported for other companies through the production, transmission, or distribution lines or compressor stations of the reporting pipelines.

^b Mixture of hydrocarbons existing in gaseous phase or in solution with crude oil in natural underground reservoirs.

^c Includes out-of-period adjustments to correct data in prior month.

NA = Not Available.

Notes and Sources: See the last page of this section.

**Table 16. Natural and Other Gases Produced and Purchased
by Major Interstate Natural Gas Pipeline Companies, June 1990
(Million Cubic Feet)**

Pipeline Company	Transported Gas	Natural Gas Production	Manufactured Gas, Liquefied Natural Gas, Gasified Coal and Synthetic Gas Production	Purchased Natural Gas				Total
				From Producers	Intracompany Transfers	Imports	From Others	
Algonquin Gas	8,946	0	0	0	0	0	1,449	1,449
ANR	89,536	0	1,143	10,793	0	0	* -46	10,747
Arkla, Inc.	44,894	0	0	3,324	0	0	8,980	12,304
Bear Creek Storage	0	0	0	0	0	0	0	0
Canyon Creek Transm Co	-20	0	0	0	0	0	0	0
Colorado Interstate	30,555	3,099	0	4,875	3,099	0	0	7,974
Columbia Gas Transm	45,801	0	0	15,497	0	0	82	15,559
Columbia Gulf	87,482	0	0	0	0	0	2,020	2,020
Consolidated Gas	23,908	1,084	0	11,601	* -580	0	1,468	12,489
East Tennessee	0	0	0	5,678	0	0	0	5,678
El Paso	93,863	358	0	9,056	0	0	* -1,349	7,707
Equitrans	3,502	0	0	2,805	0	0	5	2,810
Florida Gas	1,257	0	0	12,074	0	0	9,124	21,198
Great Lakes Gas	43,115	0	0	0	0	1,954	0	1,954
High Island Offshore	33,030	0	0	0	0	0	0	0
K N Energy Inc.	4,880	0	0	3,657	0	0	1,773	5,430
Michigan Consolidated	8,416	238	0	11,578	0	0	3,108	14,880
Michigan Gas Storage	19,980	0	0	0	0	0	1,252	1,252
Midwestern	13,457	0	0	3,733	0	0	74	3,807
Mississippi River	4,217	0	0	8,139	0	0	0	8,139
Mountain Fuel Res	11,331	0	0	3,783	0	0	948	4,731
National Fuel	9,468	389	0	7,816	389	0	4	8,209
Natural Gas Pipeline	124,863	1,336	828	12,715	1,336	1,688	537	16,277
Northern Border	34,724	0	0	0	0	0	0	0
Northern Natural	103,185	0	0	17,078	0	10,813	0	27,891
Northwest Alaskan	0	0	0	0	0	30,065	0	30,065
Northwest Pipeline	58,942	* -91	0	985	* -91	2,220	0	3,114
Ovorthrust Pipeline	2,027	0	0	0	0	0	0	0
Pacific Gas Transm	10,384	0	0	182	0	29,191	0	29,373
Pacific Interstate	0	0	0	0	0	0	7,179	7,179
Panhandle Eastern	40,117	0	0	7,795	0	0	8	7,803
Sabine Pipeline Co	9,388	0	0	0	0	0	0	0
Sea Robin Pipeline	-19,426	0	0	34	0	0	0	34
Southern Natural	28,999	0	0	8,989	0	0	0	6,989
Stingray Pipeline	28,101	0	0	0	0	0	0	0
Tenneco, Inc.	124,995	2	0	11,574	0	1,526	1,570	14,870
Texas Eastern	48,922	63	0	13,474	0	743	3,827	18,044
Texas Gas Transm	31,883	0	0	6,377	0	0	3,760	10,127
Trailblazer Pipeline	6,293	0	0	0	0	0	0	0
Transco Gas	0	0	0	0	0	0	0	0
Transcontinental	112,310	0	0	21,222	0	0	1,313	22,535
Transwestern Pipeline	27,049	0	0	2,699	0	0	0	2,699
Trunkline Gas Co	27,562	0	0	9,911	0	0	0	9,911
Trunkline LNG	0	0	0	0	0	0	0	0
U-T Offshore	27,148	0	0	0	0	0	0	0
United Gas Pipeline	58,884	0	0	4,428	0	0	0	4,428
Valero Interstate Transm	4,012	0	0	0	0	0	0	0
Viking Gas Company	9,859	0	0	0	0	102	0	102
Williams Natural	16,574	0	0	3,321	0	0	358	3,679
Williston Basin	3,669	0	0	2,036	223	0	0	2,259
Wyoming Interstate	4,043	0	0	0	0	0	0	0
Total	1,500,305	6,476	1,871	237,229	4,376	78,303	47,414	387,322
Purchases from Other Major Companies	--	--	--	0	0	0	27,024	27,024
Purchases Excluding Purchases from Other Major Companies	--	--	--	237,229	4,376	78,303	20,390	340,298

* Includes out-of-period adjustments to correct data in prior month.

-- Not Applicable.

Notes and Sources: See the last page of this section.

Table 17. Underground Natural Gas Storage
(All Operators)
(Volumes In Billion Cubic Feet)

Year and Month	Natural Gas In Underground Storage at End of Period			Change in Working Gas from Same Period Previous Year		Storage Activity		
	Base Gas	Working Gas	Total ^a	Volume	Percent	Injections	Withdrawals	Net ^c
1984 Total^a	3,830	2,878	6,708	281	10.8	2,252	2,064	188
1985 Total^a	3,842	2,807	6,448	-270	-9.4	2,128	2,359	-231
1986 Total^a	3,819	2,749	6,567	142	5.5	1,952	1,812	140
1987 Total^a	3,792	2,758	6,548	7	.3	1,887	1,881	6
1988								
January	3,792	2,228	6,020	-52	-2.3	47	578	-531
February	3,791	1,827	5,618	-161	-8.1	50	458	-408
March	3,790	1,882	5,473	-197	-10.5	99	255	-156
April	3,790	1,769	5,559	-169	-8.7	182	92	71
May	3,790	2,027	5,818	-179	-8.1	282	46	236
June	3,792	2,293	6,085	-144	-5.9	274	36	238
July	3,793	2,567	6,359	-89	-2.6	294	42	252
August	3,791	2,835	6,626	-1	--	282	52	230
September	3,791	3,120	6,911	71	2.3	308	46	262
October	3,792	3,243	7,035	137	4.4	198	92	106
November	3,803	3,171	6,974	112	3.7	117	157	-40
December	3,800	2,850	6,650	94	3.4	62	391	-329
Total	--	--	--	--	--	2,174	2,244	-69
1989								
January	3,798	2,509	6,307	281	12.6	R 53	R 418	R -365
February	3,801	1,994	5,796	188	9.2	R 32	R 602	R -570
March	3,801	1,776	5,578	94	5.6	R 108	R 362	R -258
April	3,801	1,823	5,624	54	3.0	R 181	R 138	R 43
May	3,802	2,062	5,863	34	1.7	R 321	R 44	R 277
June	3,802	2,374	6,176	82	3.6	R 375	R 20	R 355
July	3,802	2,644	6,446	77	3.0	R 371	R 29	R 341
August	3,802	2,938	6,740	103	3.6	R 358	R 29	R 328
September	3,802	R 3,187	R 6,990	R 67	R 2.2	R 320	R 39	R 281
October	R 3,792	R 3,268	R 7,061	R 25	R .8	R 221	R 96	R 124
November	R 3,809	R 3,199	R 7,008	R 28	R .9	R 105	R 223	R -118
December	3,812	R 2,513	R 6,325	R -337	R -11.8	R 52	R 805	R -752
Total	--	--	--	--	--	R 2,493	R 2,804	R -311
1990								
January	3,818	R 2,265	R 6,083	R -243	R -9.7	R 91	R 339	R -248
February	3,814	R 2,013	R 5,827	R 19	R .9	R 70	R 324	R -253
March	R 3,818	R 1,878	R 5,695	R 101	R 5.7	R 124	R 256	R -131
April	R 3,839	R 1,932	R 5,771	R 109	R 6.0	183	R 140	R 43
May	3,823	2,159	R 5,982	97	4.7	R 289	R 45	R 245
June	R 3,844	R 2,454	R 6,297	R 79	R 3.3	R 327	R 42	R 285
July	3,850	2,747	6,597	103	3.9	325	27	298

^a Total as of December 31.

^b Total underground storage capacity at the end of each calendar Year (in billion cubic feet): 1984 - 8,043; 1985 - 8,087; 1986 - 8,145; 1987 and 1988 - 8,124; and 1989 - 8,124. Current total capacity is 8,125.

^c Positive numbers indicate the volume of injections in excess of withdrawals. Negative numbers indicate the volume of withdrawals in excess of injections.

R Revised Data.

-- Not Applicable.

Notes and Sources: See the last page of this section.

Figure 8. Underground Natural Gas Storage in the United States

Source: Form EIA-191, Form FERC-8, and Form EIA-176.

Table 18. Underground Natural Gas Storage
(Interstate Operators of Storage Fields)
(Volumes in Billion Cubic Feet)

Year and Month	Natural Gas In Underground Storage at End of Period			Change in Working Gas from Same Period Previous Year		Storage Activity		
	Base Gas	Working Gas	Total ^b	Volume	Percent	Injections	Withdrawals	Net ^a
1984 Total^a	2,511	2,094	4,605	257	14.0	1,696	1,522	174
1985 Total^a	2,517	1,905	4,422	-189	-9.0	1,590	1,758	-167
1986 Total^a	2,483	2,010	4,492	104	5.5	1,448	1,353	95
1987 Total^a	2,461	2,024	4,485	14	.7	1,364	1,347	17
1988								
January	2,461	1,620	4,081	-86	-3.9	27	430	-403
February	2,461	1,317	3,778	-158	-10.7	36	338	-303
March	2,460	1,226	3,686	-193	-13.6	78	173	-95
April	2,460	1,296	3,755	-167	-11.4	124	55	69
May	2,460	1,490	3,950	-171	-10.3	214	22	192
June	2,462	1,688	4,150	-138	-7.6	206	13	193
July	2,462	1,892	4,353	-89	-3.5	216	13	203
August	2,462	2,081	4,543	-26	-1.2	203	20	183
September	2,462	2,282	4,744	29	1.3	218	21	197
October	2,462	2,349	4,810	82	3.6	132	67	65
November	2,469	2,316	4,785	89	4.0	87	111	-24
December	2,469	2,092	4,561	88	3.3	47	269	-222
Total	--	--	--	--	--	1,587	1,592	55
1989								
January	2,469	1,881	4,350	261	16.1	R 41	R 271	R -230
February	2,469	1,515	3,983	197	15.0	R 18	R 430	R -413
March	2,469	1,343	3,812	117	9.5	R 71	R 278	R -206
April	2,469	1,357	3,825	61	4.7	R 125	R 109	R 16
May	2,469	1,519	3,988	29	1.9	R 230	R 34	R 196
June	2,469	1,748	4,217	59	3.5	R 277	11	R 266
July	2,469	1,960	4,429	68	3.6	R 282	R 14	R 268
August	2,469	2,170	4,639	R 88	R 4.2	R 258	R 18	R 240
September	2,469	R 2,348	R 4,817	R 65	R 2.9	R 232	R 26	R 207
October	R 2,461	R 2,386	R 4,847	R 37	R 1.6	R 154	R 77	R 77
November	2,478	2,305	4,783	-11	-5	R 73	R 175	R -103
December	2,478	R 1,764	R 4,242	R -328	R -15.7	R 28	R 630	R -602
Total	--	--	--	--	--	R 1,788	R 2,072	R -285
1990								
January	2,479	1,597	4,076	R -285	-15.1	R 72	R 240	R -169
February	2,479	1,446	R 3,926	R -68	R -4.5	R 60	R 206	R -146
March	2,479	R 1,371	R 3,850	R 28	R 2.1	R 101	R 176	R -74
April	2,479	R 1,427	3,906	R 70	R 5.2	R 131	R 107	R 24
May	2,459	1,586	R 4,046	67	4.4	R 202	R 36	R 167
June	2,479	R 1,793	4,273	46	2.6	R 233	R 32	R 201
July	2,486	2,012	4,498	52	2.7	238	15	223

^a Total as of December 31.

^b Total underground storage capacity at the end of each calendar year (in billion cubic feet): 1984 - 5,557; 1985 - 5,602; 1986 - 5,642; 1987 and 1988 - 5,622; and 1989 - 5,622. Current total capacity is 5,622.

^c Positive numbers indicate the volume of injections in excess of withdrawals. Negative numbers indicate the volume of withdrawals in excess of injections.

R = Revised Data.

-- = Not Applicable.

Notes and Sources: See the last page of this section.

Table 19. Underground Natural Gas Storage
(Intrastate Operators and Independent Producers)
(Volumes in Billion Cubic Feet)

Year and Month	Natural Gas in Underground Storage at End of Period			Change in Working Gas from Same Period Previous Year		Storage Activity		
	Base Gas	Working Gas	Total ^b	Volume	Percent	Injections	Withdrawals	Net ^c
1984 Total^a	1,319	782	2,101	23	3.1	556	540	14
1985 Total^a	1,025	701	2,026	-81	-10.3	530	602	-64
1986 Total^a	1,336	739	2,075	38	5.4	504	469	45
1987 Total^a	1,331	732	2,063	-7	.1	522	533	-11
1988								
January	1,331	608	1,939	14	2.4	20	146	-126
February	1,331	509	1,840	-3	-.8	14	118	-104
March	1,331	456	1,787	-4	-.8	20	82	-62
April	1,330	474	1,804	-2	-.3	39	37	2
May	1,331	537	1,868	-8	-1.4	60	24	44
June	1,331	604	1,935	-6	-1.0	60	23	46
July	1,331	675	2,006	*	*	78	29	49
August	1,329	754	2,083	25	3.5	80	32	47
September	1,329	838	2,167	42	5.3	90	25	65
October	1,330	894	2,225	55	6.5	86	26	40
November	1,334	854	2,189	23	2.7	30	40	-16
December	1,331	756	2,087	26	3.6	14	122	-107
Total	---	---	---	---	---	587	711	-124
1989								
January	1,329	828	1,957	20	3.3	12	147	-135
February	1,332	480	1,812	-30	-5.8	14	172	-157
March	1,332	433	1,765	-23	-5.1	35	84	-50
April	1,332	466	1,799	-7	-1.5	56	29	27
May	1,332	543	1,875	6	1.0	91	10	81
June	1,332	627	1,959	23	3.7	98	9	89
July	1,333	684	2,017	9	1.3	99	15	74
August	1,333	768	2,101	14	1.9	99	10	89
September	1,333	840	2,173	2	.2	88	13	74
October	1,331	883	2,214	-12	-1.3	67	19	47
November	1,331	893	2,225	39	4.6	32	47	-15
December	1,335	749	2,083	-9	-1.2	25	175	-150
Total	---	---	---	---	---	705	732	-26
1990								
January	1,338	669	2,007	41	6.8	20	99	-79
February	1,335	587	1,901	87	18.2	11	118	-107
March	1,338	507	1,845	74	17.0	23	80	-57
April	1,360	505	1,865	39	8.3	52	33	19
May	1,364	573	1,937	30	5.5	87	9	78
June	1,365	660	2,025	34	5.4	94	10	84
July	1,364	735	2,099	51	7.5	86	12	75

^a Total as of December 31.

^b Total underground storage capacity at the end of each calendar year (in billion cubic feet): 1984 - 2,467; 1985 - 2,485; 1986 - 2,503; 1987 and 1988 - 2,502; and 1989 - 2,502. Current total capacity is 2,503.

^c Positive numbers indicate the volume of injections in excess of withdrawals. Negative numbers indicate the volume of withdrawals in excess of injections.

R = Revised Data.

--- = Not Applicable.

* = Volume is less than 500 million cubic feet.

Notes and Sources: See the last page of this section.

**Table 20. Activities of Multi-State Underground Natural Gas Storage Operators,
July 1990**
(Volume in Million Cubic Feet)

Pipeline Company	Storage Capacity		Total	Natural Gas in Underground Storage at End of Period			Change in Working Gas from Same Period Previous Year		Net Injections or Withdrawals*	
	By Individual State			Once Gas	Working Gas	Total	Volume	Percent	Current Period	Same Period Previous Year
Arkla, Inc.	KS 2,393 LA 15,000 OK 50,152		67,545	30,074	17,902	48,050	1,000	10.2	304	3,680
Colorado Interstate	CO 50,209 KS 24,000		81,089	40,302	17,399	63,700	1,962	12.7	0,220	4,414
Columbia Gas Transm.	NY 18,285 OH 434,099 PA 38,404 WV 283,885		773,169	429,041	213,525	642,566	-18,148	-7.8	20,388	18,442
Consolidated Gas	NY 35,904 PA 497,077 WV 180,350		713,337	384,384	240,225	610,000	20,611	13.1	40,517	47,204
Equitrans Inc.	PA 23,280 WV 38,240		61,520	31,048	10,569	40,217	-4,254	-20.4	4,818	5,503
K N Energy Inc.	CO 5,892 KS 5,846 NE 88,438		90,075	33,159	00,745	93,905	-2,281	-3.6	-1,025	-378
Mississippi River	IL 4,100 LA 82,300		86,400	53,988	12,422	66,407	53	4	5,001	0,115
National Fuel	NY 58,400 PA 191,783		246,183	98,683	57,039	153,722	4,488	8.5	7,747	13,340
Natural Gas Pipeline	IL 220,400 IA 191,000 OK 88,000 TX 144,000		641,400	178,958	382,647	541,005	1,070	.5	22,970	21,544
Northern Natural	IA 120,000 KS 107,000		227,000	130,500	25,982	156,482	-4,200	-13.9	7,160	7,070
Panhandle Eastern	IL 70,000 MI 32,000 OK 21,800		123,600	77,020	20,395	103,421	2,302	10.0	2,481	3,364
Phillips Petroleum	OK 2,150 TX 2,085 UT 3,000		7,215	1,023	5,579	7,202	2,495	80.9	503	247
Questar Pipeline Co.	UT 111,980 WY 10,000		121,980	59,433	10,500	71,042	3,112	23.2	0,509	1,321
Texas Gas Transm.	IN 11,272 KY 161,279		172,550	90,169	73,204	163,373	-1,878	-2.5	5,295	5,483
Transcontinental	LA 143,500 MS 8,361		151,861	57,567	51,589	109,136	-4,826	-8.2	7,580	10,126
United Gas Pipeline	LA 141,000 MS 5,550		146,550	75,024	38,058	113,082	4,824	14.5	5,873	8,258
Williams Natural	KS 112,983 OK 55,288		168,281	111,878	24,749	136,727	310	1.3	5,428	-7,785
Williston Basin	MT 287,200 WY 66,810		353,810	75,202	209,057	284,258	-11,094	-5.0	2,907	1,414
Total	--		4,245,481	1,839,355	1,475,655	3,415,011	5,415	.4	149,980	144,448

* Positive numbers indicate the volume of injections in excess of withdrawals. Negative numbers indicate the volume of withdrawals in excess of injections.

-- Not Applicable

Notes and Sources. See the last page of this section.

**Table 21. Activities of Single-State Underground Natural Gas Storage Operators,
by State, July 1990**
(Volumes in Million Cubic Feet)

State	Total Storage Capacity	Natural Gas in Underground Storage at End of Period			Change in Working Gas from Same Period Previous Year		Net injections or Withdrawals*	
		Base Gas	Working Gas	Total	Volume	Percent	Current Period	Same Period Previous Year
Arkansas	31,447	18,202	8,338	28,538	-483	-4.8	628	184
California	408,810	243,844	178,919	419,883	18,130	11.6	4,822	12,848
Colorado	20,882	8,248	10,280	18,508	1,388	15.4	1,322	628
Illinois	887,780	418,844	188,987	578,531	8,108	3.4	20,888	40,888
Indiana	100,774	68,841	18,807	87,848	832	3.6	2,813	3,891
Kansas	81,805	37,300	21,810	58,201	-2,888	-11.0	1,838	818
Kentucky	45,326	21,381	11,884	32,406	138	1.3	2,888	2,874
Louisiana	177,218	78,761	48,288	129,817	1,467	3.0	-488	1,816
Maryland	81,878	48,877	8,877	58,856	-1,477	-14.1	1,728	2,111
Michigan	968,382	381,188	388,211	779,381	78,166	23.3	88,838	58,688
Minnesota	7,888	4,886	2,181	8,848	23	1.1	122	187
Mississippi	94,287	41,138	43,178	84,318	1,828	4.7	4,486	6,883
Missouri	28,781	21,888	7,118	28,718	778	12.2	-8	-18
Montana	88,788	46,888	23,338	88,138	272	1.2	878	1,182
New Mexico	94,888	28,284	18,883	37,188	77	.6	3,678	-688
New York	46,878	18,886	16,878	36,878	-288	-1.8	3,134	3,874
Ohio	177,862	116,818	28,687	142,326	-311	-1.2	8,888	8,416
Oklahoma	148,888	83,888	38,763	131,843	-4,346	-10.1	6,823	14,822
Oregon	8,781	3,281	8,416	9,788	3,388	.8	784	1,816
Pennsylvania	58,764	26,838	8,223	33,882	-887	-8.8	4,388	6,716
Texas	443,718	161,816	281,881	382,888	47	.8	8,816	7,864
Washington	38,488	21,388	8,418	29,718	888	8.1	2,883	1,182
West Virginia	28,861	9,783	7,838	17,423	2	.8	888	1,468
Wyoming	27,221	13,888	8,168	28,148	-114	-1.8	388	223
Total	3,874,881	1,818,684	1,271,717	3,182,272	88,828	8.4	147,878	172,864

* Positive numbers indicate the volume of injections in excess of withdrawals. Negative numbers indicate the volume of withdrawals in excess of injections.

Notes and Sources: See the last page of this section.

Table 22. Natural Gas Deliveries to Residential Consumers by State
(Million Cubic Feet)

State	YTD 1990	YTD 1989	YTD 1988	June 1990	May 1990	April 1990
Alabama	32,188	31,007	33,929	1,893	" 2,751	" 4,290
Alaska	7,480	8,228	7,207	606	" 711	" 1,089
Arizona	19,006	17,923	19,202	1,119	" 1,394	" 2,148
Arkansas	26,534	27,792	29,428	1,384	" 2,188	" 3,858
California	290,843	313,128	308,801	24,342	" 30,041	" 38,476
Colorado	84,097	82,117	84,181	4,250	" 7,351	" 10,013
Connecticut	23,888	25,241	25,190	1,310	" 2,148	" 3,813
Delaware	5,189	5,164	5,208	280	" 448	" 798
District of Columbia	10,728	11,558	11,849	814	" 878	" 1,589
Florida	9,243	7,719	9,857	798	" 922	" 1,193
Georgia	53,334	55,885	67,242	3,288	" 3,919	" 6,831
Hawaii	301	299	297	49	" 48	" 50
Idaho	4,725	5,918	5,099	314	" 415	" 551
Illinois	230,170	291,089	294,447	10,913	" 20,718	" 33,056
Indiana	85,972	93,145	96,025	3,919	" 6,940	" 13,080
Iowa	47,984	50,902	51,258	2,432	" 4,139	" 7,278
Kansas	49,982	50,553	52,889	2,479	" 4,525	" 7,592
Kentucky	33,025	38,885	41,270	1,572	" 2,408	" 4,922
Louisiana	40,704	35,083	39,873	2,715	" 3,388	" 5,114
Maine	375	410	382	27	" 43	" 59
Maryland	45,180	48,308	49,338	2,699	" 3,807	" 6,958
Massachusetts	72,525	74,513	73,227	4,788	" 7,008	" 11,338
Michigan	203,028	223,992	230,253	10,750	" 18,879	" 30,828
Minnesota	82,931	72,951	72,587	3,104	" 5,208	" 8,981
Mississippi	23,328	18,588	18,094	1,299	" 1,784	" 3,108
Missouri	77,385	84,217	88,143	3,758	" 6,197	" 11,754
Montana	9,555	11,438	10,391	855	" 1,033	" 1,388
Nebraska	28,057	28,451	29,322	1,258	" 2,208	" 3,841
Nevada	9,997	10,739	10,135	708	" 785	" 1,027
New Hampshire	3,898	4,192	3,983	247	" 373	" 617
New Jersey	108,731	122,255	119,892	5,799	" 9,023	" 18,713
New Mexico	20,545	17,845	19,157	1,118	" 1,788	" 2,718
New York	218,380	233,985	231,588	13,313	" 19,979	" 34,181
North Carolina	23,592	25,445	25,885	953	" 1,598	" 3,281
North Dakota	5,719	8,581	8,107	314	" 541	" 883
Ohio	185,142	206,723	219,941	9,442	" 16,519	" 27,707
Oklahoma	48,029	47,987	50,289	2,234	" 4,078	" 6,727
Oregon	14,201	15,154	14,087	1,118	" 1,389	" 1,888
Pennsylvania	158,984	170,997	176,403	8,398	" 13,220	" 24,504
Rhode Island	11,898	11,898	11,887	737	" 1,179	" 1,808
South Carolina	12,882	13,346	14,181	447	" 750	" 1,585
South Dakota	8,121	7,204	7,215	326	" 585	" 904
Tennessee	30,388	32,272	32,710	1,258	" 2,044	" 4,252
Texas	157,850	139,821	137,239	10,800	" 13,408	" 18,929
Utah	25,774	29,955	27,958	1,758	" 2,409	" 3,074
Vermont	1,287	1,391	1,234	72	" 114	" 193
Virginia	32,900	38,418	37,878	1,712	" 2,373	" 4,539
Washington	23,217	25,389	22,572	1,770	" 2,344	" 3,018
West Virginia	22,294	23,510	24,890	1,070	" 1,772	" 3,451
Wisconsin	89,889	81,584	78,347	3,300	" 6,450	" 9,810
Wyoming	7,548	7,924	7,880	579	" 842	" 1,132
Total	2,757,475	2,984,311	3,013,610	150,504	" 244,810	" 394,034

See footnote at end of table.

Table 22. Natural Gas Deliveries to Residential Consumers by State (Continued)
(Million Cubic Feet)

State	March 1980	February 1980	January 1980	Total 1980	December 1980	November 1980
Alabama	8 5,441	8 6,724	8 11,270	8 47,932	8 7,212	8 3,832
Alaska	8 1,819	8 1,927	8 1,809	8 13,889	8 1,858	8 1,474
Arizona	8 3,940	8 5,452	8 5,854	8 27,084	8 3,945	8 1,789
Arkansas	8 4,888	8 6,827	8 8,701	8 42,312	8 6,356	8 2,987
California	8 58,892	8 71,374	8 70,019	8 514,278	8 63,104	8 40,070
Colorado	8 12,810	8 13,752	8 15,921	8 91,567	8 11,068	8 8,975
Connecticut	8 4,872	8 5,528	8 6,519	8 40,887	8 8,991	8 3,221
Delaware	8 1,008	8 1,088	8 1,811	8 7,595	8 1,085	8 485
District of Columbia	8 2,048	8 2,281	8 3,380	8 17,433	8 2,837	8 1,099
Florida	8 1,437	8 1,874	8 3,221	8 13,089	8 1,825	8 974
Georgia	8 10,482	8 12,224	8 16,830	8 103,857	8 22,132	8 11,108
Hawaii	8 55	8 52	8 49	8 585	8 48	8 48
Idaho	8 942	8 1,240	8 1,283	8 8,783	8 1,241	8 788
Illinois	8 45,917	8 58,789	8 62,779	8 498,487	8 93,702	8 51,130
Indiana	8 18,983	8 19,850	8 25,204	8 155,887	8 29,847	8 15,182
Iowa	8 9,528	8 10,579	8 14,008	8 77,403	8 12,401	8 6,912
Kansas	8 9,157	8 11,044	8 15,165	8 76,034	8 11,894	8 5,398
Kentucky	8 8,258	8 8,268	8 9,802	8 65,088	8 13,034	8 6,141
Louisiana	8 8,872	8 7,791	8 14,824	8 57,705	8 9,714	8 4,188
Maine	8 73	8 78	8 97	8 838	8 95	8 48
Maryland	8 9,918	8 9,095	8 13,908	8 75,138	8 12,076	8 5,131
Massachusetts	8 14,519	8 15,318	8 19,578	8 111,881	8 18,224	8 7,495
Michigan	8 42,094	8 46,874	8 54,201	8 381,887	8 60,286	8 31,879
Minnesota	8 12,805	8 15,085	8 17,788	8 118,809	8 20,120	8 11,067
Mississippi	8 3,936	8 4,881	8 8,540	8 28,312	8 4,241	8 1,933
Missouri	8 14,279	8 16,887	8 24,712	8 129,144	8 21,588	8 9,441
Montana	8 1,780	8 2,285	8 2,458	8 18,195	8 2,518	8 1,728
Nebraska	8 5,108	8 6,279	8 7,387	8 44,804	8 7,297	8 3,788
Nevada	8 2,013	8 2,743	8 2,723	8 18,785	8 2,359	8 1,400
New Hampshire	8 788	8 839	8 1,054	8 8,280	8 926	8 448
New Jersey	8 21,773	8 22,887	8 30,436	8 195,542	8 33,347	8 15,715
New Mexico	8 4,124	8 5,074	8 5,725	8 28,591	8 3,746	8 1,975
New York	8 45,852	8 49,987	8 55,108	8 384,713	8 57,291	8 28,578
North Carolina	8 4,381	8 4,886	8 8,495	8 38,858	8 6,888	8 2,823
North Dakota	8 1,094	8 1,341	8 1,548	8 9,825	8 1,411	8 816
Ohio	8 37,461	8 45,871	8 48,342	8 359,148	8 89,403	8 37,970
Oklahoma	8 8,370	8 10,346	8 14,276	8 71,783	8 11,039	8 4,798
Oregon	8 2,985	8 3,511	8 3,530	8 22,504	8 2,886	8 1,835
Pennsylvania	8 31,894	8 34,298	8 48,850	8 270,756	8 44,962	8 22,443
Rhode Island	8 2,375	8 2,449	8 3,150	8 18,283	8 2,744	8 1,325
South Carolina	8 2,292	8 2,836	8 4,972	8 20,472	8 3,911	8 1,528
South Dakota	8 1,218	8 1,441	8 1,887	8 11,342	8 1,784	8 1,078
Tennessee	8 5,379	8 6,285	8 11,150	8 49,136	8 8,580	8 3,551
Texas	8 28,530	8 33,445	8 52,940	8 230,100	8 43,770	8 18,927
Utah	8 5,330	8 8,499	8 8,704	8 45,188	8 5,923	8 3,640
Vermont	8 287	8 287	8 354	8 2,126	8 353	8 165
Virginia	8 8,879	8 7,088	8 10,511	8 81,712	8 11,473	8 4,799
Washington	8 4,859	8 5,811	8 5,415	8 38,359	8 5,091	8 3,484
West Virginia	8 4,233	8 4,757	8 7,011	8 37,128	8 6,382	8 3,240
Wisconsin	8 14,481	8 16,927	8 18,921	8 127,009	8 20,661	8 10,581
Wyoming	8 1,498	8 1,678	8 1,819	8 11,780	8 1,412	8 973
Total	8 543,967	8 630,307	8 785,053	8 4,776,838	8 790,223	8 404,830

See footnote at end of table.

Table 22. Natural Gas Deliveries to Residential Consumers by State (Continued)
(Million Cubic Feet)

State	October 1989	September 1989	August 1989	July 1989	June 1989	May 1989
Alabama	R 1,854	R 1,399	R 1,377	R 1,451	R 1,702	R 2,845
Alaska	895	536	370	432	638	858
Arizona	R 959	R 833	R 777	R 880	R 1,094	R 1,205
Arkansas	R 1,562	R 1,239	R 1,137	R 1,237	R 1,402	R 1,927
California	R 28,083	R 24,184	R 22,977	R 22,730	R 26,581	R 31,161
Colorado	R 3,750	R 2,601	R 2,278	R 2,778	R 3,947	R 5,694
Connecticut	R 1,986	R 1,138	R 996	R 1,114	R 1,296	R 2,231
Delaware	R 275	207	R 189	192	R 272	R 466
District of Columbia	R 655	R 494	R 483	R 507	R 649	R 1,025
Florida	R 637	R 641	R 617	R 674	R 707	R 817
Georgia	R 5,189	R 3,465	R 2,791	R 2,987	R 3,049	R 4,628
Hawaii	43	45	42	46	49	47
Idaho	R 329	221	146	160	R 306	R 368
Illinois	R 25,845	R 13,532	R 9,889	R 10,700	R 12,514	R 24,410
Indiana	R 8,195	R 3,956	R 2,868	R 2,893	R 3,831	R 7,658
Iowa	R 3,225	R 1,790	R 1,527	R 1,647	R 2,063	R 3,943
Kansas	R 2,901	R 1,955	R 1,687	R 1,845	R 2,203	R 3,436
Kentucky	R 3,109	R 1,446	R 1,337	R 1,332	R 1,809	R 3,161
Louisiana	R 2,513	R 2,035	R 2,026	R 2,189	R 2,321	R 2,816
Maine	35	21	19	12	27	49
Maryland	R 3,134	R 2,177	R 2,070	R 2,241	R 2,681	R 4,320
Massachusetts	R 4,839	2,901	R 2,683	3,006	R 4,053	R 7,552
Michigan	R 19,994	R 9,726	R 7,957	R 8,052	R 9,803	R 20,415
Minnesota	R 5,430	R 2,682	R 2,269	R 2,388	R 3,121	R 5,523
Mississippi	R 1,043	R 894	R 829	R 864	R 929	R 1,282
Missouri	R 5,047	R 3,111	R 2,732	R 3,008	R 3,615	R 5,793
Montana	R 1,084	R 568	R 435	R 426	R 680	R 965
Nebraska	R 1,972	R 1,212	R 1,007	R 1,078	R 1,137	R 1,968
Nevada	R 703	R 555	R 478	R 531	R 748	R 1,009
New Hampshire	274	169	127	155	210	422
New Jersey	R 8,933	R 5,283	R 4,778	R 5,231	R 6,101	R 10,547
New Mexico	R 899	R 765	R 734	R 829	R 910	R 1,111
New York	R 16,060	R 9,514	R 9,189	R 10,098	R 13,364	R 23,868
North Carolina	R 1,338	R 745	R 695	744	R 1,020	R 1,899
North Dakota	398	240	166	213	309	506
Ohio	20,647	R 9,812	R 7,262	7,332	7,759	18,482
Oklahoma	R 2,571	R 1,886	R 1,654	R 1,858	R 2,169	R 3,043
Oregon	804	581	549	696	950	1,141
Pennsylvania	R 13,222	R 6,717	R 6,014	R 6,401	R 8,128	R 15,826
Rhode Island	855	497	R 464	500	590	1,223
South Carolina	R 620	R 346	R 327	R 395	R 468	R 879
South Dakota	535	298	221	245	340	R 562
Tennessee	R 1,681	R 1,043	R 960	R 1,040	R 1,345	R 2,217
Texas	R 9,777	R 7,869	R 7,211	R 7,726	R 8,127	R 9,324
Utah	R 1,718	R 1,222	1,235	R 1,374	R 1,763	R 2,215
Vermont	97	43	37	40	61	122
Virginia	R 2,831	R 1,374	R 1,340	R 1,479	R 1,713	R 2,881
Washington	R 1,622	R 969	R 801	R 1,002	R 1,501	R 1,822
West Virginia	R 1,738	R 824	R 695	R 741	R 1,001	R 2,263
Wisconsin	R 6,052	R 3,173	R 2,220	R 2,736	R 3,777	R 7,875
Wyoming	R 518	R 350	R 259	R 344	R 517	R 743
Total	R 228,478	R 139,383	R 120,932	R 128,582	R 155,351	R 256,364

See footnote at end of table.

Table 22. Natural Gas Deliveries to Residential Consumers by State (Continued)
(Million Cubic Feet)

State	April 1989	March 1989	February 1989	January 1989	Total 1988	December 1988
Alabama	R 4,703	R 7,363	R 7,017	R 7,377	48,913	5,747
Alaska	1,223	1,566	2,148	1,793	12,529	1,705
Arizona	R 1,670	R 2,937	R 4,913	R 6,104	28,206	3,975
Arkansas	R 3,835	R 6,736	R 7,118	R 6,774	42,867	5,464
California	R 37,832	R 53,779	R 75,817	R 87,958	497,138	64,013
Colorado	R 8,580	R 13,652	R 15,278	R 14,966	92,888	11,945
Connecticut	R 3,694	R 5,717	R 5,891	R 6,412	39,485	5,404
Delaware	R 793	R 1,223	R 1,153	R 1,257	7,586	925
District of Columbia	R 1,663	R 2,762	R 2,556	R 2,903	17,471	2,262
Florida	R 1,207	R 1,834	R 1,445	R 1,709	14,891	R 1,573
Georgia	R 7,210	R 9,600	R 16,386	R 15,112	108,125	16,166
Hawaii	50	50	52	51	563	46
Idaho	R 747	R 1,206	R 1,672	R 1,619	7,683	1,240
Illinois	R 40,291	R 63,870	R 76,331	R 74,273	462,339	66,927
Indiana	R 12,797	R 20,943	R 23,932	R 23,984	153,609	23,035
Iowa	R 7,244	R 12,215	R 12,643	R 12,794	76,111	10,581
Kansas	R 6,518	R 11,948	R 13,762	R 12,686	76,420	10,125
Kentucky	R 5,319	R 8,293	R 10,403	R 9,700	64,027	9,458
Louisiana	R 4,724	R 6,377	R 8,546	R 8,279	59,707	7,386
Maine	66	92	84	92	568	71
Maryland	R 7,032	R 11,186	R 10,880	R 12,209	74,918	9,797
Massachusetts	R 11,858	R 16,940	R 16,517	R 17,593	108,631	13,260
Michigan	R 34,224	R 51,163	R 52,459	R 55,928	348,512	46,575
Minnesota	R 9,806	R 16,511	R 19,064	R 18,926	109,669	15,989
Mississippi	R 2,195	R 4,077	R 4,030	R 3,995	26,889	3,463
Missouri	R 11,192	R 19,809	R 22,300	R 21,508	128,317	17,861
Montana	R 1,666	R 2,544	R 2,778	R 2,803	16,900	2,648
Nebraska	R 3,687	R 6,742	R 7,911	R 7,006	43,502	5,717
Nevada	R 1,106	R 1,957	R 2,971	R 3,128	15,275	2,183
New Hampshire	686	926	904	1,044	5,927	764
New Jersey	R 17,680	R 27,754	R 29,095	R 31,078	181,506	20,892
New Mexico	R 1,960	R 3,345	R 4,696	R 5,623	27,846	4,063
New York	R 35,963	R 51,981	R 52,502	R 56,307	357,260	47,246
North Carolina	R 3,723	R 6,202	R 5,655	R 6,946	38,384	5,553
North Dakota	1,040	1,476	1,590	1,660	9,147	1,264
Ohio	31,700	R 42,862	R 56,594	R 49,326	350,612	51,280
Oklahoma	R 5,784	R 12,277	R 13,137	R 11,577	71,970	9,433
Oregon	2,054	3,351	4,026	3,632	20,819	2,939
Pennsylvania	R 26,312	R 37,888	R 40,318	R 42,525	268,038	35,769
Rhode Island	1,828	2,711	R 2,682	2,864	17,678	2,186
South Carolina	R 1,875	R 3,327	R 3,029	R 3,768	20,790	3,155
South Dakota	R 1,036	R 1,639	R 1,865	1,762	10,687	R 1,412
Tennessee	R 4,305	R 7,951	R 8,141	R 8,313	47,668	6,758
Texas	R 15,648	R 29,982	R 40,274	R 33,466	209,957	R 28,849
Utah	R 3,585	R 5,786	R 8,290	R 8,316	42,241	6,398
Vermont	227	314	314	353	1,868	261
Virginia	R 5,421	R 9,042	R 9,446	R 9,913	58,539	8,500
Washington	R 3,625	R 5,730	R 6,660	R 6,051	34,981	5,089
West Virginia	R 3,608	R 5,179	R 5,621	R 5,838	37,690	5,525
Wisconsin	R 12,003	R 18,950	R 19,607	R 19,372	121,335	16,676
Wyoming	R 1,180	R 1,597	R 1,964	R 1,923	11,650	R 1,534
Total	R 414,175	R 645,362	R 742,465	R 750,594	R 4,630,330	R 631,086

R = Revised Data.

Notes and Sources: See the last page of this section.

Table 23. Natural Gas Deliveries to Commercial Consumers by State
(Million Cubic Feet)

State	YTD 1990	YTD 1989	YTD 1988	June 1990	May 1990	April 1990
Alabama	14,883	15,627	16,240	993	R 1,628	R 2,182
Alaska	11,399	12,254	11,431	1,087	R 1,386	R 1,734
Arizona	17,044	16,571	16,667	1,835	R 2,424	R 2,347
Arkansas	15,922	17,021	18,056	1,073	R 1,407	R 2,238
California	135,291	139,283	134,644	15,463	R 16,715	R 21,015
Colorado	44,597	43,952	45,705	3,162	R 5,181	R 6,989
Connecticut	15,948	18,223	16,333	1,314	R 1,564	R 2,673
Delaware	2,608	2,674	2,638	170	R 233	R 408
District of Columbia	8,502	9,657	9,437	686	R 933	R 1,358
Florida	20,704	18,796	21,282	2,857	R 3,058	R 3,272
Georgia	29,935	29,044	33,087	2,638	R 3,001	R 4,166
Hawaii	1,073	1,070	1,056	181	R 174	R 173
Idaho	4,653	5,738	5,122	357	R 439	R 559
Illinois	116,119	114,551	132,478	5,741	R 10,096	R 17,945
Indiana	39,558	43,122	44,329	1,914	R 3,111	R 5,933
Iowa	27,520	29,495	29,396	1,549	R 2,330	R 4,122
Kansas	32,744	33,362	34,906	3,185	R 3,456	R 5,228
Kentucky	18,266	20,962	22,345	1,132	R 1,575	R 2,690
Louisiana	17,685	15,542	17,129	1,763	R 1,915	R 2,511
Maine	933	1,005	898	62	R 95	R 154
Maryland	15,272	17,364	16,367	1,116	R 1,535	R 2,444
Massachusetts	30,801	32,857	31,065	2,378	R 3,227	R 4,997
Michigan	97,334	109,196	108,730	5,495	R 8,936	R 14,889
Minnesota	44,310	51,442	51,333	2,245	R 3,801	R 6,363
Mississippi	15,480	10,378	11,404	1,404	R 1,695	R 2,246
Missouri	37,705	39,994	41,239	2,289	R 3,292	R 5,617
Montana	6,706	8,166	7,353	448	R 706	R 921
Nebraska	18,707	19,189	21,023	1,399	R 1,561	R 2,959
Nevada	8,672	8,808	8,726	953	R 989	R 1,165
New Hampshire	3,155	3,444	3,218	207	R 288	R 485
New Jersey	61,247	71,558	64,833	4,685	R 6,298	R 10,120
New Mexico	15,590	17,905	20,050	1,082	R 1,508	R 2,173
New York	103,218	114,859	114,099	9,936	R 10,058	R 16,232
North Carolina	17,167	19,803	19,397	1,342	R 1,649	R 2,520
North Dakota	5,908	6,842	6,334	353	R 567	R 966
Ohio	87,544	94,782	99,185	4,721	R 7,256	R 13,011
Oklahoma	30,458	25,038	29,134	1,886	R 2,826	R 4,238
Oregon	11,350	12,781	11,647	1,046	R 1,147	R 1,402
Pennsylvania	74,502	79,907	80,681	4,994	R 6,637	R 12,117
Rhode Island	4,448	4,891	5,075	234	R 549	R 816
South Carolina	9,415	9,684	10,068	903	R 1,123	R 1,344
South Dakota	4,919	5,511	5,485	281	R 461	R 722
Tennessee	26,047	28,717	28,950	1,906	R 2,371	R 3,634
Texas	120,642	102,933	100,939	18,170	R 15,571	R 17,824
Utah	11,446	11,291	12,483	630	R 932	R 1,304
Vermont	1,189	1,268	1,182	63	R 108	R 183
Virginia	24,407	26,567	25,798	1,771	R 2,332	R 4,413
Washington	22,124	24,045	22,620	1,857	R 2,594	R 3,128
West Virginia	12,260	13,647	13,714	903	R 1,169	R 1,947
Wisconsin	40,124	44,306	43,533	1,918	R 3,620	R 5,305
Wyoming	5,581	5,623	5,897	420	R 643	R 843
Total	1,543,078	1,610,739	1,634,735	124,195	R 156,179	R 234,006

See footnote at end of table.

Table 23. Natural Gas Deliveries to Commercial Consumers by State (Continued)
(Million Cubic Feet)

State	March 1990	February 1990	January 1990	Total 1989	December 1989	November 1989
Alabama	R 2,824	R 3,006	R 4,470	R 26,438	R 3,503	R 1,953
Alaska	R 2,329	R 2,477	R 2,346	R 21,738	R 2,429	R 2,144
Arizona	R 3,169	R 3,564	R 3,705	R 28,580	R 3,106	R 2,294
Arkansas	R 2,825	R 3,390	R 4,989	R 27,284	R 3,943	R 1,949
California	R 25,379	R 27,802	R 28,917	R 250,118	R 26,192	R 21,665
Colorado	R 8,743	R 9,668	R 10,854	R 67,477	R 8,102	R 5,441
Connecticut	R 3,146	R 3,426	R 3,825	R 30,781	R 3,891	R 2,324
Delaware	R 517	R 516	R 784	R 4,184	R 630	R 294
District of Columbia	R 1,755	R 1,822	R 1,948	R 15,741	R 2,052	R 1,090
Florida	R 3,509	R 3,573	R 4,435	R 35,105	R 3,820	R 2,868
Georgia	R 5,368	R 6,229	R 8,533	R 53,114	R 8,393	R 4,836
Hawaii	R 181	R 181	R 183	R 2,129	177	172
Idaho	R 917	R 1,177	R 1,204	R 8,994	R 1,172	R 783
Illinois	R 22,690	R 27,016	R 32,631	R 196,133	R 33,840	R 20,169
Indiana	R 7,759	R 9,144	R 11,697	R 73,813	R 13,611	R 7,576
Iowa	R 5,532	R 6,165	R 7,822	R 46,142	R 7,110	R 3,738
Kansas	R 5,548	R 6,715	R 8,612	R 58,554	R 6,763	R 4,386
Kentucky	R 3,464	R 4,229	R 5,176	R 36,145	R 6,648	R 3,327
Louisiana	R 2,928	R 3,243	R 5,325	R 26,817	R 3,454	R 1,995
Maine	R 186	R 200	R 236	R 1,690	269	128
Maryland	R 3,016	R 3,074	R 4,087	R 26,920	R 3,647	R 1,801
Massachusetts	R 8,077	R 6,250	R 7,872	R 51,508	R 8,864	R 3,647
Michigan	R 20,094	R 21,945	R 25,975	R 176,181	R 28,269	R 15,776
Minnesota	R 9,273	R 10,712	R 11,916	R 85,183	R 13,661	R 8,764
Mississippi	R 2,442	R 2,936	R 4,757	R 17,568	R 2,727	R 1,350
Missouri	R 6,848	R 7,987	R 11,672	R 63,039	R 9,903	R 4,716
Montana	R 1,295	R 1,573	R 1,763	R 13,141	R 1,781	R 1,235
Nebraska	R 3,535	R 4,234	R 5,019	R 37,351	R 4,196	R 2,602
Nevada	R 1,710	R 1,929	R 1,926	R 15,116	R 1,690	R 1,257
New Hampshire	R 579	R 753	R 843	R 5,371	817	393
New Jersey	R 12,388	R 12,426	R 15,330	R 117,385	R 16,342	R 9,150
New Mexico	R 3,068	R 3,694	R 4,065	R 28,459	R 3,830	R 2,441
New York	R 20,638	R 22,087	R 24,267	R 196,380	R 27,650	R 16,631
North Carolina	R 3,165	R 3,444	R 5,047	R 33,145	R 4,396	R 2,639
North Dakota	R 1,145	R 1,342	R 1,535	R 10,609	R 1,506	R 951
Ohio	R 19,785	R 19,091	R 23,680	R 161,516	R 30,143	R 15,949
Oklahoma	R 5,176	R 6,955	R 9,377	R 38,493	R 5,871	R 2,541
Oregon	R 2,317	R 2,740	R 2,698	R 20,249	R 2,363	R 1,624
Pennsylvania	R 14,718	R 15,928	R 20,108	R 132,500	R 21,010	R 11,588
Rhode Island	R 851	R 860	R 1,138	R 8,767	R 1,014	R 654
South Carolina	R 1,678	R 1,755	R 2,612	R 16,525	R 1,964	R 1,324
South Dakota	R 998	R 1,151	R 1,306	R 8,826	1,374	851
Tennessee	R 4,359	R 5,524	R 8,253	R 47,573	R 7,414	R 3,774
Texas	R 21,194	R 20,678	R 27,205	R 184,179	R 24,013	R 12,961
Utah	R 2,462	R 3,013	R 3,105	R 16,522	R 2,304	R 1,313
Vermont	R 250	R 269	R 316	2,081	307	189
Virginia	R 4,943	R 5,003	R 5,945	R 44,181	R 6,474	R 3,612
Washington	R 4,275	R 5,387	R 4,883	R 38,502	R 4,433	R 3,366
West Virginia	R 2,240	R 2,520	R 3,481	R 23,257	R 3,704	R 2,036
Wisconsin	R 8,524	R 9,180	R 11,577	R 70,090	R 11,182	R 6,386
Wyoming	R 1,110	R 1,228	R 1,337	R 8,551	R 1,022	R 724
Total	R 298,725	R 329,210	R 400,763	R 2,718,716	R 390,776	R 231,374

See footnote at end of table.

Table 23. Natural Gas Deliveries to Commercial Consumers by State (Continued)
(Million Cubic Feet)

State	October 1989	September 1989	August 1989	July 1989	June 1989	May 1989
Alabama	R 1,381	R 1,187	R 1,115	R 1,872	R 1,213	R 1,717
Alaska	R 1,577	1,202	1,091	1,042	1,287	1,589
Arizona	R 1,833	R 1,598	R 1,578	R 1,804	R 1,950	1,992
Arkansas	R 1,248	R 1,097	R 1,008	R 1,020	R 1,357	R 1,281
California	R 19,856	R 19,452	R 17,351	R 15,319	R 21,469	R 19,249
Colorado	R 3,232	R 2,303	R 2,119	R 2,328	R 3,082	R 4,160
Connecticut	R 1,685	R 1,551	R 1,579	R 1,528	R 1,625	R 2,108
Delaware	R 182	R 144	R 133	R 128	R 186	R 249
District of Columbia	R 775	R 712	R 763	R 692	R 803	R 999
Florida	R 2,444	R 2,484	R 2,389	R 2,525	R 2,570	R 2,670
Georgia	R 3,477	R 2,690	R 2,361	R 2,412	R 2,341	R 2,983
Hawaii	179	175	173	182	175	181
Idaho	R 433	320	249	300	R 353	408
Illinois	R 11,091	R 8,176	R 4,862	R 5,444	R 5,974	R 9,308
Indiana	R 3,850	R 2,217	R 1,659	R 1,579	R 1,904	R 3,296
Iowa	R 2,129	R 1,247	R 1,234	R 1,190	R 1,380	R 2,216
Kansas	R 2,785	R 3,081	R 4,812	R 3,388	R 2,547	R 3,660
Kentucky	R 1,971	R 1,147	R 991	R 1,099	R 1,167	R 1,766
Louisiana	R 1,537	R 1,405	R 1,314	R 1,372	R 1,449	R 1,754
Maine	96	60	50	51	63	106
Maryland	R 1,220	R 978	R 941	R 988	R 1,154	R 1,701
Massachusetts	R 2,720	R 1,799	R 1,894	R 1,726	R 2,150	R 3,703
Michigan	R 8,855	R 5,047	R 4,467	R 4,570	R 5,954	R 10,150
Minnesota	R 4,718	R 2,475	R 2,011	R 2,112	R 2,416	R 3,980
Mississippi	R 939	R 754	R 701	R 718	R 739	R 947
Missouri	R 2,798	R 2,021	R 1,780	R 1,829	R 2,359	R 2,799
Montana	R 806	R 442	R 381	R 330	R 478	R 687
Nebraska	R 2,109	R 1,634	R 4,240	R 3,381	R 1,757	R 1,848
Nevada	R 954	R 811	R 805	R 790	R 890	R 1,004
New Hampshire	248	176	140	154	188	339
New Jersey	R 6,297	R 4,638	R 4,520	R 4,881	R 5,087	R 7,587
New Mexico	R 1,191	R 1,034	R 1,146	R 913	R 1,211	R 1,517
New York	R 11,741	R 8,812	R 8,305	R 8,382	R 8,747	R 12,079
North Carolina	R 1,843	R 1,534	R 1,454	R 1,475	R 1,568	R 2,022
North Dakota	R 464	340	R 238	269	335	508
Ohio	R 8,946	R 4,397	R 3,735	R 3,565	R 3,927	R 8,237
Oklahoma	R 1,527	R 1,241	R 1,097	R 1,180	R 1,278	R 1,600
Oregon	R 972	R 882	R 804	R 823	R 989	R 1,140
Pennsylvania	R 7,185	R 4,378	R 4,161	R 4,272	R 4,649	R 8,264
Rhode Island	R 657	R 560	518	R 471	457	R 565
South Carolina	R 970	R 866	R 808	R 908	R 891	R 1,094
South Dakota	434	255	197	203	276	R 413
Tennessee	R 2,358	R 1,845	R 1,661	R 1,804	R 1,918	R 2,532
Texas	R 10,462	R 9,509	R 11,439	R 12,862	R 10,829	R 11,404
Utah	522	390	346	357	472	653
Vermont	130	73	57	57	66	105
Virginia	2,192	R 1,985	R 1,485	R 1,868	R 2,129	R 2,446
Washington	R 2,083	R 1,357	R 1,548	R 1,671	R 1,851	R 2,194
West Virginia	R 1,373	R 859	R 853	R 785	R 881	R 1,476
Wisconsin	R 3,437	R 1,718	R 1,499	R 1,582	R 2,012	R 3,882
Wyoming	R 396	R 268	R 233	R 285	R 368	R 521
Total	R 152,108	R 113,222	R 110,276	R 110,221	R 120,901	R 158,845

See footnote at end of table.

Table 23. Natural Gas Deliveries to Commercial Consumers by State (Continued)
(Million Cubic Feet)

State	April 1989	March 1989	February 1989	January 1989	Total 1988	December 1988
Alabama	R 2,366	R 3,391	R 3,510	R 3,430	25,562	R 2,791
Alaska	R 1,949	R 2,258	R 2,691	R 2,500	20,842	R 2,476
Arizona	R 2,274	R 2,843	R 3,570	R 3,942	28,299	R 3,289
Arkansas	R 2,181	R 3,963	R 4,338	R 3,921	27,457	R 3,200
California	R 18,656	R 21,860	R 29,564	R 28,465	240,397	R 14,078
Colorado	R 6,135	R 9,208	R 10,845	R 10,522	68,515	R 8,595
Connecticut	R 2,897	R 3,937	R 3,749	R 3,909	27,411	R 3,392
Delaware	R 398	R 624	R 605	R 632	4,041	548
District of Columbia	R 1,635	R 2,066	R 2,021	R 2,133	15,012	1,805
Florida	R 3,083	R 3,545	R 3,435	R 3,493	37,834	R 3,512
Georgia	R 3,922	R 5,166	R 7,502	R 7,130	55,963	R 7,225
Hawaii	175	174	178	187	2,049	158
Idaho	690	R 1,156	R 1,569	R 1,562	8,252	R 1,239
Illinois	R 15,896	R 25,958	R 29,585	R 27,832	215,257	R 29,773
Indiana	R 5,767	R 9,612	R 11,374	R 11,169	R 71,709	R 10,342
Iowa	R 4,133	R 6,928	R 7,466	R 7,372	44,955	R 6,075
Kansas	R 5,433	R 6,870	R 7,697	R 7,155	61,120	R 6,412
Kentucky	R 2,839	R 4,545	R 5,506	R 5,139	35,718	R 5,036
Louisiana	R 2,315	R 3,394	R 3,298	R 3,332	27,475	2,854
Maine	160	221	226	229	1,461	191
Maryland	R 2,586	R 4,247	R 3,700	R 3,976	25,879	R 3,181
Massachusetts	R 5,392	R 7,234	R 6,984	R 7,394	48,915	R 5,582
Michigan	R 16,375	R 24,717	R 25,448	R 26,552	167,900	R 21,635
Minnesota	R 6,916	R 11,411	R 13,607	R 13,112	79,989	R 11,281
Mississippi	R 1,407	R 2,411	R 2,502	R 2,372	18,108	R 2,136
Missouri	R 5,246	R 9,192	R 10,280	R 10,118	63,839	R 8,506
Montana	R 1,208	R 1,841	R 1,923	R 2,029	12,041	R 1,944
Nebraska	R 2,505	R 4,252	R 4,825	R 4,202	39,388	R 3,668
Nevada	R 1,100	R 1,533	R 2,125	R 2,156	14,879	R 1,741
New Hampshire	551	771	753	842	5,034	654
New Jersey	R 10,928	R 15,624	R 15,506	R 16,826	101,325	R 10,903
New Mexico	R 2,059	R 3,377	R 4,499	R 5,242	31,032	R 4,115
New York	R 18,494	R 25,344	R 24,630	R 25,565	188,037	R 23,870
North Carolina	R 3,046	R 4,367	R 4,016	R 4,784	32,464	R 3,963
North Dakota	R 1,027	R 1,514	R 1,669	R 1,789	9,827	R 1,291
Ohio	R 13,360	R 21,187	R 24,435	R 23,636	158,790	R 22,659
Oklahoma	R 2,867	R 6,195	R 7,031	R 6,067	47,870	R 5,390
Oregon	R 1,724	R 2,761	R 3,283	R 2,884	18,406	R 2,371
Pennsylvania	R 11,996	R 16,983	R 18,693	R 19,322	127,382	R 16,415
Rhode Island	R 855	R 1,003	R 979	R 1,032	8,352	R 813
South Carolina	R 1,489	R 2,098	R 1,936	R 2,176	17,472	R 1,969
South Dakota	R 776	R 1,253	1,454	1,339	8,396	R 1,117
Tennessee	R 4,059	R 6,390	R 6,849	R 6,969	45,852	R 5,687
Texas	R 15,884	R 20,327	R 23,084	R 21,405	175,368	R 20,540
Utah	R 1,227	R 2,280	R 3,376	R 3,283	17,911	2,407
Vermont	199	283	300	315	1,941	264
Virginia	R 4,051	R 5,721	R 6,056	R 6,164	42,013	R 5,350
Washington	R 3,672	R 5,424	R 5,561	R 5,343	36,674	R 4,437
West Virginia	R 2,041	R 2,807	R 3,265	R 3,177	22,416	R 3,010
Wisconsin	R 6,662	R 10,168	R 10,987	R 10,595	66,939	R 9,180
Wyoming	R 852	R 1,111	R 1,414	R 1,357	8,700	R 1,083
Total	R 233,458	R 341,563	R 379,899	R 376,073	R 2,670,465	R 320,154

R = Revised Data.

Notes and Sources: See the last page of this section.

Table 24. Natural Gas Deliveries to Industrial Consumers by State
(Million Cubic Feet)

State	YTD 1980	YTD 1989	YTD 1988	June 1990	May 1990	April 1990
Alabama	71,834	75,482	71,040	10,524	10,734	12,064
Alaska	23,755	31,414	33,946	3,972	2,767	4,312
Arizona	10,118	10,522	11,200	1,585	1,423	1,632
Arkansas	61,024	66,152	51,474	8,293	8,796	11,135
California	207,287	232,151	219,670	35,097	34,516	38,538
Colorado	25,801	25,926	19,996	3,933	3,475	3,872
Connecticut	12,071	10,244	10,248	1,904	2,055	2,472
Delaware	8,657	8,189	8,008	1,362	1,396	1,376
District of Columbia	0	0	0	0	0	0
Florida	41,147	39,998	40,383	6,792	7,020	6,342
Georgia	81,007	77,441	73,760	11,577	13,280	13,108
Hawaii	0	0	0	0	0	0
Idaho	10,843	12,083	10,997	1,413	1,853	1,611
Illinois	142,934	144,779	146,191	18,674	20,229	23,645
Indiana	114,915	114,817	116,771	16,120	18,868	18,881
Iowa	50,726	48,247	52,095	7,842	8,252	8,308
Kansas	57,603	54,268	54,885	8,890	10,513	9,226
Kentucky	32,278	34,160	30,882	4,558	4,899	5,356
Louisiana	439,070	439,500	398,380	71,753	73,862	74,393
Maine	828	670	596	145	155	250
Maryland	31,522	36,342	33,806	4,347	4,053	5,108
Massachusetts	18,388	18,706	15,215	2,982	2,910	4,138
Michigan	100,703	107,335	106,178	12,599	14,202	16,743
Minnesota	42,305	41,209	39,920	5,700	6,624	7,242
Mississippi	49,783	48,689	46,472	8,810	8,917	7,586
Missouri	29,074	32,879	29,663	3,717	4,226	4,793
Montana	3,695	4,564	4,122	462	584	555
Nebraska	14,472	17,333	17,139	2,823	2,165	2,237
Nevada	3,674	3,812	3,693	567	592	615
New Hampshire	1,383	1,139	911	209	325	296
New Jersey	41,389	42,818	42,123	6,250	6,528	7,524
New Mexico	7,717	9,308	7,198	1,259	1,317	1,413
New York	46,476	50,082	51,302	6,268	7,142	7,273
North Carolina	40,040	42,796	36,166	5,909	6,814	6,909
North Dakota	1,990	2,367	1,979	250	312	329
Ohio	138,568	147,824	147,501	18,968	20,335	23,172
Oklahoma	84,114	86,297	84,933	12,979	13,349	13,986
Oregon	24,604	21,206	19,773	3,348	3,695	3,594
Pennsylvania	116,724	127,265	119,310	17,241	17,726	20,274
Rhode Island	2,193	2,438	2,479	314	400	460
South Carolina	36,829	35,747	34,781	6,542	6,299	6,312
South Dakota	2,471	2,619	2,510	434	336	431
Tennessee	53,874	54,855	53,476	8,273	9,041	8,900
Texas	939,547	852,939	822,947	163,703	180,217	167,962
Utah	16,866	17,449	15,701	2,433	2,566	2,687
Vermont	1,089	1,087	939	164	185	198
Virginia	27,466	31,906	26,415	5,238	4,761	4,121
Washington	38,493	36,018	36,186	6,502	6,182	5,753
West Virginia	21,123	24,853	20,353	3,266	3,724	3,568
Wisconsin	61,948	69,682	66,767	7,440	8,753	9,695
Wyoming	8,596	8,104	7,874	1,519	1,348	1,405
Total	3,398,809	3,405,687	3,248,352	535,040	569,299	581,798

See footnotes at end of table

Table 24. Natural Gas Deliveries to Industrial Consumers by State (Continued)
(Million Cubic Feet)

State	March 1990	February 1990	January 1990	Total 1989	December 1989	November 1989
Alabama	12,713	12,148	13,661	149,047	13,173	13,823
Alaska	4,486	4,072	4,146	59,341	4,501	3,996
Arizona	2,010	1,747	1,721	20,705	1,580	1,919
Arkansas	11,086	10,503	11,209	129,333	11,015	11,859
California	29,922	31,962	37,252	507,948	47,723	42,439
Colorado	4,702	4,969	4,850	51,348	4,589	4,180
Connecticut	2,127	2,013	1,500	19,724	1,644	2,103
Delaware	1,546	1,265	1,692	15,141	1,217	1,358
District of Columbia	0	0	0	0	0	0
Florida	6,705	6,470	7,818	75,465	6,625	6,066
Georgia	14,383	13,758	14,921	152,516	10,125	13,754
Hawaii	0	0	0	0	0	0
Idaho	1,974	1,860	2,112	22,903	2,228	2,093
Illinois	26,850	25,092	28,444	278,826	32,148	26,153
Indiana	20,501	18,883	21,662	219,952	21,374	19,190
Iowa	6,537	6,444	9,343	89,347	7,055	7,643
Kansas	8,810	9,404	9,760	100,623	8,692	8,446
Kentucky	5,631	5,631	6,203	64,003	6,970	5,767
Louisiana	73,753	71,870	73,839	897,754	89,418	87,933
Maine	78	121	79	1,374	125	131
Maryland	5,767	6,336	5,911	66,271	5,800	5,245
Massachusetts	2,977	2,520	2,661	35,588	2,820	2,919
Michigan	18,242	18,260	20,657	102,981	19,149	16,297
Minnesota	7,741	7,358	7,550	81,479	7,596	7,834
Mississippi	7,740	8,045	8,685	99,790	8,790	9,223
Missouri	5,199	5,125	6,014	62,680	6,612	5,379
Montana	582	645	667	9,903	1,070	1,061
Nebraska	2,471	2,450	2,326	30,545	2,175	2,058
Nevada	636	597	667	7,859	646	760
New Hampshire	166	179	208	2,241	179	157
New Jersey	8,268	6,629	6,190	84,771	6,897	6,758
New Mexico	1,229	1,202	1,297	18,710	1,943	1,690
New York	8,476	8,420	8,888	66,864	10,813	8,467
North Carolina	7,341	6,533	6,534	82,629	5,036	7,736
North Dakota	357	362	380	4,525	484	482
Ohio	24,336	24,805	26,954	278,205	28,523	24,562
Oklahoma	13,596	14,213	15,991	180,182	17,255	15,500
Oregon	4,105	5,424	4,438	43,752	4,090	4,015
Pennsylvania	20,253	20,411	20,819	242,526	21,766	20,721
Rhode Island	361	295	363	4,624	310	279
South Carolina	6,474	5,442	5,760	74,534	4,052	6,988
South Dakota	422	452	396	4,982	491	472
Tennessee	9,201	8,973	9,486	106,860	9,399	9,190
Texas	148,195	130,931	148,539	1,787,888	170,883	154,501
Utah	2,990	3,070	3,120	33,963	3,784	3,015
Vermont	184	162	196	1,901	119	203
Virginia	4,319	4,311	4,716	57,761	3,419	4,647
Washington	6,492	6,390	7,174	73,239	6,863	6,642
West Virginia	3,747	3,444	3,371	49,943	4,694	4,190
Wisconsin	11,773	11,547	12,740	127,439	15,030	11,861
Wyoming	1,365	1,366	1,573	16,217	1,713	1,593
Total	571,838	545,959	594,875	6,816,200	642,602	603,204

See footnotes at end of table

Table 24. Natural Gas Deliveries to Industrial Consumers by State (Continued)
(Million Cubic Feet)

State	October 1989	September 1989	August 1989	July 1989	June 1989	May 1989
Alabama	12,863	11,462	11,536	10,909	11,843	12,378
Alaska	4,442	4,738	4,954	5,297	5,573	5,123
Arizona	1,874	1,566	1,655	1,590	1,753	1,887
Arkansas	12,052	8,338	9,342	10,474	9,683	9,751
California	49,435	47,977	45,858	42,383	41,341	42,425
Colorado	4,163	3,891	5,291	3,308	3,456	3,832
Connecticut	1,841	1,396	1,272	1,223	1,480	1,610
Delaware	1,221	1,155	957	1,044	1,332	1,581
District of Columbia	0	0	0	0	0	0
Florida	5,978	5,530	5,554	5,734	6,021	6,725
Georgia	14,404	11,965	13,104	11,723	12,573	12,878
Hawaii	0	0	0	0	0	0
Idaho	1,974	1,723	1,385	1,437	1,779	2,024
Illinois	22,453	18,978	17,567	16,750	16,046	20,708
Indiana	17,752	15,434	15,502	15,883	16,315	18,391
Iowa	7,221	6,884	6,339	5,957	6,757	6,880
Kansas	7,334	6,188	7,328	8,167	7,904	8,458
Kentucky	5,108	4,052	4,043	3,903	4,586	4,929
Louisiana	74,882	68,000	68,899	68,123	70,236	72,135
Maine	114	120	111	102	110	130
Maryland	4,790	4,682	4,709	4,703	5,102	5,333
Massachusetts	3,184	2,832	2,782	2,544	2,933	3,714
Michigan	13,650	12,824	11,841	12,084	13,442	14,840
Minnesota	6,820	5,986	6,111	5,924	5,549	5,857
Mississippi	8,932	7,789	8,689	7,678	8,323	8,080
Missouri	5,230	4,282	4,203	4,096	4,321	4,759
Montana	1,084	843	685	594	658	678
Nebraska	1,428	2,680	2,208	2,662	2,574	2,754
Nevada	674	631	700	627	625	647
New Hampshire	256	200	153	157	198	239
New Jersey	7,853	7,499	6,774	6,174	6,998	7,213
New Mexico	1,491	1,397	1,589	1,294	1,313	1,765
New York	7,488	7,157	6,523	6,335	6,930	6,790
North Carolina	7,689	6,442	6,814	6,116	6,812	7,299
North Dakota	439	291	223	238	305	362
Ohio	22,017	18,720	18,830	17,728	19,118	21,669
Oklahoma	15,821	13,959	14,811	16,539	14,439	13,217
Oregon	3,914	3,657	3,588	3,280	3,102	3,501
Pennsylvania	19,022	17,914	18,196	17,642	18,101	20,570
Rhode Island	400	412	461	325	440	515
South Carolina	7,407	6,317	7,320	6,703	7,174	6,823
South Dakota	454	316	309	300	383	373
Tennessee	9,017	8,109	8,288	8,002	8,403	7,933
Texas	144,846	151,964	157,335	155,422	147,747	140,214
Utah	2,745	2,510	2,510	1,949	2,599	2,518
Vermont	179	115	101	96	122	140
Virginia	4,633	4,437	4,330	4,389	5,132	4,832
Washington	6,344	6,024	5,427	5,921	5,357	5,834
West Virginia	4,289	4,156	3,911	3,851	3,584	4,038
Wisconsin	9,475	7,388	7,328	6,674	7,528	8,609
Wyoming	1,497	1,255	1,044	1,012	1,107	1,254
Total	568,180	531,985	539,493	525,048	529,173	544,317

See footnotes at end of table

Table 24. Natural Gas Deliveries to Industrial Consumers by State (Continued)
(Million Cubic Feet)

State	April 1989	March 1989	February 1989	January 1989	Total 1988	December 1988
Alabama	12,704	13,348	12,184	13,025	140,536	11,774
Alaska	5,517	5,618	4,671	4,912	67,808	5,192
Arizona	1,813	1,881	1,813	1,975	24,185	2,013
Arkansas	11,392	13,424	11,511	10,411	104,808	8,789
California	34,434	42,904	28,322	42,725	484,008	48,116
Colorado	4,517	4,657	4,794	4,870	38,197	3,325
Connecticut	1,927	1,929	1,641	1,857	19,438	1,833
Delaware	1,847	1,218	1,230	1,181	14,803	1,278
District of Columbia	0	0	0	0	0	0
Florida	6,379	7,003	6,746	7,124	75,518	6,595
Georgia	13,035	14,086	11,824	13,045	150,448	12,229
Hawaii	0	0	0	0	0	0
Idaho	1,995	2,127	1,973	2,165	20,710	2,002
Illinois	22,587	27,758	29,869	27,831	269,226	26,417
Indiana	18,725	21,073	20,547	19,786	219,789	19,794
Iowa	7,837	8,850	8,943	8,980	102,013	8,035
Kansas	8,929	10,005	8,978	9,994	108,108	9,746
Kentucky	5,309	6,273	6,485	6,588	60,136	6,009
Louisiana	70,526	75,115	73,998	77,490	779,171	88,346
Maine	130	101	104	95	1,182	79
Maryland	6,106	6,932	6,527	6,342	64,194	6,481
Massachusetts	3,350	3,429	2,598	2,882	31,577	2,484
Michigan	17,999	20,718	19,949	20,387	191,159	18,740
Minnesota	6,807	8,147	7,329	7,720	77,710	7,936
Mississippi	8,487	7,083	7,554	9,162	92,910	8,181
Missouri	5,393	6,140	6,328	5,938	54,243	5,146
Montana	756	766	756	950	8,360	918
Nebraska	2,721	3,201	3,001	3,082	32,299	2,986
Nevada	649	623	582	686	7,218	630
New Hampshire	259	144	141	158	1,971	145
New Jersey	7,499	8,045	8,167	8,898	77,518	5,574
New Mexico	1,527	1,303	1,487	1,911	14,709	1,375
New York	8,376	9,782	8,752	9,452	90,883	8,593
North Carolina	7,824	7,217	6,588	7,256	74,874	5,932
North Dakota	383	426	403	488	3,901	430
Ohio	25,018	27,485	27,034	27,500	280,059	27,283
Oklahoma	14,003	15,565	14,199	14,874	163,069	15,785
Oregon	3,490	4,052	3,268	3,793	39,771	3,677
Pennsylvania	20,953	23,120	22,383	22,158	228,619	20,343
Rhode Island	462	351	325	345	4,453	291
South Carolina	6,577	6,194	4,668	4,311	69,177	4,838
South Dakota	418	447	493	525	4,668	415
Tennessee	9,304	9,354	9,728	10,133	103,349	9,103
Texas	144,112	139,485	139,004	142,377	1,675,324	147,031
Utah	2,718	3,088	3,153	3,373	30,354	3,142
Vermont	187	211	193	234	1,741	183
Virginia	6,248	5,474	4,980	5,240	53,107	4,107
Washington	5,962	6,494	5,992	6,379	69,418	6,123
West Virginia	4,134	4,053	4,339	4,705	40,415	3,701
Wisconsin	10,971	13,830	14,915	14,029	121,819	12,797
Wyoming	1,238	1,374	1,448	1,683	15,472	1,563
Total	562,716	601,503	569,695	598,283	6,383,382	577,266

R = Revised Data.

Notes and Sources: See the last page of this section.

Table 25. Natural Gas Deliveries to Electrical Utility^a Consumers by State
(Million Cubic Feet)

State	YTD 1990	YTD 1989	YTD 1988	June 1990	May 1990	April 1990
Alabama	1,600	908	597	542	310	200
Alaska	16,438	15,979	14,829	2,649	2,570	2,535
Arizona	14,920	20,722	9,328	4,130	2,583	2,092
Arkansas	10,078	12,463	10,659	4,491	2,612	745
California	192,181	212,442	288,750	40,590	31,820	34,310
Colorado	2,473	5,166	4,288	518	489	375
Connecticut	243	1,569	543	72	168	0
Delaware	4,381	2,757	1,496	1,081	880	523
District of Columbia	0	0	0	0	0	0
Florida	88,261	90,077	80,323	14,856	17,557	16,239
Georgia	364	364	248	204	74	34
Hawaii	0	0	0	0	0	0
Idaho	0	0	0	0	0	0
Illinois	3,685	3,641	2,728	1,125	681	508
Indiana	2,802	2,206	931	243	634	561
Iowa	1,247	1,123	2,028	440	301	178
Kansas	9,883	6,863	8,352	4,052	2,071	925
Kentucky	148	173	132	26	12	26
Louisiana	109,678	103,052	116,311	32,409	21,448	10,432
Maine	0	0	0	0	0	0
Maryland	3,351	9,718	1,649	1,147	558	892
Massachusetts	20,194	18,668	8,249	4,901	7,819	5,734
Michigan	11,110	10,910	6,906	2,211	1,718	1,185
Minnesota	1,951	1,648	2,052	487	378	311
Mississippi	18,781	18,823	10,952	4,612	3,585	3,391
Missouri	684	527	842	395	83	52
Montana	173	173	119	48	27	31
Nebraska	1,235	1,122	1,027	239	370	336
Nevada	10,942	8,903	4,280	2,754	2,458	2,117
New Hampshire	0	8	14	0	0	0
New Jersey	11,252	26,867	25,205	3,853	1,594	3,273
New Mexico	12,801	12,353	10,113	3,366	2,751	2,213
New York	85,541	86,678	71,270	20,803	18,466	17,054
North Carolina	910	592	291	390	163	109
North Dakota	0	0	0	0	0	0
Ohio	306	305	254	80	49	73
Oklahoma	77,929	86,078	83,775	17,988	13,824	12,146
Oregon	1,731	4,367	0	0	0	0
Pennsylvania	1,049	2,220	1,063	181	156	222
Rhode Island	1,550	598	157	403	629	408
South Carolina	476	923	1,481	404	28	13
South Dakota	28	70	101	24	1	1
Tennessee	123	0	0	113	0	0
Texas	465,691	483,563	486,361	122,624	100,463	71,271
Utah	487	483	158	81	122	130
Vermont	176	0	0	55	49	46
Virginia	699	2,627	585	680	25	13
Washington	24	5,855	1,730	1	9	0
West Virginia	84	61	44	7	10	16
Wisconsin	1,221	935	920	284	280	281
Wyoming	33	37	81	6	7	5
Total	1,188,892	1,266,192	1,261,092	295,305	239,415	196,830

See footnotes at end of table.

Table 25. Natural Gas Deliveries to Electrical Utility^a Consumers by State (Continued)
(Million Cubic Feet)

State	March 1990	February 1990	January 1990	Total 1990	December 1989	November 1989
Alabama	213	130	109	1,707	152	83
Alaska	2,800	2,920	2,904	" 32,748	2,711	2,981
Arizona	2,219	1,974	1,922	" 50,807	3,252	4,774
Arkansas	817	973	840	29,482	1,864	2,656
California	31,463	24,795	29,203	" 517,700	29,366	44,914
Colorado	499	258	354	" 8,375	859	473
Connecticut	1	1	1	" 3,291	1	19
Delaware	927	819	351	7,999	359	369
District of Columbia	0	0	0	0	0	0
Florida	15,353	12,531	11,725	" 180,814	9,698	13,249
Georgia	29	12	11	684	37	18
Hawaii	0	0	0	0	0	0
Idaho	0	0	0	0	0	0
Illinois	547	407	417	6,987	648	450
Indiana	499	433	432	" 4,075	550	431
Iowa	138	101	91	" 2,402	117	116
Kansas	1,121	819	895	" 18,741	923	713
Kentucky	36	32	14	328	21	3
Louisiana	16,420	11,415	11,554	227,082	13,132	14,228
Maine	0	0	0	0	0	0
Maryland	592	163	201	19,184	250	377
Massachusetts	1,185	557	18	" 48,448	0	1,522
Michigan	2,118	1,850	2,228	" 18,782	1,187	1,063
Minnesota	348	208	243	" 4,321	221	398
Mississippi	3,071	2,016	2,146	" 44,927	2,485	2,009
Missouri	61	43	50	" 1,242	104	56
Montana	22	19	28	" 336	31	28
Nebraska	185	46	58	2,593	71	357
Nevada	1,599	828	1,186	" 23,210	1,291	1,810
New Hampshire	0	0	0	" 23	0	0
New Jersey	1,831	888	215	" 54,778	724	1,521
New Mexico	1,931	997	1,543	" 27,365	1,814	2,223
New York	17,193	6,973	5,252	" 182,000	3,242	10,283
North Carolina	102	76	70	" 1,873	105	118
North Dakota	0	0	0	" 1	0	0
Ohio	34	30	40	" 983	188	41
Oklahoma	11,907	10,589	11,695	178,021	14,801	12,408
Oregon	0	1,496	235	12,942	2,185	1,747
Pennsylvania	161	156	173	" 4,022	458	256
Rhode Island	85	0	25	2,147	0	68
South Carolina	12	11	8	2,705	167	179
South Dakota	1	0	1	" 132	3	14
Tennessee	10	0	0	18	0	11
Texas	68,922	46,978	57,433	" 1,023,793	79,807	65,143
Utah	153	0	1	836	93	77
Vermont	3	2	21	37	1	38
Virginia	6	0	1	" 3,796	19	33
Washington	2	9	3	8,320	241	39
West Virginia	2	18	31	124	20	8
Wisconsin	177	101	98	" 2,076	246	127
Wyoming	5	5	5	" 85	9	8
Total	182,435	131,273	143,634	2,767,903	169,975	187,381

See footnotes at end of table.

Table 25. Natural Gas Deliveries to Electrical Utility^a Consumers by State (Continued)
(Million Cubic Feet)

State	October 1989	September 1989	August 1989	July 1989	June 1989	May 1989
Alabama	113	119	130	202	249	205
Alaska	2,849	2,835	2,777	2,810	2,388	2,488
Arizona	3,438	5,313	5,788	7,551	4,713	4,387
Arkansas	2,388	1,792	4,877	3,422	2,153	1,800
California	81,801	57,814	53,074	61,893	42,285	28,043
Colorado	859	528	432	482	264	474
Connecticut	868	700	141	5	232	781
Delaware	940	1,034	1,355	1,185	560	145
District of Columbia	0	0	0	0	0	0
Florida	18,371	19,164	19,183	19,071	18,538	18,055
Georgia	52	24	33	156	160	42
Hawaii	0	0	0	0	0	0
Idaho	0	0	0	0	0	0
Illinois	338	452	848	794	1,081	873
Indiana	270	228	129	200	80	404
Iowa	383	230	201	244	183	199
Kansas	841	1,303	4,252	4,247	2,338	989
Kentucky	18	11	18	88	50	20
Louisiana	21,027	22,293	20,898	20,452	24,374	24,177
Maine	0	0	0	0	0	0
Maryland	3,079	1,480	2,408	1,878	2,454	2,518
Massachusetts	8,538	8,832	5,808	7,075	8,054	5,133
Michigan	881	1,503	1,318	1,921	1,727	1,844
Minnesota	368	357	840	894	328	195
Mississippi	4,088	4,529	6,883	8,241	5,083	5,984
Missouri	73	78	178	229	172	110
Montana	35	14	25	25	20	30
Nebraska	295	167	189	392	113	89
Nevada	2,048	2,545	3,484	3,328	2,012	1,880
New Hampshire	1	5	8	4	3	1
New Jersey	2,901	4,558	7,203	9,902	9,075	5,522
New Mexico	2,702	2,775	2,592	2,105	2,278	2,280
New York	18,102	19,425	21,814	21,458	21,781	22,442
North Carolina	88	248	237	288	344	82
North Dakota	0	0	0	0	0	0
Ohio	83	84	189	154	159	39
Oklahoma	13,771	15,095	18,485	17,523	14,333	18,549
Oregon	1,877	1,548	274	948	2,086	385
Pennsylvania	184	240	288	399	387	335
Rhode Island	407	242	438	398	278	235
South Carolina	198	377	371	550	853	87
South Dakota	1	1	8	39	0	11
Tennessee	0	2	5	0	0	0
Texas	80,872	89,839	114,347	110,323	87,845	97,883
Utah	2	0	0	1	2	107
Vermont	0	0	0	0	0	0
Virginia	32	51	252	779	1,188	770
Washington	8	221	289	1,889	134	0
West Virginia	18	7	5	9	11	13
Wisconsin	173	105	186	325	158	122
Wyoming	17	5	8	8	7	8
Total	252,494	288,052	307,804	318,005	258,343	248,869

See footnotes at end of table

Table 25. Natural Gas Deliveries to Electrical Utility^a Consumers by State (Continued)
(Million Cubic Feet)

State	April 1980	March 1980	February 1980	January 1980	Total 1980	December 1979
Alabama	83	100	167	104	2,574	100
Alaska	2,527	2,773	2,746	3,079	30,841	2,819
Arizona	6,188	2,832	1,129	1,073	25,328	935
Arkansas	3,384	3,853	1,450	323	22,075	383
California	38,898	37,880	38,214	31,324	652,938	28,933
Colorado	787	574	1,202	1,885	8,488	1,952
Connecticut	483	112	0	1	1,260	1
Delaware	809	737	389	117	2,824	77
District of Columbia	0	0	0	0	0	0
Florida	18,129	14,914	10,794	11,849	154,550	8,778
Georgia	70	48	15	31	ⁿ 1,589	32
Hawaii	0	0	0	0	ⁿ 2	0
Idaho	0	0	0	0	0	0
Illinois	404	488	532	485	5,708	484
Indiana	412	424	401	445	3,455	580
Iowa	181	248	132	182	ⁿ 5,459	148
Kansas	988	793	784	793	18,880	719
Kentucky	29	15	25	29	452	21
Louisiana	15,048	18,150	11,804	10,709	250,323	12,401
Maine	0	0	0	0	0	0
Maryland	3,410	1,134	89	131	5,338	50
Massachusetts	5,279	2,050	54	98	19,874	284
Michigan	2,015	1,535	1,911	1,878	ⁿ 15,027	1,887
Minnesota	314	285	283	265	5,217	315
Mississippi	3,022	2,482	1,078	978	ⁿ 33,281	1,098
Missouri	74	59	88	44	1,823	53
Montana	24	37	34	28	288	30
Nebraska	428	189	249	54	2,048	84
Nevada	2,147	1,359	892	803	10,858	967
New Hampshire	0	1	2	1	55	2
New Jersey	5,913	5,930	1,380	1,087	51,088	938
New Mexico	2,349	2,078	1,879	1,891	ⁿ 21,004	1,874
New York	20,998	14,880	4,188	2,430	148,493	1,177
North Carolina	36	42	35	53	1,068	118
North Dakota	0	0	0	0	2	0
Ohio	33	22	29	23	974	47
Oklahoma	15,212	12,833	12,840	12,511	177,222	13,520
Oregon	1,898	0	0	0	0	0
Pennsylvania	324	516	411	267	2,849	273
Rhode Island	85	0	0	0	185	0
South Carolina	86	86	27	4	2,378	83
South Dakota	8	49	1	1	223	1
Tennessee	0	0	0	0	225	0
Texas	82,801	78,781	78,488	80,127	ⁿ 1,043,910	80,402
Utah	138	134	80	4	198	2
Vermont	0	0	0	0	0	0
Virginia	801	28	18	31	1,096	17
Washington	918	3,182	1,840	3	1,753	5
West Virginia	5	9	19	4	73	4
Wisconsin	94	191	201	169	2,739	296
Wyoming	6	3	4	11	183	20
Total	233,118	209,343	170,989	145,552	ⁿ 2,635,818	137,449

^a includes all steam electric utility generating plants with a combined capacity of 50 megawatts or greater.

ⁿ Revised Data.

Notes and Sources: See the last page of this section.

Table 26. Natural Gas Deliveries to All Consumers by State
(Million Cubic Feet)

State	YTD 1990	YTD 1989	YTD 1988	June 1990	May 1990	April 1990
Alabama	120,487	123,024	121,805	13,742	R 15,431	R 18,804
Alaska	59,020	67,872	67,412	8,213	R 7,443	R 9,669
Arizona	61,985	65,735	56,396	8,669	R 7,823	R 8,217
Arkansas	113,557	123,431	109,616	15,240	R 15,004	R 17,076
California	831,603	897,006	951,862	115,483	R 113,093	R 130,338
Colorado	136,965	137,160	134,149	11,863	R 16,475	R 21,249
Connecticut	52,252	55,276	52,313	4,600	R 5,934	R 8,758
Delaware	20,835	18,783	17,345	2,873	R 2,757	R 3,103
District of Columbia	19,231	21,213	21,086	1,301	R 1,809	R 2,928
Florida	159,356	156,593	151,845	25,301	R 28,557	R 27,047
Georgia	164,640	162,834	174,335	17,686	R 20,254	R 23,939
Hawaii	1,374	1,367	1,352	230	R 220	R 223
Idaho	20,021	23,718	21,218	2,085	R 2,507	R 2,721
Illinois	492,910	554,662	575,843	36,454	R 51,721	R 75,155
Indiana	243,248	253,289	258,055	22,196	R 29,559	R 38,466
Iowa	127,456	129,765	134,777	12,264	R 15,022	R 19,984
Kansas	150,191	144,844	150,830	18,605	R 20,564	R 22,971
Kentucky	83,714	93,982	94,625	7,288	R 8,891	R 12,994
Louisiana	607,135	593,156	571,796	108,640	R 100,411	R 98,450
Maine	2,135	2,086	1,854	233	R 293	R 464
Maryland	95,320	111,730	101,157	9,305	R 9,751	R 15,199
Massachusetts	141,906	144,745	127,756	15,026	R 20,964	R 26,204
Michigan	412,170	451,435	452,066	31,054	R 43,535	R 63,445
Minnesota	151,500	167,249	165,875	11,606	R 16,009	R 22,877
Mississippi	107,353	94,200	86,920	16,125	R 15,981	R 16,271
Missouri	144,849	157,612	157,686	10,158	R 13,797	R 22,216
Montana	20,128	24,340	21,984	1,612	R 2,350	R 2,872
Nebraska	60,470	66,093	68,508	5,716	R 6,303	R 9,373
Nevada	33,295	32,263	26,834	4,980	R 4,824	R 4,924
New Hampshire	8,437	8,779	8,105	663	R 986	R 1,398
New Jersey	220,618	265,497	252,134	20,587	R 23,443	R 37,630
New Mexico	56,655	57,209	56,515	6,823	R 7,364	R 8,517
New York	453,614	485,601	468,256	50,120	R 55,645	R 74,719
North Carolina	81,708	88,639	81,520	8,593	R 10,222	R 12,819
North Dakota	13,618	15,791	14,421	917	R 1,420	R 2,178
Ohio	411,560	449,632	466,881	33,209	R 44,159	R 63,963
Oklahoma	238,529	245,397	248,110	35,066	R 33,875	R 37,097
Oregon	51,886	53,510	45,485	5,513	R 6,211	R 6,683
Pennsylvania	351,239	380,388	377,457	30,815	R 37,739	R 57,116
Rhode Island	19,888	19,821	19,399	1,688	R 2,757	R 3,491
South Carolina	59,382	59,702	60,522	8,296	R 8,199	R 9,234
South Dakota	13,540	15,402	15,312	1,065	R 1,363	R 2,058
Tennessee	110,413	115,845	115,138	11,551	R 13,436	R 16,786
Texas	1,683,729	1,576,256	1,547,487	315,096	R 309,657	R 275,986
Utah	54,573	59,160	56,299	4,901	R 6,030	R 7,194
Vermont	3,741	3,746	3,354	354	R 456	R 620
Virginia	85,472	99,517	90,675	9,381	R 9,492	R 13,085
Washington	83,857	91,307	83,107	10,130	R 11,129	R 11,900
West Virginia	55,760	62,070	59,006	5,248	R 6,674	R 8,981
Wisconsin	173,181	196,506	189,567	12,943	R 19,102	R 25,091
Wyoming	21,758	21,688	21,730	2,524	R 2,840	R 3,385
Total	8,888,255	9,246,930	9,157,789	1,114,044	R 1,209,503	R 1,406,669

See footnotes at end of tables.

Table 26. Natural Gas Deliveries to All Consumers by State (Continued)
(Million Cubic Feet)

State	March 1990	February 1990	January 1990	Total 1989	December 1989	November 1989
Alabama	R 20,992	R 22,008	R 29,510	R 225,124	R 24,040	R 19,291
Alaska	R 11,294	R 11,396	R 11,005	R 127,414	R 11,296	R 10,594
Arizona	R 11,338	R 12,737	R 13,201	R 127,177	R 11,883	R 10,755
Arkansas	R 19,217	R 20,492	R 25,628	R 228,392	R 23,178	R 19,551
California	R 145,357	R 155,932	R 171,390	R 1,799,042	R 163,384	R 149,088
Colorado	R 26,753	R 28,646	R 31,979	R 218,766	R 24,416	R 17,069
Connecticut	R 10,146	R 10,969	R 11,845	R 94,484	R 12,527	R 7,666
Delaware	R 3,996	R 3,688	R 4,418	R 34,919	R 3,290	R 2,506
District of Columbia	R 3,801	R 4,084	R 5,308	R 33,174	R 4,689	R 2,189
Florida	R 27,004	R 24,248	R 27,199	R 310,493	R 21,767	R 23,157
Georgia	R 30,243	R 32,224	R 40,294	R 309,970	R 40,687	R 29,715
Hawaii	R 236	R 233	R 232	R 2,694	224	217
Idaho	R 3,832	R 4,297	R 4,579	R 40,679	R 4,641	R 3,644
Illinois	R 96,004	R 109,304	R 124,272	R 978,413	R 160,338	R 97,901
Indiana	R 45,722	R 48,310	R 58,995	R 453,526	R 65,183	R 42,379
Iowa	R 23,734	R 25,289	R 31,263	R 215,294	R 26,682	R 17,409
Kansas	R 25,637	R 27,982	R 34,432	R 253,952	R 28,272	R 18,944
Kentucky	R 15,390	R 18,158	R 20,993	R 165,562	R 26,673	R 15,238
Louisiana	R 99,973	R 94,119	R 105,542	R 1,209,158	R 115,718	R 108,321
Maine	R 336	R 397	R 412	R 3,672	490	305
Maryland	R 18,292	R 18,667	R 24,106	R 187,512	R 21,772	R 12,553
Massachusetts	R 24,737	R 24,645	R 30,330	R 247,205	R 25,714	R 15,583
Michigan	R 82,547	R 88,529	R 103,060	R 749,612	R 108,871	R 64,815
Minnesota	R 30,168	R 33,342	R 37,498	R 287,891	R 41,598	R 28,061
Mississippi	R 17,189	R 17,658	R 24,129	R 188,597	R 18,242	R 14,605
Missouri	R 26,388	R 29,942	R 42,448	R 256,105	R 38,207	R 19,591
Montana	R 3,679	R 4,502	R 5,113	R 41,575	R 5,400	R 4,052
Nebraska	R 11,297	R 13,009	R 14,772	R 115,293	R 13,739	R 8,805
Nevada	R 5,958	R 6,097	R 6,502	R 62,950	R 5,986	R 5,035
New Hampshire	R 1,514	R 1,771	R 2,105	R 13,925	R 1,922	R 998
New Jersey	R 44,060	R 42,727	R 52,171	R 452,476	R 57,310	R 33,144
New Mexico	R 10,353	R 10,968	R 12,630	R 101,126	R 11,333	R 8,329
New York	R 92,159	R 87,456	R 93,515	R 839,957	R 98,996	R 63,958
North Carolina	R 14,989	R 14,939	R 20,146	R 156,105	R 16,403	R 13,316
North Dakota	R 2,597	R 3,045	R 3,461	R 24,959	R 3,401	R 2,249
Ohio	R 81,615	R 89,597	R 96,017	R 799,852	R 128,237	R 78,522
Oklahoma	R 39,049	R 42,102	R 51,340	R 468,488	R 48,765	R 35,307
Oregon	R 9,407	R 13,171	R 10,901	R 99,448	R 11,524	R 9,220
Pennsylvania	R 67,026	R 70,792	R 87,751	R 649,804	R 88,193	R 55,008
Rhode Island	R 3,671	R 3,605	R 4,676	R 33,821	R 4,068	R 2,327
South Carolina	R 10,456	R 9,845	R 13,352	R 114,237	R 10,035	R 10,016
South Dakota	R 2,639	R 3,045	R 3,370	R 25,263	R 3,633	R 2,413
Tennessee	R 18,949	R 20,782	R 28,889	R 203,588	R 25,403	R 16,526
Texas	R 264,841	R 232,032	R 286,117	R 3,225,961	R 318,473	R 249,532
Utah	R 10,936	R 12,582	R 12,930	R 96,288	R 12,103	R 8,045
Vermont	R 704	R 720	R 887	6,145	781	593
Virginia	R 15,940	R 16,400	R 21,174	R 167,450	R 21,385	R 13,093
Washington	R 15,628	R 17,596	R 17,474	R 158,420	R 16,628	R 13,531
West Virginia	R 10,223	R 10,739	R 13,895	R 110,452	R 14,800	R 9,471
Wisconsin	R 34,954	R 37,755	R 43,336	R 326,613	R 47,119	R 28,957
Wyoming	R 3,997	R 4,278	R 4,734	R 36,633	R 4,157	R 3,296
Total	R 1,596,965	R 1,636,749	R 1,924,325	R 17,079,657	R 1,993,577	R 1,426,889

See footnotes at end of tables.

Table 26. Natural Gas Deliveries to All Consumers by State (Continued)
(Million Cubic Feet)

State	October 1989	September 1989	August 1989	July 1989	June 1989	May 1989
Alabama	R 16,211	R 14,167	R 14,159	R 14,233	R 15,007	R 17,145
Alaska	R 9,782	R 9,311	R 9,192	R 9,388	R 9,864	R 10,037
Arizona	R 7,901	R 9,308	R 9,768	R 11,824	R 9,509	R 9,472
Arkansas	R 17,248	R 12,466	R 16,364	R 16,153	R 14,576	R 14,239
California	R 158,974	R 149,227	R 139,259	R 142,104	R 131,676	R 120,879
Colorado	R 11,804	R 9,320	R 10,121	R 8,876	R 10,749	R 14,259
Connecticut	R 6,370	R 4,785	R 3,988	R 3,870	R 4,633	R 6,708
Delaware	R 2,618	R 2,539	R 2,634	R 2,549	R 2,330	R 2,441
District of Columbia	R 1,430	R 1,207	R 1,246	R 1,199	R 1,452	R 2,024
Florida	R 25,431	R 27,819	R 27,722	R 28,004	R 27,835	R 28,267
Georgia	R 23,123	R 18,044	R 18,289	R 17,278	R 18,123	R 20,531
Hawaii	222	220	215	228	223	228
Idaho	R 2,737	R 2,264	R 1,779	R 1,897	R 2,439	R 2,800
Illinois	R 59,725	R 39,136	R 32,963	R 33,688	R 35,615	R 55,098
Indiana	R 30,067	R 21,834	R 20,158	R 20,615	R 22,109	R 29,809
Iowa	R 12,939	R 10,160	R 9,300	R 9,039	R 10,382	R 13,237
Kansas	R 13,661	R 12,528	R 18,079	R 17,624	R 14,992	R 16,543
Kentucky	R 10,204	R 6,656	R 6,389	R 6,420	R 7,622	R 9,882
Louisiana	R 99,958	R 93,732	R 100,137	R 98,136	R 98,380	R 100,883
Maine	244	202	181	165	199	285
Maryland	R 12,223	R 9,318	R 10,127	R 9,789	R 11,391	R 13,872
Massachusetts	R 19,281	R 14,363	R 13,168	R 14,351	R 15,191	R 20,103
Michigan	R 43,380	R 28,901	R 25,582	R 26,627	R 30,927	R 47,249
Minnesota	R 17,333	R 11,500	R 11,030	R 11,119	R 11,412	R 15,554
Mississippi	R 14,981	R 13,966	R 17,102	R 15,502	R 15,074	R 16,294
Missouri	R 13,148	R 9,493	R 8,891	R 9,162	R 10,466	R 13,461
Montana	R 3,010	R 1,867	R 1,530	R 1,375	R 1,836	R 2,361
Nebraska	R 5,804	R 5,693	R 7,645	R 7,513	R 5,581	R 6,459
Nevada	R 4,380	R 4,542	R 5,467	R 5,276	R 4,276	R 4,370
New Hampshire	R 779	R 549	R 426	R 471	R 599	R 1,000
New Jersey	R 25,984	R 21,978	R 23,275	R 25,289	R 27,259	R 30,869
New Mexico	R 6,283	R 5,970	R 6,062	R 5,941	R 5,710	R 6,674
New York	R 53,391	R 44,908	R 45,831	R 47,273	R 50,801	R 65,178
North Carolina	R 10,958	R 8,968	R 9,200	R 8,621	R 9,744	R 11,302
North Dakota	R 1,302	R 871	R 626	R 721	R 950	R 1,375
Ohio	R 51,673	R 32,994	R 30,016	R 28,779	R 30,962	R 48,427
Oklahoma	R 33,690	R 32,180	R 36,047	R 37,100	R 32,218	R 36,408
Oregon	R 7,568	R 6,666	R 5,215	R 5,745	R 7,128	R 6,168
Pennsylvania	R 39,594	R 29,248	R 28,658	R 28,714	R 31,244	R 44,995
Rhode Island	R 2,320	R 1,711	R 1,879	R 1,694	R 1,762	R 2,538
South Carolina	R 9,195	R 7,906	R 8,827	R 8,556	R 9,186	R 8,884
South Dakota	R 1,424	R 870	R 733	R 786	R 978	R 1,359
Tennessee	R 13,056	R 11,000	R 10,914	R 10,846	R 11,667	R 12,682
Texas	R 245,758	R 258,280	R 290,332	R 286,332	R 254,648	R 258,605
Utah	R 4,987	R 4,222	R 4,091	R 3,680	R 4,836	R 5,494
Vermont	406	230	196	193	248	367
Virginia	R 9,689	R 7,847	R 7,407	R 8,512	R 10,164	R 10,929
Washington	R 10,055	R 8,572	R 8,064	R 10,263	R 8,843	R 9,851
West Virginia	R 7,416	R 5,845	R 5,463	R 5,387	R 5,476	R 7,791
Wisconsin	R 19,137	R 12,383	R 11,213	R 11,298	R 13,476	R 20,487
Wyoming	R 2,427	R 1,878	R 1,542	R 1,647	R 1,998	R 2,524
Total	R 1,201,260	R 1,050,542	R 1,078,505	R 1,081,855	R 1,063,769	R 1,208,396

See footnotes at end of tables.

Table 26. Natural Gas Deliveries to All Consumers by State (Continued)
(Million Cubic Feet)

State	April 1989	March 1989	February 1989	January 1989	Total 1988	December 1988
Alabama	R 19,867	R 24,202	R 22,867	R 23,936	217,586	R 20,418
Alaska	R 11,215	R 12,215	R 12,257	R 12,284	132,017	R 12,192
Arizona	R 11,745	R 10,092	R 11,224	R 13,893	106,017	R 10,212
Arkansas	R 20,793	R 27,976	R 24,418	R 21,429	197,208	R 17,786
California	R 127,618	R 156,443	R 169,917	R 190,473	1,762,480	R 153,146
Colorado	R 20,019	R 28,091	R 32,118	R 31,924	208,087	R 25,818
Connecticut	R 8,981	R 11,694	R 11,282	R 11,978	87,592	R 10,430
Delaware	R 3,648	R 3,801	R 3,377	R 3,186	29,253	R 2,828
District of Columbia	R 3,298	R 4,827	R 4,576	R 5,036	32,483	4,067
Florida	R 26,799	R 27,296	R 22,420	R 23,976	282,792	R 18,459
Georgia	R 24,237	R 28,898	R 35,726	R 35,319	R 316,105	R 35,652
Hawaii	225	224	230	237	2,614	205
Idaho	R 3,431	R 4,489	R 5,214	R 5,345	36,646	R 4,481
Illinois	R 79,159	R 118,072	R 136,317	R 130,401	952,529	R 123,601
Indiana	R 37,702	R 52,051	R 56,255	R 55,363	447,542	R 53,751
Iowa	R 19,394	R 28,239	R 29,184	R 29,329	R 228,538	R 24,837
Kansas	R 21,865	R 29,617	R 31,200	R 30,627	264,539	R 27,002
Kentucky	R 13,496	R 19,127	R 22,420	R 21,435	160,332	R 20,523
Louisiana	R 93,512	R 103,035	R 97,447	R 99,899	1,116,676	R 90,987
Maine	357	414	415	416	3,191	341
Maryland	R 19,134	R 23,499	R 21,175	R 22,659	170,326	R 19,509
Massachusetts	R 25,879	R 29,653	R 26,152	R 27,767	208,998	R 21,610
Michigan	R 70,614	R 98,133	R 99,766	R 104,746	R 722,598	R 88,637
Minnesota	R 23,643	R 36,354	R 40,262	R 40,024	272,585	R 35,521
Mississippi	R 15,111	R 16,054	R 15,163	R 16,504	R 171,168	R 14,878
Missouri	R 21,904	R 35,199	R 38,975	R 37,607	248,022	R 31,567
Montana	R 3,653	R 5,188	R 5,492	R 5,810	37,587	R 5,539
Nebraska	R 9,341	R 14,384	R 15,985	R 14,343	117,234	R 12,435
Nevada	R 5,002	R 5,472	R 6,370	R 6,773	48,031	R 5,521
New Hampshire	R 1,495	R 1,842	R 1,799	R 2,044	12,987	1,565
New Jersey	R 42,019	R 57,353	R 52,128	R 55,869	411,415	R 38,307
New Mexico	R 7,895	R 10,102	R 12,361	R 14,467	R 94,650	R 11,227
New York	R 83,829	R 101,967	R 90,072	R 93,754	784,673	R 80,886
North Carolina	R 14,430	R 17,829	R 16,295	R 19,039	146,790	R 15,563
North Dakota	R 2,449	R 3,417	R 3,662	R 3,938	22,876	R 2,985
Ohio	R 70,110	R 91,558	R 108,092	R 100,485	790,436	R 101,249
Oklahoma	R 37,865	R 46,669	R 47,207	R 45,030	460,130	R 44,129
Oregon	R 9,164	R 10,164	R 10,577	R 10,309	78,996	R 8,987
Pennsylvania	R 59,585	R 78,507	R 81,785	R 84,272	626,688	R 72,801
Rhode Island	R 3,230	R 4,065	R 3,986	R 4,240	30,668	R 3,291
South Carolina	R 10,028	R 11,685	R 9,859	R 10,260	109,817	R 10,026
South Dakota	R 2,238	R 3,387	R 3,813	R 3,627	23,974	R 2,945
Tennessee	R 17,669	R 23,695	R 24,717	R 25,415	197,095	R 21,548
Texas	R 258,245	R 268,556	R 278,827	R 257,375	R 3,104,559	R 256,823
Utah	R 7,666	R 11,289	R 14,899	R 14,976	90,702	R 11,949
Vermont	613	809	807	902	5,551	708
Virginia	R 16,322	R 20,257	R 20,498	R 21,348	154,756	R 17,974
Washington	R 14,176	R 20,809	R 19,853	R 17,775	142,825	R 15,654
West Virginia	R 9,788	R 12,048	R 13,244	R 13,723	100,595	R 12,240
Wisconsin	R 29,730	R 42,939	R 45,710	R 44,164	312,832	R 38,949
Wyoming	R 3,276	R 4,086	R 4,830	R 4,974	36,005	R 4,199
Total	R 1,443,464	R 1,797,771	R 1,863,027	R 1,870,503	R 16,319,791	R 1,665,955

R Revised Data.

Notes and Sources: See the last page of this section.

Table 27. Average City Gate Price by State
(Dollars per Thousand Cubic Feet)

State	YTD 1990	YTD 1989	YTD 1988	June 1990	May 1990	April 1990	March 1990	February 1990
Alabama	3.08	2.96	3.21	3.09	2.96	2.93	3.03	3.22
Alaska	.33	.33	.33	.33	.33	.33	.33	.33
Arizona	2.71	2.62	2.47	2.67	2.39	2.54	2.51	2.60
Arkansas	2.46	2.47	2.41	2.34	2.34	2.36	2.50	2.50
California	2.85	2.72	2.53	2.90	2.83	2.79	2.70	2.87
Colorado	2.90	2.98	3.06	3.46	3.19	2.88	2.79	2.80
Connecticut	3.55	3.37	3.14	3.47	3.10	3.21	3.50	3.79
Delaware	2.77	2.91	2.82	2.44	2.97	2.41	2.91	3.16
District of Columbia	--	--	--	--	--	--	--	--
Florida	2.68	2.62	2.49	2.37	2.45	R 2.48	2.57	2.98
Georgia	3.51	3.63	3.75	3.24	2.74	3.19	3.62	3.84
Hawaii	7.04	6.45	6.35	6.24	7.29	6.96	7.24	7.27
Idaho	2.10	2.12	2.30	2.77	2.15	2.09	1.82	1.98
Illinois	3.19	3.10	2.74	2.75	2.48	2.85	3.28	3.72
Indiana	3.15	3.24	3.07	3.50	3.12	2.80	3.09	2.93
Iowa	2.92	2.83	2.97	3.06	2.79	2.48	2.62	2.77
Kansas	2.86	2.08	2.04	2.25	2.42	2.87	3.09	2.83
Kentucky	3.34	3.13	3.02	3.05	3.28	3.29	3.34	3.35
Louisiana	3.00	2.95	3.00	2.64	2.84	2.82	2.85	3.20
Maine	3.06	3.23	2.88	3.05	2.79	2.69	3.06	3.59
Maryland	2.96	3.19	3.01	3.99	3.45	2.80	2.60	3.04
Massachusetts	3.29	3.10	2.89	3.28	2.84	2.96	3.28	3.73
Michigan	3.16	3.39	3.33	3.04	2.52	3.11	3.48	3.43
Minnesota	2.85	2.72	2.82	3.22	2.66	2.35	2.60	2.72
Mississippi	2.95	3.08	3.28	2.77	2.64	2.67	2.81	3.11
Missouri	3.17	2.91	2.84	3.54	3.40	R 2.71	R 3.16	R 3.21
Montana	3.54	3.60	3.69	4.24	3.72	4.01	3.20	3.54
Nebraska	2.97	2.93	3.03	3.20	2.85	2.59	2.78	2.76
Nevada	2.97	3.47	2.80	2.68	2.38	2.64	3.14	3.05
New Hampshire	3.57	3.28	3.23	3.12	2.91	3.06	3.44	4.12
New Jersey	3.17	3.11	2.95	3.11	2.81	2.88	3.07	3.47
New Mexico	2.68	2.57	2.52	3.41	3.40	2.40	2.37	2.54
New York	3.04	3.00	2.79	2.76	2.63	2.92	2.98	3.23
North Carolina	2.87	3.07	2.83	2.93	2.92	2.64	2.60	2.94
North Dakota	3.36	3.28	3.43	4.01	3.75	3.54	3.22	3.19
Ohio	3.07	3.26	3.15	3.12	3.03	2.74	R 3.16	3.16
Oklahoma	2.07	2.10	2.28	1.86	1.83	2.01	2.03	2.14
Oregon	2.50	2.58	2.93	2.90	2.51	R 2.55	R 2.43	R 2.38
Pennsylvania	3.35	3.23	3.03	3.74	3.51	3.39	3.18	3.28
Rhode Island	3.65	3.54	3.27	4.06	3.79	3.32	3.61	3.71
South Carolina	3.32	3.61	3.43	3.15	3.24	3.12	3.20	3.45
South Dakota	3.18	3.12	3.16	3.89	3.31	2.84	2.91	3.02
Tennessee	2.84	2.73	2.67	2.79	2.65	2.54	R 2.71	R 2.71
Texas	3.13	3.29	2.98	2.86	2.93	3.01	3.12	3.26
Utah	3.73	3.40	2.97	5.23	4.75	4.55	3.75	3.33
Vermont	2.82	2.59	2.61	3.42	2.84	2.70	2.86	2.77
Virginia	3.06	3.14	2.78	3.68	2.97	2.61	2.67	3.16
Washington	1.98	2.26	2.37	1.83	1.71	R 1.82	R 1.84	R 2.05
West Virginia	3.49	3.58	3.09	4.89	3.95	R 3.52	R 3.03	3.54
Wisconsin	3.30	3.66	3.53	3.87	3.22	3.05	3.10	3.38
Wyoming	3.15	2.99	3.11	3.65	4.76	R 2.97	R 2.88	R 2.97
Total	3.02	3.00	2.88	3.00	2.81	2.84	2.95	3.10

See footnotes at end of table.

Table 27. Average City Gate Price by State (Continued)
(Dollars per Thousand Cubic Feet)

State	January 1989	Total 1989	December 1989	November 1989	October 1989	September 1989	August 1989	July 1989
Alabama	3.15	3.00	3.09	3.14	2.95	2.95	3.00	3.09
Alaska	.33	.33	.33	.33	.33	.33	.33	.33
Arizona	3.13	2.67	2.72	2.74	2.64	2.82	2.73	2.74
Arkansas	2.55	2.47	2.50	2.45	2.44	2.40	2.45	2.39
California	3.02	2.75	2.85	2.83	2.59	2.82	2.84	2.77
Colorado	2.85	2.96	2.79	2.73	2.94	3.09	3.31	4.16
Connecticut	3.86	3.46	3.34	3.53	3.38	3.89	3.81	4.29
Delaware	2.84	2.82	3.29	2.98	2.09	2.29	2.66	3.53
District of Columbia	---	---	---	---	---	---	---	---
Florida	3.05	2.63	2.90	2.64	2.49	2.41	2.59	2.59
Georgia	3.73	3.54	3.56	3.36	3.08	3.20	3.32	3.93
Hawaii	7.18	6.49	6.65	6.55	6.32	6.34	6.56	6.66
Idaho	2.10	2.17	2.06	2.10	2.35	2.49	2.93	2.62
Illinois	3.91	2.99	3.24	2.92	2.64	2.67	2.71	2.80
Indiana	3.57	3.13	3.24	2.67	3.04	2.94	2.96	3.20
Iowa	3.55	2.80	3.00	2.49	2.32	2.84	3.03	3.06
Kansas	3.09	2.28	3.12	2.70	2.45	R 1.86	R 2.36	R 1.75
Kentucky	3.46	3.01	3.00	3.10	2.74	2.66	2.76	2.92
Louisiana	3.29	2.98	3.01	2.97	2.87	R 3.12	R 3.08	3.03
Maine	3.13	3.23	2.71	3.70	2.94	3.41	3.52	3.53
Maryland	2.90	3.20	3.18	3.00	2.78	3.55	3.59	4.53
Massachusetts	R 3.51	3.20	3.55	3.61	2.89	3.25	3.31	3.15
Michigan	3.36	3.24	2.98	3.11	3.31	3.09	3.01	3.20
Minnesota	3.40	2.72	2.85	2.39	2.41	2.98	3.21	3.35
Mississippi	3.30	3.08	2.96	2.98	3.13	3.20	3.23	3.37
Missouri	R 3.24	3.00	R 3.20	3.05	3.03	R 3.04	R 2.96	R 3.26
Montana	3.36	3.43	3.24	3.24	3.03	3.11	2.96	3.35
Nebraska	3.50	2.91	2.90	2.64	2.67	3.15	3.22	3.39
Nevada	3.23	3.33	3.22	3.31	2.71	3.03	3.26	3.51
New Hampshire	4.02	3.28	3.36	3.60	2.90	3.05	3.26	3.21
New Jersey	3.57	3.17	3.41	3.09	3.19	3.12	3.10	3.44
New Mexico	2.72	2.66	2.72	2.60	2.72	3.25	3.07	3.00
New York	3.37	3.07	3.41	3.23	2.80	2.94	3.03	3.07
North Carolina	3.09	3.01	2.98	2.71	2.77	2.91	3.06	3.50
North Dakota	3.27	3.12	3.03	2.83	2.61	2.75	2.92	3.13
Ohio	3.10	3.31	3.32	3.34	3.16	4.36	3.61	3.61
Oklahoma	2.19	2.07	2.29	R 2.02	R 1.87	1.79	1.84	1.72
Oregon	R 2.53	2.67	2.49	3.09	2.60	2.59	3.80	2.57
Pennsylvania	3.36	3.26	3.01	3.14	3.41	3.79	3.91	3.84
Rhode Island	3.68	3.68	3.49	3.51	3.55	4.63	4.91	5.42
South Carolina	3.54	3.46	3.53	3.35	3.22	3.02	3.15	3.29
South Dakota	3.52	3.04	3.00	2.62	2.61	3.11	3.53	3.91
Tennessee	3.19	2.81	3.00	2.81	2.76	2.88	2.92	2.97
Texas	3.33	3.33	3.49	3.58	2.96	3.17	3.43	3.35
Utah	3.37	3.59	3.41	3.53	3.89	4.58	5.02	5.17
Vermont	2.70	2.59	2.47	2.67	2.57	2.67	2.72	2.75
Virginia	3.40	3.13	3.22	3.00	3.06	3.19	3.25	2.95
Washington	R 2.32	2.20	2.15	1.92	2.20	2.19	2.19	2.32
West Virginia	3.32	3.75	3.27	3.53	3.95	6.80	7.30	7.17
Wisconsin	3.40	3.40	2.28	3.05	3.49	4.31	5.12	4.77
Wyoming	R 2.85	2.99	2.86	2.86	3.13	3.11	3.04	3.48
Total	3.25	3.01	3.10	2.98	2.84	2.99	3.04	3.08

See footnotes at end of table.

Table 27. Average City Gate Price by State (Continued)
(Dollars per Thousand Cubic Feet)

State	June 1989	May 1989	April 1989	March 1989	February 1989	January 1989	Total 1988	December 1988
Alabama	2.99	2.83	2.83	2.93	3.05	3.05	3.16	3.18
Alaska	.33	.33	.33	.33	.33	.33	.33	.33
Arizona	2.69	2.52	2.47	2.52	2.77	2.65	2.51	2.60
Arkansas	2.54	2.43	2.43	2.47	2.49	2.48	2.43	2.49
California	2.68	2.87	2.49	2.53	2.95	2.88	2.60	2.74
Colorado	3.60	3.36	3.19	2.92	2.85	2.83	3.07	2.86
Connecticut	4.21	3.54	3.18	3.24	3.34	3.27	3.27	3.20
Delaware	2.14	2.90	2.38	3.14	3.17	3.95	R 2.00	4.14
District of Columbia	--	--	--	--	--	--	--	--
Florida	2.63	2.62	R 2.63	2.49	2.61	2.77	2.46	R 2.59
Georgia	3.67	3.35	3.10	3.52	3.76	3.95	3.60	3.37
Hawaii	7.15	7.00	6.52	6.83	5.92	5.42	6.21	5.59
Idaho	2.55	2.57	2.41	2.06	2.04	1.95	2.14	1.89
Illinois	2.79	2.60	2.60	2.96	3.34	R 4.19	2.74	3.05
Indiana	R 3.38	3.32	3.08	3.04	3.21	R 3.43	3.13	3.34
Iowa	3.16	2.29	2.74	2.66	2.80	3.20	2.92	3.01
Kansas	R 1.60	R 1.68	R 1.81	R 2.33	R 2.40	2.10	2.05	2.18
Kentucky	3.09	3.15	3.12	3.10	3.11	3.19	2.94	3.04
Louisiana	2.95	3.04	2.83	2.82	2.89	3.19	R 3.04	R 3.02
Maine	3.35	2.98	3.28	3.20	3.60	2.93	3.00	2.93
Maryland	3.77	3.56	2.85	3.02	3.21	3.26	3.15	3.22
Massachusetts	3.10	3.62	2.43	2.99	3.68	3.20	3.00	3.30
Michigan	3.21	3.19	3.44	3.47	3.59	3.45	3.41	3.38
Minnesota	3.14	2.66	2.40	2.57	2.66	3.00	2.79	2.86
Mississippi	3.22	3.13	3.43	2.90	2.92	3.11	3.29	3.13
Missouri	R 2.77	R 3.11	2.93	R 2.90	R 2.80	3.00	2.87	3.02
Montana	3.35	3.86	3.64	3.57	3.58	3.59	3.69	3.33
Nebraska	3.34	2.98	2.68	2.86	2.76	3.18	3.03	3.04
Nevada	3.50	4.02	3.12	4.18	2.94	3.45	2.87	2.79
New Hampshire	3.11	2.91	2.91	3.31	3.65	3.38	3.04	3.29
New Jersey	3.16	3.18	2.73	3.01	3.56	3.06	3.03	3.09
New Mexico	3.03	2.54	2.53	2.59	2.56	2.49	2.58	2.45
New York	2.96	2.84	2.87	2.87	3.09	3.24	2.91	3.30
North Carolina	3.04	2.94	2.88	3.07	3.17	3.19	2.87	3.21
North Dakota	3.10	3.11	3.28	3.20	3.33	3.36	3.42	3.12
Ohio	2.49	2.70	3.41	3.06	3.47	3.44	3.26	3.53
Oklahoma	1.89	1.94	2.10	1.99	2.17	2.23	2.24	2.50
Oregon	3.01	2.82	3.00	2.49	2.31	2.55	3.01	3.04
Pennsylvania	4.01	3.37	3.56	3.05	3.06	3.13	3.15	3.18
Rhode Island	4.85	3.91	3.22	3.36	3.47	3.47	3.43	3.45
South Carolina	3.17	3.23	3.23	3.31	3.91	4.32	3.46	3.88
South Dakota	3.47	3.05	2.92	3.09	2.99	3.34	3.18	3.11
Tennessee	3.05	2.86	2.64	2.40	2.70	2.94	2.77	2.96
Texas	3.19	3.22	3.07	3.37	3.41	3.26	R 2.99	R 3.13
Utah	4.95	4.09	3.64	3.27	3.23	3.17	3.14	3.24
Vermont	2.70	2.78	2.60	2.47	2.58	2.63	2.59	2.55
Virginia	3.01	2.87	2.59	3.14	3.44	3.48	2.87	3.27
Washington	2.33	2.49	2.13	2.10	2.33	2.27	2.32	2.26
West Virginia	4.88	4.93	3.67	3.30	3.19	3.39	3.43	3.31
Wisconsin	4.52	4.00	3.66	3.21	3.64	3.80	3.62	3.41
Wyoming	3.32	3.00	3.12	2.89	2.96	2.96	3.15	2.96
Total	2.98	2.94	2.83	2.89	3.10	R 3.17	R 2.92	3.08

R -- Revised Data.

NA -- Not Available.

Notes and Sources: See the last page of this section.

Table 28. Average Price of Natural Gas Delivered to Residential Consumers by State
(Dollars per Thousand Cubic Feet)

State	YTD 1990	YTD 1989	YTD 1988	June 1990	May 1990	April 1990	March 1990	February 1990
Alabama	6.10	5.91	6.28	6.15	7.11	6.38	6.12	5.92
Alaska	3.76	3.59	3.33	4.10	3.93	3.79	3.71	3.68
Arizona	6.55	6.68	6.66	8.37	7.77	7.02	6.38	6.20
Arkansas	4.77	4.61	4.60	6.24	5.39	4.84	4.81	4.66
California	5.70	5.54	5.44	6.22	5.95	5.07	5.63	5.77
Colorado	4.42	4.44	4.27	5.04	4.55	4.37	4.27	4.46
Connecticut	8.42	8.03	7.63	9.91	9.25	8.39	8.22	8.24
Delaware	6.26	6.26	5.74	7.74	6.84	6.35	6.18	6.15
District of Columbia	7.54	7.41	6.77	6.81	7.37	7.21	8.05	7.84
Florida	7.92	7.75	7.02	9.35	8.97	8.35	8.18	8.01
Georgia	6.75	6.12	6.19	7.78	7.40	6.38	6.75	6.89
Hawaii	16.00	15.25	15.66	15.68	16.32	16.28	16.12	15.79
Idaho	4.87	4.92	5.54	5.47	5.34	5.17	4.83	4.68
Illinois	5.03	4.96	4.53	5.79	5.17	4.88	4.98	5.25
Indiana	5.68	5.74	5.09	6.60	5.98	5.58	5.50	5.54
Iowa	4.88	4.53	4.68	5.61	4.89	4.51	4.62	4.95
Kansas	4.37	3.94	3.89	5.17	4.63	4.40	4.34	4.32
Kentucky	4.81	4.60	4.34	5.84	5.50	4.78	4.61	4.75
Louisiana	5.62	5.49	5.31	7.32	6.09	6.11	5.01	5.90
Maine	7.73	6.91	7.22	7.56	7.77	8.27	8.08	7.95
Maryland	6.20	6.15	5.65	7.40	6.78	6.11	6.17	6.29
Massachusetts	7.70	7.03	6.26	6.95	6.73	6.39	8.12	8.02
Michigan	4.84	5.14	5.11	5.88	5.26	4.96	4.76	4.72
Minnesota	4.54	4.51	4.55	4.77	4.40	4.13	4.20	4.57
Mississippi	5.16	5.10	5.88	5.37	5.57	5.01	5.30	5.25
Missouri	5.00	4.64	4.61	6.11	5.30	5.07	5.02	4.99
Montana	4.38	4.37	4.36	4.94	4.62	4.46	4.34	4.24
Nebraska	4.47	4.39	4.37	5.04	4.54	4.23	4.22	4.44
Nevada	5.44	5.38	5.58	6.48	6.35	6.03	5.46	5.05
New Hampshire	7.35	6.72	6.00	7.51	7.08	7.77	7.63	7.60
New Jersey	6.42	6.29	6.10	8.08	7.35	6.69	6.46	6.43
New Mexico	5.39	5.43	4.76	6.95	6.02	5.51	5.23	5.20
New York	7.14	7.00	6.11	8.20	7.58	7.08	7.05	7.26
North Carolina	5.91	6.46	6.05	7.90	6.79	5.83	5.81	5.77
North Dakota	4.53	4.58	5.12	5.45	4.85	4.54	4.50	4.39
Ohio	5.16	5.36	5.05	5.93	5.21	5.28	4.97	5.06
Oklahoma	4.53	4.18	4.38	6.20	5.21	4.62	4.47	4.38
Oregon	6.16	6.07	6.59	6.55	6.40	6.24	6.06	6.07
Pennsylvania	6.35	5.88	5.51	7.57	6.98	6.44	6.27	6.22
Rhode Island	7.01	7.00	6.42	7.73	7.34	7.07	6.88	6.93
South Carolina	6.96	6.63	6.66	8.29	7.32	6.98	6.92	6.86
South Dakota	4.91	4.75	4.79	5.93	5.12	4.72	4.67	4.82
Tennessee	4.94	4.68	4.47	5.90	5.34	4.98	4.98	4.99
Texas	5.54	5.41	5.08	6.86	6.49	5.98	5.62	5.36
Utah	5.16	4.99	5.00	5.30	5.28	5.44	5.15	5.05
Vermont	5.54	5.53	5.54	6.20	5.84	5.58	5.47	5.45
Virginia	6.37	6.43	5.49	7.49	7.14	6.19	6.02	6.53
Washington	5.01	5.36	5.33	5.61	5.28	5.09	4.91	4.86
West Virginia	6.26	5.44	5.41	7.37	6.83	6.31	6.25	6.19
Wisconsin	5.69	5.63	5.84	6.00	5.62	5.54	5.79	5.81
Wyoming	4.72	4.59	4.34	4.79	4.89	4.76	4.71	4.70
Total	5.64	5.54	5.28	6.55	5.97	5.62	5.58	5.63

See footnotes at end of table.

Table 28. Average Price of Natural Gas Delivered to Residential Consumers by State (Continued)
(Dollars per Thousand Cubic Feet)

State	January 1990	Total 1989	December 1989	November 1989	October 1989	September 1989	August 1989	July 1989
Alabama	5.63	\$ 6.27	\$ 5.88	\$ 6.72	\$ 7.87	\$ 8.52	\$ 8.47	\$ 8.02
Alaska	3.70	3.83	3.55	3.57	3.71	3.94	4.19	4.07
Arizona	6.17	\$ 6.94	\$ 6.08	\$ 7.25	\$ 8.68	\$ 9.30	\$ 9.55	\$ 9.04
Arkansas	\$ 4.41	\$ 4.85	\$ 4.44	\$ 5.09	\$ 6.15	\$ 6.57	\$ 6.79	\$ 6.58
California	5.72	\$ 5.59	5.38	5.12	6.11	6.10	5.90	6.07
Colorado	4.30	\$ 4.63	\$ 4.49	\$ 4.75	\$ 5.27	\$ 5.81	\$ 6.07	\$ 5.70
Connecticut	8.17	\$ 8.25	\$ 7.90	\$ 8.22	\$ 9.06	\$ 10.09	\$ 10.48	\$ 10.01
Delaware	5.95	\$ 6.42	\$ 6.16	\$ 6.78	\$ 7.38	\$ 7.48	\$ 7.49	\$ 7.96
District of Columbia	7.37	\$ 7.44	\$ 7.31	\$ 7.61	\$ 8.04	\$ 8.60	\$ 8.70	\$ 7.11
Florida	6.95	\$ 8.06	\$ 7.18	\$ 8.34	\$ 9.52	\$ 9.39	\$ 9.67	\$ 9.41
Georgia	6.45	\$ 6.24	\$ 5.82	\$ 6.40	\$ 7.29	\$ 7.47	\$ 7.97	\$ 7.91
Hawaii	15.81	15.86	15.89	15.99	15.99	15.98	16.47	16.37
Idaho	4.64	\$ 5.05	4.81	\$ 5.30	\$ 5.67	\$ 5.95	\$ 6.50	\$ 6.38
Illinois	4.75	\$ 4.92	\$ 4.54	\$ 4.56	\$ 5.00	\$ 5.81	\$ 6.43	\$ 5.85
Indiana	5.75	5.51	\$ 4.84	\$ 4.91	\$ 5.14	\$ 6.16	\$ 6.87	\$ 6.88
Iowa	5.05	\$ 4.70	\$ 4.80	\$ 4.74	\$ 5.12	\$ 6.17	\$ 6.63	\$ 6.38
Kansas	4.21	\$ 4.17	\$ 4.24	\$ 4.42	\$ 4.93	\$ 5.35	\$ 5.67	\$ 5.52
Kentucky	4.68	4.60	4.39	4.68	5.12	5.98	6.12	5.98
Louisiana	5.18	\$ 5.97	\$ 6.01	\$ 6.83	\$ 7.36	\$ 7.63	\$ 7.65	\$ 7.23
Maine	7.00	7.16	7.08	7.59	7.79	8.59	8.47	8.06
Maryland	5.81	\$ 6.30	\$ 5.74	\$ 6.45	\$ 7.29	\$ 8.11	\$ 7.89	\$ 7.70
Massachusetts	\$ 7.25	\$ 7.16	\$ 7.31	\$ 7.77	\$ 8.31	\$ 7.99	\$ 8.20	\$ 7.88
Michigan	4.66	\$ 5.19	\$ 4.68	\$ 4.94	\$ 5.51	\$ 6.60	\$ 7.15	\$ 6.86
Minnesota	4.98	\$ 4.57	\$ 4.56	\$ 4.45	\$ 4.69	\$ 5.19	\$ 5.40	\$ 5.34
Mississippi	4.97	\$ 5.10	\$ 4.73	\$ 5.28	\$ 5.35	\$ 5.47	\$ 5.54	\$ 5.49
Missouri	4.73	\$ 4.84	4.65	5.03	\$ 5.49	\$ 6.35	\$ 6.73	\$ 6.56
Montana	4.23	\$ 4.37	\$ 4.25	\$ 4.29	\$ 4.35	\$ 4.58	\$ 4.67	\$ 4.72
Nebraska	4.66	\$ 4.48	\$ 4.37	\$ 4.47	\$ 4.80	\$ 5.22	\$ 5.46	\$ 5.34
Nevada	5.07	\$ 5.55	\$ 5.18	\$ 5.53	\$ 6.39	\$ 6.89	\$ 7.22	\$ 6.90
New Hampshire	6.76	6.85	6.83	7.28	6.86	7.43	7.94	7.50
New Jersey	5.63	\$ 6.51	\$ 6.19	\$ 6.62	\$ 7.28	\$ 8.28	\$ 8.54	\$ 8.27
New Mexico	5.10	\$ 5.73	\$ 5.28	\$ 5.88	\$ 7.49	\$ 7.93	\$ 7.99	\$ 7.82
New York	6.72	\$ 7.22	\$ 6.77	\$ 7.58	\$ 7.98	\$ 9.18	\$ 9.36	\$ 9.01
North Carolina	5.69	\$ 6.55	\$ 5.99	\$ 6.61	\$ 7.44	\$ 8.66	\$ 8.97	\$ 8.71
North Dakota	4.38	4.68	4.34	4.65	5.22	5.98	6.64	6.08
Ohio	5.15	5.32	\$ 4.90	\$ 5.21	\$ 5.29	\$ 6.28	\$ 6.54	\$ 6.55
Oklahoma	4.18	\$ 4.50	\$ 4.35	\$ 5.09	\$ 5.97	\$ 6.34	\$ 6.55	\$ 6.35
Oregon	6.06	6.19	6.16	6.22	6.76	7.13	7.21	6.80
Pennsylvania	6.07	\$ 6.14	6.01	6.48	6.92	7.84	8.06	\$ 7.91
Rhode Island	6.83	7.13	6.84	7.10	7.49	8.55	8.65	8.44
South Carolina	6.86	\$ 6.73	\$ 6.68	\$ 6.79	\$ 7.02	\$ 7.88	\$ 8.19	\$ 7.75
South Dakota	4.98	4.85	4.83	4.67	5.00	5.73	6.26	\$ 6.01
Tennessee	4.70	4.83	\$ 4.77	\$ 5.09	\$ 5.54	\$ 6.03	\$ 6.11	\$ 5.99
Texas	4.96	\$ 5.55	5.03	\$ 5.65	\$ 6.46	\$ 6.73	\$ 7.18	\$ 6.97
Utah	5.08	5.14	5.17	5.39	5.85	5.80	5.80	5.51
Vermont	5.40	5.62	5.43	5.69	5.99	6.88	7.08	6.96
Virginia	6.22	\$ 6.59	\$ 6.19	\$ 6.48	\$ 7.09	\$ 9.13	\$ 8.78	\$ 8.67
Washington	4.92	5.49	\$ 5.09	\$ 5.45	\$ 6.25	\$ 7.08	\$ 7.52	\$ 7.02
West Virginia	5.99	\$ 5.73	\$ 6.17	\$ 5.96	\$ 5.91	\$ 6.86	\$ 7.24	\$ 7.07
Wisconsin	5.54	\$ 5.64	\$ 5.38	\$ 5.63	\$ 5.58	\$ 6.21	\$ 6.76	\$ 6.43
Wyoming	\$ 4.64	\$ 4.71	\$ 4.61	\$ 4.77	\$ 5.11	\$ 5.49	\$ 5.84	\$ 5.53
Total	5.42	\$ 5.64	5.30	\$ 5.56	6.06	\$ 6.80	\$ 7.07	\$ 6.92

See footnotes at end of table.

Table 28. Average Price of Natural Gas Delivered to Residential Consumers by State (Continued)
(Dollars per Thousand Cubic Feet)

State	June 1989	May 1989	April 1989	March 1989	February 1989	January 1989	Total 1988	December 1988
Alabama	R 7.83	R 6.73	R 6.01	R 5.55	R 5.71	R 5.65	6.51	5.90
Alaska	3.84	3.72	3.81	3.58	3.51	3.53	3.46	3.49
Arizona	R 8.36	R 8.12	R 7.46	R 6.65	R 6.25	R 6.23	6.99	6.48
Arkansas	6.11	R 5.75	R 4.97	R 4.35	R 4.31	R 4.33	4.81	4.44
California	6.09	5.69	4.82	5.21	5.63	5.84	5.64	5.90
Colorado	R 5.20	R 4.82	R 4.54	R 4.33	R 4.30	R 4.30	4.42	4.14
Connecticut	R 9.94	R 8.76	R 8.27	R 7.78	R 7.80	R 7.69	7.87	7.74
Delaware	R 7.52	R 6.81	R 6.33	R 6.06	R 6.10	R 6.06	6.00	6.20
District of Columbia	R 5.91	R 7.13	R 7.50	R 7.72	R 7.43	R 7.49	6.96	7.49
Florida	R 9.31	R 8.91	R 7.92	R 7.12	R 7.55	R 7.26	7.49	R 7.21
Georgia	R 7.75	R 7.03	R 6.23	R 6.14	R 5.81	R 5.77	6.22	5.56
Hawaii	16.23	15.75	15.49	15.12	14.31	14.67	15.69	14.94
Idaho	R 5.66	R 5.56	R 5.30	R 4.92	4.71	4.69	5.49	4.81
Illinois	R 5.60	R 5.11	R 4.99	R 5.08	R 4.96	R 4.70	4.60	4.48
Indiana	R 6.76	6.19	R 5.86	R 5.62	R 5.48	5.72	5.16	5.30
Iowa	R 5.78	R 4.77	R 4.32	R 4.25	R 4.49	R 4.67	4.79	4.51
Kansas	R 5.26	R 4.84	R 4.05	R 3.80	R 3.77	R 3.73	4.02	3.81
Kentucky	5.50	5.00	4.71	4.46	4.49	4.48	4.48	4.36
Louisiana	R 7.11	R 6.43	R 5.78	R 4.90	R 5.23	R 5.40	5.74	5.55
Maine	7.96	7.21	7.01	6.72	6.77	6.71	7.26	6.94
Maryland	R 7.26	R 6.57	R 6.20	R 6.01	R 6.06	R 5.92	5.90	5.79
Massachusetts	R 7.44	R 6.69	R 7.12	R 7.02	R 7.06	R 6.99	6.47	7.07
Michigan	R 6.37	R 5.48	R 5.13	R 5.02	R 5.02	R 5.03	5.34	5.30
Minnesota	R 5.08	R 4.64	R 4.32	R 4.31	R 4.50	R 4.68	4.64	4.60
Mississippi	R 5.43	R 5.57	R 5.14	R 4.93	R 5.10	R 5.02	5.85	5.47
Missouri	R 6.23	R 5.35	4.75	4.48	4.47	4.45	4.76	4.51
Montana	R 4.57	R 4.52	R 4.41	R 4.35	R 4.33	R 4.29	4.30	4.11
Nebraska	R 5.65	R 4.70	R 4.30	R 4.15	R 4.31	R 4.45	4.46	4.37
Nevada	R 6.28	R 6.12	R 5.82	R 5.34	R 5.09	R 5.10	5.87	5.57
New Hampshire	7.00	6.32	6.91	6.75	6.75	6.66	6.28	6.86
New Jersey	R 7.86	R 6.96	R 6.44	R 6.15	R 6.14	R 5.95	6.32	6.07
New Mexico	R 7.42	R 7.08	R 5.86	R 5.21	R 5.01	R 5.10	5.23	5.24
New York	R 8.31	R 7.11	R 6.87	R 7.46	R 6.66	R 6.60	6.50	6.64
North Carolina	R 8.02	R 6.99	R 6.80	R 6.29	R 6.30	R 6.17	6.25	6.22
North Dakota	5.51	5.09	4.59	4.44	4.46	4.47	5.15	4.58
Ohio	R 6.26	R 5.31	R 5.42	R 5.25	R 5.33	R 5.33	5.21	5.23
Oklahoma	R 6.06	R 5.45	R 4.60	R 3.98	R 3.85	R 3.88	4.52	3.99
Oregon	6.56	6.36	6.03	5.85	5.85	6.30	6.79	6.78
Pennsylvania	6.77	6.26	5.94	5.78	5.75	5.73	5.79	5.80
Rhode Island	8.25	7.26	7.13	6.98	7.00	6.56	6.60	6.66
South Carolina	R 7.44	R 6.64	R 6.54	R 6.66	R 6.63	R 6.53	6.73	6.55
South Dakota	R 5.53	R 5.03	R 4.65	R 4.54	4.67	4.86	4.91	4.80
Tennessee	R 5.50	R 5.08	R 4.84	R 4.53	R 4.60	R 4.57	4.65	4.62
Texas	R 6.80	R 6.53	R 5.83	R 5.21	5.10	R 5.11	5.37	R 5.09
Utah	5.17	5.27	5.26	5.01	4.88	4.85	5.11	4.96
Vermont	6.43	5.83	5.54	5.44	5.44	5.41	5.65	5.49
Virginia	R 8.26	R 6.52	R 6.51	R 6.35	R 6.38	R 6.17	5.81	6.06
Washington	R 6.40	R 6.12	R 5.47	R 5.19	R 5.15	R 5.18	5.50	5.23
West Virginia	R 6.64	R 5.80	R 5.48	R 5.35	R 5.31	R 5.29	5.50	5.17
Wisconsin	R 6.04	R 5.59	R 5.57	R 5.55	R 5.70	R 5.61	5.89	5.79
Wyoming	R 5.04	R 4.85	R 4.62	R 4.52	R 4.49	R 4.49	4.48	R 4.38
Total	R 6.58	R 5.93	R 5.54	R 5.45	5.38	5.41	5.47	5.39

R Revised Data.

Notes and Sources: See the last page of this section.

Table 29. Average Price of Natural Gas Sold to Commercial Consumers by State
(Dollars per Thousand Cubic Feet)

State	YTD 1990	YTD 1989	YTD 1988	June 1990	May 1990	April 1990	March 1990	February 1990
Alabama	5.23	5.07	5.33	5.91	5.45	5.20	5.14	5.20
Alaska	2.88	2.87	2.52	2.52	2.55	2.82	2.71	2.74
Arizona	4.79	4.78	4.95	4.88	4.87	4.79	ⁿ 4.78	ⁿ 4.88
Arkansas	4.35	4.28	4.29	4.88	4.46	4.34	ⁿ 4.39	ⁿ 4.34
California	5.29	4.93	5.07	4.37	4.54	5.29	5.64	ⁿ 5.64
Colorado	3.93	3.99	3.84	4.09	3.95	3.89	3.85	3.95
Connecticut	6.51	6.09	5.80	5.15	5.88	6.09	6.76	6.85
Delaware	5.42	5.38	4.82	5.60	5.54	5.43	5.51	5.38
District of Columbia	5.80	5.36	5.11	5.21	5.09	5.41	6.51	5.73
Florida	4.91	4.86	4.56	4.66	4.68	4.72	ⁿ 4.94	5.23
Georgia	5.83	5.42	5.53	5.48	5.49	5.38	6.10	6.26
Hawaii	11.94	11.19	11.80	11.51	11.94	12.36	12.17	11.94
Idaho	4.02	4.14	4.57	4.32	4.34	4.25	3.96	3.91
Illinois	4.77	4.82	4.18	5.26	4.71	4.55	4.88	5.00
Indiana	4.99	5.05	4.62	5.00	5.01	4.90	4.88	4.94
Iowa	4.17	3.89	4.09	3.71	3.73	3.72	3.97	4.32
Kansas	3.71	3.16	3.14	3.04	ⁿ 3.41	3.62	3.86	3.91
Kentucky	4.50	4.32	4.16	4.73	4.88	4.37	4.39	4.50
Louisiana	5.13	5.00	4.84	5.45	ⁿ 5.02	ⁿ 5.28	ⁿ 4.61	ⁿ 5.40
Maine	7.02	6.17	6.37	6.25	6.57	7.50	7.40	7.42
Maryland	5.47	5.35	5.08	5.23	5.07	5.11	5.68	5.43
Massachusetts	6.47	6.02	6.27	4.89	5.27	ⁿ 6.79	ⁿ 7.06	ⁿ 7.13
Michigan	4.61	ⁿ 4.85	4.86	5.07	4.75	4.56	4.57	4.61
Minnesota	4.02	4.01	4.03	3.74	3.56	3.57	ⁿ 3.69	4.06
Mississippi	4.44	4.85	5.24	3.93	4.20	4.14	4.49	4.62
Missouri	4.81	4.26	4.19	4.49	4.45	4.60	ⁿ 4.89	4.70
Montana	4.27	4.40	4.35	4.59	4.36	4.32	4.23	4.22
Nebraska	3.89	3.85	3.82	3.67	3.93	ⁿ 3.57	ⁿ 3.81	3.79
Nevada	4.37	4.44	4.64	4.32	4.39	4.42	ⁿ 4.43	ⁿ 4.34
New Hampshire	6.87	6.18	5.52	6.41	6.23	7.29	7.30	7.18
New Jersey	5.52	5.29	5.26	5.14	5.10	5.41	5.55	5.62
New Mexico	4.41	3.68	3.18	4.71	4.40	4.32	4.37	4.44
New York	5.85	5.78	5.28	5.08	5.88	5.92	5.94	6.21
North Carolina	4.70	5.20	4.94	4.68	4.67	4.48	4.63	4.67
North Dakota	4.17	4.20	4.57	4.33	4.15	4.08	4.19	4.17
Ohio	4.64	4.97	4.66	4.69	4.46	4.67	4.04	4.96
Oklahoma	3.99	3.85	4.16	3.91	3.75	3.99	4.13	ⁿ 3.99
Oregon	4.87	4.82	5.26	4.86	4.83	4.82	4.86	4.89
Pennsylvania	5.96	5.21	4.97	6.39	6.09	5.96	5.91	5.90
Rhode Island	6.43	6.56	5.95	7.09	5.65	5.75	6.81	6.74
South Carolina	5.67	5.68	5.63	5.25	5.24	5.87	5.65	5.78
South Dakota	4.14	3.98	4.10	4.27	4.01	3.90	3.97	4.15
Tennessee	4.86	4.42	4.34	4.74	4.62	4.76	5.09	4.91
Texas	4.28	4.12	4.23	3.71	4.03	ⁿ 4.10	ⁿ 4.52	ⁿ 4.54
Utah	4.25	4.09	4.04	4.10	4.21	4.43	4.26	4.21
Vermont	4.93	4.70	4.72	5.39	4.86	4.75	4.87	4.99
Virginia	4.78	5.01	4.36	4.48	4.40	4.30	4.89	5.10
Washington	4.20	4.69	4.54	4.68	3.87	4.16	4.24	4.08
West Virginia	5.99	4.96	5.10	7.44	6.51	6.16	6.02	5.93
Wisconsin	4.59	4.52	4.65	4.45	4.30	4.42	4.72	4.79
Wyoming	4.40	4.31	4.01	4.72	ⁿ 4.37	ⁿ 4.36	ⁿ 4.39	ⁿ 4.37
Total	4.90	4.76	4.65	4.59	ⁿ 4.64	ⁿ 4.83	4.94	5.05

See footnotes at end of table

Table 29. Average Price of Natural Gas Sold to Commercial Consumers by State (Continued)
(Dollars per Thousand Cubic Feet)

State	January 1990	Total 1989	December 1989	November 1989	October 1989	September 1989	August 1989	July 1989
Alabama	5.10	\$ 5.17	\$ 5.29	\$ 5.45	\$ 5.20	\$ 5.37	\$ 5.34	\$ 5.40
Alaska	2.67	\$ 2.57	\$ 2.53	\$ 2.40	\$ 2.38	\$ 2.30	\$ 2.27	\$ 2.59
Arizona	\$ 4.83	\$ 4.70	\$ 4.75	\$ 4.80	\$ 4.85	\$ 4.74	\$ 5.03	\$ 4.77
Arkansas	\$ 4.25	4.38	\$ 4.21	\$ 4.45	\$ 4.78	\$ 4.92	4.99	4.98
California	5.56	4.88	5.49	5.13	\$ 4.35	4.39	\$ 4.57	\$ 4.83
Colorado	3.93	\$ 4.05	\$ 4.04	\$ 4.10	\$ 4.19	\$ 4.31	\$ 4.36	\$ 4.32
Connecticut	6.95	\$ 6.08	\$ 6.79	\$ 6.30	\$ 5.88	\$ 5.34	\$ 4.98	\$ 5.26
Delaware	5.32	\$ 5.39	\$ 5.35	\$ 5.45	\$ 5.56	\$ 5.48	\$ 5.40	\$ 5.05
District of Columbia	6.04	\$ 5.30	\$ 5.51	\$ 5.19	\$ 5.05	\$ 5.08	\$ 4.58	\$ 4.95
Florida	5.08	\$ 4.85	\$ 5.00	\$ 4.87	\$ 4.76	\$ 4.69	\$ 4.85	\$ 4.79
Georgia	5.78	\$ 5.48	\$ 5.29	\$ 5.72	\$ 5.78	\$ 5.49	\$ 5.55	\$ 5.82
Hawaii	11.73	11.44	11.52	11.84	11.54	11.85	11.72	11.81
Idaho	3.87	4.20	4.02	4.45	4.48	4.46	4.57	4.50
Illinois	4.58	\$ 4.55	\$ 4.38	\$ 4.20	\$ 4.39	\$ 4.88	\$ 5.19	\$ 5.10
Indiana	\$ 5.13	\$ 4.78	\$ 4.37	\$ 4.32	\$ 4.36	\$ 4.70	\$ 4.73	\$ 4.83
Iowa	4.63	\$ 3.91	\$ 4.14	\$ 3.83	\$ 3.84	\$ 3.85	\$ 3.90	\$ 3.83
Kansas	3.87	\$ 3.14	\$ 3.79	\$ 3.24	\$ 3.13	\$ 2.64	\$ 2.62	\$ 2.83
Kentucky	4.84	\$ 4.35	\$ 4.23	\$ 4.39	4.43	\$ 4.86	\$ 4.76	\$ 4.83
Louisiana	\$ 5.12	\$ 5.26	\$ 5.67	\$ 5.80	\$ 5.55	\$ 5.64	\$ 5.81	\$ 5.26
Maine	6.46	\$ 6.30	\$ 6.43	\$ 6.57	\$ 6.47	\$ 6.88	\$ 6.43	\$ 6.56
Maryland	5.78	\$ 5.43	\$ 5.36	\$ 5.48	\$ 5.78	\$ 5.83	\$ 5.70	\$ 5.85
Massachusetts	\$ 6.24	\$ 5.87	\$ 6.04	\$ 6.06	\$ 5.05	\$ 5.28	\$ 4.88	\$ 5.28
Michigan	4.55	\$ 4.85	\$ 4.54	\$ 4.66	\$ 5.04	\$ 5.68	\$ 5.99	\$ 5.75
Minnesota	4.66	\$ 4.00	\$ 4.19	\$ 3.83	\$ 3.74	\$ 3.83	\$ 3.88	\$ 3.93
Mississippi	4.67	\$ 4.73	\$ 4.55	\$ 4.67	\$ 4.49	\$ 4.55	\$ 4.57	\$ 4.66
Missouri	4.56	\$ 4.34	\$ 4.41	\$ 4.36	\$ 4.44	\$ 4.52	\$ 4.74	\$ 4.79
Montana	4.19	\$ 4.36	\$ 4.26	\$ 4.31	\$ 4.28	\$ 4.36	\$ 4.36	\$ 4.46
Nebraska	4.27	\$ 3.77	\$ 3.99	\$ 3.75	\$ 3.62	\$ 3.58	\$ 3.59	\$ 3.49
Nevada	\$ 4.32	\$ 4.44	\$ 4.57	\$ 4.40	\$ 4.44	\$ 4.28	\$ 4.37	\$ 4.47
New Hampshire	6.38	6.23	6.30	6.58	6.00	6.07	6.18	6.16
New Jersey	5.74	5.30	\$ 5.65	\$ 5.30	\$ 5.01	\$ 4.94	\$ 4.97	\$ 4.97
New Mexico	4.39	\$ 3.72	\$ 3.88	\$ 3.53	\$ 4.30	\$ 4.02	\$ 3.81	\$ 4.20
New York	5.66	\$ 5.82	\$ 5.48	\$ 5.32	\$ 5.16	\$ 5.46	\$ 5.55	\$ 5.51
North Carolina	4.89	\$ 5.14	\$ 5.16	\$ 4.92	\$ 4.98	\$ 5.06	\$ 5.05	\$ 5.04
North Dakota	4.18	4.19	4.05	4.12	4.61	3.93	4.54	4.46
Ohio	4.93	\$ 4.90	\$ 4.73	\$ 4.80	\$ 4.83	\$ 4.92	\$ 5.25	\$ 5.15
Oklahoma	3.99	\$ 3.94	\$ 3.96	\$ 4.20	\$ 4.12	\$ 4.11	\$ 4.65	\$ 4.26
Oregon	4.89	\$ 4.80	\$ 4.81	\$ 4.72	\$ 4.74	\$ 4.81	\$ 4.85	\$ 4.79
Pennsylvania	5.90	\$ 5.35	\$ 5.51	\$ 5.61	\$ 5.58	\$ 5.72	\$ 5.64	\$ 5.67
Rhode Island	6.63	\$ 6.41	\$ 6.42	\$ 5.83	\$ 5.15	\$ 7.00	\$ 7.11	\$ 6.91
South Carolina	5.94	\$ 5.65	\$ 6.11	\$ 5.52	\$ 5.32	\$ 5.43	\$ 5.23	\$ 5.38
South Dakota	4.40	\$ 3.99	\$ 4.14	\$ 3.81	\$ 3.80	\$ 3.99	\$ 4.15	\$ 4.10
Tennessee	4.84	\$ 4.49	\$ 4.72	\$ 4.52	\$ 4.50	\$ 4.50	\$ 4.54	\$ 4.51
Texas	\$ 4.56	\$ 4.11	\$ 4.32	\$ 4.25	\$ 4.09	\$ 4.15	\$ 3.80	\$ 3.74
Utah	4.23	\$ 4.16	4.30	4.43	\$ 4.54	4.30	4.23	4.13
Vermont	4.97	4.74	4.96	4.65	4.49	4.71	4.92	5.01
Virginia	4.99	\$ 4.93	\$ 5.26	\$ 4.58	\$ 4.67	\$ 4.18	\$ 4.59	\$ 4.52
Washington	4.34	\$ 4.68	\$ 4.45	\$ 4.63	\$ 4.45	\$ 5.67	\$ 4.66	\$ 4.77
West Virginia	5.62	\$ 5.25	\$ 5.59	\$ 5.59	\$ 5.45	\$ 6.20	\$ 6.21	\$ 6.40
Wisconsin	4.54	\$ 4.44	\$ 4.23	\$ 4.30	\$ 4.16	\$ 4.54	\$ 4.74	\$ 4.54
Wyoming	\$ 4.38	4.33	4.33	4.36	4.36	4.45	4.45	4.40
Total	4.99	\$ 4.74	\$ 4.81	\$ 4.71	\$ 4.61	\$ 4.67	\$ 4.61	\$ 4.65

See footnotes at end of table

Table 29. Average Price of Natural Gas Sold to Commercial Consumers by State (Continued)
(Dollars per Thousand Cubic Feet)

State	June 1989	May 1989	April 1989	March 1989	February 1989	January 1989	Total 1989	December 1988
Alabama	\$ 5.20	\$ 5.12	\$ 5.01	\$ 4.94	\$ 5.09	\$ 5.14	5.20	5.11
Alaska	\$ 2.03	\$ 2.01	\$ 2.09	\$ 2.08	\$ 2.74	\$ 2.05	2.00	\$ 2.08
Arizona	\$ 4.77	\$ 4.99	\$ 4.82	\$ 4.75	\$ 4.81	\$ 4.59	4.97	4.95
Arkansas	4.45	\$ 4.71	\$ 4.59	\$ 4.22	\$ 4.13	\$ 4.18	4.34	4.17
California	\$ 4.07	\$ 4.28	\$ 5.10	\$ 5.27	5.25	\$ 5.28	4.88	5.95
Colorado	\$ 4.19	\$ 4.09	\$ 4.02	\$ 3.96	\$ 3.95	\$ 3.95	3.88	3.72
Connecticut	\$ 5.01	\$ 5.54	\$ 6.15	\$ 6.04	\$ 6.29	\$ 6.31	5.82	5.98
Delaware	\$ 5.61	\$ 5.50	\$ 5.43	\$ 5.39	\$ 5.27	\$ 5.39	4.93	5.31
District of Columbia	\$ 4.64	\$ 4.97	\$ 5.11	\$ 5.74	\$ 5.47	\$ 5.55	5.03	5.23
Florida	\$ 4.86	\$ 4.89	\$ 4.85	\$ 4.83	\$ 4.83	\$ 4.88	4.54	\$ 4.04
Georgia	\$ 5.55	\$ 5.49	\$ 5.38	\$ 5.59	\$ 5.48	\$ 5.27	5.45	5.10
Hawaii	12.05	11.46	11.55	11.09	10.59	10.43	11.52	11.01
Idaho	4.49	4.49	4.45	4.11	4.02	3.99	4.52	4.04
Illinois	\$ 4.64	\$ 4.62	\$ 4.61	\$ 4.77	\$ 4.66	\$ 4.42	4.19	4.18
Indiana	\$ 4.98	\$ 5.30	\$ 5.13	\$ 5.03	\$ 4.89	\$ 5.11	4.60	4.77
Iowa	\$ 3.71	\$ 3.82	\$ 3.61	\$ 3.75	\$ 3.99	\$ 4.17	4.03	4.06
Kansas	\$ 2.89	\$ 2.84	\$ 2.90	\$ 3.32	\$ 3.34	\$ 3.27	3.03	3.18
Kentucky	\$ 4.48	\$ 4.48	\$ 4.30	\$ 4.32	\$ 4.28	\$ 4.30	4.21	4.20
Louisiana	\$ 5.47	\$ 4.87	\$ 5.01	\$ 4.72	\$ 4.96	\$ 5.18	5.14	5.53
Maine	\$ 6.46	\$ 6.28	\$ 6.25	\$ 6.12	\$ 6.11	\$ 6.11	6.25	6.17
Maryland	\$ 5.52	\$ 5.42	\$ 5.47	\$ 5.14	\$ 5.44	\$ 5.34	5.09	5.00
Massachusetts	\$ 5.20	\$ 5.37	\$ 6.04	\$ 6.16	\$ 6.23	\$ 6.21	6.11	6.80
Michigan	\$ 5.31	\$ 4.90	\$ 4.79	\$ 4.81	\$ 4.84	\$ 4.87	5.00	5.09
Minnesota	\$ 3.92	\$ 3.79	\$ 3.80	\$ 3.88	\$ 4.05	\$ 4.26	4.03	4.13
Mississippi	\$ 4.63	\$ 4.93	\$ 4.72	\$ 4.80	\$ 4.94	\$ 4.90	5.02	\$ 4.71
Missouri	\$ 4.64	\$ 4.47	\$ 4.22	\$ 4.22	\$ 4.25	\$ 4.21	4.20	4.17
Montana	\$ 4.45	\$ 4.43	\$ 4.41	\$ 4.37	\$ 4.40	\$ 4.39	4.30	4.14
Nebraska	\$ 3.78	\$ 3.73	\$ 3.67	\$ 3.74	\$ 3.95	\$ 4.05	3.75	3.87
Nevada	\$ 4.60	\$ 4.57	\$ 4.63	\$ 4.58	\$ 4.28	\$ 4.27	4.62	4.50
New Hampshire	5.92	5.70	6.31	6.25	6.28	6.20	5.88	6.24
New Jersey	\$ 5.08	\$ 5.05	\$ 5.23	\$ 5.40	\$ 5.43	\$ 5.28	5.24	5.07
New Mexico	\$ 3.78	\$ 3.50	\$ 3.83	\$ 3.52	\$ 3.64	\$ 3.78	3.31	3.64
New York	\$ 5.54	\$ 5.70	\$ 5.86	\$ 5.95	\$ 5.70	\$ 5.66	5.39	5.70
North Carolina	\$ 4.95	\$ 4.95	\$ 5.31	\$ 5.28	\$ 5.25	\$ 5.19	4.94	5.18
North Dakota	4.32	4.31	4.18	4.15	4.18	4.21	4.48	4.15
Ohio	\$ 4.98	\$ 4.70	\$ 5.01	\$ 4.86	\$ 5.06	\$ 5.03	4.75	4.91
Oklahoma	\$ 4.18	\$ 4.08	\$ 4.12	\$ 3.86	\$ 3.71	\$ 3.75	4.07	3.79
Oregon	\$ 4.76	\$ 4.70	\$ 4.72	\$ 4.71	\$ 4.73	\$ 5.14	5.36	5.50
Pennsylvania	\$ 5.37	\$ 5.26	\$ 5.21	\$ 5.20	\$ 5.20	\$ 5.18	5.09	5.30
Rhode Island	\$ 7.31	\$ 6.63	\$ 6.32	\$ 6.51	\$ 6.77	\$ 6.38	5.80	6.14
South Carolina	\$ 4.85	\$ 5.81	\$ 5.51	\$ 5.82	\$ 5.93	\$ 5.73	5.59	5.80
South Dakota	4.05	\$ 3.96	3.89	3.87	\$ 3.94	\$ 4.19	4.10	4.08
Tennessee	\$ 4.47	\$ 4.20	\$ 4.41	\$ 4.35	\$ 4.51	\$ 4.46	4.38	4.45
Texas	\$ 3.97	\$ 3.96	\$ 3.93	\$ 4.12	\$ 4.30	\$ 4.25	4.19	\$ 4.54
Utah	4.00	4.17	4.30	4.13	4.03	4.03	4.08	4.10
Vermont	5.13	4.99	4.73	4.70	4.88	4.34	4.67	4.62
Virginia	\$ 4.34	\$ 4.92	\$ 4.81	\$ 5.04	\$ 5.23	\$ 5.17	4.45	4.88
Washington	\$ 4.91	\$ 4.83	\$ 4.70	\$ 4.51	\$ 4.74	\$ 4.67	4.59	4.72
West Virginia	\$ 6.10	\$ 5.31	\$ 5.03	\$ 4.87	\$ 4.81	\$ 4.82	5.18	4.86
Wisconsin	\$ 4.46	\$ 4.23	\$ 4.46	\$ 4.50	\$ 4.64	\$ 4.59	4.68	4.71
Wyoming	4.31	4.35	4.31	4.30	4.31	4.31	4.11	\$ 4.22
Total	\$ 4.57	\$ 4.64	\$ 4.77	\$ 4.79	\$ 4.80	\$ 4.81	4.63	\$ 4.78

" Revised Data.

Notes and Sources: See the last page of this section.

Table 30. Average Price of Natural Gas Sold to Industrial Consumers by State
(Dollars per Thousand Cubic Feet)

State	YTD 1990	YTD 1989	YTD 1988	June 1990	May 1990	April 1990	March 1990	February 1990
Alabama	3.13	2.93	3.09	2.85	3.01	3.12	" 3.05	" 3.24
Alaska	1.08	1.15	1.00	.95	1.10	1.15	1.08	1.08
Arizona	3.73	3.95	3.72	4.23	4.11	3.70	3.48	3.59
Arkansas	3.06	3.09	3.13	2.81	2.84	2.88	" 3.17	" 3.22
California	3.91	4.03	3.82	3.94	" 3.67	" 3.85	" 4.30	" 4.55
Colorado	2.31	2.81	3.40	2.10	2.10	2.28	2.40	2.41
Connecticut	4.94	4.89	4.28	3.98	4.01	4.70	5.27	5.59
Delaware	3.49	3.47	3.23	3.08	3.29	3.04	3.53	3.82
District of Columbia	---	---	---	---	---	---	---	---
Florida	3.19	3.10	2.85	2.91	2.95	" 2.97	" 3.06	3.48
Georgia	3.07	3.68	3.76	3.40	3.33	3.50	3.77	4.21
Hawaii	---	---	---	---	---	---	---	---
Idaho	2.52	2.88	4.04	2.87	2.83	2.84	2.83	2.83
Illinois	4.21	3.93	3.44	4.33	4.10	4.05	4.19	4.17
Indiana	4.02	4.10	3.80	3.25	3.49	3.95	4.19	4.08
Iowa	2.87	2.80	3.30	2.29	2.44	2.81	2.77	3.09
Kansas	2.94	2.96	2.39	3.02	2.92	2.49	2.85	3.00
Kentucky	3.93	3.78	3.43	3.68	3.75	3.93	3.95	3.93
Louisiana	2.10	2.02	2.03	1.78	1.80	1.82	" 2.20	2.56
Maine	5.34	4.63	4.93	4.05	4.22	5.84	6.35	6.89
Maryland	4.60	4.80	4.26	4.55	4.40	4.41	4.53	4.59
Massachusetts	4.53	4.33	4.47	2.91	3.77	" 4.12	" 5.39	" 5.99
Michigan	4.18	4.27	4.23	4.04	4.17	4.11	4.15	4.22
Minnesota	3.07	2.86	2.85	2.68	2.68	" 2.77	" 2.84	" 3.25
Mississippi	2.55	2.58	2.81	2.24	2.34	2.35	2.51	2.78
Missouri	4.54	4.13	3.81	4.25	4.69	4.41	4.67	4.42
Montana	3.17	3.02	3.13	2.88	2.92	2.93	3.11	3.45
Nebraska	3.07	2.97	2.85	2.67	2.47	2.88	3.03	3.20
Nevada	4.20	4.79	3.98	4.12	5.05	4.11	3.80	4.37
New Hampshire	4.49	4.22	4.04	3.37	3.27	4.11	5.92	6.09
New Jersey	4.35	4.18	3.94	3.53	3.64	4.03	4.42	4.89
New Mexico	3.78	3.04	3.19	3.38	3.65	3.87	4.18	4.27
New York	4.92	5.05	4.46	4.36	4.24	4.87	5.28	5.22
North Carolina	3.43	3.61	3.63	3.12	3.19	3.21	3.45	3.53
North Dakota	3.42	3.41	3.30	2.97	2.99	3.09	3.25	4.13
Ohio	4.02	4.32	4.05	3.66	3.70	3.91	3.88	4.28
Oklahoma	1.71	1.87	2.03	1.71	1.71	1.69	1.83	1.48
Oregon	3.44	3.64	3.73	2.88	3.40	3.31	3.45	3.71
Pennsylvania	4.26	3.86	3.74	3.91	4.23	4.22	4.16	4.39
Rhode Island	5.35	5.42	4.90	4.47	4.43	4.77	5.84	6.23
South Carolina	3.31	3.53	3.49	2.86	3.02	3.16	3.33	3.62
South Dakota	3.32	3.12	3.22	2.92	2.97	3.07	3.19	3.56
Tennessee	3.42	3.39	3.24	3.06	3.01	3.27	3.33	3.70
Texas	2.34	2.29	2.19	1.98	" 1.99	" 2.09	" 2.09	" 2.64
Utah	3.72	3.23	3.06	3.24	3.28	3.48	3.48	4.93
Vermont	3.23	2.98	3.08	2.64	2.72	2.95	3.43	4.02
Virginia	3.78	3.91	3.15	3.42	3.34	3.64	3.74	4.25
Washington	2.73	3.05	3.05	2.47	2.43	2.63	2.59	2.93
West Virginia	3.42	2.81	2.86	3.07	3.17	3.22	3.49	" 3.65
Wisconsin	3.71	3.80	4.13	3.18	3.34	" 3.39	3.81	3.97
Wyoming	3.03	3.27	3.30	3.15	3.13	" 3.18	" 2.50	" 3.24
Total	3.06	3.06	3.02	2.55	" 2.67	" 2.84	" 3.08	" 3.40

See footnotes at end of table.

Table 30. Average Price of Natural Gas Sold to Industrial Consumers by State (Continued)
(Dollars per Thousand Cubic Feet)

State	January 1990	Total 1989	December 1989	November 1989	October 1989	September 1989	August 1989	July 1989
Alabama	3.45	R 3.02	R 3.55	R 3.00	R 2.98	R 2.94	R 3.04	R 3.06
Alaska	1.08	1.08	R 1.06	R 1.04	R .97	R .99	R .94	R 1.02
Arizona	3.66	R 3.67	R 4.13	R 3.07	R 3.06	R 3.35	R 3.62	R 3.49
Arkansas	R 3.29	3.09	R 3.12	3.12	R 3.06	3.02	3.09	3.10
California	R 3.84	R 3.75	R 3.88	R 4.72	R 3.07	R 3.35	R 3.53	R 3.44
Colorado	2.41	R 2.53	R 2.65	R 2.56	R 2.59	R 2.53	R 2.11	R 2.47
Connecticut	6.00	R 4.51	R 5.55	R 4.41	R 3.90	R 3.91	R 3.67	R 4.02
Delaware	4.00	R 3.45	R 3.70	R 3.23	R 3.37	R 3.39	R 3.66	R 3.26
District of Columbia	--	--	--	--	--	--	--	--
Florida	3.65	R 3.13	R 3.40	R 3.22	R 3.06	R 3.10	R 3.10	R 3.03
Georgia	3.70	R 3.73	R 4.13	R 3.74	R 3.75	R 3.55	R 3.60	R 3.71
Hawaii	--	--	--	--	--	--	--	--
Idaho	2.43	R 2.92	R 2.73	R 2.76	R 4.12	R 3.27	R 2.69	R 2.69
Illinois	4.34	R 3.73	R 3.70	R 3.49	R 3.29	R 3.41	R 3.31	R 3.50
Indiana	4.48	R 3.89	R 4.04	R 3.69	R 3.59	R 3.64	R 3.32	R 3.17
Iowa	3.49	R 2.54	R 3.25	R 2.58	R 2.25	R 2.19	R 2.27	R 2.22
Kansas	3.26	R 3.06	R 3.27	R 3.07	R 3.44	R 2.75	R 3.15	R 3.18
Kentucky	4.01	R 3.69	R 3.47	R 3.56	R 3.41	R 3.64	R 3.64	R 3.77
Louisiana	R 2.51	R 1.97	R 2.12	R 1.90	R 1.81	1.87	1.90	1.91
Maine	5.58	4.57	5.68	4.78	4.11	4.23	4.09	4.03
Maryland	4.86	R 4.81	R 5.14	R 4.78	R 4.72	R 4.66	R 4.57	R 4.61
Massachusetts	5.42	R 4.07	R 5.33	R 4.18	R 3.31	R 3.35	R 3.38	R 3.39
Michigan	4.27	R 4.22	R 3.83	R 3.93	R 4.16	R 4.49	R 4.56	R 4.72
Minnesota	R 3.67	R 2.86	R 3.26	R 2.85	R 2.61	R 2.69	R 2.68	2.72
Mississippi	2.99	R 2.54	R 2.87	R 2.60	R 2.45	R 2.33	R 2.38	R 2.34
Missouri	4.62	R 4.13	R 4.33	R 4.07	R 4.11	R 4.01	R 3.99	R 4.10
Montana	3.63	R 2.98	R 3.76	R 3.84	R 2.68	R 2.55	R 2.49	R 1.79
Nebraska	3.60	R 2.92	R 3.19	R 2.84	R 2.73	R 2.72	R 2.76	R 2.74
Nevada	4.04	R 4.98	R 4.48	R 4.98	R 4.33	R 6.15	R 6.52	R 6.15
New Hampshire	5.54	R 4.20	R 6.04	R 5.14	R 3.64	R 3.27	R 3.74	R 3.62
New Jersey	5.03	R 3.98	R 4.40	R 3.89	R 3.45	R 3.38	R 3.44	R 3.58
New Mexico	4.34	R 3.12	R 3.20	R 3.33	R 3.15	R 3.01	R 2.96	R 3.56
New York	4.94	R 4.83	R 5.10	R 4.61	R 4.31	R 3.99	R 4.53	R 3.97
North Carolina	3.72	R 3.64	R 4.18	R 3.63	R 3.59	R 2.51	R 3.53	R 3.42
North Dakota	3.67	R 3.55	R 5.13	3.30	3.09	3.18	3.19	3.16
Ohio	4.22	R 4.19	R 4.21	R 4.17	R 3.97	R 3.84	R 3.78	R 3.91
Oklahoma	R 1.81	R 1.97	R 2.11	R 1.89	R 2.15	R 2.04	R 2.02	R 2.10
Oregon	3.66	3.52	3.67	3.41	3.16	3.22	3.39	3.42
Pennsylvania	4.41	R 3.90	R 4.17	R 3.82	R 3.82	R 3.94	R 3.83	R 3.83
Rhode Island	6.36	R 5.16	R 6.17	R 5.70	R 4.39	R 4.35	R 4.29	R 4.25
South Carolina	3.93	R 3.46	R 4.17	R 3.54	R 3.29	R 3.22	R 3.24	R 3.13
South Dakota	3.82	R 3.09	3.33	3.02	2.87	2.96	2.97	R 2.98
Tennessee	3.94	R 3.37	R 3.71	R 3.39	R 3.21	R 3.23	R 3.20	R 3.25
Texas	R 3.13	2.26	R 2.68	R 2.26	R 2.08	R 2.02	R 2.12	R 2.18
Utah	R 3.45	R 3.30	R 3.38	R 3.40	R 3.41	R 3.18	R 3.98	R 2.99
Vermont	3.63	3.01	3.35	3.09	2.87	3.00	3.07	3.10
Virginia	4.03	R 3.91	R 4.17	R 3.68	R 4.22	R 3.48	R 4.15	R 3.88
Washington	R 3.12	R 2.93	R 3.03	R 3.06	R 2.75	R 2.70	R 2.65	R 2.70
West Virginia	3.67	R 2.92	R 3.62	R 3.01	R 2.72	R 2.82	R 2.84	R 2.81
Wisconsin	3.94	R 3.73	R 3.53	R 3.84	R 3.58	R 3.56	R 3.72	R 3.80
Wyoming	R 3.15	R 3.23	R 3.07	R 3.17	R 3.11	R 2.91	R 3.41	R 3.38
Total	R 3.52	R 2.97	R 3.32	R 2.98	R 2.75	R 2.67	R 2.71	R 2.70

See footnotes at end of table.

Table 30. Average Price of Natural Gas Sold to Industrial Consumers by State (Continued)
(Dollars per Thousand Cubic Feet)

State	June 1989	May 1989	April 1989	March 1989	February 1989	January 1989	Total 1988	December 1988
Alabama	R 2.93	R 2.88	R 2.81	R 2.83	R 2.98	R 3.17	3.00	R 3.12
Alaska	R 1.07	R 1.06	R 1.06	R 1.12	R 1.26	R 1.29	1.07	1.16
Arizona	R 3.41	R 3.64	R 3.73	R 4.49	R 4.41	R 4.50	3.78	R 3.86
Arkansas	2.99	3.05	3.11	3.10	3.14	R 3.10	3.06	3.15
California	R 3.31	R 3.46	R 4.07	R 4.36	R 4.46	R 4.48	3.76	4.77
Colorado	R 2.76	R 2.63	R 2.56	R 2.48	R 2.70	R 2.54	3.45	R 3.40
Connecticut	R 3.82	R 4.12	R 4.46	R 5.08	R 5.19	R 5.12	4.05	4.78
Delaware	R 3.34	R 3.27	R 3.26	R 3.56	R 3.74	R 3.82	3.22	3.60
District of Columbia	---	---	---	---	---	---	---	---
Florida	R 3.15	R 3.17	R 3.17	R 2.91	R 2.97	R 3.25	2.84	2.99
Georgia	R 3.59	R 3.61	R 3.48	R 3.68	R 3.90	R 3.74	3.61	3.68
Hawaii	---	---	---	---	---	---	---	---
Idaho	R 2.87	R 2.89	R 2.91	R 2.90	R 2.87	R 2.84	4.26	4.20
Illinois	R 3.49	R 3.66	R 3.81	R 4.23	R 4.23	R 3.74	3.42	3.70
Indiana	R 2.94	R 4.06	R 4.37	R 4.56	R 4.06	R 4.70	3.75	4.13
Iowa	R 2.25	R 2.32	R 2.37	R 2.45	R 2.82	R 3.15	3.11	3.47
Kansas	R 2.93	R 3.32	R 3.08	R 3.23	R 2.86	R 2.44	2.36	2.20
Kentucky	R 3.67	R 3.70	R 3.76	R 3.85	R 3.85	R 3.76	3.44	3.54
Louisiana	1.90	1.82	1.79	R 2.00	R 2.30	R 2.33	1.99	2.23
Maine	4.11	4.21	4.61	4.99	5.00	5.07	4.51	6.11
Maryland	R 4.60	R 4.61	R 4.74	R 4.87	R 4.94	R 4.84	4.30	4.56
Massachusetts	R 3.34	R 3.37	R 4.44	R 4.32	R 5.61	5.57	4.03	5.16
Michigan	R 4.34	R 4.18	R 4.19	R 4.24	R 4.31	R 4.36	4.36	4.59
Minnesota	2.59	R 2.55	R 2.74	R 2.79	R 3.04	R 3.20	2.81	3.15
Mississippi	R 2.48	R 2.41	R 2.42	R 2.37	R 2.83	R 2.95	2.54	R 2.93
Missouri	R 4.09	R 4.09	R 4.06	R 4.15	R 4.18	R 4.17	3.81	3.94
Montana	R 3.02	R 2.55	R 2.77	R 2.85	R 3.01	R 3.83	3.08	3.49
Nebraska	R 2.71	R 2.69	R 2.73	R 2.94	R 3.29	R 3.24	2.85	3.10
Nevada	R 6.70	R 5.93	R 4.70	R 4.65	R 4.31	R 3.96	3.83	3.75
New Hampshire	R 3.48	R 3.63	R 3.91	R 5.14	R 4.97	R 5.02	3.72	4.91
New Jersey	R 3.40	R 4.24	R 4.03	R 4.40	R 4.54	R 4.30	3.87	4.05
New Mexico	R 3.10	R 2.90	R 2.91	R 3.08	R 3.34	R 3.26	3.39	4.32
New York	R 4.55	R 4.59	R 5.01	R 5.37	R 5.23	R 5.05	4.69	5.28
North Carolina	R 3.47	R 3.50	R 3.38	R 3.61	R 3.78	R 3.79	3.57	3.83
North Dakota	3.12	3.17	3.19	3.46	3.62	3.55	3.41	4.15
Ohio	R 3.84	R 4.11	R 4.21	R 4.26	R 4.51	R 4.57	4.10	4.30
Oklahoma	R 1.92	R 1.69	R 1.76	R 1.85	R 2.10	R 1.85	1.76	1.65
Oregon	3.35	3.45	3.37	3.66	4.19	3.56	3.72	3.93
Pennsylvania	R 3.58	R 3.77	R 3.99	R 3.89	R 3.95	3.85	3.63	3.71
Rhode Island	R 4.47	R 4.62	R 5.09	R 5.94	R 6.29	R 6.10	4.83	5.82
South Carolina	R 3.30	R 3.39	R 3.22	R 3.38	R 4.03	R 4.12	3.43	3.90
South Dakota	R 2.91	R 2.86	R 2.90	R 3.10	3.32	3.40	3.18	3.27
Tennessee	R 3.26	R 3.24	R 3.19	R 3.30	R 3.58	R 3.65	3.26	3.58
Texas	2.20	R 2.28	R 2.18	R 2.19	R 2.38	2.57	2.19	2.43
Utah	R 2.96	R 2.98	R 3.17	R 3.15	R 3.11	R 3.73	3.10	3.32
Vermont	3.14	3.08	2.94	2.77	2.65	3.31	2.97	2.72
Virginia	R 3.20	R 3.74	R 3.28	R 4.23	R 4.38	R 4.46	3.35	3.72
Washington	R 2.74	R 2.85	R 2.93	R 3.15	3.38	3.18	2.97	3.19
West Virginia	R 2.82	R 2.79	2.65	R 2.88	R 2.84	R 2.88	2.86	3.01
Wisconsin	R 3.32	R 3.67	R 3.74	R 3.82	R 3.93	R 3.90	4.08	4.02
Wyoming	R 3.28	R 3.24	R 3.20	R 3.27	R 3.28	R 3.35	3.36	R 3.22
Total	R 2.69	R 2.80	R 2.91	R 3.12	R 3.33	R 3.39	2.95	3.31

R = Revised Data.

-- = Not Applicable.

Notes and Sources: See the last page of this section.

Table 31. Average Price of Natural Gas Delivered to Electric Utility^a
Consumers by State
(Dollars per Thousand Cubic Feet)

State	May 1990	April 1990	March 1990	February 1990	January 1990	Total 1989	December 1989	November 1989
Alabama	1.99	1.97	2.16	2.65	3.11	2.27	2.68	2.29
Alaska	NA	NA	NA	NA	NA	R 1.36	NA	NA
Arizona	2.30	2.34	2.25	2.84	3.30	R 2.32	2.95	2.49
Arkansas	1.51	1.37	1.33	1.94	1.93	1.69	2.21	1.82
California	3.10	3.06	3.02	3.66	3.82	3.04	4.00	3.28
Colorado	2.13	2.13	2.12	2.30	2.37	R 2.23	2.26	2.78
Connecticut	2.19	NA	NA	6.51	6.27	2.59	6.23	2.67
Delaware	2.17	3.15	2.95	3.51	3.48	R 2.73	3.50	3.01
District of Columbia	--	--	--	--	--	--	--	--
Florida	2.19	2.10	2.36	2.63	3.29	2.49	2.99	2.42
Georgia	3.34	3.52	3.73	3.80	3.75	R 3.23	3.78	3.67
Hawaii	--	--	--	--	--	--	--	--
Idaho	--	--	--	--	--	--	--	--
Illinois	2.77	2.99	3.39	3.90	3.48	R 3.32	3.32	2.85
Indiana	2.35	2.46	2.61	2.82	3.25	R 2.70	3.37	2.61
Iowa	2.09	3.00	3.46	3.71	4.36	2.69	R 3.79	3.30
Kansas	1.65	1.97	1.98	2.23	2.33	R 1.92	2.35	2.33
Kentucky	3.19	3.14	3.65	3.35	3.37	R 2.73	3.14	2.84
Louisiana	1.65	1.62	1.64	1.73	2.01	R 1.78	2.03	1.66
Maine	--	--	--	--	--	--	--	--
Maryland	2.53	2.75	3.00	3.38	2.84	2.72	3.56	3.20
Massachusetts	2.29	2.30	2.36	2.75	5.13	R 2.49	6.08	2.77
Michigan	.50	.37	.34	.49	.31	.19	.22	.25
Minnesota	1.81	1.90	1.92	2.46	3.12	R 2.16	2.73	2.22
Mississippi	1.76	1.74	1.82	2.14	2.52	R 1.88	2.45	2.04
Missouri	2.32	2.79	2.48	2.79	3.19	R 2.50	3.25	2.39
Montana	1.60	1.27	1.51	3.16	1.40	R 1.38	1.53	1.49
Nebraska	1.67	1.66	1.74	2.68	3.35	R 2.26	3.14	2.06
Nevada	1.80	1.72	1.73	2.76	3.18	R 2.17	2.73	2.43
New Hampshire	--	--	--	--	--	R 3.16	--	NA
New Jersey	2.29	2.19	2.59	3.02	3.78	R 2.54	2.88	2.93
New Mexico	1.84	1.89	1.90	2.14	2.71	2.20	2.70	2.28
New York	2.21	2.31	2.50	2.95	3.47	R 2.42	3.17	2.67
North Carolina	NA	NA	NA	NA	NA	R 3.57	NA	NA
North Dakota	--	--	NA	--	--	R 4.61	--	4.08
Ohio	3.28	4.00	3.67	4.10	4.14	R 3.15	4.07	3.84
Oklahoma	3.03	3.61	3.52	3.62	3.34	3.05	3.20	3.15
Oregon	--	--	--	NA	NA	NA	NA	NA
Pennsylvania	2.95	2.92	2.86	3.47	3.34	R 3.58	3.59	3.63
Rhode Island	2.07	2.22	2.35	--	NA	2.49	--	2.61
South Carolina	3.95	4.70	4.53	4.49	4.37	R 2.27	2.97	2.44
South Dakota	NA	NA	NA	NA	NA	R 2.62	NA	NA
Tennessee	--	--	NA	--	--	R 2.83	--	NA
Texas	1.96	1.96	2.12	2.46	2.76	2.23	2.56	2.24
Utah	NA	5.04	NA	NA	NA	R 3.38	NA	NA
Vermont	NA	NA	NA	NA	NA	NA	NA	NA
Virginia	NA	NA	--	NA	NA	R 2.57	R .44	6.53
Washington	NA	NA	NA	NA	NA	R 5.19	NA	NA
West Virginia	6.45	6.63	5.99	4.82	4.76	4.59	4.81	5.09
Wisconsin	2.95	2.81	2.83	3.40	3.64	R 3.11	R 3.02	R 3.24
Wyoming	3.23	3.24	3.93	3.92	3.88	3.61	3.61	3.63
Total	2.19	2.29	2.37	2.76	3.01	2.43	2.85	2.56

See footnotes at end of table.

**Table 31. Average Price of Natural Gas Delivered to Electric Utility^a
Consumers by State (Continued)
(Dollars per Thousand Cubic Feet)**

State	October 1989	September 1989	August 1989	July 1989	June 1989	May 1989	April 1989	March 1989
Alabama	2.31	2.05	2.14	2.25	2.23	2.07	2.08	2.21
Alaska	NA	NA	NA	NA	NA	---	NA	NA
Arizona	2.26	2.26	2.27	2.31	R 2.26	R 2.21	2.15	2.09
Arkansas	1.75	1.62	1.88	1.64	1.54	1.40	1.50	1.59
California	2.87	3.05	3.00	2.86	2.95	3.17	2.75	2.89
Colorado	2.81	2.27	2.37	2.40	2.48	2.47	2.18	2.14
Connecticut	2.56	2.37	2.46	3.11	2.56	2.66	2.81	2.87
Delaware	R 2.53	2.43	2.72	2.88	3.91	3.01	2.61	2.56
District of Columbia	---	---	---	---	---	---	---	---
Florida	2.52	2.21	2.30	2.59	2.54	2.79	2.63	R 2.28
Georgia	3.50	3.51	3.49	3.33	2.84	3.39	2.76	3.60
Hawaii	---	---	---	---	---	---	---	---
Idaho	---	---	---	---	---	---	---	---
Illinois	2.92	3.33	3.26	2.88	3.61	3.47	3.00	3.26
Indiana	2.23	2.52	2.32	2.38	3.30	2.89	2.58	2.41
Iowa	2.02	2.21	2.85	2.72	2.59	2.24	2.61	2.84
Kansas	2.31	2.05	1.70	1.70	1.75	2.25	2.27	2.07
Kentucky	2.76	2.50	2.61	2.49	2.43	3.10	2.98	2.76
Louisiana	1.69	1.71	1.79	1.86	1.85	1.82	1.66	1.59
Maine	---	---	---	---	---	---	---	---
Maryland	2.61	2.59	2.63	3.02	2.68	2.83	2.60	2.64
Massachusetts	2.45	2.32	2.42	2.46	2.61	2.76	2.39	2.55
Michigan	.19	.17	.20	.18	.15	.18	.18	.20
Minnesota	2.11	2.10	2.01	1.94	2.09	2.05	1.78	2.08
Mississippi	1.80	1.77	1.89	1.91	1.93	1.84	1.68	1.67
Missouri	2.42	1.94	2.24	2.40	2.32	2.35	2.36	2.43
Montana	1.25	2.26	1.42	1.62	1.91	1.25	1.38	1.12
Nebraska	1.79	2.23	2.32	2.19	2.50	2.79	2.28	2.36
Nevada	2.24	R 2.13	2.16	2.10	2.28	2.19	1.72	2.09
New Hampshire	NA	NA	NA	NA	NA	---	---	NA
New Jersey	2.49	2.40	2.43	2.47	2.51	2.64	2.58	2.62
New Mexico	2.12	2.05	2.16	2.27	2.23	2.20	1.93	2.02
New York	2.37	2.20	2.31	2.39	2.45	2.44	2.37	2.51
North Carolina	NA	NA	NA	NA	NA	---	NA	NA
North Dakota	---	---	---	---	4.84	---	4.20	---
Ohio	3.85	3.04	3.29	2.73	3.22	2.67	3.70	R 4.25
Oklahoma	3.32	2.86	2.81	3.08	3.11	3.06	2.96	2.98
Oregon	NA	NA	NA	NA	NA	---	---	---
Pennsylvania	3.57	3.21	2.93	3.25	3.44	3.80	3.78	3.66
Rhode Island	2.48	2.34	2.39	2.41	R 2.56	2.76	2.73	---
South Carolina	2.23	2.19	2.19	2.23	2.22	3.96	2.31	2.26
South Dakota	NA	NA	NA	NA	NA	---	NA	NA
Tennessee	---	NA	NA	NA	---	---	---	---
Texas	2.10	2.07	2.28	2.25	2.19	R 2.13	2.13	2.14
Utah	NA	NA	NA	NA	NA	---	NA	NA
Vermont	---	---	---	---	---	---	---	---
Virginia	R 7.51	R 1.45	2.69	2.45	2.37	2.81	2.74	1.33
Washington	NA	NA	NA	NA	NA	---	NA	NA
West Virginia	4.48	4.72	4.60	4.60	4.55	4.52	4.76	4.45
Wisconsin	R 2.78	R 2.44	R 3.16	R 3.14	R 2.96	R 3.15	R 3.17	R 3.43
Wyoming	3.63	3.42	3.42	3.42	3.41	3.43	3.45	5.17
Total	2.39	2.33	2.38	2.40	2.40	2.39	2.31	R 2.33

See footnotes at end of table.

**Table 31. Average Price of Natural Gas Delivered to Electric Utility^a
Consumers by State (Continued)
(Dollars per Thousand Cubic Feet)**

State	February 1989	January 1989	Total 1988	December 1988	November 1988	October 1988	September 1988	August 1988
Alabama	2.56	2.34	R 2.15	2.14	2.02	2.07	2.13	2.15
Alaska	NA	NA	1.34	NA	NA	NA	NA	NA
Arizona	2.19	2.84	R 2.32	2.50	2.44	2.42	2.65	2.28
Arkansas	1.47	1.21	1.39	1.10	1.30	1.47	1.47	1.49
California	2.92	3.33	R 2.93	3.65	3.66	3.18	3.30	3.14
Colorado	2.10	2.07	R 2.25	2.08	2.77	2.38	3.09	2.59
Connecticut	3.13	3.19	2.24	3.43	2.72	2.72	2.60	2.21
Delaware	2.72	3.28	R 2.59	3.09	2.76	2.69	2.94	2.68
District of Columbia	--	--	--	--	--	--	--	--
Florida	2.34	2.37	2.12	2.26	2.18	1.70	2.08	2.08
Georgia	3.62	3.35	R 2.80	3.50	3.16	2.78	2.91	2.49
Hawaii	--	--	NA	--	--	--	NA	--
Idaho	--	--	--	--	--	--	--	--
Illinois	3.96	3.30	R 3.34	3.36	3.26	3.10	2.62	3.07
Indiana	2.54	2.97	R 2.60	2.82	2.53	2.59	2.38	2.10
Iowa	3.19	3.49	R 2.04	3.26	3.03	2.72	2.61	1.85
Kansas	2.27	R 2.37	R 2.05	2.09	2.10	1.90	2.15	1.98
Kentucky	2.81	3.07	2.52	3.25	2.83	2.53	2.49	2.17
Louisiana	1.81	1.80	1.70	1.63	1.82	1.73	1.83	1.75
Maine	--	--	--	--	--	--	--	--
Maryland	3.67	3.41	R 2.71	3.86	3.29	2.52	2.37	2.39
Massachusetts	3.17	5.22	R 2.29	4.31	2.67	2.84	2.55	2.36
Michigan	.19	.20	.41	.28	1.13	.44	.36	.37
Minnesota	2.53	2.87	R 1.99	2.59	2.07	2.25	2.24	1.92
Mississippi	1.96	2.23	1.90	2.28	1.97	1.93	2.02	1.91
Missouri	2.60	2.56	R 2.75	2.71	2.38	1.82	2.49	2.55
Montana	1.01	1.18	R 1.53	1.29	1.72	1.64	1.24	1.51
Nebraska	2.50	2.89	R 2.56	2.99	2.43	2.27	2.66	2.69
Nevada	2.00	2.15	2.79	2.07	2.61	2.88	2.75	2.78
New Hampshire	NA	NA	2.48	NA	NA	NA	--	NA
New Jersey	3.24	3.08	R 2.32	3.02	2.74	2.51	2.46	2.35
New Mexico	2.23	2.47	2.19	2.39	2.40	2.21	2.41	2.22
New York	2.78	2.98	R 2.30	2.99	2.56	2.35	2.37	2.23
North Carolina	NA	NA	3.48	NA	NA	NA	NA	NA
North Dakota	--	--	R 4.56	--	4.42	4.37	4.26	NA
Ohio	4.23	4.21	R 3.51	4.18	4.17	3.83	3.03	3.30
Oklahoma	3.13	3.03	2.92	2.54	3.15	3.01	2.90	3.03
Oregon	--	--	--	--	--	--	--	--
Pennsylvania	3.97	3.81	R 3.45	4.03	3.78	3.62	3.42	3.43
Rhode Island	--	--	2.15	--	--	--	--	--
South Carolina	4.30	3.94	R 1.86	3.90	3.33	3.49	3.56	3.07
South Dakota	NA	NA	2.33	NA	NA	NA	NA	NA
Tennessee	--	--	2.46	--	--	--	NA	NA
Texas	R 2.25	2.48	2.16	2.39	2.32	2.13	2.10	2.22
Utah	NA	NA	3.05	NA	NA	NA	NA	NA
Vermont	--	--	--	--	--	--	--	--
Virginia	2.34	2.04	R 2.16	5.06	1.38	4.00	2.52	1.59
Washington	NA	NA	3.15	NA	NA	NA	NA	NA
West Virginia	4.31	4.76	R 3.89	4.76	4.52	4.34	4.32	4.12
Wisconsin	R 3.52	R 3.43	R 3.26	3.62	3.78	3.31	3.45	3.05
Wyoming	4.10	3.57	3.78	3.60	4.03	4.75	4.10	2.96
Total	2.44	2.64	R 2.33	2.57	2.58	2.40	2.36	2.36

^a Includes all steam electric utility generating plants with a combined capacity of 50 megawatts or greater.

^b Average prices calculated from data reported on Form EIA-176.

R -- Revised Data.

-- -- Not Applicable.

Notes and Sources: See the last page of this section.

Table 32. Average Price of Natural Gas Delivered to All Consumers by State
(Dollars per Thousand Cubic Feet)

State	May 1990	April 1990	March 1990	February 1990	January 1990	Total 1989	December 1989	November 1989
Alabama	4.76	4.81	4.77	R 4.34	4.92	R 4.60	R 4.91	R 4.78
Alaska	2.27	2.29	2.38	2.51	2.42	R 1.84	2.26	R 2.16
Arizona	4.29	4.59	4.69	R 5.02	R 5.11	R 4.10	R 4.64	3.88
Arkansas	3.36	3.98	4.15	R 4.09	4.10	3.63	R 3.86	R 3.62
California	4.36	R 4.23	R 4.86	R 5.25	R 5.04	R 4.32	R 4.87	R 4.37
Colorado	3.90	3.89	3.86	4.01	3.93	R 4.07	R 4.11	R 4.22
Connecticut	6.54	6.77	7.17	7.32	7.49	R 6.62	R 7.25	R 6.61
Delaware	3.88	4.40	4.41	4.73	4.98	R 4.25	4.92	4.33
District of Columbia	6.17	6.35	7.32	6.88	6.86	R 6.42	R 6.57	R 6.40
Florida	2.74	2.77	R 3.05	3.47	4.02	R 3.15	R 3.83	R 3.10
Georgia	5.39	5.35	5.95	6.26	5.55	R 5.38	R 5.30	R 5.60
Hawaii	12.83	13.22	13.07	12.78	12.57	12.32	R 12.42	12.71
Idaho	4.85	4.73	4.43	4.33	4.16	R 4.64	4.45	R 4.89
Illinois	4.93	4.73	4.88	5.09	4.67	R 4.70	R 4.43	R 4.37
Indiana	5.03	5.07	5.11	5.11	5.37	R 5.01	R 4.59	R 4.52
Iowa	3.90	3.93	4.12	4.44	4.70	R 3.93	R 4.26	R 3.88
Kansas	3.49	3.79	3.89	3.99	3.97	R 3.46	R 3.92	R 3.71
Kentucky	5.00	4.57	4.48	4.59	4.54	R 4.42	R 4.23	R 4.46
Louisiana	2.00	2.15	2.38	R 2.88	R 3.08	R 2.34	R 2.90	R 2.30
Maine	5.47	6.57	7.29	7.35	6.41	R 5.81	R 6.37	R 5.96
Maryland	5.66	5.44	5.67	5.69	5.62	R 5.43	R 5.55	5.81
Massachusetts	4.39	6.03	R 7.25	R 7.46	R 6.81	R 5.54	R 6.77	R 6.22
Michigan	4.78	4.63	4.53	4.57	4.49	R 4.88	R 4.54	R 4.71
Minnesota	3.73	R 3.71	R 3.80	R 4.21	R 4.70	R 4.06	R 4.27	R 3.95
Mississippi	2.69	2.88	3.20	3.66	3.99	R 3.09	R 3.60	R 3.28
Missouri	4.98	4.88	R 4.89	4.86	4.67	R 4.59	R 4.56	4.70
Montana	4.11	4.13	4.13	4.14	4.13	R 4.08	R 4.17	R 4.19
Nebraska	3.83	3.75	3.91	4.08	4.42	R 3.94	R 4.12	R 3.87
Nevada	3.33	3.54	4.06	R 4.48	R 4.45	R 3.84	R 4.39	R 4.04
New Hampshire	5.52	6.79	7.30	7.26	6.48	R 6.18	R 6.57	R 6.67
New Jersey	5.65	5.56	5.78	5.94	5.60	R 5.34	R 5.81	R 5.63
New Mexico	3.54	3.89	4.14	4.56	4.48	R 3.84	R 4.12	R 3.81
New York	4.86	5.37	5.66	6.44	6.12	5.58	R 6.19	R 5.94
North Carolina	4.41	4.28	4.40	4.52	4.83	R 4.87	R 5.21	R 4.57
North Dakota	4.43	4.25	4.30	4.28	4.26	R 4.39	4.25	R 4.33
Ohio	4.91	5.03	4.63	5.00	5.02	5.12	4.81	5.03
Oklahoma	3.10	3.37	3.40	3.33	3.34	R 3.15	R 3.33	R 3.18
Oregon	5.19	5.15	5.24	5.30	5.24	R 4.14	R 5.28	R 5.10
Pennsylvania	6.39	6.06	5.97	5.94	5.87	R 5.58	R 5.65	R 5.80
Rhode Island	5.42	5.92	6.67	6.83	6.75	R 6.41	R 6.68	R 6.45
South Carolina	3.86	4.35	4.67	4.96	5.54	R 4.47	R 5.56	R 4.37
South Dakota	4.39	4.23	4.26	4.44	4.65	R 4.29	4.43	R 4.14
Tennessee	3.92	4.25	4.40	4.54	4.55	R 4.13	R 4.45	R 4.17
Texas	2.39	R 2.63	R 2.88	R 3.36	R 3.63	R 2.81	R 3.37	R 2.86
Utah	4.78	4.97	4.79	4.82	4.73	R 4.65	R 4.77	4.92
Vermont	4.18	4.42	4.73	4.97	4.85	R 4.48	R 4.93	4.39
Virginia	5.50	5.20	5.42	5.84	5.67	R 5.48	R 5.72	R 5.33
Washington	3.74	3.99	R 4.00	4.07	4.18	R 4.36	R 4.30	R 4.38
West Virginia	6.19	6.03	6.00	5.92	5.76	R 5.02	R 5.64	R 5.29
Wisconsin	4.69	4.77	5.09	5.20	4.94	R 4.92	R 4.66	R 4.87
Wyoming	4.50	4.47	R 4.39	R 4.47	R 4.40	R 4.39	R 4.34	R 4.45
Total	3.84	R 4.23	R 4.50	R 4.82	R 4.77	R 4.22	R 4.61	R 4.30

See footnotes at end of table.

Table 32. Average Price of Natural Gas Delivered to All Consumers by State
(Continued)
(Dollars per Thousand Cubic Feet)

State	October 1989	September 1989	August 1989	July 1989	June 1989	May 1989	April 1989	March 1989
Alabama	\$ 4.56	\$ 4.53	\$ 4.51	\$ 4.52	\$ 4.35	\$ 4.41	\$ 4.46	\$ 4.46
Alaska	\$ 1.98	1.77	\$ 1.63	1.79	\$ 1.82	1.91	2.11	\$ 2.12
Arizona	\$ 3.85	\$ 3.49	\$ 3.48	\$ 3.31	\$ 3.70	\$ 3.84	\$ 3.61	\$ 4.57
Arkansas	3.57	\$ 3.66	\$ 3.09	\$ 3.24	\$ 3.45	\$ 3.85	\$ 3.53	3.51
California	\$ 3.74	\$ 3.92	\$ 3.92	\$ 3.79	\$ 4.00	\$ 4.28	\$ 3.98	\$ 4.43
Colorado	\$ 4.23	\$ 4.29	\$ 3.92	\$ 4.31	\$ 4.36	\$ 4.17	\$ 4.03	\$ 4.01
Connecticut	\$ 5.93	5.73	\$ 5.93	\$ 6.51	\$ 6.26	\$ 6.05	\$ 6.56	\$ 6.73
Delaware	\$ 3.69	\$ 3.46	\$ 3.52	3.59	\$ 4.25	\$ 4.27	4.08	4.51
District of Columbia	\$ 6.42	\$ 6.52	\$ 5.40	\$ 5.86	\$ 5.21	\$ 6.05	\$ 6.32	\$ 6.87
Florida	\$ 3.04	\$ 2.75	\$ 2.83	\$ 3.04	\$ 3.05	\$ 3.26	\$ 3.26	\$ 3.11
Georgia	\$ 5.70	\$ 5.47	\$ 5.44	\$ 5.66	\$ 5.39	\$ 5.46	\$ 5.22	\$ 5.33
Hawaii	12.40	12.53	\$ 12.64	12.81	12.96	12.34	12.42	11.98
Idaho	\$ 5.04	\$ 5.11	\$ 5.33	\$ 5.19	\$ 5.05	\$ 5.02	\$ 4.90	4.53
Illinois	\$ 4.60	\$ 5.12	\$ 5.42	\$ 5.14	\$ 5.00	\$ 4.79	\$ 4.78	\$ 4.93
Indiana	\$ 4.59	5.03	\$ 5.02	\$ 4.85	\$ 4.69	\$ 5.47	\$ 5.40	\$ 5.30
Iowa	\$ 3.55	\$ 3.69	\$ 3.85	\$ 3.78	\$ 3.72	\$ 3.66	\$ 3.68	\$ 3.79
Kansas	\$ 3.81	\$ 3.27	\$ 2.80	\$ 2.90	\$ 3.15	\$ 3.59	\$ 3.42	\$ 3.53
Kentucky	\$ 4.60	\$ 5.04	\$ 5.05	\$ 4.78	\$ 4.64	\$ 4.56	\$ 4.43	\$ 4.33
Louisiana	\$ 2.10	\$ 2.10	\$ 2.11	\$ 2.14	\$ 2.14	\$ 2.09	\$ 2.20	\$ 2.42
Maine	5.56	5.42	\$ 5.21	\$ 5.10	5.37	\$ 5.50	5.79	\$ 5.98
Maryland	\$ 5.04	\$ 5.66	\$ 5.09	\$ 5.48	\$ 5.06	\$ 5.14	\$ 5.06	\$ 5.46
Massachusetts	\$ 3.93	\$ 4.04	\$ 4.13	\$ 4.10	\$ 4.41	\$ 4.83	\$ 5.58	\$ 6.19
Michigan	\$ 5.17	\$ 5.62	\$ 6.00	\$ 5.53	\$ 5.33	\$ 4.94	\$ 4.80	\$ 4.82
Minnesota	\$ 3.82	\$ 3.92	\$ 3.84	\$ 3.89	\$ 3.91	\$ 3.86	\$ 3.84	\$ 3.94
Mississippi	\$ 2.67	\$ 2.52	\$ 2.44	\$ 2.49	\$ 2.62	\$ 2.65	\$ 3.07	\$ 3.50
Missouri	\$ 4.89	\$ 5.19	\$ 5.32	5.34	\$ 5.21	\$ 4.85	4.51	\$ 4.37
Montana	\$ 3.88	\$ 3.81	\$ 3.68	\$ 3.44	\$ 3.99	\$ 3.94	\$ 4.09	\$ 4.13
Nebraska	\$ 3.77	\$ 3.85	\$ 3.74	\$ 3.66	\$ 4.07	\$ 3.89	\$ 3.75	\$ 3.85
Nevada	3.60	\$ 3.27	3.06	3.07	\$ 3.70	\$ 3.73	\$ 3.50	\$ 4.19
New Hampshire	\$ 5.53	\$ 5.47	\$ 5.82	\$ 5.75	\$ 5.49	\$ 5.47	\$ 6.17	\$ 6.41
New Jersey	\$ 5.30	4.94	\$ 4.65	\$ 4.54	\$ 4.54	\$ 5.19	\$ 5.24	\$ 5.39
New Mexico	\$ 3.62	\$ 3.43	\$ 3.47	\$ 3.61	\$ 3.69	\$ 3.64	\$ 3.72	\$ 3.82
New York	\$ 5.00	\$ 4.63	\$ 4.59	\$ 4.60	\$ 4.81	\$ 4.99	\$ 5.34	\$ 6.21
North Carolina	\$ 4.69	\$ 4.65	\$ 4.61	\$ 4.55	\$ 4.56	\$ 4.67	\$ 4.90	\$ 5.08
North Dakota	\$ 4.78	4.77	\$ 5.33	5.09	\$ 4.80	\$ 4.61	\$ 4.32	\$ 4.26
Ohio	\$ 5.03	\$ 5.56	\$ 5.73	\$ 5.68	\$ 5.53	\$ 5.04	5.22	5.07
Oklahoma	\$ 3.29	\$ 2.96	\$ 2.88	\$ 3.10	\$ 3.08	\$ 3.07	\$ 3.11	\$ 3.21
Oregon	\$ 4.87	\$ 4.96	\$ 5.04	\$ 5.12	\$ 5.04	\$ 5.05	\$ 5.08	\$ 5.10
Pennsylvania	\$ 5.99	\$ 6.23	\$ 6.20	\$ 6.26	\$ 5.62	\$ 5.55	\$ 5.50	\$ 5.38
Rhode Island	\$ 5.45	\$ 6.14	\$ 5.53	\$ 5.71	\$ 6.15	\$ 6.25	\$ 6.55	\$ 6.77
South Carolina	\$ 3.87	\$ 3.71	\$ 3.64	\$ 3.58	\$ 3.62	\$ 4.22	\$ 4.35	\$ 4.96
South Dakota	4.14	4.47	\$ 4.63	\$ 4.57	\$ 4.41	\$ 4.28	4.14	\$ 4.15
Tennessee	\$ 3.93	\$ 3.93	\$ 3.87	\$ 3.93	\$ 3.92	\$ 3.88	\$ 4.04	\$ 4.10
Texas	\$ 2.54	\$ 2.42	\$ 2.55	\$ 2.55	\$ 2.56	\$ 2.55	\$ 2.70	\$ 2.93
Utah	5.08	\$ 4.87	\$ 5.06	\$ 4.68	\$ 4.46	\$ 4.60	\$ 4.73	\$ 4.59
Vermont	4.13	4.26	4.37	\$ 4.47	4.47	4.54	4.48	\$ 4.48
Virginia	\$ 5.73	\$ 5.57	\$ 5.82	\$ 5.29	\$ 4.66	\$ 5.11	\$ 5.09	\$ 5.62
Washington	\$ 3.94	\$ 4.07	3.86	3.94	\$ 4.16	\$ 4.23	\$ 4.36	\$ 4.42
West Virginia	\$ 4.89	\$ 4.89	\$ 4.98	\$ 5.03	\$ 5.11	\$ 4.99	\$ 4.80	\$ 4.90
Wisconsin	\$ 4.77	\$ 5.09	\$ 5.29	\$ 5.16	\$ 4.89	\$ 4.85	\$ 4.92	\$ 4.96
Wyoming	\$ 4.48	\$ 4.59	\$ 4.79	\$ 4.71	\$ 4.46	\$ 4.36	\$ 4.38	\$ 4.32
Total	\$ 3.86	\$ 3.67	\$ 3.57	\$ 3.59	\$ 3.72	\$ 3.94	\$ 4.18	\$ 4.46

See footnotes at end of table.

Table 32. Average Price of Natural Gas Delivered to All Consumers by State
(Continued)
(Dollars per Thousand Cubic Feet)

State	February 1989	January 1989	Total 1988	December 1988	November 1988	October 1988	September 1988	August 1988
Alabama	R 4.86	R 4.73	4.53	R 4.71	4.41	R 4.31	R 4.13	R 3.97
Alaska	2.42	R 2.23	1.77	R 2.16	R 2.16	1.89	R 1.80	1.74
Arizona	R 5.20	R 5.17	R 4.76	R 5.32	5.53	4.63	4.63	3.46
Arkansas	R 3.79	R 3.98	3.67	3.99	3.97	3.39	3.38	3.00
California	R 4.82	R 6.11	4.20	5.19	4.47	3.94	3.92	R 3.92
Colorado	R 3.96	R 3.90	4.04	3.70	4.06	4.34	4.55	4.55
Connecticut	R 6.92	R 6.89	6.25	6.70	6.17	5.91	5.92	5.25
Delaware	4.78	R 5.10	4.22	4.90	4.60	4.05	3.89	3.47
District of Columbia	R 6.56	R 6.67	6.07	6.49	6.46	6.18	5.88	5.15
Florida	R 3.26	R 3.35	2.92	R 3.43	R 3.35	2.83	2.66	2.57
Georgia	R 5.38	R 5.16	5.24	4.99	4.95	5.41	5.13	4.89
Hawaii	11.42	R 11.34	12.41	11.90	12.13	12.30	12.40	12.60
Idaho	4.39	4.38	4.99	R 4.44	4.88	5.22	5.56	5.56
Illinois	R 4.82	R 4.54	4.35	4.34	4.28	4.35	4.72	4.73
Indiana	R 5.09	R 5.40	4.73	4.96	5.06	R 3.69	4.69	4.72
Iowa	R 4.05	R 4.26	4.09	R 4.19	R 4.05	3.66	3.88	3.51
Kansas	R 3.52	R 3.41	R 3.19	3.35	3.34	R 3.24	3.09	2.69
Kentucky	R 4.35	R 4.31	4.20	4.19	4.20	4.34	4.61	R 4.49
Louisiana	R 2.79	R 2.82	2.29	2.68	R 2.42	2.25	2.12	2.00
Maine	R 5.97	R 6.01	5.80	6.31	5.39	R 4.93	4.98	4.86
Maryland	R 5.74	R 5.62	5.31	5.42	5.57	5.76	5.50	5.06
Massachusetts	R 6.70	R 6.65	R 5.62	R 3.75	5.92	4.82	4.74	4.03
Michigan	R 4.82	R 4.84	R 5.04	5.08	R 5.29	5.44	6.10	5.64
Minnesota	R 4.16	R 4.34	4.05	4.22	4.02	4.03	3.86	3.54
Mississippi	R 3.98	R 4.00	3.40	R 4.03	R 3.52	R 3.14	R 2.67	2.45
Missouri	R 4.38	4.36	4.44	4.35	4.47	R 4.78	4.96	4.83
Montana	R 4.17	R 4.25	4.04	4.01	4.15	3.79	3.73	R 3.46
Nebraska	R 4.06	R 4.17	3.88	4.03	3.95	3.92	3.69	R 3.68
Nevada	R 4.43	R 4.41	4.57	4.48	4.91	4.83	4.31	4.01
New Hampshire	R 6.41	R 6.34	5.64	6.42	6.48	4.86	5.05	4.86
New Jersey	R 5.70	R 5.52	5.18	5.46	5.52	5.67	5.80	4.23
New Mexico	R 4.02	R 4.19	3.68	4.11	4.04	3.74	4.04	3.42
New York	R 6.14	R 6.16	5.26	6.23	6.01	5.82	4.85	4.20
North Carolina	R 5.03	R 5.03	4.67	5.05	4.66	4.23	R 4.21	4.18
North Dakota	4.29	4.30	4.70	4.36	4.55	4.84	5.29	5.30
Ohio	R 5.21	5.19	4.98	5.07	5.09	5.13	5.46	5.63
Oklahoma	R 3.26	R 3.16	3.15	2.84	2.98	2.89	2.82	2.99
Oregon	R 5.20	R 5.49	5.50	R 5.92	5.75	5.57	5.46	R 5.61
Pennsylvania	R 5.34	R 5.32	5.18	5.33	5.33	5.41	5.43	5.41
Rhode Island	R 6.89	R 6.48	6.14	6.46	6.37	6.17	5.94	5.75
South Carolina	R 5.38	R 5.37	R 4.49	5.18	R 4.51	3.89	4.11	3.83
South Dakota	R 4.26	R 4.46	4.34	4.36	4.34	4.39	R 4.48	4.58
Tennessee	R 4.26	R 4.25	3.97	4.23	4.08	3.93	3.80	3.75
Texas	R 3.19	R 3.32	2.69	R 3.13	R 2.79	2.54	R 2.42	2.45
Utah	4.49	R 4.52	4.47	4.55	4.69	4.66	4.37	4.43
Vermont	4.56	4.49	4.47	4.45	4.38	R 4.23	4.09	4.21
Virginia	R 5.71	R 5.60	4.82	5.35	5.03	5.59	4.81	4.35
Washington	R 4.59	R 4.49	4.19	4.51	4.42	4.04	3.85	3.80
West Virginia	R 4.77	R 4.76	5.11	4.92	5.11	5.15	5.48	5.53
Wisconsin	R 5.08	R 5.02	5.19	R 5.14	5.22	5.01	5.43	5.29
Wyoming	R 4.32	R 4.32	4.18	R 4.21	R 4.31	R 4.43	R 4.68	R 4.70
Total	R 4.60	R 4.67	4.09	R 4.56	R 4.31	R 3.95	R 3.61	R 3.39

R Revised Data.

Notes and Sources: See the last page of this section.

Table 33. Percentage of Total Deliveries Represented by Onsystem Sales

State	June 1990		May 1990		April 1990		March 1990	
	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial
Alabama	78.3	32.7	72.7	29.2	74.8	27.4	78.1	R 29.9
Alaska	100.0	53.1	100.0	64.0	100.0	55.1	100.0	60.5
Arizona	92.5	29.5	84.7	45.4	93.3	42.7	R 94.9	47.2
Arkansas	88.7	16.8	90.6	16.7	93.2	13.6	R 93.7	R 14.5
California	92.4	37.0	95.9	R 47.6	96.6	R 49.8	97.8	R 48.8
Colorado	97.4	39.4	97.2	R 49.6	97.5	R 46.7	97.8	R 45.5
Connecticut	89.9	78.6	91.1	79.0	95.6	86.2	93.6	93.9
Delaware	100.0	70.6	100.0	67.5	100.0	69.9	100.0	74.0
District of Columbia	100.0	--	100.0	--	100.0	--	100.0	--
Florida	97.2	61.0	97.3	62.5	100.0	R 74.2	100.0	"
Georgia	79.9	31.7	81.0	27.6	86.2	27.4	87.9	2
Hawaii	100.0	--	100.0	--	100.0	--	100.0	--
Idaho	88.1	.8	85.8	.6	87.7	.6	89.7	.5
Illinois	47.4	8.6	59.5	14.9	57.9	16.8	62.5	22.3
Indiana	90.7	16.0	92.1	15.9	R 90.2	R 18.5	R 93.5	R 18.4
Iowa	96.3	30.5	97.2	R 29.6	97.8	R 34.2	98.1	R 39.0
Kansas	93.6	16.3	92.2	R 16.0	93.0	R 18.4	91.0	R 17.5
Kentucky	89.6	12.5	89.9	11.5	93.4	13.0	95.3	15.5
Louisiana	100.0	44.3	100.0	R 44.7	100.0	R 45.3	100.0	R 41.0
Maine	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Maryland	94.7	20.3	94.5	27.6	95.8	36.9	96.1	42.1
Massachusetts	100.0	92.7	100.0	94.6	100.0	R 93.4	100.0	R 90.2
Michigan	56.2	9.9	65.6	15.2	70.7	18.9	73.0	22.0
Minnesota	91.0	32.0	94.7	R 30.5	R 94.7	R 35.3	R 95.6	R 46.0
Mississippi	90.4	44.1	90.9	44.9	100.0	54.3	100.0	57.0
Missouri	79.8	23.0	83.7	27.7	89.0	32.7	89.9	37.7
Montana	98.4	79.7	96.9	82.1	98.6	75.0	97.7	68.8
Nebraska	89.3	21.8	92.1	R 34.4	R 92.7	R 39.9	R 93.9	R 43.8
Nevada	96.7	9.9	96.4	10.6	97.0	11.3	R 97.7	R 11.8
New Hampshire	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
New Jersey	93.2	50.4	94.3	51.6	R 94.4	R 59.8	R 96.6	R 61.4
New Mexico	76.7	28.0	78.2	18.1	82.4	13.3	85.1	8.7
New York	81.9	28.0	80.8	33.2	87.3	35.2	87.4	40.5
North Carolina	84.8	48.3	89.2	47.7	97.7	R 71.7	98.8	R 92.8
North Dakota	69.7	20.3	75.4	22.2	R 76.1	R 29.4	R 78.4	R 29.5
Ohio	77.9	9.4	81.8	9.3	86.0	11.4	R 89.5	12.6
Oklahoma	89.8	38.9	91.9	43.6	R 92.5	48.5	R 91.3	R 53.1
Oregon	97.5	23.4	97.4	18.2	97.3	20.2	98.4	20.7
Pennsylvania	69.7	16.7	73.6	15.3	79.6	21.0	80.5	23.5
Rhode Island	100.0	86.0	100.0	88.6	100.0	R 89.4	100.0	95.1
South Carolina	97.1	77.6	90.5	74.3	97.7	76.9	97.9	76.6
South Dakota	86.2	42.4	87.1	55.4	89.3	47.0	91.7	55.3
Tennessee	94.5	52.1	94.6	52.7	97.5	54.7	98.4	60.3
Texas	95.4	23.6	94.1	R 21.9	R 94.2	R 21.4	R 89.5	R 27.4
Utah	100.0	18.7	100.0	18.5	100.0	19.8	100.0	19.1
Vermont	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Virginia	93.5	12.9	93.8	16.0	85.8	19.9	90.1	24.0
Washington	88.9	47.7	91.0	50.1	92.2	50.9	93.2	61.0
West Virginia	37.2	10.5	49.2	10.8	55.9	10.1	60.1	10.8
Wisconsin	83.5	29.8	81.9	35.4	90.7	R 39.2	90.8	44.1
Wyoming	99.7	7.7	90.7	11.8	99.8	R 11.4	R 99.7	R 16.9
Total	86.1	29.8	86.8	R 30.3	R 87.9	R 32.2	R 88.8	R 34.8

See footnotes at end of table.

**Table 33. Percentage of Total Deliveries Represented by Onsystem Sales
(Continued)**

State	February 1990		January 1990		Total 1989		December 1989	
	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial
Alabama	80.4	28.9	85.5	31.8	82.9	37.4	85.6	42.4
Alaska	100.0	60.3	100.0	57.8	100.0	55.1	100.0	51.7
Arizona	96.5	58.8	98.4	82.3	93.7	44.5	95.3	57.5
Arkansas	94.7	16.7	95.8	18.1	93.1	19.4	93.4	23.5
California	97.2	42.4	97.8	88.2	91.8	44.1	92.2	52.6
Colorado	98.0	45.6	98.1	50.6	97.3	43.3	97.2	35.4
Connecticut	100.0	98.5	100.0	99.7	91.2	91.4	99.5	100.0
Delaware	100.0	72.2	100.0	78.2	100.0	75.6	100.0	74.1
District of Columbia	100.0	---	100.0	---	100.0	---	100.0	---
Florida	100.0	72.5	100.0	72.4	100.0	74.7	100.0	74.7
Georgia	89.8	25.3	96.3	58.2	90.2	36.4	96.8	59.6
Hawaii	100.0	---	100.0	---	100.0	---	100.0	---
Idaho	90.4	6	91.5	8.8	87.5	5	87.4	6
Illinois	87.6	31.4	86.6	28.5	89.3	29.6	74.5	36.0
Indiana	98.6	28.3	99.2	29.3	95.1	21.7	98.9	32.0
Iowa	98.2	46.2	98.5	44.5	97.8	44.2	98.3	45.7
Kansas	91.1	19.6	92.9	21.8	93.1	22.1	92.9	26.7
Kentucky	96.2	21.8	96.3	40.1	94.9	30.9	97.0	41.0
Louisiana	100.0	11.9	100.0	41.1	99.9	47.4	99.9	40.5
Maine	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Maryland	97.2	59.9	98.3	58.7	96.2	32.5	96.8	45.7
Massachusetts	100.0	91.8	100.0	94.2	99.9	98.4	99.9	99.6
Michigan	72.4	20.7	71.5	22.0	70.4	17.6	73.5	22.5
Minnesota	96.2	51.4	97.5	53.5	95.8	47.2	97.0	56.2
Mississippi	100.0	51.4	100.0	52.0	100.0	50.7	100.0	56.4
Missouri	91.4	46.3	94.1	55.8	92.3	47.4	92.3	48.5
Montana	97.8	73.3	97.9	56.5	98.1	73.7	98.1	59.2
Nebraska	95.2	56.5	95.5	59.6	98.4	43.3	98.5	58.7
Nevada	99.4	18.8	99.1	27.3	96.1	11.3	98.8	13.0
New Hampshire	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
New Jersey	99.3	73.2	99.6	81.3	97.8	61.5	99.7	83.5
New Mexico	83.4	9.1	85.5	8.6	88.1	17.3	87.6	16.8
New York	93.4	60.9	92.4	58.2	85.5	39.7	89.7	51.7
North Carolina	98.9	97.1	99.1	99.4	93.5	70.1	98.1	98.0
North Dakota	82.5	30.4	83.9	27.7	80.3	26.2	81.6	27.3
Ohio	88.9	12.8	89.2	20.2	86.4	16.0	90.3	19.9
Oklahoma	92.6	56.8	94.3	57.6	89.6	50.0	91.2	61.1
Oregon	98.5	18.2	98.2	26.6	98.2	21.9	98.0	22.1
Pennsylvania	83.3	28.4	85.7	31.2	85.3	29.1	85.3	39.0
Rhode Island	100.0	100.0	100.0	100.0	83.9	82.3	100.0	100.0
South Carolina	98.0	85.6	98.3	79.5	98.1	78.5	97.3	91.3
South Dakota	92.1	63.1	92.5	76.0	92.1	60.6	92.0	63.9
Tennessee	98.2	63.3	98.7	65.5	98.1	62.4	99.1	66.3
Texas	94.0	27.5	94.6	30.2	89.9	25.5	92.7	24.6
Utah	100.0	23.9	100.0	24.9	100.0	28.4	100.0	23.4
Vermont	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Virginia	95.6	20.9	97.1	25.6	97.1	36.3	97.9	44.6
Washington	95.9	63.9	96.2	63.9	94.0	58.6	96.5	52.9
West Virginia	63.6	15.0	70.2	17.6	61.5	27.9	71.5	34.4
Wisconsin	90.3	47.0	90.5	55.6	92.6	36.9	95.0	58.0
Wyoming	99.7	13.8	99.7	19.1	99.9	16.7	99.7	16.2
Total	90.5	37.0	91.0	41.0	89.0	36.3	90.7	39.2

See footnotes at end of table.

**Table 33. Percentage of Total Deliveries Represented by Onsystem Sales
(Continued)**

State	November 1989		October 1989		September 1989		August 1989	
	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial
Alabama	78.3	32.6	84.4	33.0	78.9	33.3	83.6	34.9
Alaska	100.0	61.4	100.0	48.0	100.0	48.6	100.0	47.7
Arizona	94.8	55.8	91.6	44.2	91.5	51.5	89.1	49.6
Arkansas	90.7	18.1	87.5	16.4	88.2	22.0	86.2	17.5
California	90.1	25.9	88.5	72.4	91.0	39.4	87.8	34.0
Colorado	98.9	34.6	95.6	41.7	95.8	42.8	91.8	53.2
Connecticut	90.8	96.5	85.5	86.4	74.8	85.4	80.4	98.4
Delaware	100.0	68.9	100.0	68.0	100.0	64.0	100.0	66.0
District of Columbia	100.0	--	100.0	--	100.0	--	100.0	--
Florida	100.0	68.7	100.0	72.4	100.0	71.3	100.0	74.4
Georgia	89.4	36.4	86.4	29.6	83.0	30.2	80.2	29.6
Hawaii	100.0	--	100.0	--	100.0	--	100.0	--
Idaho	84.5	6	79.3	3	84.1	3	83.0	3
Illinois	88.9	30.6	84.5	27.6	82.4	23.2	47.4	21.8
Indiana	97.7	22.5	91.9	17.2	89.1	15.3	96.8	17.1
Iowa	97.6	48.4	96.6	40.5	95.2	41.5	95.0	41.1
Kansas	88.2	19.7	88.9	22.6	91.8	22.1	94.7	27.4
Kentucky	94.4	21.8	90.7	20.8	89.8	16.3	88.2	20.2
Louisiana	99.9	42.4	99.9	45.4	99.9	47.9	99.9	47.0
Maine	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Maryland	94.6	31.5	94.2	24.3	94.1	20.7	94.7	18.4
Massachusetts	99.9	96.9	99.9	100.0	99.9	100.0	99.9	100.0
Michigan	69.5	15.5	64.4	12.3	57.5	10.8	50.8	8.8
Minnesota	94.9	45.4	91.9	46.1	92.7	34.5	89.9	34.3
Mississippi	100.0	49.7	100.0	50.6	100.0	52.0	100.0	48.0
Missouri	90.3	47.2	88.8	41.3	86.9	42.8	90.5	42.1
Montana	97.9	61.3	97.5	58.8	96.3	60.5	96.3	75.3
Nebraska	98.1	60.5	98.8	76.7	99.7	30.8	99.9	37.4
Nevada	97.2	7.4	96.2	11.2	91.2	6.9	91.7	7.1
New Hampshire	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
New Jersey	99.0	71.6	94.7	53.9	93.5	51.6	93.4	47.5
New Mexico	85.6	13.7	86.9	16.6	80.2	21.9	81.9	28.5
New York	82.4	39.4	74.8	35.0	73.6	29.1	78.2	34.6
North Carolina	97.1	92.1	86.3	48.7	84.4	48.1	84.2	48.6
North Dakota	74.8	21.2	70.9	15.5	71.4	18.5	64.9	19.7
Ohio	87.8	15.8	85.1	15.9	78.9	14.3	75.0	11.2
Oklahoma	89.1	55.5	86.5	46.2	86.8	47.3	85.0	49.8
Oregon	97.3	21.8	96.7	20.8	97.4	17.8	97.2	17.5
Pennsylvania	92.9	31.6	80.3	23.3	76.4	20.4	77.2	19.5
Rhode Island	100.0	88.9	82.7	87.5	44.6	67.8	40.4	71.2
South Carolina	98.0	82.9	97.8	70.5	97.7	75.7	97.7	74.4
South Dakota	91.1	57.8	89.6	56.4	90.0	55.2	89.4	53.4
Tennessee	97.4	62.7	97.1	61.0	96.9	55.9	95.8	57.8
Texas	86.9	24.5	86.3	24.7	81.8	25.1	90.4	23.2
Utah	100.0	23.3	100.0	22.9	100.0	23.6	100.0	22.8
Vermont	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Virginia	96.4	38.7	93.3	24.8	95.4	21.9	94.1	20.0
Washington	93.6	51.0	93.0	62.5	87.3	58.1	92.6	61.8
West Virginia	58.6	26.3	49.5	22.8	40.5	24.2	39.5	23.8
Wisconsin	91.1	36.6	84.3	25.0	84.2	22.1	84.2	19.4
Wyoming	99.7	11.9	99.6	12.9	99.8	12.6	100.0	12.7
Total	87.6	34.4	85.2	37.2	84.7	33.2	84.9	32.1

See footnotes at end of table.

**Table 33. Percentage of Total Deliveries Represented by Onsystem Sales
(Continued)**

State	July 1989		June 1989		May 1989		April 1989	
	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial
Alabama	55.5	36.9	88.2	37.8	83.8	37.8	90.0	39.5
Alaska	100.0	44.4	100.0	55.2	100.0	60.4	100.0	50.9
Arizona	89.1	49.3	91.7	45.9	92.8	45.1	93.5	43.6
Arkansas	87.2	14.9	91.5	19.0	91.3	18.9	94.3	17.3
California	89.4	40.1	92.8	43.9	94.8	38.1	88.3	39.9
Colorado	95.0	49.5	97.3	41.5	97.3	42.0	97.8	43.6
Connecticut	74.5	80.6	76.5	85.4	81.6	82.6	90.0	87.2
Delaware	100.0	78.2	100.0	78.4	100.0	82.9	100.0	83.8
District of Columbia	100.0	--	100.0	--	100.0	--	100.0	--
Florida	100.0	71.1	100.0	73.1	100.0	75.9	100.0	74.0
Georgia	80.7	27.4	81.7	31.1	85.3	30.6	88.2	33.8
Hawaii	100.0	--	100.0	--	100.0	--	100.0	--
Idaho	86.7	2	85.8	4	82.7	4	89.0	4
Illinois	50.2	21.0	59.7	22.1	67.5	25.0	89.8	27.7
Indiana	96.7	19.3	97.2	29.2	92.6	14.4	92.6	17.1
Iowa	95.4	44.1	96.3	40.7	97.0	43.5	98.0	40.7
Kansas	93.7	20.4	89.2	19.0	92.9	18.1	94.6	21.3
Kentucky	89.5	32.2	89.2	28.4	91.0	31.2	94.9	31.0
Louisiana	99.9	51.6	99.9	52.9	99.9	53.1	99.9	51.2
Maine	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Maryland	94.3	16.9	95.1	22.0	95.9	28.1	96.7	36.3
Massachusetts	99.9	100.0	99.9	100.0	99.9	100.0	99.9	100.0
Michigan	51.7	9.5	47.6	9.5	64.9	16.2	71.7	18.9
Minnesota	89.4	31.8	92.4	41.7	95.0	48.4	95.8	52.4
Mississippi	100.0	52.1	100.0	46.6	100.0	50.7	100.0	47.5
Missouri	86.1	42.3	85.8	42.0	90.7	44.7	93.2	47.4
Montana	96.4	84.8	96.8	89.6	97.4	85.4	98.6	83.7
Nebraska	99.9	27.0	99.8	31.2	99.7	37.5	99.8	42.2
Nevada	92.7	9.2	94.3	9.0	94.2	8.9	95.0	11.2
New Hampshire	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
New Jersey	94.2	48.1	94.7	55.4	96.2	53.3	98.3	58.7
New Mexico	80.2	21.3	83.4	21.4	86.6	28.6	88.5	15.9
New York	78.6	27.5	81.3	29.8	85.4	35.5	85.0	36.3
North Carolina	80.1	53.6	87.7	54.2	89.8	57.6	92.4	71.3
North Dakota	69.2	26.4	74.8	18.5	80.6	22.0	83.9	34.9
Ohio	75.5	14.5	74.4	11.3	81.2	12.7	86.0	15.3
Oklahoma	86.7	42.3	86.6	48.9	89.1	47.1	87.9	46.7
Oregon	97.0	16.3	97.6	22.1	97.6	19.4	98.3	22.2
Pennsylvania	79.6	17.2	76.9	20.9	81.7	23.9	87.4	25.5
Rhode Island	48.9	69.8	47.7	67.7	83.9	71.3	87.1	82.1
South Carolina	98.1	83.7	98.2	85.0	98.1	87.7	98.3	75.8
South Dakota	90.2	55.1	91.6	53.6	92.5	56.3	92.1	65.5
Tennessee	96.7	58.0	95.9	56.8	96.8	67.4	97.5	61.9
Texas	92.7	25.0	88.8	28.8	89.9	25.6	91.9	26.4
Utah	100.0	28.5	100.0	26.1	100.0	28.8	100.0	31.3
Vermont	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Virginia	93.9	23.3	96.4	37.1	96.4	28.3	97.1	45.6
Washington	87.0	57.9	89.7	60.3	93.0	57.5	93.2	60.9
West Virginia	39.8	22.6	45.3	23.3	55.0	23.3	63.9	30.8
Wisconsin	86.1	21.7	87.7	26.7	92.6	32.8	94.0	35.7
Wyoming	100.0	13.6	100.0	18.5	100.0	24.5	100.0	15.5
Total	84.9	33.5	86.1	36.5	88.2	35.3	89.1	36.1

See footnotes at end of table.

**Table 33. Percentage of Total Deliveries Represented by Onsystem Sales
(Continued)**

State	March 1989		February 1989		January 1989		Total 1988	
	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial
Alabama	89.4	42.2	82.5	40.4	83.9	38.2	91.1	50.6
Alaska	100.0	61.8	100.0	59.2	100.0	72.3	100.0	54.5
Arizona	94.1	31.5	98.3	32.7	98.1	29.7	95.4	29.1
Arkansas	95.9	18.3	95.6	23.1	95.9	24.1	93.7	24.3
California	93.0	37.4	95.1	50.7	94.6	52.2	95.0	63.1
Colorado	98.3	39.5	98.1	46.2	98.0	47.6	97.7	39.0
Connecticut	98.4	91.7	100.0	100.0	100.0	100.0	98.1	97.7
Delaware	100.0	83.5	100.0	79.2	100.0	75.9	100.0	70.1
District of Columbia	100.0	--	100.0	--	100.0	--	100.0	--
Florida	100.0	78.0	100.0	80.0	100.0	79.7	100.0	76.1
Georgia	89.7	37.2	93.6	42.6	98.6	53.2	93.9	46.3
Hawaii	100.0	--	100.0	--	100.0	--	100.0	--
Idaho	90.6	1.5	90.2	1.7	88.8	1.7	85.9	3.6
Illinois	89.8	30.6	73.4	36.4	71.8	37.1	76.8	34.8
Indiana	94.3	20.0	93.9	28.3	94.1	24.7	95.2	23.3
Iowa	98.5	44.6	98.4	46.0	98.4	43.0	98.3	40.3
Kansas	94.1	22.7	94.4	22.5	94.8	23.0	96.4	37.1
Kentucky	96.4	32.9	98.6	35.6	97.1	46.2	96.8	37.7
Louisiana	99.9	47.4	99.9	45.3	99.9	48.0	99.9	57.4
Maine	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Maryland	97.1	40.6	98.6	42.5	97.1	47.9	96.9	37.9
Massachusetts	99.9	100.0	99.9	91.2	99.0	91.0	99.9	99.2
Michigan	78.0	23.6	74.5	23.7	75.8	25.1	71.6	19.9
Minnesota	97.0	53.5	97.4	56.6	97.3	56.2	96.8	55.9
Mississippi	100.0	55.4	100.0	54.6	100.0	46.3	100.0	56.0
Missouri	94.4	53.5	93.9	53.4	94.4	65.4	96.2	70.3
Montana	98.8	88.9	98.9	89.9	98.3	74.3	99.9	86.8
Nebraska	97.1	41.9	96.5	45.9	96.6	49.0	97.7	51.1
Nevada	96.9	15.4	98.1	21.3	98.0	16.8	95.1	31.2
New Hampshire	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
New Jersey	98.7	62.6	98.9	75.1	99.0	79.0	98.5	65.2
New Mexico	91.4	2.2	89.2	10.9	93.0	9.0	92.7	21.1
New York	89.3	45.7	90.1	47.3	90.4	50.0	89.4	48.0
North Carolina	94.9	78.1	96.9	96.8	98.7	97.4	95.6	82.3
North Dakota	84.0	33.4	84.8	36.5	81.7	36.5	92.7	43.5
Ohio	87.1	16.6	88.1	18.7	87.4	21.1	87.1	18.7
Oklahoma	91.7	48.1	90.2	54.7	89.7	51.3	74.5	40.0
Oregon	98.7	24.6	99.2	31.9	99.1	26.6	98.8	34.6
Pennsylvania	88.7	33.8	88.9	42.9	89.4	42.5	90.2	41.2
Rhode Island	100.0	100.0	100.0	100.0	100.0	100.0	87.1	85.2
South Carolina	98.6	74.5	98.5	76.5	98.5	95.2	99.1	80.2
South Dakota	92.8	68.1	93.1	68.6	92.8	84.0	96.2	69.5
Tennessee	98.9	66.1	98.9	65.9	99.1	66.4	97.4	67.8
Texas	93.2	28.1	91.8	25.4	88.2	24.8	87.5	29.8
Utah	100.0	30.3	100.0	38.8	100.0	38.7	100.0	47.0
Vermont	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Virginia	98.1	43.3	98.4	51.0	98.3	49.4	97.6	51.3
Washington	96.9	58.9	94.8	62.4	95.5	60.8	97.2	68.9
West Virginia	85.3	27.1	89.0	36.6	88.6	36.2	80.3	17.3
Wisconsin	94.5	40.9	94.2	43.5	94.1	44.5	93.4	35.5
Wyoming	100.0	21.5	100.0	21.7	100.0	18.5	100.0	22.1
Total	90.8	37.5	91.2	39.3	91.0	40.5	90.8	42.6

See footnotes at end of table.

**Table 33. Percentage of Total Deliveries Represented by Onsystem Sales
(Continued)**

State	December 1988		November 1988		October 1988		September 1988	
	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial
Alabama	82.9	49.9	90.6	49.7	88.0	46.0	92.2	44.3
Alaska	100.0	67.4	100.0	63.0	100.0	63.7	100.0	56.3
Arizona	95.1	43.2	94.3	25.7	95.5	23.1	94.5	25.0
Arkansas	94.3	27.3	91.6	26.6	89.2	19.5	89.8	19.6
California	83.6	67.3	85.1	59.8	92.2	76.3	97.6	72.6
Colorado	97.8	34.9	97.0	37.1	96.5	38.2	95.9	41.8
Connecticut	100.0	100.0	99.6	98.8	97.7	96.3	99.2	93.7
Delaware	100.0	77.5	100.0	76.5	100.0	74.3	100.0	80.2
District of Columbia	100.0		100.0		100.0		100.0	
Florida	100.0	76.8	100.0	76.2	100.0	77.8	100.0	72.3
Georgia	95.5	61.6	89.9	45.6	89.6	49.3	85.3	37.7
Hawaii	100.0		100.0		100.0		100.0	
Idaho	86.4	3.7	81.6	2.5	79.5	1.8	79.1	2.0
Illinois	74.7	31.0	73.7	36.7	78.2	32.6	63.2	22.2
Indiana	94.2	28.8	98.4	21.9	93.6	23.1	90.3	16.7
Iowa	98.2	44.4	97.8	38.8	96.2	43.2	99.3	44.8
Kansas	93.2	23.5	91.8	22.7	90.4	23.1	94.0	31.5
Kentucky	96.0	42.3	95.1	36.4	93.8	32.0	92.0	34.6
Louisiana	99.9	52.7	99.9	55.5	99.9	58.8	99.9	58.4
Maine	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Maryland	96.8	40.7	96.1	36.1	94.7	26.5	94.7	21.7
Massachusetts	100.0	93.7	100.0	99.6	99.6	98.6	100.0	100.0
Michigan	74.5	23.2	72.8	19.5	60.0	14.7	51.2	11.7
Minnesota	98.5	45.0	96.3	56.2	95.0	53.4	97.0	53.5
Mississippi	100.0	49.5	100.0	60.1	100.0	54.1	100.0	61.1
Missouri	92.4	64.2	91.9	63.5	90.8	53.3	89.6	54.8
Montana	99.9	85.2	99.2	76.7	99.9	84.0	99.9	82.0
Nebraska	99.5	47.5	100.0	43.5	95.8	47.3	95.7	53.5
Nevada	91.0	13.3	91.6	25.2	93.7	30.3	92.5	30.8
New Hampshire	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
New Jersey	99.4	77.6	98.0	58.2	96.4	50.3	95.4	53.3
New Mexico	92.3	15.0	94.6	16.0	87.5	19.1	87.8	23.4
New York	89.7	54.0	87.6	47.0	87.1	34.3	83.9	39.1
North Carolina	98.4	96.2	96.3	85.1	91.3	75.4	90.5	70.9
North Dakota	93.3	39.6	89.6	37.1	94.3	26.5	85.2	23.9
Ohio	88.2	22.5	86.8	21.0	85.6	16.0	76.7	14.3
Oklahoma	80.3	57.6	73.4	58.2	43.3	62.3	42.3	53.6
Oregon	98.4	21.7	97.7	22.0	97.5	19.6	97.3	23.2
Pennsylvania	91.0	48.4	88.7	42.5	86.3	37.2	82.3	37.0
Rhode Island	100.0	100.0	98.3	94.9	87.6	73.7	70.8	75.8
South Carolina	97.3	87.0	98.1	80.0	98.0	76.2	97.5	72.4
South Dakota	94.5	71.7	94.0	69.8	93.6	68.3	94.8	67.0
Tennessee	99.0	65.3	97.9	66.2	95.9	68.1	93.4	62.7
Texas	79.1	33.4	88.1	29.7	82.1	33.5	87.8	28.6
Utah	100.0	38.6	100.0	41.7	100.0	43.1	100.0	47.5
Vermont	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Virginia	97.9	59.6	97.1	51.2	96.1	48.1	96.8	48.0
Washington	96.1	56.1	97.3	57.8	97.0	63.8	95.8	68.6
West Virginia	66.9	17.9	64.1	16.2	49.3	17.8	40.6	14.6
Wisconsin	93.7	44.9	92.8	37.6	91.9	30.0	88.2	26.2
Wyoming	100.0	17.5	100.0	14.8	100.0	22.6	100.0	19.5
Total	89.7	44.4	88.7	42.1	87.4	43.3	87.6	41.2

R Revised Data
NA Not Available

Notes and Sources: The percentages depict the portion of total commercial and industrial deliveries represented by onsystem sales. Total deliveries include volume transported to commercial and industrial consumers for the account of others.

Table 6

Notes: Data for 1985 through 1989 are final. All other data are preliminary.

Sources:

- Form FPC-14, "Annual Report for Importers and Exporters of Natural Gas."
- "Quarterly Sales and Price Report" prepared by the Office of Fuels Programs, Office of Fossil Energy.

Table 7

Notes: Data for 1984 through 1989 are final. All other data are preliminary unless otherwise indicated. Totals may not equal sum of components because of independent rounding. See Explanatory Notes 1 and 3 for discussion of computation procedures and revision policy.

Sources:

- EIA *Natural Gas Annual 1989*, 1984 through 1989.
- IOCC, MMS reports, and EIA computations, January 1990 through current month.

Table 8

Notes: Data for the current month and the previous 2 months are preliminary. All other data are final. Dates shown indicate date received at the FERC. Data include affirmative determinations only. See Explanatory Note 10 for discussion of Title I of the Natural Gas Policy Act. Geographic coverage is the 50 States and the District of Columbia. Totals may not equal sum of components because of independent rounding.

Source:

- Form FERC-121.

Table 9

Notes: Dates shown indicate date received at FERC. Values include affirmative determinations only. See Explanatory Note 10 for discussion of Title I of the Natural Gas Policy Act. Geographic coverage is the 50 States and the District of Columbia. Totals may not equal sum of components because of independent rounding.

Source:

- Form FERC-121.

Table 10

Note: Data shown are based on filings received at FERC during the month indicated by the table heading. Data include affirmative determinations only. See Explanatory Note 10 for discussion of Title I of the Natural Gas Policy Act. Geographic coverage is the 50 States and the District of Columbia. Totals may not equal sum of components because of independent rounding.

Source:

- Form FERC-121.

Table 11

Notes: Geographic coverage is the 50 States and the District of Columbia. A "small producer" is one with annual sales subject to FERC jurisdiction not in excess of 10 billion cubic feet. On November 16, 1984, the Federal Energy Regulatory Commission issued Order No. 406 in Docket No. RM 84-14-000 providing for inclusion of maximum lawful prices under Sections 103(b)(2) and 105(b)(3) of the Natural Gas Policy Act. Order No. 406 became effective on January 1, 1985.

Source:

- *Federal Register*, "Rules and Regulations."

Table 12

Notes: Data up to 3 years prior to current month are final. All other data are preliminary unless otherwise indicated. See Explanatory Note 9 for discussion of major interstate pipeline companies. Totals may not equal sum of components because of independent rounding. This table shows selected items only and therefore does not balance mathematically.

Source:

- Form FERC-11

Table 13

Notes: The summaries presented in this table are exclusive of transactions between major pipeline companies in the computation of total pipeline activities to eliminate double-counting. Data up to 3 years prior to current month are final. All other data are preliminary unless otherwise indicated. See Explanatory Note 9 for discussion of major interstate pipeline companies. Totals may not equal sum of components because of independent rounding.

Source:

- Form FERC-11.

Table 14

Notes: Two lines have been added to this table to explicitly differentiate transactions between major and nonmajor pipeline companies. Totals may not equal sum of components due to independent rounding and provisions for pending regulatory adjustments.

Source:

- Form FERC-11.

Table 15

Notes: Previously published manufactured gas is now summarized with liquefied natural gas, gasified coal, and synthetic gas production. Also, the summaries presented in this table are exclusive of transactions between major pipeline companies in the computation of total pipeline activities to eliminate double counting. See Explanatory Note 9 for discussion of major interstate pipeline companies. Totals may not equal sum of components because of independent rounding.

Source:

- Form FERC-11.

Table 16

Notes: Previously published manufactured gas is now summarized with liquefied natural gas, gasified coal, and synthetic gas production. Two lines have been added to this table that explicitly differentiate transactions between major and nonmajor pipeline companies. See Explanatory Note 9 for discussion of major interstate pipeline companies. Totals may not equal sum of components because of independent rounding.

Source:

- Form FERC-11.

Table 17

Notes: Data for 1984 through 1989 are final. All other data are preliminary unless otherwise noted. See Explanatory Note 7 for discussion of revision policy. Gas in storage at the end of a reporting period may not equal the quantity derived by adding or subtracting net injections or withdrawals during the period to the quantity of gas in storage at the beginning of the period. This is due to changes in the quantities of native gas included in base gas and/or losses in base gas due to migration from storage reservoirs. Totals may not equal sum of components because of independent rounding. Geographic coverage is the 50 States and the District of Columbia.

Sources:

- Form EIA-191, Form FERC-8, and Form EIA-176.

Table 18

Notes: Data for 1984 through 1989 are final. All other data are preliminary unless otherwise noted. See Explanatory Note 7 for discussion of revision policy. Gas in storage at the end of a reporting period may not equal the quantity derived by adding or subtracting net injections or withdrawals during the period to the quantity of gas in storage at the beginning of the period. This is due to changes in the quantities of native gas included in base gas and/or losses in base gas due to migration from storage reservoirs. Totals may not equal sum of components because of independent rounding. Geographic coverage is the 50 States and the District of Columbia.

Sources:

- Form EIA-191, Form FERC-8, and Form EIA-176.

Table 19

Notes: Data for 1984 through 1989 are final. All other data are preliminary unless otherwise noted. See Explanatory Note 7 for discussion of revision policy. Gas in storage at the end of a reporting period may not equal the quantity derived by adding or subtracting net injections or withdrawals during the period to the quantity of gas in storage at the beginning of the period. This is due to changes in the quantities of native gas included in base gas and/or losses in base gas due to migration from storage reservoirs. Totals may not equal sum of components because of independent rounding. Geographic coverage is the 50 States and the District of Columbia.

Sources:

- Form EIA-191, Form FERC-8, and Form EIA-176.

Table 20

Notes: Gas in storage at the end of a reporting period may not equal the quantity derived by adding or subtracting net injections or withdrawals during the period to the quantity of gas in storage at the beginning of the period. This is due to changes in the quantities of native gas included in base gas and/or losses in base gas due to migration from storage reservoirs. Totals may not equal sum of components because of independent rounding. Geographic coverage is the 50 States and the District of Columbia.

Source:

Figure 7. Percentage of Total Deliveries Represented by Onsystem Sales

Source: Form EIA-857.

Table Notes and Sources

Table 1

Notes: Data for 1984 through 1989 are final. All other data are preliminary unless otherwise indicated. Geographic coverage is the 50 States and the District of Columbia. Totals may not equal sum of components because of independent rounding.

Sources:

- EIA, *Natural Gas Annual 1989*, Table 7 and EIA estimates, January 1990 through current month. See Explanatory Notes 1, 3, and 6 for discussion of computation, estimating procedures, and revision policy.

Table 2

Notes: Data for 1984 through 1989 are final. All other data are preliminary unless otherwise indicated. Geographic coverage is the 50 States and the District of Columbia. Totals may not equal sum of components because of independent rounding.

Sources:

- Total Dry Gas Production: EIA *Natural Gas Annual 1989*, 1984 through 1989; IOCC, MMS reporting, and EIA estimates, January 1990 through current month. See Explanatory Note 3 for estimation procedures and revision policy.
- Withdrawals from and Additions to Storage: EIA *Natural Gas Annual 1989*, 1984 through 1989; Form FERC-8 and Form EIA-191, January 1990 through current month.
- Supplemental Gaseous Fuels: EIA *Natural Gas Annual 1989*, 1984 through 1989; and EIA computations, January 1990 through current month. See Explanatory Note 2 for discussion of computation procedures and revision policy.
- Imports and Exports: Form FPC-14, 1984 through 1989; and EIA estimates, January 1990 through the current month. See Explanatory Note 4 for discussion of procedures and revision policy.
- Consumption and Unaccounted For: EIA *Natural Gas Annual 1989*, 1984 through 1989; and EIA computations, January 1990 through current month. See Explanatory Notes 5 and 11 for discussion of computation procedures and revision policy.

Table 3

Notes: Data for 1984 through 1989 are final. All other data are preliminary unless otherwise indicated. Geographic coverage is the 50 States and the District of Columbia. Totals may not equal sum of components because of independent rounding.

Sources:

- All data except electric utility: EIA *Natural Gas Annual 1989*, 1984 through 1989; and Form EIA-857 and computations January 1990 through the current month. See Explanatory Note 5 for computation procedures and revision policy. Electric utility data: Form EIA-759, "Monthly Power Plant Report" (formerly Form FPC-4).

Table 4

Notes: Data for 1984 through 1989 are final. All other data are preliminary unless otherwise indicated. Geographic coverage is the 50 States and the District of Columbia. Average prices for gas delivered to industrial consumers for 1984 through 1987 include imputed averages for volumes of gas delivered for the account of others. From 1988 on, average prices reflect on-system sales prices only. The change in series in 1987 affects the commercial, industrial, and all consumers averages.

Sources:

- Average wellhead price: EIA *Natural Gas Annual 1989*, 1984 through 1989; and EIA estimates, January 1990 through current month. See Explanatory Note 8 for estimation procedures and revision policy.
- Imports and Interstate Pipeline Company Purchases: Form FERC-11.
- Average City Gate, Residential, Commercial and Industrial average prices for 1984 through current month from Form EIA-857. See Explanatory Note 5 for discussion of revision policy.
- Earlier prices from EIA *Natural Gas Annual 1989*. Electric Utilities averages from Form FERC-423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."

Table 5

Notes: See Explanatory Note 12 for discussion of purchased gas adjustment filings. Totals may not equal sum of components because of independent rounding.

Source:

- Purchased Gas Adjustment filings for interstate pipeline companies.

- Form FERC-8.

Table 21

Notes: Gas in storage at the end of a reporting period may not equal the quantity derived by adding or subtracting net injections or withdrawals during the period to the quantity of gas in storage at the beginning of the period. This is due to changes in the quantities of native gas included in base gas and/or losses in base gas due to migration from storage reservoirs. Totals may not equal sum of components because of independent rounding. Geographic coverage is the 50 States and the District of Columbia.

Sources:

- Form FERC-8 and Form EIA-191.

Tables 22-25

Notes: Geographic coverage is the 50 States and the District of Columbia. Volumes in these tables represent the amount of natural gas delivered to four groups of natural gas consumers. See Explanatory Note 5 for discussion of computations and revision policy.

Sources:

- Residential, Commercial, and Industrial Volumes: Form EIA-857.
- Electric Utility Volumes: Form EIA-759.

Table 26

Notes: Geographic coverage is the 50 States and the District of Columbia. Volumes in this table represent the amount of natural gas delivered to all consumers. See Explanatory Note 5 for discussion of computations and revision policy.

Source:

- Form EIA-857 and Form EIA-759.

Table 27

Notes: Geographic coverage is the 50 States and the District of Columbia. Prices in this table represent the average price of natural gas by State at the point where the gas is transferred from a pipeline to a local distribution company within the State. See Explanatory

Note 5 for discussion of computations and revision policy.

Source:

- Form EIA-857.

Tables 28-31

Notes: Data for 1988 and 1989 are final. All other data are preliminary unless otherwise indicated. Geographic coverage is the 50 States and the District of Columbia. Average prices for gas delivered to commercial and industrial consumers for 1988 forward reflect onsystem sales prices only. See Explanatory Note 5 for discussion of computations and revision policy. See Table 33 for data on onsystem sales expressed as a percentage of both total commercial and total industrial deliveries.

Sources:

- Residential, Commercial, and Industrial Prices: Form EIA-857.
- Electric Utility Prices: Form FERC-423.

Table 32

Notes: Geographic coverage is the 50 States and the District of Columbia. Prices in this table represent the on-system average price of natural gas delivered to all consumers. See preceding note regarding break in average price series. See Explanatory Note 5 for discussion of computations and revision policy.

Sources:

- Form EIA-857 and Form FERC-423.

Table 33

Notes: Volumes of natural gas reported for the commercial and industrial sectors in this publication include data for both sales and deliveries for the account of others. This table shows the percent of the total State volume that represents natural gas sales to the commercial and industrial sectors. This information may be helpful in evaluating commercial and industrial price data which are based on sales data only. See Appendix C, Statistical Considerations, for a discussion of the computation of natural gas prices.

Source:

- Form EIA-857.

Appendix A

Explanatory Notes

Appendix A

Explanatory Notes

Note 1. Nonhydrocarbon Gases Removed

Annual Data

Data on nonhydrocarbon gases removed from marketed production--carbon dioxide, helium, hydrogen sulfide, and nitrogen--are reported by State agencies on the voluntary Form EIA-627. For 1987, of the 32 producing States, 22 reported data on nonhydrocarbon gases removed. The 22 States accounted for 57 percent of total 1988 gross withdrawals. Of the 22 States reporting nonhydrocarbon gases removed, 11 reported zero values: Alaska, Arizona, Arkansas, Illinois, Indiana, Maryland, Missouri, New York, Oregon, South Dakota, and Virginia. The nine States reporting volumes greater than zero are Alabama, California, Colorado, Florida, Mississippi, New Mexico, North Dakota, Texas, and Wyoming. Two States (Kentucky and Nebraska) reported quantities unknown but considered insignificant. In addition, Kansas, Louisiana, Montana, and Oklahoma, which together accounted for 38 percent of gross withdrawals, did not report nonhydrocarbon gases removed separately. However, their gross withdrawal data excluded all or most of the nonhydrocarbon gases removed on leases. No estimates are made for States not reporting nonhydrocarbon gases removed.

Preliminary Monthly Data

All monthly data are considered preliminary until after publication of the *Natural Gas Annual* for the year in which the report month falls. Three States report monthly data on nonhydrocarbon gases removed: Alabama, Texas, and Mississippi. Monthly data for California, Colorado, Florida, New Mexico, North Dakota, and Wyoming are estimated based on annual data reported on Form EIA-627. Nonhydrocarbon gases as an annual percentage of gross withdrawals reported by each of the six States is applied to each State's monthly gross withdrawal data to produce an estimate of nonhydrocarbon gases removed.

Final Monthly Data

Monthly data are revised after publication of the *Natural Gas Annual* by proportionally allocating the differences between annual data reported on the Form EIA-627 and the sum of monthly data (January-December).

Note 2. Supplemental Gaseous Fuels

Annual Data

Annual data are published from Form EIA-176.

Preliminary Monthly Data

All monthly data are considered preliminary until after the publication of the *Natural Gas Annual* for the year in which the report month falls. Monthly estimates are based on the annual ratio of supplemental gaseous fuels to the sum of dry gas production, net imports, and net withdrawals from storage. This ratio is applied to the monthly sum of these three elements to compute a monthly supplemental gaseous fuels figure.

Final Monthly Data

Monthly data are revised after publication of the *Natural Gas Annual*. Final monthly data are estimated based on the revised annual ratio of supplemental gaseous fuels to the sum of dry gas production, net imports, and net withdrawals from storage. This ratio is applied to the revised monthly sum of these three elements to compute final monthly data.

Note 3. Production

Annual Data

Natural gas production data are collected from 32 gas-producing States on Form EIA-627. The U.S. Minerals Management Service (MMS) also supplies data on the quantity and value of natural gas production on the Gulf of Mexico and Outer Continental Shelf. No adjustments are made to the data.

Estimated Monthly Data

State marketed production data for a particular month are estimated if data are unavailable at the time of publication. The data are estimated based on an average rate of change between the report month and the prior month over the previous 3 years. The rate-of-change percentage is applied to the data for the month prior to the report month to compute the estimate for the report month in the current year.

Estimates for total U.S. marketed production are based on the application of historical (latest 3 calendar years) month-to-month ratios of daily production rates to the latest preliminary reported monthly production data. State estimates for nonhydrocarbon gas removed, gas used for repressuring, and gas vented and flared are based on the ratio of the latest preliminary reported 3-month average of these categories to marketed production. These ratios are applied to the estimates of marketed production to calculate figures for nonhydrocarbon gases removed, gas used for repressuring, and gas vented and flared. Estimates for gross withdrawal data are the sum of the estimates calculated for nonhydrocarbon gases removed, gas used for repressuring, gas vented and flared, and marketed production.

Preliminary Monthly Data

All monthly data are considered preliminary until after publication of the *Natural Gas Annual* for the year in which the report month falls. Preliminary monthly data are published from reports from the Interstate Oil Compact Commission (IOCC) and the MMS. Volumetric data are converted, as necessary, to a standard 14.73 psia pressure base. Data are revised as Table 7 monthly data are updated.

Final Monthly Data

The differences between each State's annual production data reported on the annual Form EIA-627 and the sum of its monthly IOCC reports (January-December) are allocated proportionally to the monthly IOCC data.

Note 4. Imports and Exports

Annual Data and Final Monthly Data

Annual and final monthly data are published from the annual Form FPC-14, which requires data to be reported by month for the calendar year.

Preliminary Monthly Data - Imports

Preliminary monthly import data are based on data from the National Energy Board of Canada and responses to informal industry contacts and EIA estimates. Preliminary data are revised after the publication of the article "U.S. Imports and Exports of Natural Gas" for the calendar year.

Preliminary Monthly Data - Exports

Preliminary monthly export data are based on historical data from the Form FPC-14, informal industry contacts, and information gathered from natural gas industry trade publications. Preliminary monthly data are revised after publication of "U.S. Imports and Exports of Natural Gas" for the calendar year in which the report month falls.

Note 5. Consumption

All Annual Data

All consumption data except electric utility data are from the Form EIA-857 and Form EIA-176. No adjustments are made to the data. Electric utility data are reported on Form EIA-759.

Monthly Data

All monthly data are considered preliminary until after publication of the *Natural Gas Annual*.

Total Consumption

Preliminary Monthly Data

The most current month estimate is calculated based on the arithmetic average change from the previous month for the previous 3 years. The following month this estimate is revised by summing the components (pipeline fuel, lease and plant fuel, and deliveries to consumers).

Final Monthly Data

Monthly data are revised after publication of the *Natural Gas Annual*. Final monthly total consumption is obtained by summing its components.

Residential, Commercial, and Industrial Sector Consumption

Preliminary Monthly Data

Preliminary monthly residential, commercial, and industrial data are from Form EIA-857. See Appendix C, "Statistical Considerations," for a detailed explanation of sample selection and estimation procedures.

Price data are representative of prices for gas sold and delivered to residential, commercial, and industrial consumers. These prices do not reflect average prices of natural gas transported to consumers for the account of third parties or "spot-market" prices.

Final Monthly Data

Monthly data are revised after the publication of the *Natural Gas Annual*. Final monthly data are estimated by allocating annual consumption data from the Form EIA-176 to each month in proportion to monthly sales volumes reported in Form EIA-857.

Electric Utility Sector Consumption

All Monthly Data

Monthly data published are from Form EIA-759.

Pipeline Fuel Consumption

Preliminary Monthly Data

Preliminary data are estimated based on the pipeline fuel consumption as an annual percentage of total consumption from the previous year's Form EIA-176. This percentage is applied to each month's total consumption figure to compute the monthly estimate.

Final Monthly Data

Monthly data are revised after the publication of the *Natural Gas Annual*. Final monthly data are based on the revised annual ratio of pipeline fuel consumption

to total consumption from the Form EIA-176. This ratio is applied to each month's revised total consumption figure to compute final monthly pipeline fuel consumption estimates.

Lease and Plant Fuel Consumption

Preliminary Monthly Data

Preliminary monthly data are estimated based on lease and plant fuel consumption as an annual percentage of marketed production (excluding nonhydrocarbon gases). This percentage is applied to each month's marketed production figure to compute estimated lease and plant fuel consumption.

Final Monthly Data

Monthly data are revised after publication of the *Natural Gas Annual*. Final monthly data are based on a revised annual ratio of lease and plant fuel consumption to marketed production (excluding nonhydrocarbon gases) from Form EIA-176. This ratio is applied to each month's revised marketed production figure to compute final monthly lease and plant fuel consumption estimates.

Note 6. Extraction Loss

Annual Data

Extraction loss data are calculated from filings of Form EIA-64A, "Annual Report of the Origin of Natural Gas Liquids Production." For a fuller discussion, see the *Natural Gas Annual 1989*.

Preliminary Monthly Data

Preliminary data are estimated based on extraction loss as an annual percentage of marketed production. This percentage is applied to each month's marketed production to estimate monthly extraction loss.

Final Monthly Data

Monthly data are revised after the publication of the *Natural Gas Annual*. Final monthly data are estimated by allocating annual extraction loss data to each month based on its total natural gas disposition.

Note 7. Natural Gas Storage

Underground Natural Gas Storage

All monthly data concerning underground storage are published from the essentially identical forms, FERC-8 and EIA-191. Monthly data are revised after publication of "Underground Natural Gas Storage in the United States" for the heating year (April through March) in which the report month falls. In addition, injection and withdrawal data from the FERC-8/EIA-191 survey are adjusted to correspond to data from Form EIA-176 following publication of the *Natural Gas Annual*.

Underground and Liquefied Natural Gas Storage

The final monthly and annual storage and withdrawal data for 1983 through 1988 shown in Table 2 include both underground and liquefied natural gas (LNG) storage. Underground storage data are obtained from the FERC-8/EIA-191 and EIA-176 surveys in the manner described earlier. Annual data on LNG additions and withdrawals are taken from Form EIA-176. Monthly data are estimated by computing the ratio of each month's underground storage additions and withdrawals to annual underground storage additions and withdrawals and applying it to annual LNG data.

Note 8. Average Wellhead Value

Annual Data

Form EIA-627 requests State agencies to report the quantity and value of marketed production. When complete data are unavailable, the form instructs the State agency to report the available value and the quantity of marketed production associated with this value. A number of States reported volumes of production and associated values for other than marketed production. In addition, information for several States which were unable to provide data was obtained from Form EIA-176. It should be noted that Form EIA-176 reports a fraction of State production. The imputed value of marketed production in each State is calculated by dividing the State's reported value by its associated wellhead value. This unit price is then applied to the quantity of the State's marketed production to derive the imputed value of marketed production.

Preliminary Monthly Data

An estimate of the U.S. gas price is made each month based on monthly gas prices from four States: Mississippi, New Mexico, Oklahoma, and Texas.

Final Monthly Data

Preliminary monthly data are revised after the publication of the *Natural Gas Annual*. The weighted average 12-month prices for Texas, New Mexico, Oklahoma, and Mississippi are compared to the wellhead prices published for each of the four States in the *Natural Gas Annual*. The ratio derived from this comparison is then applied to each month's estimates for those States, and the monthly data are revised.

Note 9. Financial Data of Major Interstate Pipeline Companies

The prices in Table 4 for imports and purchases from producers, and industrial sales by major interstate pipeline companies, and all data in Tables 12 through 16 are derived from Form FERC-11. Form FERC-11 is filed monthly by the approximately 47 major interstate natural gas pipeline companies. A major pipeline company is defined as one "whose combined sales for resale, and gas transported interstate or stored for a fee exceeded 50 billion cubic feet in the previous calendar year."

Data reported by the major interstate pipeline companies on Form FERC-11 generally reflect the timing of data entry, revision, and/or reclassification of accounts in the companies' accounting records in accordance with the FERC regulations and regulatory filings. Certain data may also be estimated. Consequently, the data reported and shown in Tables 12 through 16 for any given month may include or reflect out-of-period dollar or volume adjustments, restatements or revisions, or account reclassifications. The dollar amounts reported as paid or received and volumes reported as delivered or received may also include amounts paid, delivered, or received under contractual provisions such as prepayment, take-or-pay, minimum take, or minimum bill provisions. Unless otherwise footnoted, the individual data items, computed averages, and aggregated totals shown include the effect of any and all such adjustments, revisions, estimates, reclassifications, and/or contractual provisions. Average prices are not reported on the Form 11. The averages shown are computed by dividing the total dollars reported for the particular item by the total volume reported for the same item.

Final Monthly Data

Final revisions for the prior year's data are made upon receipt of the December data for the current survey year.

Note 10. Natural Gas Policy Act of 1978

Tables 5 and 8 through 11, in this publication contain data reported by the natural gas industry under Title I of the Natural Gas Policy Act of 1978 (NGPA).

Title I of the NGPA - Wellhead Prices

The NGPA signed into law on November 9, 1978, mandated a new framework for the regulation of most facets of the natural gas industry. Ceiling prices were established for all production of natural gas. For gas produced from both new and old (pre-NGPA) reserves, ceiling prices depend on contract provisions and the characteristics of the well. If a well qualifies under more than one provision in Title I of the NGPA, the highest maximum ceiling price is applicable. Further, all price ceilings are adjusted by a monthly inflation adjustment.

Natural gas dedicated to interstate commerce on or before the November 9, 1978 enactment of the NGPA has as a maximum lawful price the "just and reasonable" rate as established by the Federal Energy Regulatory Commission under Section 104.

The maximum lawful price of natural gas under old intrastate contracts (Section 105) is based on its contract price on November 9, 1978, and is, in general, much higher than for comparable old interstate gas. Gas production under Sections 104, 105, and 106 (old contracts that have "rolled over") constitute what is referred to as "old gas."

Almost all development and extension wells begun after February 19, 1977, qualify as new onshore production (Section 103). In order to qualify for new gas status under Section 102, an onshore well started after February 19, 1977, must produce from a new reservoir or be at least 2.5 miles from, or 1,000 feet deeper than, a "marker well" (a well producing in commercial quantities any time between January 1, 1970, and April 20, 1977). Offshore gas qualifies for Section 102 if production is from new leases (entered into on or after April 20, 1977) or reservoirs "discovered" on or after July 27, 1976.

Production from wells qualifying under Section 107 is given special treatment as "high-cost gas" and is defined as gas produced:

- from wells started after February 19, 1977, and completed to produce from a depth greater than 15,000 feet
- from geopressured brine
- from coal seams
- from Devonian shale
- under conditions determined by the Federal Energy Regulatory Commission to present extraordinary risks or costs.

On November 1, 1979, gas from the first four categories was deregulated. On August 15, 1980, natural gas produced from tight formations (geologic formation where tight packing of the reservoir rock causes low production rates) was defined as high-cost gas with a ceiling price set at 200 percent of the Section 103 price.

Under the NGPA, producers applying for price classification under Sections 102, 103, 107, or 108 must file Form FERC-121, with the applicable State jurisdictional agency. The forms are then sent to FERC for review. The filings are grouped according to the month received by FERC. Not all submissions contain estimated annual volumes or contract prices. Annual volumes are often estimated by producers prior to actual operations or based on short periods of operation. Price data from Form FERC-121 are not included in this publication, since submission dates vary and prices may have changed subsequent to submission.

On January 1, 1985, the following categories of gas were deregulated pursuant to NGPA Section 121:

- Section 102(c) "new natural gas"
- Section 103(c) "new onshore production wells" which were not committed or dedicated to interstate commerce on April 20, 1977, and which produce gas from a completion location deeper than 5,000 feet.
- Sections 105 and 106(b) "intrastate gas under contracts" where the price paid on December 31, 1984, is higher than \$1.00 per million Btu, provided that such price over \$1.00 was not established by operation of an indefinite escalator clause.

On July 1, 1987, the following category of gas was deregulated pursuant to NGPA Section 121:

- Section 103(b)(2) "new onshore production wells" which were not committed or dedicated to interstate commerce on April 20, 1977, and which produce gas from a completion location less than 5,000 feet deep.

On July 26, 1989, the President signed legislation to remove all remaining natural gas wellhead price controls by 1993.

Note 11. Unaccounted For

The "unaccounted for" category represents the difference between the sum of the components of natural gas supply and the sum of the components of natural gas disposition. These differences may be due to quantities lost or to the effects of data reporting problems. Reporting problems include differences due to the net result of conversions of flow data metered at varying temperatures and pressure bases and converted to a standard temperature and pressure base; the effect of variations in company accounting and billing practices; differences between billing cycles and calendar periods; and imbalances resulting from the merger of data reporting systems, which vary in scope, format, definitions, and type of respondents.

Annual Data

Annual data are from the *Natural Gas Annual*. For an explanation of the methodology involved in calculating annual "unaccounted for" data, see the *Natural Gas Annual 1988*.

Preliminary Monthly Data

Preliminary monthly data in the "unaccounted for" category are calculated by subtracting additions to storage, exports, and consumption from total supply/disposition.

Final Monthly Data

Final monthly data in the "unaccounted for" category are calculated by subtracting storage additions, exports, and total consumption from total supply.

Note 12. Purchased Gas Adjustments

The Purchased Gas Adjustment filings for selected interstate pipeline companies have been aggregated to present volume and price data by NGPA category as shown in Table 5. These filings represent over 85 percent of the wellhead purchases subject to the NGPA and dedicated to the interstate market.

These filings were submitted every 6 months by most of the pipeline companies and once a year by the others. Beginning June 1, 1988, all pipelines will file projections quarterly in an abbreviated format, and one detailed filing per year. The projected volume and price data are used for each month for which the filing is effective. The filing dates, which are different for the different companies, are shown in Table A1.

Table A1. PGA Filing Schedule

Pipeline Company	Annual Filing Effective Date
Alabama-Tenn (b)	January
Algonquin Gas Trans (a)	March
ANR Pipeline	May
Arkla Gas (a,b)	April
Bayou Inter	August
Carnegie Nat Gas	September
Colorado Inter	October
Columbia (a,c)	May
Commercial	April
Consolidated (a)	September
E. Tenn Natural Gas (b)	January
Eastern Shore (c)	November
El Paso (b)	July
Equitrans Inc (a)	September
Florida (a,c)	May
Granite St Gas Trans(a,b)	January
Great Lakes Gas (a,c)	November
KN Energy (a)	December
Kentucky W. Va (a,c)	May
Lawrenceburg Gas	February
Mid-Louisiana Gas	September
Midwestern No. Div (b,c)	October
Midwestern So. Div	April
MIGC, Inc. (c)	May
MS. River Trans	June
National Fuel Supply(a,b)	January
Natural (a)	March
North Penn Gas (d)	March
Northern Natural (a,b)	January
Northwest Pipeline (a)	April
Panhandle Eastern (a)	March
Questar Pipeline Co	June
Ringwood Gathering	October
Sea Robin Pipeline (a)	January
South Georgia	July
Southern Natural	April
Tennessee Gas Pipeline(b)	January
Texas Eastern (a)	February
Texas Gas Pipeline	November
Texas Gas Trans (a,c)	February
Transcontinental (a)	August
Transwestern	July
Trunkline (a)	September
United (a)	October
Valero Interstate	June
Valley Gas	November
Western Gas Inter	August
Williams Nat Gas (a,c)	May
Williston Basin (a)	August

(a) Filed quarterly effective June 1, 1988.

(b) Filed quarterly effective July 1, 1988.

(c) Filed quarterly effective August 1, 1988.

Appendix B

Data Sources

Appendix B

Data Sources

The data in this publication are taken from survey reports authorized by the U.S. Department of Energy (DOE), Energy Information Administration (EIA) and by the Federal Energy Regulatory Commission (FERC). The EIA is the independent statistical and analytical agency within the DOE. The FERC is an independent regulatory commission within the DOE which has jurisdiction primarily in the regulation of electric utilities and the interstate natural gas industry. The EIA conducts and processes some of the surveys authorized by the FERC.

Data are collected from two annual surveys and five monthly surveys. Filings with the FERC also provide sources of data for this publication.

The annual reports are the Form EIA-176, a mandatory survey of all companies that deliver natural gas to consumers or that transport gas across State lines, and the Form EIA-627, a voluntary survey completed by energy or conservation agencies in the gas-producing States.

The monthly reports include three surveys of the natural gas industry and two surveys of the electric utility industry. The natural gas industry surveys are the Forms FERC-8 and EIA-191 filed by companies that operate underground storage facilities, the Form FERC-11 filed by major interstate natural gas pipeline companies, and the Form EIA-857 filed by a sample of companies that deliver natural gas to consumers. The electric utility industry surveys are the Form EIA-759 filed by all generating electric utilities and the Form FERC-423 filed by fossil fueled plants. Responses to these five monthly surveys are mandatory.

Data in this publication are also taken from two types of reports that are filed with the FERC under its regulatory functions. One filing is the Form FERC-121, filed by natural gas producers who are the first seller of gas that qualified for an incentive price. The other filing is the "Purchased Gas Adjustment," which is filed by interstate pipeline companies to allow them to recover changes in their purchase prices for natural gas above the cost of service reflected in their current filings.

A description of the survey respondents, reporting requirements, and processing and editing of the data is given on the following pages for each of the surveys. Also shown are copies of the EIA and FERC survey forms that are sources of data for this publication.

Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition"

Survey Design

The original version of Form EIA-176 was approved in 1980 with a mandatory response requirement. Prior to 1980, published data were based on voluntary responses to Bureau of Mines, U.S. Department of the Interior predecessor Forms BOM-6-1340-A and BOM-6-1341-A of the same title.

In 1982, the scope of the revised EIA-176 survey was expanded to collect the number of electric utility consumers in each State, volumes of gas transported to industrial and electric utility consumers, detailed information on volumes transported across State borders by the respondent for others and for the responding company, and detailed information on other disposition. These changes were incorporated to provide more complete survey information with a minimal change in respondent burden. The 1982 revision of the Form EIA-176 continues to be the basis of the current version of this form. On March 4, 1985, the Form EIA-176 was again approved by the Office of Management and Budget for use through report year 1986.

In 1988, the Form EIA-176 was revised to include data collection for deliveries of natural gas to commercial consumers for the account of others. The revised form was approved for use during report years 1987 through 1989. Response to the form continues to be mandatory.

A short version of Form EIA-176 was also approved in 1988. Companies engaged in purchase and delivery activities, but not in transportation and storage

activities, may file the short form. Usually, these companies are municipals handling small volumes of gas.

Survey Universe and Response Statistics

The Form EIA-176 is mailed to all identified interstate and intrastate natural gas pipeline companies, investor and municipally owned natural gas distributors, underground natural gas storage operators, synthetic natural gas plant operators, and field, well, or processing plant operators that deliver natural gas directly to consumers (including their own industrial facilities) and/or that transport gas to, across, or from a State border through field or gathering facilities.

Each company and its parent company or subsidiaries were required to file if they met the survey specifications. The original mailing in February 1990 for report year 1989 totaled 2,138 questionnaire packages. To this original mailing, 9 names were added and 2 were deleted as a result of the survey processing. Additions were the result of comparisons of the mailing list to other survey mailing lists. Deletions resulted from post office returns and determinations that companies were out of business, sold, or not within the scope of the survey. After all updates, the survey universe was 2,145 responses from approximately 1,800 companies.

Following the original mailing, second request mailing, and nonrespondents followup, 2,145 responses were entered into the data base, and there were no nonrespondents.

Summary of Form EIA-176 Data Reporting Requirements

The EIA-176 is a multiline schedule for reporting all supplies of natural gas and supplemental gaseous fuels and their disposition within the State indicated. Respondents file completed forms with EIA in Washington, DC. Data for the report year are due by April 1 of the following year. Extensions of the filing deadline for up to 45 days are granted to any respondent on request.

All natural gas and supplemental gaseous fuels volumes are reported on a physical custody basis in thousand cubic feet (Mcf), and dollar values are reported to the nearest whole dollar. All volumes are reported at 14.73 pounds per square inch absolute pressure (psia) and 60 degrees Fahrenheit.

Routine Form EIA-176 Edit Checks

A series of manual and computerized edit checks are used to screen the Form EIA-176. The edits performed include validity, arithmetic, and analytical checks.

The incoming forms are reviewed prior to keying. This prescan determines if the respondent identification (ID) number and the company name and address are correct, if the data on the form appear complete and reasonable, and if the certifying information is complete.

Manual checks on the data are also made. Each form is prescanned to determine that data were reported on the correct lines. The flow of gas through interstate pipelines is checked at the company level to ensure that each delivery from a State is matched with a corresponding receipt in an adjoining State.

After the data are keyed, computer edit procedures are performed. Edit programs verify the report year, State code, and arithmetic totals. Further tests are made to ensure that all necessary data elements are present and that the data are reasonable and internally consistent. The computerized edit system produces error listings with messages for each failed edit test. When problems occur, respondents are contacted by telephone and required to file amended forms with corrected data.

Other EIA Publications Referencing Form EIA-176

Data from Form EIA-176 are also published in the *Natural Gas Annual*.

Form EIA-176

U.S. DEPARTMENT OF ENERGY
ENERGY INFORMATION ADMINISTRATIONForm Approved
OMB No. 19050175
Expires: 12/31/90ANNUAL REPORT OF NATURAL AND SUPPLEMENTAL GAS SUPPLY AND DISPOSITION, 19

This report is mandatory under the Federal Energy Administration Act of 1974 (Public Law 93-275). Failure to report may result in criminal fines, civil penalties, and other sanctions as provided by law. See Section VI of the Instructions for confidentiality statement. Public reporting burden for this collection of information is estimated to average 19.8 hours per response, including the time of reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Energy Information Administration, Office of Statistical Standards, EI-73, Mail Station 1H-023 Forrestal, 1000 Independence Ave SW, Washington DC 20585; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington DC 20503.

EIA USE

Affix mailing label or enter mail address

Control (ID) No. _____

Name: _____

Operations in (State): _____

Street or Post Office Box: _____

City, State, Zip Code: _____

Attention: _____

EIA COPY. Tear out, complete, and return to:

Energy Information Administration
Mail Station: BG-094 FORSTL
U.S. Department of Energy
Washington, D.C. 20585
Attn: Form EIA-176

PART I: IDENTIFICATION

1.0 Control No.	2.0 Company Name:	3.0 Report State	EIA ☐	4.0 Resubmittal ☐	Date: _____
-----------------	-------------------	------------------	------------------------------	--	-------------

5.0 Company status, name, and/or address change or correction. (Check appropriate box.)

- a. ☐ Name and address on mailing label are correct.
 b. ☐ Change name, attention line, and/or mail address as indicated below.
 c. ☐ Company was sold to, or merged with, company entered below.
 d. ☐ Company went out of business. Customer accounts taken over by company entered below.
 e. ☐ Other changes, corrections, or comments: _____

5.1 Change mail address to:

- a. Company Name: _____
 b. Operations in (State): _____
 c. Street or Post Office Box: _____
 d. City, State, Zip Code: _____
 e. Attention: _____

6.0 Contact person:

Name: _____ Telephone Area Number: Code _____ No. _____ Ext. _____

PART II: CERTIFICATION AND DISCLOSURE STATEMENT

1.0 I certify that (Check appropriate box):

- a. ☐ The information provided herein and appended hereto is true and accurate or, where indicated on the form, reasonable estimates to the best of my knowledge.
 b. ☐ My company does not meet any of the criteria set forth in Section II, "Who must submit," of the instructions and is therefore not required to complete and submit a Form EIA-176 for the report State.
 c. Does the information supplied on this form contain trade secrets and/or confidential commercial information? ☐ Yes ☐ No

2.0 Name

3.0 Title

4.0 Signature

5.0 Date

Title 18, USC 1001, makes it a crime for any person knowingly and willingly to make to any agency or department of the United States any false, fictitious or fraudulent statements as to any matter within its jurisdiction.

Page 1

ANNUAL REPORT OF NATURAL AND SUPPLEMENTAL GAS SUPPLY AND DISPOSITION, 19

1.0 Control No.	2.0 Company Name	3.0 Report State	EIA 	4.0 Resubmittal Date:
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PART III: TYPE OF COMPANY AND GAS ACTIVITIES OPERATED IN THE REPORT STATE

<p>1.0 Type of Company (check one)</p> <p>a ☐ Investor owned distributor</p> <p>b ☐ Municipally owned distributor</p> <p>c ☐ Interstate pipeline</p> <p>d ☐ Intrastate pipeline</p> <p>e ☐ Storage operator</p> <p>f ☐ SNG plant operator</p> <p>g ☐ Integrated oil and gas</p> <p>h ☐ Producer</p> <p>i ☐ Gatherer</p> <p>j ☐ Processor</p> <p>k ☐ Other (specify) _____</p>	<p>2.0 Gas Activities Operated On-system Within the Report State (check all that apply)</p> <table style="width: 100%;"> <tr> <td style="width: 50%;">a ☐ Produced Natural Gas</td> <td style="width: 50%;">m ☐ Delivered for Resale</td> </tr> <tr> <td>b ☐ Gathered</td> <td>n ☐ Delivered directly to consumers</td> </tr> <tr> <td>c ☐ Processed</td> <td>☐ Other (specify) _____</td> </tr> <tr> <td>d ☐ Purchased</td> <td></td> </tr> <tr> <td>e ☐ Transported Interstate</td> <td></td> </tr> <tr> <td>f ☐ Transported Intrastate</td> <td></td> </tr> <tr> <td>g ☐ Stored Underground</td> <td></td> </tr> <tr> <td>h ☐ Stored LNG</td> <td></td> </tr> <tr> <td>i ☐ Injected Propane-air</td> <td></td> </tr> <tr> <td>j ☐ Produced SNG</td> <td></td> </tr> <tr> <td>k ☐ Imported</td> <td></td> </tr> <tr> <td>l ☐ Exported</td> <td></td> </tr> </table>	a ☐ Produced Natural Gas	m ☐ Delivered for Resale	b ☐ Gathered	n ☐ Delivered directly to consumers	c ☐ Processed	☐ Other (specify) _____	d ☐ Purchased		e ☐ Transported Interstate		f ☐ Transported Intrastate		g ☐ Stored Underground		h ☐ Stored LNG		i ☐ Injected Propane-air		j ☐ Produced SNG		k ☐ Imported		l ☐ Exported	
a ☐ Produced Natural Gas	m ☐ Delivered for Resale																								
b ☐ Gathered	n ☐ Delivered directly to consumers																								
c ☐ Processed	☐ Other (specify) _____																								
d ☐ Purchased																									
e ☐ Transported Interstate																									
f ☐ Transported Intrastate																									
g ☐ Stored Underground																									
h ☐ Stored LNG																									
i ☐ Injected Propane-air																									
j ☐ Produced SNG																									
k ☐ Imported																									
l ☐ Exported																									

PART IV: SUPPLY OF NATURAL AND SUPPLEMENTAL GAS RECEIVED WITHIN OR TRANSPORTED INTO REPORT STATE

	Volume (Mcf at 14.73 psia)	g or f	Cost (Dollars)	g or f
1.0 Company owned natural gas produced on-system				
2.0 On-system purchases received:				
2.1 From producers, gatherers, and/or gas processors				
2.2 From pipeline, distribution, and/or storage operators				
2.3 From synthetic natural gas plants or SNG pipeline				
2.4 At State line or U.S. border from:				
(Company)				
(State or Country)				
(Continue on Part VI, if more space is needed)				
3.0 Transportation, exchange, and/or storage receipts:				
3.1 Received within the report State				
3.2 Received at the State line or U.S. border from:				
(Company)				
(State or Country)				
(Continue on Part VI, if more space is needed)				
4.0 Transported into the report State from:				
(State or Country)				
(Continue on Part VI, if more space is needed)				
5.0 Withdrawn from company operated storage facilities:				
5.1 From underground storage				
5.2 From liquefied natural gas storage				
6.0 Synthetic natural gas produced				
7.0 Other sources of supply (specify):				
(Source and/or kind of fuel)				
(Continue on Part VI, if more space is needed)				
8.0 Total supply within report State				

ANNUAL REPORT OF NATURAL AND SUPPLEMENTAL GAS SUPPLY AND DISPOSITION, 19

1.0 Control No.	2.0 Company Name	3.0 Report State	EIA 	4.0 Resubmittal Date: 	
PART V: DISPOSITION OF NATURAL AND SUPPLEMENTAL GAS WITHIN OR TRANSPORTED OUT OF REPORT STATE					
		Volume (Mcf at 14.73 psia)	# or f	Cost or Revenue (Dollars)	# or f
1.0 Used in well, lease, and field operations					
2.0 Returned to oil and/or gas reservoirs					
3.0 Used, removed, or lost in gas processing or treating plants					
3.1 Company operated plants:					
3.1.1 Volume delivered to company operated plants for redelivery		Mcf			
3.1.2 Volume used for plant fuel					
3.1.3 Extraction loss (Estimated gas phase volume of liquids extracted)					
3.1.4 Volume of nonhydrocarbons removed (e.g., H ₂ S & CO ₂)					
3.1.5 Vented, flared, and/or lost					
3.2 Plants operated by others:					
3.2.1 Volume delivered to plants operated by others for redelivery		Mcf			
3.2.2 Total volume used, removed, vented, and/or flared					
4.0 Used in pipeline, storage, and/or distribution operations					
5.0 Added to company operated storage facilities:					
5.1 Injected into underground storage					
5.2 Added to liquefied natural gas storage					
6.0 Transportation, exchange, and/or storage deliveries:					
6.1 Delivered at point(s) within the report State					
6.2 Delivered at the State line or U.S. border to: (Company) _____ (State or Country) _____ (Continue on Part VI, if more space is needed)					
7.0 Transported out of the report State to: (State or Country) _____ (Continue on Part VI, if more space is needed)					
8.0 Delivered for sales for resale:					
8.1 Delivered within the report State					
8.2 Delivered at the State line or U.S. border to: (Company) _____ (State or Country) _____ (Continue on Part VI, if more space is needed)					
9.0 Delivered directly to consumers:					
(Type of transaction and consumer)		(Number of consumers)			
9.1 Residential sales					
9.2 Commercial sales					
9.3 Industrial sales					
9.4 Electric utility sales					
9.5 Transported to industrials					
9.6 Transported to electric utilities					
9.7 Transported to commercial consumers					
10.0 Average heat content of gas delivered directly to consumers (Btu per cubic foot)		Btu			
11.0 Other disposition (specify) _____ (Continue on Part VI, if more space is needed)					
12.0 Total disposition accounted for					
13.0 Unaccounted for gas supply (+) or disposition (-)					

ANNUAL REPORT OF NATURAL AND SUPPLEMENTAL GAS SUPPLY AND DISPOSITION, 19

1.0 Control No.	2.0 Company Name	3.0 Report State	EIA 	4.0 Resubmittal 	Date:
PART VI: CONTINUATION SHEET (To be used only if insufficient space was provided on Part IV and/or Part V)					Sheet of
Supply (Continued)		Volume (Mcf at 14.73 psia)	u or f	Cost or Revenue (Dollars)	u or f
PART IV, 2.4 On-system purchases received at State line or U.S. border from: (Continued)					
Company 					
State or Country 					
Company 					
State or Country 					
PART IV, 3.2 Transportation, exchange, and/or storage receipts at State line or U.S. border from: (Continued)					
Company 					
State or Country 					
Company 					
State or Country 					
PART IV, 4.0 Transported into report State from: (Continued)					
State or Country 					
State or Country 					
State or Country 					
State or Country 					
PART IV, 7.0 Other sources of supply (specify): (Continued) (Source and/or kind of fuel)					
					
					
					
Disposition (Continued)					
PART V, 6.2 Transportation, exchange, and/or storage deliveries at State line or U.S. border to: (Continued)					
Company 					
State or Country 					
Company 					
State or Country 					
PART V, 7.0 Transported out of report State to: (Continued)					
State or Country 					
State or Country 					
State or Country 					
State or Country 					
PART V, 8.2 Delivered for sale for resale at State line or U.S. border to: (Continued)					
Company 					
State or Country 					
Company 					
State or Country 					
PART V, 11.0 Other Disposition (specify): (Continued)					
					
					
					

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EIA	4.0 Resubmittal
	Date:

PART VII: FOOTNOTES

[illegible]

U.S. DEPARTMENT OF ENERGY
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Expires: 12/31/90

ANNUAL REPORT OF NATURAL AND SUPPLEMENTAL GAS SUPPLY AND DISPOSITION, 19 ☐ SHORT FORM

This report is mandatory under the Federal Energy Administration Act of 1974 (Public Law 93-278). Failure to report may result in criminal fines, civil penalties, and other sanctions as provided by law. See Section VI of the instructions for confidentiality statement. Public reporting burden for this collection of information is estimated to average 2 hours per response, including the time of reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Energy Information Administration, Office of Statistical Standards, EI-73, Mail Station 1H-023 Forrestal, 1000 Independence Ave SW, Washington DC 20585, and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington DC 20503.

EIA USE

Affix mailing label or enter mail address

Control (ID) No. _____

Name: _____
Operations in (State): _____
Street or Post Office Box: _____
City, State, Zip Code: _____
Attention: _____

EIA COPY. Tear out, complete, and return to:

Energy Information Administration
Mail Station: BG-094 FORSTL
U.S. Department of Energy
Washington, D.C. 20585
Attn: Form EIA-176

PART I: IDENTIFICATION

1.0 Control No.	2.0 Company Name:	3.0 Report State	EIA ☐	4.0 Resubmittal ☐ Date: _____
5.0 Company status, name, and/or address change or correction. (Check appropriate box.)				
a. ☐ Name and address on mailing label are correct.				
b. ☐ Change name, attention line, and/or mail address as indicated below.				
c. ☐ Company was sold to, or merged with, company entered below.				
d. ☐ Company went out of business. Customer accounts taken over by company entered below.				
e. ☐ Other changes, corrections, or comments: _____				
5.1 Change mail address to:				
a. Company Name: _____				
b. Operations in (State): _____				
c. Street or Post Office Box: _____				
d. City, State, Zip Code: _____				
e. Attention: _____				
6.0 Contact person:				
Name: _____		Telephone Area Number: _____	Code _____	No. _____ Ext. _____

PART II: CERTIFICATION AND DISCLOSURE STATEMENT

1.0 I certify that (Check appropriate box):	
a. ☐ The information provided herein and appended hereto is true and accurate or, where indicated on the form, reasonable estimates to the best of my knowledge.	
b. ☐ My company does not meet any of the criteria set forth in Section II, "Who must submit," of the instructions and is therefore not required to complete and submit a Form EIA 176 for the report State.	
c. Does the information supplied on this form contain trade secrets and/or confidential commercial information? ☐ Yes ☐ No	
2.0 Name	3.0 Title
4.0 Signature	5.0 Date

Title 18, USC 1001, makes it a crime for any person knowingly and willingly to make to any agency or department of the United States any false, fictitious or fraudulent statements as to any matter within its jurisdiction.

ANNUAL REPORT OF NATURAL AND SUPPLEMENTAL GAS SUPPLY AND DISPOSITION, 19

1.0 Control No.	2.0 Company Name:	3.0 Report State	EIA 	4.0 Resubmittal Date:
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PART III: TYPE OF COMPANY AND GAS ACTIVITIES OPERATED IN THE REPORT STATE

1.0 Type of Company (check one)

- a. ☐ Investor owned distributor
- b. ☐ Municipally owned distributor
- c. ☐ Interstate pipeline
- d. ☐ Intrastate pipeline
- e. ☐ Storage operator
- f. ☐ SNG plant operator
- g. ☐ Integrated oil and gas
- h. ☐ Producer
- i. ☐ Gatherer
- j. ☐ Processor
- k. ☐ Other (specify) _____

2.0 Gas Activities Operated On-system Within the Report State (check all that apply)

a. ☐ Produced Natural Gas	m. ☐ Delivered for Resale
b. ☐ Gathered	n. ☐ Delivered directly to consumers
c. ☐ Processed	o. ☐ Other (specify) _____
d. ☐ Purchased	
e. ☐ Transported Interstate	
f. ☐ Transported Intrastate	
g. ☐ Stored Underground	
h. ☐ Stored LNG	
i. ☐ Injected Propane-air	
j. ☐ Produced SNG	
k. ☐ Imported	
l. ☐ Exported	

PART IV: SUPPLY OF NATURAL AND SUPPLEMENTAL GAS RECEIVED WITHIN OR TRANSPORTED INTO REPORT STATE

2.0 On-system purchases received:	Volume (Mcf at 14.73 psia)	# or f	Cost (Dollars)	# or f
2.1 From producers, gatherers, and/or gas processors				
2.2 From pipeline, distribution, and/or storage operators				
2.3 From synthetic natural gas plants or SNG pipeline				
7.0 Other sources of supply (specify): (Source and/or kind of fuel)				
<div style="border: 1px solid black; width: 100px; height: 15px; margin-left: 100px;"></div>				
(Continue on Part VI, if more space is needed)				
8.0 Total Supply within report State				

PART V: DISPOSITION OF NATURAL AND SUPPLEMENTAL GAS WITHIN OR TRANSPORTED OUT OF REPORT STATE

4.0 Used in pipeline, storage and/or distribution operations	Volume (Mcf at 14.73 psia)	# or f	Cost or Revenue (Dollars)	# or f
9.0 Delivered directly to consumers:				
(Type of transaction and consumer) (Number of consumers)				
9.1 Residential sales				
9.2 Commercial sales				
9.3 Industrial sales				
9.4 Electric utility sales				
10.0 Average heat content of gas delivered directly to consumers (Btu per cubic foot) Btu				
11.0 Other disposition (specify)				
<div style="border: 1px solid black; width: 100px; height: 15px; margin-left: 100px;"></div>				
(Continue on Part VI, if more space is needed)				
12.0 Total disposition accounted for				
13.0 Unaccounted for gas supply (+) or disposition (-)				

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EIA-178 SHORT FORM

Page 3

Form EIA-627, "Annual Quantity and Value of Natural Gas Report"

Survey Design

Beginning with 1980, natural gas production data previously obtained on an informal basis from State conservation agencies were collected on Form EIA-627 (Figure D2). This form was designed by EIA to collect annual natural gas production data from the appropriate State agencies under a standard data reporting system within the limits imposed by the diversity of data collection systems of the various producing States. It was also designed to avoid duplication of effort in collecting production and value data by producing States and to avoid an unnecessary respondent burden on gas and oil well operators.

Survey Universe and Response Statistics

Form EIA-627 is mailed to energy or conservation agencies in all 32 natural gas producing States. All producing States participate voluntarily in the EIA-627 survey by filing the completed form or by responding to telephone contacts. For 1989, data on the quantities of nonhydrocarbon gases removed were reported by the appropriate agencies of 22 of the 32 States. These 22 States accounted for 57 percent of total 1989 gross withdrawals. In addition, gross withdrawal data from Kansas, Oklahoma, Louisiana, and Montana, which together accounted for 38 percent of total production, excluded all or most of the nonhydrocarbon gases removed on leases.

Summary of Form EIA-627 Data Reporting Requirements

Form EIA-627 is a multipart form that collects data on the production volume of natural gas (including gross withdrawals from both gas and oil wells); volumes returned to formation for repressuring, pressure maintenance, and cycling; quantities vented and flared; quantities of nonhydrocarbon gases removed; marketed production; the value of marketed production; and the number of producing gas wells.

Respondents are asked to report all volumes in million cubic feet at the State's standard pressure base and at 60 degrees Fahrenheit. All dollar values are reported in thousands.

Routine Form EIA-627 Edit Checks

Each filing of Form EIA-627 is manually checked for reasonableness and mathematical accuracy. Information on the forms is compared to totals of monthly data reported to the Interstate Oil Compact Commission (see Appendix B, "Data Sources"). Volumes are converted, as necessary, to a standard 14.73 psia pressure base. Reasonableness of data is assessed by comparing reported data to the previous year's data. State agencies are contacted by telephone to correct errors. Amended filings or resubmissions are not a requirement, since participation in the survey is voluntary.

Other EIA Publications Referencing Form EIA-627

Data from Form EIA-627 are also published in the EIA publication, *Natural Gas Annual*.

Interstate Oil Compact Commission Form "Monthly Report of Natural Gas Production"

Survey Design

The Interstate Oil Compact Commission (IOCC) is an organization comprised of 32 gas and oil producing States; the Governor of each State sits on the board of the IOCC. The IOCC form, "Monthly Report of Natural Gas Production," (Figure D3) is a voluntary report filed to the IOCC by most of the producing States. The IOCC forwards copies of these forms to the EIA. The purpose of the form is to standardize, to the extent possible, the reporting of natural gas data by the States.

Survey Universe and Response Statistics

Most of the 32 States report data to the IOCC. Two exceptions are Florida, which submits its own form, and California, whose data are taken from the Conservation Committee of California Oil Producers publication. Reports on State production are forwarded to the EIA by the IOCC approximately 80 days after the end of the report month.

ANNUAL QUANTITY AND VALUE OF NATURAL GAS REPORT

This report is collected under P.L. 93-275, Federal Energy Administration Act of 1974. Your voluntary cooperation and response are urgently needed to provide comprehensive, accurate and timely energy information. Because the data collected on EIA-627 are already aggregated by state, no confidentiality pledges are required.

PART I: IDENTIFICATION DATA	
1. Name of State Reporting	2. Calendar Year Being Reported <div style="border: 1px solid black; width: 40px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 40px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 40px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 40px; height: 20px; display: inline-block;"></div>
3. Name of Office/Agency	
4. Office Address (Street, City, State, Zip Code)	
5. Name of Contact Person	6. Phone Number of Contact Person <div style="border: 1px solid black; width: 40px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 40px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 40px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 40px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 40px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 40px; height: 20px; display: inline-block;"></div>
PART II: NATURAL GAS VOLUMES	
7. Enter the pressure base at which all volumes are reported (psia at 60°F)	
8. Gross Withdrawals	
REPORT ALL VOLUMES IN MILLIONS OF CUBIC FEET <i>Gross withdrawals should represent full well stream volumes including all natural gas plant liquids and nonhydrocarbon gases, but excluding lease condensate. Also, include amounts delivered as royalty payments or consumed in field operations. PROVIDE BEST ESTIMATE WHEN GAS IS NOT METERED</i>	
Item (a)	Volume (b)
(1) Are the gross withdrawal quantities available from your records consistent with the definition stated above? (i) ☐ Yes (ii) ☐ No . . . Explain the difference(s) in PART IV	
(2) Enter the volume of natural gas from gas and condensate wells	
(3) Enter the volume of natural gas from oil wells (casinghead)	
(4) Enter the total of 8(2) and 8(3)	
9. Enter quantity of natural gas returned to formation for repressuring, pressure maintenance and cycling	
10. Enter quantity of natural gas vented to air or burned in flares on the lease or at gas processing plants	
11. Enter quantity of nonhydrocarbon gases removed in treating or processing operations	
12. Enter marketed production (Enter the result of line 8(4) less lines 9, 10, and 11)	

ANNUAL QUANTITY AND VALUE OF NATURAL GAS REPORT

PART III: NATURAL GAS VALUES

13. Value of Marketed Production (Wellhead Sales Prices)

NOTE

The value reported on line 14 below should represent wellhead sales prices including charges for natural gas plant liquids subsequently removed from the gas and for gathering and compression, in addition to state production, severance, and/or similar taxes.

Complete the table below only if your method of reporting is inconsistent with the above note. For each item in column (a) of the table, enter an "X" in column (b) or (c) to indicate whether the item is included or excluded from the amount reported on line 14.

Line No.	Item (a)	Included (b)	Excluded (c)
(1)	Natural gas plant liquids		
(2)	Lease condensate		
(3)	Gathering and compression charges		
(4)	State production, severance, and/or similar taxes		

14. Enter the available value of marketed production

REPORT IN THOUSANDS OF DOLLARS

\$

15. Enter the quantity of marketed production associated with the value entered in 14.

REPORT IN MILLIONS OF CUBIC FEET

16. Enter the total number of producing gas wells in operation as of December 31 for the reporting year.

PART IV: COMMENTS

17. Enter any additional comments you may have, including identification and explanation of any data elements submitted based on definitions differing from those applications to data which you provided for the previous year. If more space is needed, please attach separate sheet(s) and put "sheet ____ of ____" in the upper right corner of those sheets.

INTERSTATE OIL COMPACT COMMISSION

HEADQUARTERS OFFICE: 901 N. E. 23RD STREET

P. O. BOX 53127

OKLAHOMA CITY, OKLAHOMA 73152

TELEPHONE: (405) 525-3556

Address Reply to Headquarters Office

Monthly Report of Natural Gas Production for the State of _____

Month of _____

Please return two copies of this report as soon as the figures are available after the close of the month for which data are reported. Reports should be addressed to the Interstate Oil Compact Commission, Box 53127, Oklahoma City, OK 73152.

Name of Reporting Agency _____

Address _____

Correspondent & Title _____

Please adjust all volumes to the same pressure base:

Report pressure base used (_____ lbs. absolute at 60° F.)

(Millions of Cubic Feet)

1. Gross gas production*
 - (a) Natural gas from gas and condensate wells _____
 - (b) Natural gas from oil wells (casinghead) _____

* Include amounts delivered as royalty payments or consumed in field operations. Please provide best estimates when gas is not metered.

2. Quantity of natural gas returned to formation for repressuring, pressure maintenance and cycling. _____

3. Quantity of natural gas vented to air or burned in flares on the lease or at gas processing plants. _____

MEMBER STATES: ALABAMA • ALASKA • ARIZONA • ARKANSAS • CALIFORNIA • COLORADO • FLORIDA • ILLINOIS • INDIANA • KANSAS • KENTUCKY
LOUISIANA • MARYLAND • MICHIGAN • MISSISSIPPI • MONTANA • NEBRASKA • NEVADA • NEW MEXICO • NEW YORK • NORTH DAKOTA • OHIO
OKLAHOMA • PENNSYLVANIA • SOUTH DAKOTA • TENNESSEE • TEXAS • UTAH • WEST VIRGINIA • WYOMING
ASSOCIATES: GEORGIA • IDAHO • NORTH CAROLINA • OREGON • SOUTH CAROLINA • WASHINGTON

Summary of Data Requirements

The IOCC form consists of three questions on one page, and requires volumetric information on gross production, quantities of gas vented or flared, and gas used for repressuring.

Routine Edit Checks

State data are checked for reasonableness and, in the event of problems, the appropriate State agency is called.

FERC-8/EIA-191 Surveys, "Underground Natural Gas Storage Report"

Survey Design

This survey was jointly implemented in 1975 by the Federal Power Commission (FPC), the Federal Energy Administration (FEA), and the Bureau of Mines (BOM) as the FPC-8/ FEA-G-318 system. The data received on both the FPC-8 and FEA-G-318 were computerized and aggregated by FPC.

At the beginning of 1979, the EIA assumed responsibility for the collection, processing, and publication of the data gathered in the survey. Form FEA-G-318 was renewed on July 1, 1979, as Form EIA-191 and the survey was retitled the FPC-8/EIA-191 Survey (Figure D4 shows the EIA-191). Form FPC-8 was renewed in December 1985 and the survey retitled FERC-8/EIA-191 Survey. The forms have not been merged because of FERC's stated desire to maintain the separate identity of the FERC-8 for administrative reasons.

Survey Universe and Response Statistics

Currently, 91 companies operate underground storage facilities. Of these companies, 40 are subject to the jurisdiction of FERC and are required to report data on Form FERC-8. The other 51 companies are required to file the essentially identical Form EIA-191. Both forms are filed with EIA and the data are merged in a unified data processing system.

The response rate as of the filing deadline is approximately 20 percent. Data from the remaining 80 percent of respondents are received in writing and/or by telephone within 3 to 4 days after the filing deadline. All

data supplied by telephone are subsequently filed in writing, generally within 15 days of the filing deadline. The final response rate is 100 percent.

Summary of FERC-8/EIA-191 Data Reporting Requirements

The virtually identical Forms FERC-8 and EIA-191 are multipart forms that report the quantities of gas in storage, injections and withdrawals, and the location (including State and county), and capacity of underground storage reservoirs. Information on co-owners of storage reservoirs is also required.

Collection of the survey is on a custody basis, although some respondent ownership data are required. Information requested must be provided within 10 days after the first day of each month. Twelve reports are required per calendar year. Respondents are required to indicate whether the data reported are actual or estimated. In the case of most estimated filings, the necessary revisions are reflected in subsequent scheduled filings or in a revised submission that provides actual data filed, although there is no specific requirement that the respondent do either. Actual data on natural gas injections and withdrawals from underground storage are based on metered quantities. Data on quantities of gas in storage and on storage capacity represent, in part, reservoir engineering evaluations. All volumes are reported at 14.73 psia and 60 degrees Fahrenheit.

Routine Forms FERC-8/EIA-191 Edit Checks

Data received on Form FERC-8 are merged with data received on Form EIA-191 in a unified data processing system. The survey's five principal data elements (total, base, and working gas in storage, injections, and withdrawals) are hand tabulated to provide preliminary totals.

Individual company reports are manually checked for reasonableness by comparing current reports with prior responses. Mathematical calculations are manually checked for accuracy and all data are checked for internal consistency. Respondents are required to refile reports containing any inconsistencies or errors.

Other EIA Publications Referencing Forms FERC-8/EIA-191

The EIA publication *Monthly Energy Review* contains data from the FERC-8/EIA-191 survey.

Form EIA-191

U.S. DEPARTMENT OF ENERGY
ENERGY INFORMATION ADMINISTRATION
Washington, D.C. 20585

Form Approved
OMB No. 19050175
Expires: 12/31/90

UNDERGROUND GAS STORAGE REPORT

This report is mandatory under Public Law 93-275. Failure to report may result in criminal fines, civil penalties, or other sanctions as provided by law. See Part F of the General Instructions for information concerning confidentiality.

I. RESPONDENT IDENTIFICATION DATA													
(1)	a. IRS EIN Number				b. DOE Code		c. Report Period Ending Date			d. ☐ Check if this is a revision to report previously submitted for the report period indicated.		e. ☐ Check box if respondent identification has changed. If name has changed, enter previous name:	
							Mo	Da	Yr				
(2)	Respondent's Name					Street Address					City, State and Zip Code		
(3)	Person to contact if questions arise concerning this report:					Title			City and State		Tel. No. (Include Area Code and Extension)		
II. GAS STORAGE DATA													
Line No.	BALANCES (All volumes in Mcf - 14.73 psia - 60°F)					INJECTIONS & WITHDRAWALS							
	Base Gas (a)	Working Gas (b)	Total Gas in Storage (c)	Natural Gas Included in Column (a) (d)	Time Period	Injections (e)	Withdrawals (f)						
	A. Respondent's Gas In Reservoirs Operated By Respondent ☐ Estimated ☐ Actual												
4	Balance Nov. 1				Nov. 1 To Date								
5	Report Period				Report Period								
	B. Gas Belonging To Others In Reservoirs Operated By Respondent												
6	Balance Nov. 1				Nov. 1 To Date								
7	Report Period				Report Period								
	C. Total Gas (Sum Of A And B)												
8	Balance Nov. 1				Nov. 1 To Date								
9	Report Period				Report Period								
	D. Respondent's Gas In Reservoirs Operated By Others												
10	Balance Nov. 1				Nov. 1 To Date								
11	Report Period				Report Period								
	E. Reservoirs In Development Stage Included In A And B Above												
12	Balance Nov. 1				Nov. 1 To Date								
13	Report Period				Report Period								
III. CERTIFICATION													
I certify that the information submitted on this form is the most accurate available at this time to the best of my knowledge													
Name (Type or Print)					Title			Signature		Date			
Title 18 USC 1001 makes it a crime for any person knowingly and willingly to make to any Agency or Department of the United States any false, fictitious or fraudulent statements as to any matter within its jurisdiction.													

Form FERC-11, "Natural Gas Pipeline Company Monthly Statement"

Survey Design

The collection of monthly data from major pipeline companies was begun in December 1964 by the Federal Power Commission (FPC). On October 1, 1977, FPC ceased to exist, and its functions and regulatory responsibilities were transferred to the Secretary of Energy and to the Federal Energy Regulatory Commission (FERC), an independent commission within the Department of Energy.

Information collected on Form FERC-11 (Figure D5) is used by FERC in carrying out its regulatory authority. Form FERC-11 is a monthly regulatory reporting form rather than one filed for statistical purposes.

Survey Universe and Response Statistics

Form FERC-11 is filed by major interstate natural gas pipeline companies whose combined sales for resale and gas transported interstate or stored for a fee exceeded 50 billion cubic feet in the previous calendar year. Approximately 40 pipeline companies report data on Form FERC-11. Natural gas pipeline companies are monitored annually to determine whether each has met the requirements for classification as a major pipeline.

Information is collected monthly by mail. Historically, the response rate has been 100 percent.

Summary of Form FERC-11 Data Requirements

Form FERC-11 requires information on revenues, expenses, and sales data, as well as volumetric data on purchases and production.

Submission of Form FERC-11 is required no later than 40 days after the close of the report month. The form requires reporting of both preliminary data for the report month and final data for the same month in the previous year. All data are reported on an equity basis.

Routine Form FERC-11 Edit Checks

Data are collected on standard forms that initially are manually reviewed and coded. Reviews are made to ensure consistency in reporting within and among utilities in the presentation of current and 12-month financial and sales data. Also, receipts and disposition of gas are analyzed between domestic and foreign producers. Data are later sent for keying, which begins the automated processing. Data are keyed to tape or disk for data editing. Edit reports are produced and are reviewed manually.

Other EIA Publications Referencing Form FERC-11

The Energy Information Administration publication *Monthly Energy Review* contains data from Form FERC-11.

FERC-121, "Application for Determination of the Maximum Lawful Price Under the Natural Gas Policy Act"

Survey Design

Form FERC-121 (Figure D6) was designed by the Federal Energy Regulatory Commission (FERC) to carry out its authority to regulate natural gas prices under the Natural Gas Policy Act. Form FERC-121 is initially filed with the agency having jurisdiction over the lease on the land where the well is drilled, for example, State agencies or the Department of Interior. The agencies determine whether or not to grant the application. The application, support documentation, and decision are forwarded to FERC, which has 45 days to review the decision.

Survey Universe and Response Statistics

Form FERC-121 must be filed by any natural gas producer who is the first seller of gas that qualifies for an incentive price. At the end of February 1988, FERC had 408,363 applications from 12,000 producers on file. Of the total applications, approximately 20 percent are reapplications requesting new price determinations on wells that have been producing under a previous application.

U.S. DEPARTMENT OF ENERGY
Federal Energy Regulatory Commission
Washington, D.C. 20426

Form Approved, OMB No. 1902-0032
(Expires 6-30-90)

FERC FORM NO. 11: NATURAL GAS PIPELINE COMPANY MONTHLY STATEMENT

This report is mandatory under the authority granted by Sections 10 and 16 and sanctions provided by Section 21(b) of the Natural Gas Act. Failure to report may result in criminal fines, civil penalties and other sanctions as provided by law.

Company Code Number

Month Being Reported
19__

PART I IDENTIFICATION

1. Name of Company

2. Address of Company

(1) Number and Street

(2) City

(3) State

(4) Zip Code

3. Person Authorized To Sign This Report

(1) Signature

(2) Phone Number (Including area code)

PART II REVENUE DATA

Line No. (a)	Item (b)	Revenues (In thousands of dollars)		Sales (In millions of cubic feet)		Foot-note (g)
		Current Year (c)	Previous Year (d)	Current Year (e)	Previous Year (f)	
4	Sales of Natural Gas					
5	Firm Industrial					
6	Off-peak Industrial					
7	Interruptible Industrial					
8	TOTAL INDUSTRIAL (Enter total of lines 5, 6 and 7)					
9	Other Ultimate Consumers					
10	TOTAL SALES TO ULTIMATE CONSUMERS (Enter total of lines 8 and 9)					
	Sales For Resale (483)					
11	Total Major Gas Pipelines					
12	Total to All Other Pipelines and Gas Utilities					
13	TOTAL SALES FOR RESALE (Enter total of lines 11 and 12)					
14	TOTAL SALES OF NATURAL GAS (Enter total of lines 10 and 13)					
15	Intracompany Transfers (485)					
16	Revenues From Transportation of Gas of Others (489)			(Enter volume of gas transported)		
17	Provision for Rate Refunds (496)					

FERC FORM NO. 11 (REVISED 12-84)

Page 1 of 4

Company Code Number	Month and Year Being Reported
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PART III: INCOME DATA

Line No. (a)	Item (b)	Current Year (In thousands of dollars) (c)	Previous Year (In thousands of dollars) (d)	Foot-note (e)
18	Gas Operating Revenues (400)			
19	Operation and Maintenance Expense (401, 402)			
20	Depreciation, Depletion and Amortization Expense (403-407)			
21	Taxes Other Than Income Taxes, Utility Operating Income (408.1)			
22	Total Gas Operating Expenses (401, 402, 403-407, 408.1, 409.1, 410.1, 411.1, 411.4)			
23	Net Gas Operating Revenues (Enter the result of lines 18 minus 22) (Including Plant Leased to Others)			
24	Total Gas Utility Operating Income (Refer to specific instruction for line 24.)			
25	Allowance For All Funds Used During Construction - Credit (419.1, 432)			
26	Total Income Before Interest Charges (427-432) and Extraordinary Items (409.3, 434, 435)			
27	Net Income (433) Before Extraordinary Items (434, 435), Income Taxes (409.1, 409.2, 409.3, 410.1, 410.2, 411.1, 411.2), and Investment Tax Credits (411.4, 411.5, 420)			
28	Net Income (Monthly Amount Related to 433.)			

PART IV: OTHER SELECTED DATA

Line No. (a)	Item (b)	Current Year (In thousands of dollars) (c)	Previous Year (In thousands of dollars) (d)	Foot-note (e)
29	Gas Utility Plant in Service (101)			
30	Accumulated Provision For Depreciation, Depletion, and Amortization of Gas Utility Plant (108, 111)			
31	Gas Plant Construction Work In Progress (107)			
32	Gross Additions To Construction Work In Progress (107) For This Month Being Reported			
33	Amount Collected Which Is Subject To Refund During This Month Being Reported			
34	Cumulative Amount Collected Since January 1 This Year Subject To Refund, At End Of This Month Being Reported			
35	Monthly Amount Subject To Refund Actually Refunded During This Month Being Reported			
36	Cumulative Amount Subject To Refund Refunded Since January 1 This Year, To The End Of This Month Being Reported			

Company Code Number		Month and Year Being Reported				
PART V OPERATION AND MAINTENANCE EXPENSE DATA						
Line No. (a)	Item (b)	Amount (In thousands of dollars)		Gas Volume (In millions of cubic feet)		Foot-note (g)
		Current Year (c)	Previous Year (d)	Current Year (e)	Previous Year (f)	
37	Manufactured Gas Production					
38	Liquefied Petroleum Gas					
39	Other Manufactured Gas					
40	TOTAL (Enter total of lines 38 and 39)					
41	Natural Gas Production					
42	Production and Gathering (750-769)					
43	Products Extraction (770-791)			(Enter thousands of gallons) 7		
44	Exploration and Development (795-798)					
	Purchased Natural Gas From					
45	Producers (800, 801-803)					
46	Intracompany Transfers (800 1)					
47	Imports					
48	Major Gas Pipelines (800, 801-803)					
49	Other Pipelines (800, 801-803)					
50	Other Gas Purchases (804, 805, 805 1 minus line 68 71)					
51	TOTAL (Enter total of lines 45 to 50)					
52	Natural Gas Produced					
53	Exchange Gas - In (806)					
54	Exchange Gas - Out (806)					
55	Purchased Gas Expenses (807 1-807 5)					
56	Gas Withdrawn From Underground Storage - Debit (808 1, 809 1)					
57	Gas Delivered To Underground Storage - Credit (808 2, 809 2)					
58	Gas Used For Compressor Station Fuel - Credit (810)					
59	Gas Used For Products Extraction - Credit (811)					
60	Gas Used For Other Utility Operations - Credit (812)					
61	Other Gas Supply Expenses (813)					
62	TOTAL GAS PRODUCTION (Enter total of lines 40, 42, 43, 44, 51, 53 to 61)					
63	Storage Expenses (814-843 9)					
64	LNG Terminating and Processing Expenses (844 1-847 8)					
65	Transmission Expenses (850-867)					
66	Distribution Expenses (870-894)					
67	Other Gas Purchased and Produced (Entries here should not be included under any other item in this part)					
68	Liquefied Natural Gas (804 1)					
69	Gasified Coal					
70	Synthetic Gas (Reformed (gasified) liquid hydrocarbons)					
71	TOTAL (Enter total of lines 68 to 70)					
72	All Other Operating and Maintenance Expenses (901-905, 907-916, 920-931, 935)					
73	TOTAL OPERATING AND MAINTENANCE EXPENSES (Enter total of lines 37, 63, 64, 65, 66, 71, 72)					

Summary of Form FERC-121 Data Reporting Requirements

Form FERC-121 requires information on the location and API number of the well, the name and address of the applicant, the type of determination being sought, the estimated annual production, and the contract price.

In addition to Form FERC-121, each application must be submitted with support documentation; for example, a well completion report for Section 103 filings, and geological information on surrounding wells for Section 102 applications.

Routine Form FERC-121 Edit Checks

Upon receipt at FERC, forms are checked manually for completeness. In addition, a computerized edit program flags incomplete or incorrect data.

Purchased Gas Adjustment Filings

The purpose of the PGA is to allow interstate natural gas pipeline companies to recover changes in their purchase prices for natural gas above the cost of service reflected in their current tariff filings. To allow recovery in a timely manner, the key data reported in the PGA are projections of purchases in the immediate future. In most cases, companies report both the NGPA Section number covering each contracted purchase and the date of the contract. These data make the PGA filings a unique source of information about the current state of the natural gas market.

Description of Data

Fifty-eight interstate pipeline companies submit PGA filings. Pipeline companies that transport only intrastate supplies of natural gas do not submit filings, nor do companies that have no purchased gas adjustment clauses in their tariffs.

Prior to July 1, 1984, filings for 20 of the largest interstate pipeline companies were included in Table 5. Together, they accounted for between 86 and 88 percent of all interstate wellhead purchases reported on Form FERC-2 for each year between 1976 and 1982. These

companies were also the subject of an informal 1979 FERC study of NGPA prices.

The portion of the PGA filing used was generally referred to as the supporting cost study. This study was not filed in a specific format or for specified time periods. As a result, the level of detail included varied from company to company, as did the exact time period covered. In most cases, however, companies filed price and volume data for their purchase contracts, along with the following:

- Contract date
- NGPA category
- Geographic source
- FERC account category.

For the 20 pipeline companies, the timing of PGA submissions varied in two ways:

- Seventeen companies reported data semi-annually, while three reported annually.
- The dates on which the filings became effective and the periods covered by the filings varied.

Because of the lack of a specified form for PGA filings, each submission was processed separately. Major adjustments required to transform the various submissions into a single data base are described in the section on data transformations.

Effective July 1, 1984, Form 542-PGA required that certain purchased gas cost information that is common to all PGA filings be set forth in a standardized format. Filings received after July 1, 1984, are now being included in Table 5 as they are computerized and become available. Eventually all pipeline companies that file the Form 542-PGA will be included in the table. It is expected that there will be approximately 54 companies included.

All PGA filings included projected purchases for a defined future period. Projected volumes and prices represent the company's best estimate of natural gas purchase volumes and costs during the subsequent effective tariff period. The figures are usually derived from those of similar past periods. Some PGA filings also include "actual" volumes and prices for some past period. The two sets of figures cannot, in general, be used to check each other because the actual figures can cover periods other than past projections. To the extent that the two sets of figures can be compared, they appear to approximate but not to match each other.

Form FERC-121

U.S. DEPARTMENT OF ENERGY
Federal Energy Regulatory Commission
Washington, D.C. 20426

Form Approved
OMB No. 19050176
Expires: 12/31/90

APPLICATION FOR DETERMINATION OF THE MAXIMUM LAWFUL
PRICE UNDER THE NATURAL GAS POLICY ACT (NGPA)
(Sections 102, 103, 107 and 108)

GENERAL INSTRUCTIONS

Complete this form if you are applying for price classification under sections 102, 103, 107 or 108 of the NGPA.

Complete each appropriate item on the reverse side of this page. The code numbers used in items 4 and 8 can be obtained from the Buyer/Seller Code Book. If there is more than one purchaser or contract, identify the additional information in the space below. Also enter any additional remarks in the space below. The data reported on this form are not considered to be confidential and will not be treated as such.

Submit the completed application to the appropriate Jurisdictional Agency as listed in title 18 of the CFR, part 274.501. If there are any questions, call (202) 357-8585.

SPECIFIC INSTRUCTIONS

Use the codes in the table below for type of determination in item 2.

Section of NGPA (a)	Category Code (b)	Description (c)
102	1	New OCS lease
102	2	New onshore well (2.5 mile test)
102	3	New onshore well (1000 feet deeper test)
102	4	New onshore reservoir
102	5	New reservoir on old OCS lease
103	-	New onshore production well
107	0	Deep (more than 15,000 feet) high-cost gas
107	1	Gas produced from geopressured brine
107	2	Gas produced from coal seams
107	3	Gas produced from Devonian shale
107	5	Production enhancement gas
107	6	New tight formation gas
107	7	Recompletion tight formation gas
108	0	Stripper well
108	1	Stripper well -- seasonally affected
108	2	Stripper well -- enhanced recovery
108	3	Stripper well -- temporary pressure buildup
108	4	Stripper well -- protest procedure

Enter the appropriate information regarding other Purchasers/Contracts.

Line No	Contract Date (Mo, Da, Yr) (a)	Purchaser (b)	Buyer Code (c)
1			
2			
3			
4			
5			
6			

Remarks:

FERC-121 (8-82)

**APPLICATION FOR DETERMINATION OF THE MAXIMUM LAWFUL
PRICE UNDER THE NATURAL GAS POLICY ACT (NGPA)**

1.0 API well number. (If not assigned, leave blank. 14 digits.)	_____														
2.0 Type of determination being sought (Use the codes found on the front of this form.)	<div style="display: flex; justify-content: space-around;"> Section of NGPA Category Code </div>														
3.0 Depth of the deepest completion location. (Only needed if sections 103 or 107 in 2.0 above.)	_____ feet														
4.0 Name, address and code number of applicant. (35 letters per line maximum. If code number not available, leave blank.)	<div style="display: flex; justify-content: space-between;"> <div style="width: 80%;"> Name _____ Street _____ City _____ </div> <div style="width: 15%;"> Seller Code _____ State _____ Zip Code _____ </div> </div>														
5.0 Location of this well. (Complete (a) or (b).) (a) For onshore wells (35 letters maximum for field name.)	Field Name _____ County _____ State _____														
(b) For OCS wells	Area Name _____ Block Number _____ <div style="text-align: center; margin-top: 10px;"> Date of Lease <table style="margin: auto;"> <tr> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> </tr> <tr> <td align="center">Mo.</td> <td align="center">Day</td> <td align="center">Yr.</td> <td colspan="2"></td> </tr> </table> </div> OCS Lease Number _____										Mo.	Day	Yr.		
Mo.	Day	Yr.													
(c) Name and identification number of this well. (35 letters and digits maximum.)	_____														
(d) If code 4 or 5 in 2.0 above, name of the reservoir. (35 letters maximum.)	_____														
6.0 (a) Name and code number of the purchaser. (35 letters and digits maximum. If code number not available, leave blank.)	Name _____ Buyer Code _____														
(b) Date of the contract	<table style="margin: auto;"> <tr> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> </tr> <tr> <td align="center">Mo.</td> <td align="center">Day</td> <td align="center">Yr.</td> <td colspan="2"></td> </tr> </table>										Mo.	Day	Yr.		
Mo.	Day	Yr.													
(c) Estimated total annual production from the well	_____ Million Cubic Feet														
		(a) Base Price	(b) Tax	(c) All Other Prices [Indicate (+) or (-).]	(d) Total of (a), (b) and (c)										
7.0 Contract price. (As of filing date. Complete to 3 decimal places.)	S/MMBTU	_____	_____	_____	_____										
8.0 Maximum lawful rate. (As of filing date. Complete to 3 decimal places.)	S/MMBTU	_____	_____	_____	_____										
9.0 Person responsible for this application	<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">Agency Use Only</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">Date Received by Juris. Agency</div> <div style="border: 1px solid black; padding: 2px;">Date Received by FERC</div> </div> <div style="width: 65%;"> Name _____ Title _____ Signature _____ Date Application is Completed _____ Phone Number _____ </div> </div>														

FERC-121 (8-82)

Only projected figures for volumes and costs have been used. They are considered more generally useful and accurate than the reports of actual production for the following reasons:

- Companies file actual reports largely as a convenience to themselves. The data are not generally subjected to the same scrutiny as projections. Moreover, pipeline companies have considerable latitude as to which time they use in reporting actual figures.
- The costs reported as actual costs are costs derived from previous projections.
- Not all companies filed actual totals.
- As a general rule, neither projected nor actual volumes are audited. In the absence of such an audit, it is thought that actual volumes may be as subject to error as the projections.

It appears that PGA data have become increasingly accurate and complete with each submission. The number of cases requiring imputation for missing data (for example, NGPA Section number) has been reduced, as has the incidence of obviously incorrect data. Moreover, company submissions have become increasingly consistent with each other.

Purchased volumes and prices were checked against control totals taken from the hard copy of the submission on file with the FERC. The data comprising inconsistent totals were compared directly with the filing. Discrepancies were forwarded to the FERC for consideration. Errors discovered in this way were corrected, and the process was repeated until agreement was reached.

PGA data (through mid-1982) were also compared with data from Form FERC-2 to ensure that the totals derived from the two sources were compatible. The two filings cannot be compared directly because the PGA is not usually filed for calendar years.

The results of this comparison suggest that PGA filings approximate the best currently available source for aggregate information, but do not match it very closely. Volumes can differ by as much as 20 percent (though many are very close). There is no consistent pattern of volume differences. In the case of prices, there appears to be two patterns: either the two reports agree quite closely, or else the PGA projects prices 10 to 20 percent lower than those reported on Form FERC-2. The reason for such consistent discrepancy is at present unknown. In general, differences between PGA filings and Form 2 information may be due to a variety of causes, including:

- PGA filings are projections that may not always reflect future behavior accurately.
- Companies may use different methods to obtain PGA projections.

- There may be systematic differences in reporting practices between the two reports for some or all companies.

The PGA filings contain a rough indication of the error due to using projections in the form of the surcharge adjustment. The surcharge adjustment is used to recover purchase costs beyond those expected or to repay costs below those expected. The surcharge adjustment cannot be applied directly to PGA filings because:

- It contains only a summary figure for all differences from projected levels. This includes costs of pipeline purchases and imports.
- No volumes are directly reported. A cost per thousand cubic feet figure is reported but is based on projected future purchases only.
- It covers time periods different from previous projections. Normally, the surcharge adjustment covers a period from 9 to 3 months prior to the beginning of a new projection period.

The PGA filings remain the only source of information for analyzing gas categories, however, and the data problems do not appear to be crippling for purposes of drawing general conclusions.

No further validation of the PGA data has been performed because of the difficulties involved in such a process. There are some procedural issues that may affect the accuracy of filings, however. PGA filings are not intended to serve as data collection instruments per se but as a regulatory system for natural gas. Questions concerning the data are usually aired during FERC rate hearings, where the primary concern is resolution of legal issues. No attempt is made to revise PGA submissions to reflect the results of such questioning. In addition, most PGA filings are protested and the resulting tariffs are suspended for a time. In cases of successful protests, a new PGA must be filed. The precise status of data on a given current submission becomes difficult to judge.

Interpretation of Data. The projected purchase cost for each contract volume represents the pipeline company's estimates of the purchase costs it will incur during the coverage period of the filing. These costs include:

- The average price to be paid to the producer
- Gathering charges
- Transportation charges
- Taxes.

Royalty payments and payments for gas not received under take-or-pay clauses are among the costs not included.

Projected volumes reported in the PGA filings are generally based on actual volumes for a similar

preceding period (though they are typically adjusted to fit current market conditions). A number of projected gas purchases reported in the PGA filings have not been considered because they would have resulted in significant double counting. They are:

- Purchases from other pipelines
- Imports
- Exchange gas.

In addition, cost-of-service gas (a company's own production from specific leaseholds of pre-NGPA gas) is not considered because it is not covered by the NGPA and because most companies do not include it in their PGA filings.

The table included in this publication is therefore designed to cover a specific part of the overall national gas market: wellhead purchases that are both subject to the NGPA and dedicated to the interstate market.

Imputation of NGPA Category Data. NGPA categories were not included in part or all of some early PGA filings. To make filings comparable, each contract that did not have a reported NGPA section was assigned one based on cost. The same procedure was used for reported NGPA sections when the prices were obviously inappropriate. Less than 10 percent of the volume was subjected to this procedure in any given month. Since the inception of the Form 542-PGA, NGPA categories are included in all PGA filings.

Miscellaneous Adjustments. Slight reporting discrepancies among the companies required further minor adjustments to the data base. The adjustments are as follows:

- All volumetric projections have been converted to monthly rates.
- In their PGA filing, many companies, in whole or in part, reported their gas volumes at a pressure base other than 14.73 psia. Volumes provided at the other pressure bases (14.65 and 15.025) were adjusted to the 14.73 psia level. The factors used in the adjustment were:
 - Volume (at 14.65) $\times$ 0.9946 = Volume (at 14.73)
 - Volume (at 15.025) $\times$ 1.02 = Volume (at 14.73).
- Volumetric data are presented in cubic feet, although several companies reported in therms for their hardcopy filings. Volumes in cubic feet are available on tape.
- All prices are reported in cents (or dollars and cents) per thousand cubic feet.

In filings received since July 1, 1984, all companies are reporting volumes in million Btu making pressure base adjustments to volumes unnecessary.

Form FPC-14, "Annual Report for Importers and Exporters of Natural Gas"

Survey Design

The collection of data covering natural gas imports and exports was begun in 1973 by the Federal Power Commission (FPC). On October 1977, FPC ceased to exist and its data collection functions were transferred to the Federal Energy Regulatory Commission (FERC) within the Department of Energy (DOE). Since 1979, the Energy Information Administration (EIA) has had the responsibility for collecting Form FPC-14.

Survey Universe and Response Statistics

The Form FPC-14 is filed annually by each organization or individual having authorization to import and export natural gas regardless of whether any imports or exports took place during the reporting year. The authorization to import and export was originally granted by the FPC. In 1977, it was transferred to the Economic Regulatory Commission (ERA) and it now resides with the Office of Fuels Programs in the Office of Fossil Energy. In 1989, 205 companies met the reporting criteria, only 76 reported import or export of natural gas.

The respondent list for the Form FPC-14 is updated at the beginning of each year. All new respondents with authorization to import or export natural gas are added to the list and respondents whose licenses have expired are deleted. Five copies of Form FPC-14 are mailed in February to all companies authorized to import or export natural gas. The completed original and three copies are to be filed with the EIA on or before March 31 of each year, for the preceding calendar year. Companies that have not filed by March 31 are contacted.

Routine Form FPC-14 Edit Checks

Respondents are required to certify the accuracy of all data reported. The survey forms are checked at the EIA for reasonableness and accuracy. If errors are found the companies are required to file corrected data. The data are processed at the EIA and published as reported. All natural gas volumes in this report are expressed at a pressure base of 14.73 pounds per square inch absolute and temperature of 60 degrees Fahrenheit, except as noted. All prices are in U.S. dollars and import/export prices are those paid at the U.S. border (except exports of LNG are those prices paid at the point of sale and delivery in Yokohama, Japan).

"Quarterly Natural Gas Import and Export Sales and Price Report"

This report is prepared quarterly by the Office of Fuels Programs in the Office of Fossil Energy based on information submitted by all firms having authorization to import or export natural gas. All data on this report is considered preliminary until the annual data on the Form FPC-14 is final, usually in September of the following year.

Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers"

Survey Design

The original Form EIA-857 was approved for use in December 1984. Response to the Form EIA-857 is mandatory on a monthly basis. Data collected on the Form EIA-857 cover the 50 States and the District of Columbia and include both price and volume data.

Survey Universe and Response Statistics

A sample of 408 natural gas companies including interstate pipelines, intrastate pipelines, and local distribution companies report to the survey. The sample was selected independently for each of the 50 States and the District of Columbia. Each selected company is required to complete and file the Form EIA-857 on a monthly basis. Initial response statistics on a monthly basis are as follows: responses received by due date,

approximately 90 percent, and responses received after follow-up, 100 percent.

The Form EIA-857 is a monthly sample survey of natural gas marketers, including interstate pipelines, intrastate pipelines, and local distribution companies. It provides data that are used to estimate monthly sales of natural gas (volume and price) by State and monthly deliveries of natural gas on behalf of others (volume) by State to three consumer sectors - residential, commercial, and industrial. (Monthly deliveries and prices of natural gas to electric utilities are reported on the Form FERC-423, "Monthly Report of Cost and Quality of Fuels for Electric Plants," and the Form EIA-759, "Monthly Power Plant Report.")

See Appendix C for a discussion of the sample design and estimation procedures.

Summary of Form EIA-857 Data Reporting Requirements

Data collected monthly on the Form EIA-857 on a State level include the volume and cost of purchased gas, the volume and cost of natural gas consumed by sector (residential, commercial, and industrial), and the average heat content of all gas consumed. Respondents file completed forms with EIA in Washington, DC on or before the 30th day after the end of the report month.

All natural gas volumes are reported in thousand cubic feet at 14.73 psia at 60 degrees Fahrenheit and dollar values are reported to the nearest whole dollar.

Routine Form EIA-857 Edit Checks

A series of manual and computerized edit checks are used to screen the Form EIA-857. The edits performed include validity and analytical checks.

Form EIA-857
U.S. Department of Energy
Energy Information Administration

Form Approved
OMB No. 19050175
Expires: 12/31/90

MONTHLY REPORT OF NATURAL GAS PURCHASES AND DELIVERIES TO CONSUMERS

This report is mandatory under the Federal Energy Administration Act of 1974 (Public Law 93-275). Failure to report may result in criminal fines, civil penalties, and other sanctions as provided by law. See section VI of the instructions for the confidentiality statement. Public reporting burden for this collection of information is estimated to average 4 hours per response, including time of reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden or any other aspect of this collection of information, including suggestions for reducing this burden, to the Energy Information Administration, Office of Statistical Standards E1-73, Mail Station 111-023 Forrestal, 1000 Independence Ave. SW, Washington, DC 20585; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

Affix Identification Label or Enter:

01 Control No.:

02 Company Name:

State of Operation:

Return completed forms to:

Energy Information Administration

Mail Station: HC-094

U.S. Department of Energy

Washington, D.C. 20585

Attn: Form EIA-857

		Report Period Mo	Yr	Revised Report Indicator
		03		04
		Volume (Mcf at 14.73 psia)		Cost or Revenue (Dollars)
Purchased Gas Received in Distribution Service Area	05			
Delivered to Residential Consumers (Onsystem Sales)	06			
Delivered to Commercial Consumers (Onsystem Sales)	07			
Delivered to Industrial Consumers (Onsystem Sales)	08			
Transported to Commercial Consumers	09			
Transported to Industrial Consumers	10			
Average Btu Content of Gas Delivered to Consumers				(Btu/cu. ft.)
				11

SECTION II -- FOOTNOTES

SECTION III -- CONTACT PERSON AND CERTIFICATION

Contact Person:		(Area Code--Number--Extension)
12 Name:		13 Telephone
Certification: I certify that the information provided hereon is true and accurate or, where indicated on the form, reasonable estimates to the best of my knowledge.		
Name:		Title:
14		15
Signature:		Date

EIA-857
(Revised 1988)

**ANNUAL REPORT FOR
IMPORTERS AND EXPORTERS OF NATURAL GAS**
GENERAL INSTRUCTIONS

Form Approved
OMB Number 1902-0027
Expiration Date 03/31/89

1. The completed original and 3 conformed copies of this report shall be filed with the Federal Energy Regulatory Commission, Washington, D.C. 20426 on or before March 31, of each year, for the preceding calendar year.
2. The report will be filed by each person having authorization to import or export natural gas.
3. Use a separate schedule for each authorization. If one authorization involves more than one import or export point, a separate schedule must be filed for each point.
4. All volumes reported in Mcf will be at 14.73 Psia and 60°F.
5. Where transactions are based primarily on volumetric measurement, weighted average Btu data should be used to estimate total monthly Btu's.
6. Amounts paid or received and cost or receipts shall be reported in U.S. Dollars.
7. DEFINITIONS: — Transporter—the party or parties, other than buyer or seller, owning the facilities by which gas or LNG is physically transferred between buyer and seller; Costs—all expenses incurred by importer up to the U.S. point of delivery for the reported quantity imported; Receipts—all revenues received by exporter for the reported quantity exported.

Name of Respondent	Address of Respondent	Year Ending December 31, _____
--------------------	-----------------------	-----------------------------------

SCHEDULE I — GASEOUS PHASE NATURAL GAS

NOTE: If authorization granted is increased, decreased, or extended under a succession of docket numbers and all related gas moved through the same border facilities and authorized expansions thereof, moved to or from the same purchaser or supplier, and was subject to the same rate, such transaction shall be combined for reporting purposes and appropriate Docket Numbers shown.

Report for (Check one) ☐ Import ☐ Export	Foreign Seller or Foreign Buyer
---	---------------------------------

U.S. Entry or Exit Point	Transporter	Docket Number(s)
--------------------------	-------------	------------------

Line No.	Month (a)	QUANTITY RECEIVED OR SHIPPED AT THE ENTRY OR EXIT POINT				Amount Paid or Received at Entry or Exit Point (f)
		Peak Day		Mcf (d)	MMBtu (e)	
		Date (b)	Mcf (c)			
1	January					
2	February					
3	March					
4	April					
5	May					
6	June					
7	July					
8	August					
9	September					
10	October					
11	November					
12	December					
13	TOTAL					

ANNUAL WEIGHTED AVERAGE IN Btu's PER CUBIC FOOT
(Line 13; (Column (e) ÷ (Column (d) X 1000)) _____

ANNUAL WEIGHTED AVERAGE PRICE IN CENTS PER MMBtu
(Line 13; Column (f) ÷ Column (e) X 100) _____

FPC-14 (8-82)

Appendix C

Statistical Considerations

Appendix C

Statistical Considerations

The monthly sales (volume and price) and monthly deliveries (volume) of natural gas by State presented in this report are estimated from data reported on the Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers." (See Appendix B for a description of this Form.) These estimations must be made from the reported data since the Form EIA-857 is a sample survey. A description of the sample design and the estimation procedures is given below.

Sample Design

The Form EIA-857 is a monthly sample survey of natural gas marketers including interstate pipeline companies, intrastate pipeline companies, producers, and local distribution companies. It provides data that are used to estimate monthly onsystem sales of natural gas (volume and price) by State and monthly deliveries of natural gas (volume) by State to three consumer sectors--residential, commercial, and industrial. Monthly deliveries and prices of natural gas to electric utilities are reported on the Form EIA-759, "Monthly Power Plant Report," and the Form FERC-423, "Monthly Report of Costs and Quality of Fuels for Electric Plants."

Sample Universe. The sample currently in use was selected from a universe of 1,746 companies. These companies were respondents to the Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition," for reporting year 1988. (See Appendix B for a description of the Form EIA-176.)

Sampling Plan. The goal was a sample that would provide estimates of monthly natural gas consumption by the three consuming sectors within each State and the District of Columbia. A stratified sample using a single stage and systematic selection with probability proportional to size was designed. The measure of size was the volume of gas sales and deliveries by the company during 1988. There were two strata--companies selected with certainty and companies selected under the systematic probability proportional to size design.

Initial calculations showed that a 25 percent sample of companies would yield reasonably accurate estimates. The sample was selected independently in each State, resulting in a national total of 408 companies.

Certainty Stratum. Since estimates were needed for each of the 50 States and the District of Columbia, the strata were established independently within each State. In 16 States and the District of Columbia where sampling was not feasible due to small numbers of companies and/or small volumes of gas sales, all companies were selected. The 16 States were: Alaska, Connecticut, Delaware, Hawaii, Idaho, Maine, North Dakota, New Hampshire, New Jersey, Nevada, Oregon, Rhode Island, South Dakota, Utah, Vermont, and Washington.

For each of the remaining States, the total volumes of industrial sales and deliveries and of the combined residential/commercial sales were determined. Companies with gas sales/deliveries to the industrial sector or to the combined residential/commercial sector above a certain level were selected with certainty. This procedure ensured that large companies would be included since a few large companies often account for most of the volume of gas sales within a State. The formula for determining certainty was applied independently in the two consumer sectors--the industrial and the combined residential/commercial. These selected companies, together with the companies in the jurisdictions discussed where sampling was not feasible, formed the certainty stratum.

All companies with gas sales/deliveries in sector j greater than the cut-off value (C_j) were included in the certainty stratum. The formula for C_j was:

$$C_j = \frac{X_j}{2n} \quad (1)$$

where:

C_j = cutoff value for consumer sector j ,

n = target sample size to be selected for the State, 25 percent of the companies in the State,

X_{ij} = the annual volume of gas sales/deliveries by company i to customers in consumer sector j .

$X_{i.}$ = the sum within State of annual gas volumes for company i .

$X_{.j}$ = the sum within State of annual gas volumes in consumer sector j .

$X_{..}$ = the sum within State of annual gas volumes in all consumer sectors.

Noncertainty Stratum. All other companies formed the noncertainty stratum. They were systematically sampled with probability proportional to size. The measure of size for each company was the total volume of gas sales to all consumer sectors ($X_{i.}$). The number of companies to be selected from the noncertainty stratum was calculated for each State, with a minimum of 2.

The formula for selecting the number of noncertainty stratum companies was:

$$m = n \frac{X_2}{X_{..}} \quad (2)$$

where:

m = the sample size for the noncertainty stratum within a State,

X_2 = the sum within State of the $X_{i.}$ for all companies in the noncertainty stratum.

Companies were listed in ascending order according to their measure of size and then a cumulative measure of size in the stratum was calculated for each company. The cumulative measure of size was the sum of the measures of size for that company and all preceding companies on the list. An interval (I) for selecting the companies systematically was calculated ($I = \frac{X_2}{m}$). A uniform random number R was selected between zero and I . The first sampled company was the first company on the list to have a cumulative measure of size greater than R . The second company selected was the first company on the list to have a cumulative measure of size greater than $R + I$. $R + I$ was increased again by I to determine the third company to be selected. This procedure was repeated until the entire sample was drawn.

Subgroups. In 12 States, the noncertainty stratum was divided into subgroups to ensure that gas in each consumer sector could be estimated. The systematic sample with probability proportional to size design described above was applied independently in each subgroup. The methods for determining the subgroup sample size and calculating the subgroup interval for sample selection were the same as the methods described above for the noncertainty stratum, except that X_2 was

the sum within State of the $X_{i.}$ for only those companies in the subgroup.

These subgroups were defined only for the purpose of sample selection. They are:

West Virginia: companies handling only residential/commercial gas and all other companies.

California, Louisiana, and Mississippi: companies handling only industrial gas and all other companies.

Alabama, Illinois, Kentucky, and Ohio: companies handling any industrial gas and all other companies.

Texas: companies handling only residential/commercial gas, companies handling only industrial gas, and all other companies (three subgroups).

Arkansas: companies handling 0.5 million cubic feet or more of gas and companies handling less than 0.5 million cubic feet of gas.

Colorado: companies handling 1 million cubic feet or more of gas and companies handling less than 1 million cubic feet of gas.

New York: companies handling 8 million cubic feet or more of gas and companies handling less than 8 million cubic feet of gas.

Estimation Procedures

Estimates of Volumes. A ratio estimator is applied to the volumes reported in each State by the sampled companies to estimate the total gas sales and deliveries for the State. Ratio estimators are calculated for each consumer sector--residential, commercial, and industrial--in each State where companies are sampled. The following annual data are taken from the most recent 1989 submissions of Form EIA-176:

The formula for calculating the ratio estimator (E_{vj}) for the volume of gas in consumer sector j is:

$$E_{vj} = \frac{Y_j}{Y'_{.j}} \quad (3)$$

where:

Y_j = the sum within State of annual gas volumes in consumer sector j for all companies,

$Y'_{.j}$ = the sum within State of annual gas volumes in consumer sector j for those companies in the sample.

The ratio estimator is applied as follows:

$$V_j = y_j \times E_{vj} \quad (4)$$

where:

V_j = the State estimate of monthly gas volumes in consumer sector j,

y_j = the sum within State of reported monthly gas volumes in consumer sector j.

Estimates of Revenues. State revenues are estimated from monthly data reported by the sample companies in the same way as the volumes are estimated. Ratio estimators are calculated for each consumer sector based on annual *sales* revenue in each State where companies are sampled. The estimated revenues are subsequently used to calculate average prices.

The formula for calculating the ratio estimator for residential gas sales revenues in consumer sector j is:

$$E_{rj} = \frac{Z_j}{Z'_{j'}}$$

where:

Z_j = the sum within State of annual gas sales revenues in consumer sector j,

$Z'_{j'}$ = the sum within State of annual gas sales revenues for those companies in the sample in consumer sector j.

The ratio estimator is applied as follows:

$$R_j = z_j \times E_{rj}$$

where:

R_j = the monthly estimated revenue for gas sales in consumer sector j,

z_j = the sum within State of reported monthly gas sales revenues in consumer sector j.

Computation of Natural Gas Prices. The natural gas volumes that are included in the computation of prices represent only those volumes associated with natural gas sales.

The average price of natural gas is calculated as follows:

$$P_j = \frac{R_j}{V_j}$$

where:

P_j = the average price of gas sales within a State in consumer sector j,

V_j = the estimate of gas sales within a State in consumer sector j.

All average prices are weighted by their corresponding sales volume estimates when national average prices are computed.

The monthly average prices of natural gas in the commercial and industrial sectors are based on sales data only. Volumes of gas delivered for the account of others to these consumer sectors are not included in the State or national average prices. Virtually all natural gas deliveries to the residential sector represent sales volumes only.

Table 33 shows the percent of the total State volume that represents volumes from natural gas sales to the commercial and industrial sectors. This table may be helpful in evaluating commercial and industrial price data.

Estimation for Nonrespondents. A volume for each consumer category is imputed for companies that fail to respond. The imputation is based on the previous month's value reported by the non-responding company and the change from the previous month to the current month in volumes reported by other companies in the State. The imputed volumes are included in the State totals. To estimate prices for non-respondents, the unit price (dollars per thousand cubic feet) reported by the company in the previous month is used.

The formula for imputing volumes of gas sales for nonrespondents was:

$$F_t = F_{t-1} \times \frac{y_{jt}}{y_{jt-1}} \quad (5)$$

where:

F_t = imputed gas volume for current month t,

F_{t-1} = gas volume for the company for the previous month,

y_{jt} = gas volume reported by companies in the State stratum for report month t,

y_{jt-1} = gas volume in the previous month for companies in the State stratum that reported in month t.

Final Revisions

Adjusting Monthly Data to Annual Data. After the annual data reported on the Form EIA-176 have been submitted, edited, and prepared for publication in the *Natural Gas Annual*, revisions are made to monthly data. The revisions are made to the volumes and prices of natural gas delivered to consumers that have appeared in the *Natural Gas Monthly* to match them to the annual values appearing in the *Natural Gas Annual*. The revised monthly estimates allocate the difference between the sum of monthly estimates and the annual reports according to the distribution of the estimated values across the months.

Before the final revisions are made, changes or additions to submitted data received after publication of the monthly estimate and not sufficiently large to require a revision to be published in the *Natural Gas Monthly*, are used to derive an updated estimate of monthly consumption and revenues for each State's residential, commercial, or industrial natural gas consumption.

For each State, two numbers were revised, the estimated consumption and the estimated price per thousand cubic feet.

The formula for revising the estimated consumption is:

$$V_{jm}^* = V_{jm} + \left[(V_{ja} - V'_{jm}) \left(\frac{V_{jm}}{V'_{jm}} \right) \right] \quad (6)$$

where:

V_{jm}^* = the final volume estimate for month m in consumer sector j,

V_{jm} = the estimated volume for month m in consumer sector j,

V_{ja} = the volume for the year reported on Form EIA-176,

V'_{jm} = The annual sum of estimated monthly volumes.

The price is calculated as described above in the Estimation Procedures section, using the final revised consumption estimate and a revised revenue estimate.

The formula for revising the estimated revenue is:

$$R_{jm}^* = R_{jm} + \left[(R_{ja} - R'_{jm}) \left(\frac{R_{jm}}{R'_{jm}} \right) \right] \quad (7)$$

where:

R_{jm}^* = the final revenue estimate for month m in consumer sector j,

R_{jm} = the estimated revenue for month m in consumer sector j,

R_{ja} = the revenue for the year reported on Form EIA-176,

R'_{jm} = The annual sum of estimated monthly revenues.

Reliability of Monthly Data

The monthly data published in this report are subject to two sources of error - nonsampling error and sampling error. Nonsampling errors occur in the collection and processing of the data. See the discussion of the Form EIA-857 in Appendix B for a description of nonsampling errors for monthly data.

Sampling error may be defined as the difference between the results obtained from a sample and the results that a complete enumeration would provide. The standard error statistic is a measurement of sampling error.

Standard Errors

A standard error of an estimate is a statistical measure that indicates how the estimate from the sample compares to the result from a complete enumeration. Standard errors are calculated based on statistical theory that refers to all possible samples of the same size and design.

The standard errors for monthly natural gas volume estimates by State are given in Table C2. Ninety-five percent of the time, the volume that would have been obtained from a complete enumeration will lie in the range between the estimated volume minus two standard errors and the estimated volume plus two standard errors.

Table C-1. Standard Error for Natural Gas Deliveries and Price to Consumers by State, June 1990

State	Volume Million Cubic Feet				Price Dollars per Thousand Cubic Feet			
	Residential	Commercial	Industrial	Total	Residential	Commercial	Industrial	Total
Alabama	152	18	203	321	0.39	0.44	0.24	0.61
Alaska	0	0	0	0	.00	.00	.00	.00
Arizona	12	16	0	20	.01	.02	.00	.05
Arkansas	10	21	651	652	.13	.07	.37	.71
California	223	147	1,774	1,795	.03	.05	.07	.13
Colorado	22	16	5,526	5,526	.03	.02	1.13	2.24
Connecticut	0	0	0	0	.00	.00	.00	.00
Delaware	0	0	0	0	.00	.00	.00	.00
District of Columbia	0	0	0	0	.00	.00	.00	.00
Florida	36	493	62	409	.16	.12	.05	.43
Georgia	125	313	359	493	.22	.62	1.06	2.08
Hawaii	0	0	0	0	.00	.00	.00	.00
Idaho	0	0	0	0	.00	.00	.00	.00
Illinois	222	243	44	332	.04	.38	.26	.27
Indiana	426	34	304	524	.14	.21	.03	.54
Iowa	14	11	77	79	.02	.01	.05	.10
Kansas	530	11,001	10,979	15,551	.48	1.71	3.86	9.76
Kentucky	65	94	486	499	.08	.03	.04	1.79
Louisiana	155	24	68,418	68,418	.12	.04	.24	4.40
Maine	0	0	0	0	.00	.00	.00	.00
Maryland	8	21	27	35	.02	.06	.11	.07
Massachusetts	51	153	351	386	.15	.32	.19	.28
Michigan	1,125	804	3,127	3,419	.22	.32	.23	.60
Minnesota	158	31	385	418	.27	.14	.15	.35
Mississippi	79	99	1,316	1,322	.17	.35	.13	1.24
Missouri	26	105	33	113	.11	.14	.06	.09
Montana	0	2	0	2	.00	.00	.00	.01
Nebraska	91	48	230	252	.04	.03	.12	.22
Nevada	0	0	0	0	.00	.00	.00	.00
New Hampshire	0	0	0	0	.00	.00	.00	.00
New Jersey	0	0	0	0	.00	.00	.00	.00
New Mexico	152	122	0	195	.21	1.31	.00	.70
New York	198	735	580	957	.22	.15	.23	.29
North Carolina	11	14	210	211	.14	.02	.15	.41
North Dakota	0	0	0	0	.00	.00	.00	.00
Ohio	683	516	8,574	8,617	.09	.14	.00	.51
Oklahoma	179	283	8	335	1.32	.46	.00	.23
Oregon	0	0	0	0	.00	.00	.00	.00
Pennsylvania	53	140	741	756	.02	.10	.95	2.05
Rhode Island	0	0	0	0	.00	.00	.00	.00
South Carolina	15	57	1,058	1,060	.40	.08	.16	.66
South Dakota	0	0	0	0	.00	.00	.00	.00
Tennessee	59	72	1,548	1,551	.06	.09	.13	.47
Texas	36	4,207	0	4,208	.03	.52	.00	.21
Utah	0	0	0	0	.00	.00	.00	.00
Vermont	0	0	0	0	.00	.00	.00	.00
Virginia	31	31	508	510	.17	.21	.93	1.26
Washington	0	0	0	0	.00	.00	.00	.00
West Virginia	82	63	11	104	.20	.12	.01	.36
Wisconsin	368	237	399	592	.29	.02	.14	.50
Wyoming	30	52	59	84	.28	.36	.36	.63
U.S. Totals	1,629	11,865	70,188	71,203	.06	.37	.57	.27

NA .. Not Available

The standard error of the natural gas volume estimate is the square root of the variance of the estimate. The formula for calculating the variance of the volume estimate is:

$$V(\hat{Y}) = \sum_{h=1}^H [N_h^2 \frac{(1 - \frac{n_h}{N_h})}{n_h(n_h-1)} (\sum_{i=1}^{n_h} (y_i - T x_i)^2)] \quad (8)$$

where:

N_h = the total number of companies in stratum h

n_h = the sample size in stratum h

y_i = the reported monthly volume for company i

x_i = the reported annual volume for company i

T = the ratio of the sum of the reported monthly volumes for sample companies to the sum of the reported annual volumes for the sample companies.

Appendix D

Natural Gas Reports and Feature Articles

Natural Gas Reports and Feature Articles

Reports Dealing Principally with Natural Gas and/or Natural Gas Liquids

- *Natural Gas Annual 1989*, DOE/EIA-0131(89), September 1990.
- *Statistics of Interstate Natural Gas Pipeline Companies 1988*, DOE/EIA-0145(88), November 1989. Published annually.
- *Gas Supplies of Interstate Natural Gas Pipeline Companies 1988*, DOE/EIA-0167(88), December 1989. Published annually.

Other Reports Covering Natural Gas, Natural Gas Liquids, and Other Energy Sources

- *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves - 1989 Annual Report*, DOE/EIA-0216(89), September 1990.
- *Monthly Energy Review*, DOE/EIA-0035. Published monthly. Provides national aggregate data for natural gas, natural gas liquids, and other energy sources.
- *Annual Report to Congress 1989*, DOE/EIA-0173(89), March 1990. Published annually.
- *Annual Energy Outlook 1990*, DOE/EIA-0383(90), January 1990. Published annually.
- *Annual Energy Review 1989*, DOE/EIA-0384(89), May 1990. Published annually.
- *Short-Term Energy Outlook*, DOE/EIA-0202. Published quarterly. Provides forecasts for next six quarters for natural gas and other energy sources.
- *Annual Outlook for Oil and Gas: 1990*, DOE/EIA-0517(90), May 1990.
- *International Oil and Gas Exploration and Development Activities*, DOE/EIA-0523. Published Quarterly. Provides a compilation of reported oil and gas reserve additions in foreign countries.

Selected One-Time Natural Gas and Related Reports

- *Drilling and Production Under Title of the Natural Gas Policy Act, 1978-1986*, DOE/EIA-0448(86), January 1989.
- *An Examination of Domestic Natural Gas Resource Estimates*, SR/RNGD/89-01, February 1989.
- *Growth in Unbundled Natural Gas Transportation Services: 1982-1987*, DOE/EIA-0525, May 1989.
- *Assessment of Pipeline Capacity to Transport Domestic Natural Gas Supplies to the Northeast*, SR/RNGD/89-02, August 1989.
- *Natural Gas Production Responses to a Changing Market Environment, 1978-1988*, DOE/EIA-0532, June 1990.
- *Costs and Indices for Domestic Oil and Gas Field Equipment and Production Operations - 1987 through 1989*, DOE/EIA-0185(89), July 1990.
- *U.S. Oil and Gas Reserves by Year of Field Discovery*, DOE/EIA-0534, August 1990.

Selected and Recurring Natural Gas and Related Data Reference Reports

- *Directory of Energy Data Collection Forms*, DOE/EIA-0249(89), January 1990.
- *Oil and Gas Field Code Master List, 1989*, EIA-0370(89), January 1990.

January 1989

Main Line Natural Gas Sales by Interstate Pipeline Companies, 1987

(Describes and analyzes direct sales to end users by interstate pipeline companies and SIC codes.)

Summary of An Examination of Domestic Gas Resource Estimates

(Provides an overview of the various natural gas resource estimates currently in use.)

May 1989

The Outlook for Natural Gas Supply in the 1990's

(Discusses recent conditions in the oil and gas producing industry.)

June 1989

Domestic Natural Gas Reserves and Production Dedicated to Interstate Pipeline Companies, 1988

(Provides preliminary data on natural gas reserves and production dedicated to the interstate market.)

August 1989

U.S. Natural Gas Imports and Exports - 1988

(Contains final 1988 data on all U.S. imports and exports of natural gas.)

September 1989

Natural Gas Production in the Post-NGPA Decade

(Presents data on the production of natural gas by categories defined under the Natural Gas Policy Act of 1978 (NGPA).)

November 1989

Natural Gas Wellhead Decontrol Act of 1989

(Describes the categories of natural gas most affected by the decontrol provisions and provides market data for these categories and the overall markets during the 1980's.)

March 1990

The Developing Natural Gas Futures Market and Its Potential Impact on Domestic Natural Gas Markets

(Discusses futures markets vs. physicals markets (which include spot markets).)

April 1990

The Outlook for Natural Gas

(Discusses projections of natural gas markets through the year 2010.)

May 1990

Domestic Natural Gas Reserves and Production Dedicated to Interstate Pipeline Companies, 1989

(Provides preliminary data on natural gas reserves and production dedicated to the interstate market.)

June 1990

U.S. Natural Gas Imports and Exports - 1989

(Contains final 1989 data on all U.S. imports and exports of natural gas.)

Appendix E

Technical Contacts

Appendix E

Technical Contacts

Section	Tables		Principal Data Sources	Technical Contact
Summary Statistics: Natural Gas Production and Consumption	1, 2, 3	Monthly: Annual:	Interstate Oil Compact Commission (IOCC) Form EIA-627, "Annual Quantity and Value of Natural Gas Report"	Sheila Darnell (202) 586-6165
		Monthly:	Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers"	
Extraction Loss	1	Monthly: Annual:	EIA computations Form EIA-816, "Monthly Natural Gas Liquids Report" and Form EIA-64A, "Annual Report of the Origin of Natural Gas Liquids Production"	James McCarriek (202) 586-6198
Supplemental Gaseous Fuels	2	Monthly: Annual:	EIA computations Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition"	Margo Natof (202) 586-6303
Imports and Exports	2	Monthly: Annual:	EIA computations Form FPC-14, "Annual Report for Importers and Exporters of Natural Gas"	Margo Natof (202) 586-6303 Fay Dillard (202) 586-6181
Price: City Gate, Residential, Commercial, and Industrial	4	Monthly:	Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers"	Roy Kass (202) 586-4790
Imports and Purchases from Producers	4	Monthly:	Form FERC-11, "Natural Gas Pipeline Company Monthly Statement"	James Keeling (202) 586-6107
Wellhead	4	Monthly: Annual:	EIA computations Form EIA-627, "Annual Quantity and Value of Natural Gas Report"	Sheila Darnell (202) 586-6165
Electric Utility	4	Monthly:	Form FPC-423, "Cost and Quality of Fuels for Electric Power Plants"	Margo Natof (202) 586-6303
NGPA Category - Prices And Volumes	5	Periodic:	Purchased Gas Adjustment Filings	Norman Crabtree (202) 586-6180
Summary of Natural Gas Imports and Exports	6	Quarterly:	Form FPC-14, "Annual Report for Importers and Exporters of Natural Gas" and "Quarterly Sales and Price Report"	James Todaro (202) 586-6305
Producer Related Activities: Natural Gas Production	7	Monthly:	Interstate Oil Compact Commission (IOCC)	Sheila Darnell (202) 586-6165
Well Determination Filings	8, 9, 10,	Monthly:	Form FERC-121, "Application for Determination of Maximum Lawful Price Under the Natural Gas Policy Act"	Norman Crabtree (202) 586-6180
NGPA Ceiling Prices	11	Monthly:	<i>Federal Register</i>	Eva Fleming (202) 586-6113
Interstate Pipeline Activities:	12, 13, 14, 15, 16	Monthly:	Form FERC-11, "Natural Gas Pipeline Company Monthly Statement"	James Keeling (202) 586-6107

Glossary

Base (Cushion) Gas: The volume of gas needed as a permanent inventory to maintain adequate underground storage reservoir pressures and deliverability rates throughout the withdrawal season. All native gas is included in the base gas volume.

British Thermal Unit (Btu): The heat required to raise the temperature of one pound of water by one degree Fahrenheit at or near 39.2 degrees Fahrenheit.

City-gate: A point or measuring station at which a gas distribution company receives gas from a pipeline company or transmission system.

Commercial Consumption: Gas used by nonmanufacturing organizations such as hotels, restaurants, retail stores, laundries, and other service enterprises, and gas used by local, State, and Federal agencies engaged in nonmanufacturing activities.

Depletion: The loss in service value incurred in connection with the exhaustion of the natural gas reserves in the course of service.

Depreciation: The loss in service value not restored by current maintenance, incurred in connection with the consumption or respective retirement of a gas plant in the course of service from causes that are known to be in current operation and against which the utility is not protected by insurance; for example, wear and tear, decay, obsolescence, changes in demand and requirements of public authorities, and the exhaustion of natural resources.

Dry Natural Gas Production: Marketed production less extraction loss.

Electric Utility Consumption: Gas used as fuel in electric utility plants.

Exports: Natural gas deliveries out of the Continental United States (including Alaska) to foreign countries. [3]

Extraction Loss: The reduction in volume of natural gas resulting from the removal of natural gas liquid constituents at natural gas processing plants.

Flared: The volume of gas burned in flares on the base site or at gas processing plants.

Gross Withdrawals: Full well stream volume, including all natural gas plant liquid and nonhydrocarbon gases, but excluding lease condensate. Also includes amounts delivered as royalty payments or consumed in field operations.

Hinshaw Pipeline: A pipeline or local distribution company that has received exemption, (by Section 1 (c) of the Natural Gas Act), from regulations pursuant to the Natural Gas Act. These companies transport interstate natural gas not subject to regulations under NGA.

Imports: Natural gas received in the Continental United States (including Alaska) from a foreign country.

Independent Producers: Independent natural gas producers subject to the jurisdiction of the FERC.

Industrial Consumption: Natural gas used by manufacturing and mining establishments for heat, power, and chemical feedstock.

Interstate Companies: Natural gas pipeline companies subject to FERC jurisdiction.

Unaccounted For: Represents the difference between the sum of the components of natural gas supply and the sum of the components of natural gas disposition. These differences may be due to quantities lost or to the effects of data reporting problems. Reporting problems include differences due to the net result of conversions of flow data metered at varying temperature and pressure bases and converted to a standard temperature and pressure base; the effect of variations in company accounting and billing practices; differences between billing cycle and calendar period time frames; and imbalances resulting from the merger of data reporting systems which vary in scope, format, definitions, and type of respondents.

Underground Gas Storage Reservoir Capacity: Interstate company reservoir capacities are those certificated by FERC. Independent producer and intrastate company reservoir capacities are reported as developed capacity.

Vented Gas: Gas released into the air on the base site or at processing plants.

Wellhead Price: Represents the wellhead sales price, including charges for natural gas plant liquids subsequently removed from the gas, gathering and compression charges, and State production, severance, and/or similar charges.

Working (Top Storage) Gas: The volume of gas in an underground storage reservoir above the designed level of the base. It may or may not be completely withdrawn during any particular withdrawal season. Conditions permitting, the total working capacity could be used more than once during any season.

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