1 of 2

Natural Gas Monthly February 1994

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MASTER

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Monthly Energy Review, updated the last week of the month

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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, Audrey E. J. Corley (202) 586-4804, 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. Geographic coverage is the 50 States and the District of Columbia.

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 Abbreviations Used in the Natural Gas Monthly

AGA	American Gas Association	IOGCC	Interstate Oil and Gas 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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Contracting for Natural Gas Supplies

by Mary E. Carlson, Joan Heinkel, and John H. Herbert

Contracting for natural gas supplies has changed radically during the past decade. The deregulation of natural gas wellhead prices has allowed natural gas to be traded as a commodity with its value set in the marketplace. With Federal Energy Regulatory Commission (FERC) Order 636 and the mandatory unbundling of the sales and transportation function of the interstate pipeline companies, contracting for natural gas supplies has become solely the responsibility of the customers of the pipeline companies. As a result, contracting for natural gas supplies now involves different contract structures, players, and strategies.

The implementation of Order 636 has fundamentally affected contracting for natural gas supplies. Formerly, pipeline companies were responsible for purchasing the gas, transporting the gas, scheduling and balancing issues, and using storage; all to ensure that their customers' needs would be met. Contracts between pipeline companies and their customers were subject to regulatory conditions and approvals. These regulatory conditions included the requirement that pipeline companies maintain sufficient supplies to meet their customers' maximum contract quantities, even if the customers did not actually purchase or take the maximum. Accordingly, pipeline companies arranged to have sufficient diversity in their supplies so that if there were any delivery problems in the production area, they would still be able to fulfill their obligation to their customers.¹

By unbundling sales and transportation services, Order 636 in effect requires parties to make separate arrangements for each of the services formerly provided by the pipeline companies. Customers now have the opportunity to contract specifically for only those services that they need. However, customers are now responsible for making all the contractual arrangements necessary to ensure acquisition and delivery of supplies. Unlike contracts for transportation services, these supply contracts are now typical commercial agreements and no longer subject to regulatory conditions.

Another aspect of the market, the progressive deregulation of natural gas wellhead prices, has also had its

impact on supply contracting--not just through more open markets but also through the volatility that has been introduced in the pricing of this commodity (Figure FE1). Variability in prices creates uncertainty for both producers and purchasers. Many in the industry have turned to financial contracts in order to manage the price risk inherent in their physical contracts for natural gas. Many more use the futures market for price discovery.

These changes have resulted in important new issues to be considered by the various parties to natural gas supply contracts:

- The new opportunities and flexibility available in the market
- The price and supply risks in the new market structure
- The tools and strategies that can be used to manage these risks.

This article addresses the contractual relationships of producers with end users and distributors for the natural gas that is shipped along the interstate pipeline system. The items discussed are:

- The progression of supply contracting practices in the natural gas industry from the period prior to deregulation of wellhead prices to the present under Order 636 (Table FE1)
- The new contracting requirements of producers and purchasers resulting from the changed market environment
- The use of financial contracts to manage price risk in contracts for the physical commodity
- The methods used to manage supply and other risk.

¹For background information on gas contracting issues, see: National Petroleum Council, *The Potential for Natural Gas in the United States: Sources and Supply* (Washington, DC, December 1992); and Energy Information Administration, *An Analysis of Natural Gas Contracts, Volume III: Contract Provisions Covering Production of New Gas*, DOE/EIA-0505 (Washington, DC, May 1987).

Figure FE1. Average Natural Gas Wellhead Prices by Month, January 1984 - August 1993

Sources: Energy Information Administration: 1984-1988: *Historical Monthly Energy Review*, 1973-1988; 1989: *Natural Gas Monthly*, March 1992; 1990: *Natural Gas Monthly*, March 1993; 1991-September 1993: *Natural Gas Monthly*, December 1993.

Table FE1. Comparison of Supply Contracting Practices

Contract Structure	Traditional (Before Open Access)	Current (Open Access - FERC Order 636)
Type of Service	Sales and transportation services combined into one bundled service from the pipeline company. (This service also included storage, balancing, and other services.)	Sales are contracted for separately from other services. Some marketers are capable of rebundling services and selling them as a package.
Term	Long term, frequently 20 years or more.	Varies widely, from 1 day to 2 years or more.
Pricing	Driven by regulatory structure. Typically tied to maximum lawful prices. Had an upward bias with limited or no provisions for price reduction. Resulted in stable price conditions with no seasonal variation.	Driven by market conditions. Typically indexed to current market prices. Results in substantial variability in prices during the year.
Quantity	Annual supply minimum requirements. Take-or-pay clauses common that required purchaser to pay for minimum quantities of gas even if it could not be used by the purchaser at that time.	Take-or-pay clauses uncommon. Flexibility allowed in quantities taken with payment of a separate fee.
Curtailments	Involuntary curtailments possible.	Voluntary curtailments possible where the customer is compensated for agreeing to be curtailed.
Role of Financial Markets	Raise capital. No natural gas financial instruments available.	Raise capital and manage price risk. Natural gas futures, options, and swaps available.
Creditworthiness	Not a significant issue. Natural gas was bought and sold by large companies with established credit ratings with long-term business relationships.	A key issue. Many buyers and sellers are engaging in segments of the business for the first time.

Source: Energy Information Administration, Office of Oil and Gas.

Background

Before open access regulation (Order 436), interstate pipeline companies took title to the natural gas and then provided a bundled sales and transportation service to downstream customers. In essence, they served as supply aggregators, allocating the gas to customers after acquiring it from diverse sources. The supply contracts between the pipeline companies and the producers developed very distinct characteristics, largely in response to the extensive regulatory controls in place during this period. These contracts were typically characterized by:

- Long-term arrangements, often for 20 or more years
- Inflexible price clauses that tied the price of gas to the highest allowed rate and did not allow the price to decline
- Volume clauses known as take-or-pay clauses that required the purchaser to pay for minimum volumes of gas even if the volumes were not taken.

The inflexibility of these contract clauses culminated in market imbalances in the 1980's, exacting a large financial toll on the natural gas industry. After nearly 25 years of close regulatory control of wellhead prices, the Natural Gas Policy Act of 1978 (NGPA) began the evolution that resulted (along with the Natural Gas Wellhead Decontrol Act of 1989) in complete deregulation of wellhead prices in 1993. The transformation from a highly regulated to a more market-driven industry was costly and difficult for many companies. In particular, the contractual structure of the purchase contracts between producers and pipeline companies began to disintegrate as the inflexibility of the typical price and volume contract terms did not allow natural gas to be competitive with other fuels.

From 1978 through 1983, the purchase price of gas rose steadily, from \$0.91 per thousand cubic feet (Mcf) to \$2.59 per Mcf in nominal dollars,² because of price clauses that tied the contract price to increasing NGPA price ceilings. These price increases continued in the face of a significant surplus of gas production. Demand had been reduced because of the recession and because prices to end users were not competitive with alternative fuels. Also, in 1984, FERC Order 380 released pipeline company customers from the obligation to pay for at least a minimum amount of gas. Pipeline companies were thus faced with huge liabilities because the take-or-pay clauses in their supply contracts required them to pay for gas that they could not market.

Pipeline companies began to exercise the "market-out" provisions in their contracts to reduce the price to marketable levels. Alternatively, companies without similar provisions negotiated to release their gas and allow the producer to sell it on the spot market or, in some cases, they unilaterally reduced the price they paid to producers to marketable levels. The development of the spot market and transportation programs separate from the pipeline companies' traditional bundled service provided a much needed safety valve to reduce market imbalances. As the role of the pipeline company has changed from a merchant to principally a transporter of natural gas, the number of active participants in the supply market has increased (Figure FE2). Local distribution companies (LDC's), electric utilities, and large end users moved into supply contracting and purchasing on the spot market, accounting for large volumes in the mid-1980's. A new entity, the natural gas marketer, arrived on the scene offering brokerage services for those smaller end users and LDC's that wanted to take advantage of spot market prices, but lacked the experience to deal in the new marketplace (see "Evolution of Marketing Companies" box). Volumes on the spot market increased from less than 1 trillion cubic feet in 1983 to more than 12 trillion cubic feet in 1989,³ representing an increase from roughly 5 percent to 75 percent of total dry gas production.⁴

As wellhead price decontrol and open-access pipeline transportation made domestic natural gas markets more responsive to fundamental forces of supply and demand, natural gas spot-market price patterns began to resemble the price patterns of many unregulated commodities--showing more volatility, more seasonality, and more responsiveness to longer term supply-and-demand pressures. An important event in the 1990's was the development of futures and related financial contract markets. These markets have enabled the industry to obtain both future price information and the ability to manage price risk. As the futures market has been extended from the initial 12-month contract to an 18-month contract, and other financial tools have extended the ability of companies to manage price risk over even longer periods of time, the terms of natural gas contracts have been extended beyond the very short term.

The role of financial markets is a new component of the natural gas supply market. These financial tools have been important in increasing the flexibility of the industry, and they support many of the contractual arrangements being developed today. The ability to manage price risk through these financial instruments is so important to the industry that, as shown in the following section, some characteristics of supply contracts are closely related to terms and characteristics of these financial markets.

²Energy Information Administration, *Natural Gas Annual 1992*, Vol. 2, DOE/EIA-0131(92)/2 (Washington, DC, November 1993), Table 1, p. 3.

³New York Mercantile Exchange, *NYMEX Natural Gas Futures Handbook* (Washington, DC, February 28, 1990), pp. C-6 to C-7.

⁴Energy Information Administration, Office of Oil and Gas, based on *Natural Gas Annual 1992*, DOE/EIA-0131(92)/2, Table 2, p. 5.

Figure FE2. Transaction Paths for Natural Gas Purchases

LDC = Local distribution company.

Source: Energy Information Administration, Office of Oil and Gas.

Contracts for the Physical Product

The contract for the physical product specifies a price, a receipt point for the transfer of gas from seller to buyer, and other conditions governing the transaction. One of the important defining characteristics of contracts for the physical product is the length or term of the contract. In general, these contracts can usefully be divided into three categories by term:

- A short-term contract, where deliveries and receipts are arranged for 1 month or less
- A mid-term contract, which extends out 18 months

- A long-term contract, where deliveries and receipts are arranged for longer than 18 months.

These contracts vary in a number of ways. Short-term contracts are relatively simple contracts for a fixed volume of gas at a fixed price. Mid-term contracts are for either fixed or variable volumes, and most have provisions that allow prices to move higher or lower depending on market conditions. Long-term contracts are much more difficult to categorize, reflecting the specialized needs of customers for long-term commitments. One distinction, however, is that it is more difficult to hedge the price risk (see "Terminology" box) in these contracts primarily because the futures contracts market only extends to 18 months.

Evolution of Marketing Companies

The shift in relationships among parties in the natural gas market has been intensified by the formal separation of pipeline company sales and transportation services required by FERC Order 636. Now, many traditional customers of the pipeline companies must make separate arrangements for the services they require. The advantage is that customers now have access to a much more competitive wellhead market and can contract only for those services that they need.

On the other hand, some find that to replicate bundled sales service requires more than just a separate purchase contract and a separate transportation contract. Instead, contracts must be fashioned that deal with many issues that were not transparent to the traditional user of bundled service, such as balancing, metering, documenting and tracking nominations, disruptions in the supply area, increases in demand over time, and unexpected surges in demand.

Marketing companies have been at the forefront in supplying the new types of services required now by the natural gas industry. For example, instead of attempting to negotiate a variety of contracts with suppliers, storage operators, pipeline companies, and others, as well as monitoring closely its shipments of gas from the wellhead, a local distribution company may enter a contract with a marketer in which many of these services are obtained under a single umbrella contract. Some marketers are independent companies, like Natural Gas Clearinghouse, while others, such as Mobile Natural Gas, are marketing arms of production companies. Still others, such as Enron Gas Marketing, are marketing affiliates of interstate pipeline companies.

Marketers are not only sellers of the services supporting gas use in the new natural gas industry but they are also involved in buying and selling gas. Prior to the beginning of bid week (see box) and before nomination deadlines for the next month, marketers arrange for the receipt of natural gas from producers. Marketers create a "book" of receipts of natural gas from producers as well as a book of deliveries for end users. Many personnel of marketing companies are in the field arranging such deals throughout much of the month. Although the price terms are discussed, in most instances, a final price is often not established until bid week when personnel return to the home office to close the deals.

The importance of marketers to the natural gas industry is reflected by the growth in the volume of gas transported for this segment. In the first quarter of 1987, marketers shipped 0.4 trillion cubic feet of gas on interstate pipelines. In the fourth quarter of 1991, the amount of gas shipped by interstate pipelines for marketers grew to 2.1 trillion cubic feet.⁵

Marketers have become very effective at arranging both firm and interruptible transportation. From 1987 through 1992, the marketer's share of interruptible transportation increased from 38 percent to 73 percent, while their share of firm transportation increased from 4 percent to 30 percent.⁶ During this period, marketers went from being the lowest volume transportation customer to the highest. In fact, the role of marketing companies is more significant than these data suggest. In addition to buying and selling gas and arranging for the transport of gas, marketers also provide a variety of administrative services to different segments of the gas industry. Some marketing companies also own storage property, gathering lines, and processing plants, and are part owners of cogeneration units and other gas-related business. Thus, they have the ability to provide a wide variety of service contracts as well as contracts for the physical commodity. Some marketing companies are also experienced users of price risk management tools and can provide these services to other customers for a fee.

⁵Interstate Natural Gas Association of America, *Issue Analysis: Carriage Through 1992*, Report No. 93-2 (July 1993), Table A-1.

⁶Interstate Natural Gas Association of America, *Issue Analysis: Carriage Through 1992*, Report No. 93-2 (July 1993), Table A-8.

Terminology

Physical Contract. A traditional natural gas contract where delivery and receipt are expected. The term is used to distinguish such contracts from the newer financial gas contracts. The short-term (1- to 30-day) physical market is frequently referred to as the spot or cash market.

Financial Contract. A contract where the primary purpose is to manage price risk rather than to deliver or receive natural gas.

Futures Contract. A legal agreement between a party that opens a position on the futures market to buy or sell natural gas and the established commodity exchange (the New York Mercantile Exchange). In this agreement, the party agrees to accept or deliver, during a specified future month, a specified quantity of natural gas (10,000 million Btu per contract) meeting quality and delivery conditions prescribed by the exchange (for example, delivery takes place at the Henry Hub in Louisiana). If delivery takes place, it occurs during the delivery month at a prescribed futures settlement price.

Swap. An agreement between two parties to exchange cash flows based on the difference between a fixed price and a market price and based on a specific quantity. The swap enables the party, in effect, to fix the price it receives or pays for natural gas. The quantity of gas in the swap is notional, or theoretical, because no exchange of gas ever takes place as a consequence of the swap itself. However, the notional value is set to the quantity of gas in the physical contract so that the price for all the gas covered in the physical contract becomes fixed by the swap.

Option. The right (but not the obligation) to sell or buy a futures contract at a certain price.

Hedge. A position in the financial market that is opposite to a position in the cash market.

Exchange of Futures for Physicals (EFP). Natural gas may be delivered directly through a futures contract at the recognized futures delivery point, the Henry Hub, at the futures contract price. In an EFP, delivery may take place at other than the Henry Hub and the actual delivered price may deviate from the futures contract price. An EFP may be negotiated at any time before the close of the market for a particular futures contract by two parties holding opposite positions on that contract.

Short-Term Contracts

Today there is a very active short-term market for fixed price, fixed volume receipts and deliveries of gas, usually referred to as the spot or cash market. Contracts in this market are written for deliveries of gas for 30 days or less. Many of these contracts are finalized during a period at the end of the month called "bid week"

(see box). The clauses in these relatively simple contracts are very similar and can be generally characterized as:⁷

- Fixed price, where the price is the market price on the day the contract is completed⁸
- Fixed volume, where the volume is set for a consistent flow of gas per day over a set period of time with little variation.

⁷John Gregg, "Getting Your Mind Right! Gas Supply Contracting Without a Safety Net," *Public Utilities Fortnightly* (Washington, DC, October 1992), pp. 31-33; and Mike Rieke, "Natural Gas Contracts: Issues and Strategies," Gas Daily Conference (Houston, TX, November 4, 1993).

⁸The futures market price is often used to begin negotiations for short-term contracts. Futures contract prices for shipments of gas from the Henry Hub, a major transfer point for natural gas in Louisiana, are available many months or weeks before a delivery is to take place, while published spot prices for a delivery month are available only a week or so before the delivery is to take place.

Bid Week

"Bid week" occurs at the end of each month when deals are finalized for the sale and purchase of natural gas and nominations are made for transportation capacity on pipelines for the next delivery month.

Before open access transportation was widely available, pipeline companies made arrangements with producers and scheduled the capacity on their own systems every month in order to meet the demands of their firm sales customers. With the development of open access and the spot market, however, interruptible transportation became more readily available. For operational and scheduling purposes, the pipeline companies required interruptible shippers to notify them each month of the capacity they would require for the next delivery month. Each pipeline company set a date and time, or "nomination deadline," for this purpose.

Because shippers could not be sure that they could move the gas they wanted to purchase until the capacity arrangements had been completed, the final price for a cash sale was determined near to the time that arrangements for the capacity were finalized. Initially, capacity nomination deadlines for the various pipeline companies occurred over about a 10-day period near the end of the month, thus "bid week" became a time of nominating pipeline capacity and finalizing gas prices and quantities on the cash market.

At first, nominations had to be mailed in and the pipeline company would often phone the shipper to confirm how much capacity would be available. Bid week has been compressed as pipeline companies have shifted their deadlines so that they all fall within a few days of each other. The speed of handling nominations has increased, first with the use of faxes, and today with the use of electronic bulletin boards.

When the futures market in natural gas opened in April 1990, it added a new dimension to bid week. The final day of trading on a futures contract for a given delivery month has been 6 to 8 business days before the beginning of the delivery month. Today, almost all pipeline nomination deadlines fall on or after the close of the futures market. Some cash deals are made before the futures market closes, influencing the final price posted in this market. Similarly, when the futures price for a delivery month becomes final, this influences the final cash deals that are made before the last nomination deadline passes.

The short-term contract market serves several important needs. First, it allows end users to purchase gas to satisfy unexpected shifts in demand. Second, it allows short-term imbalances in supply to be corrected. Short-term contracts are particularly useful to customers with fuel-switching capabilities because they can acquire gas from the area where it is cheapest each month. In longer term, price-indexed contracts, they lose this flexibility because the contract is indexed to a particular price, which may not always be the lowest over time.

To facilitate the contracting process, companies often have established creditworthiness with each other so that a standard contract form for delivery only needs to be signed. In those instances when the client needs

to establish creditworthiness, the seller may require some prepayment or a minimal credit check because only relatively small amounts of gas are involved.

In the past several years, the total volume of gas covered by short-term contracts is believed to have decreased substantially.⁹ Interestingly, this decline corresponds with the phenomenal growth in the futures and related financial markets. The shorter the term of the contract, the less likely a financial market is being used to mitigate price risk. In fact, some buyers and sellers of gas expect so little price risk in these contracts that if the market price changes dramatically between the time a contract is negotiated and the time deliveries are to begin, the parties to the contract have been known to "walk away" from the contract.

⁹Rick Hagar, "U.S. Producers Becoming Adept at Direct Sales of Gas to End Users," *Oil and Gas Journal* (July 10, 1989), pp.17-19; and John C. Herbert, "New Features in Long-Term Contracts from Order 636," *Natural Gas* (New York: Executive Enterprises, Inc., April 1993), pp. 6-10.

The futures contract market not only complements the conventional spot contract for gas but also competes with it. Actual receipt and delivery of natural gas can be arranged through the standard futures contract itself or through an Exchange of Futures for Physical (EFP) transaction. In August 1993, about 98 billion cubic feet of deliveries were arranged through EFP's, which is equivalent to 8.1 percent of end-use consumption during the month.¹⁰

Mid-Term Contracts

Mid-term contracts cover gas deliveries up to 18 months, although most mid-term contracts are for 1 year or less. The trading period for a futures contract was extended from 12 to 18 months in January 1993. This extension in the term of the futures market not only enabled price discovery to be extended to 18 months but it also allowed the term of a contract for delivery of natural gas in which the price risk was fully hedged to increase to 18 months. Mid-term contracts can be characterized by:¹¹

- Variable prices, where the cost of the commodity is indexed over time to the futures price or some published spot price
- Fixed reservation and service fees, where the purchaser must pay a set fee to reserve a specified amount of gas over time and service fees for any special services (such as variable daily or monthly deliveries) provided by the seller
- Mainly fixed volumes per day or per month with modest variation, although variable volumes are allowed under some contracts, such as "swing contracts."

Mid-term contracts are operationally very important to large distribution companies to meet their natural gas requirements for a heating season. Thus, some of the gas acquired under a mid-term contract will be injected into storage reservoirs during the summer for eventual use during the winter.

Swing mid-term contracts are also geared to serve seasonal demands. The amount of gas taken daily under a swing contract can vary as long as the customer takes

a certain fixed quantity during some specified period, such as a year. The customer pays a special fee for this right.¹² Such variable-volume, mid-term contracts are often used by utilities with a large percentage of residential and commercial customers who have highly variable demand that typically peaks during the winter.

The ability to hedge the price risk in mid-term contracts with a financial instrument is important because of the great volatility in gas prices during the past several years and because of the tendency for prices to be higher during the heating season than in the rest of the year. The natural gas futures contract markets for the heating season months have been very active; thus, these markets have been very liquid.

Long-Term Contracts

Contracts for more than 18 months cover several heating seasons and are, therefore, operationally long term. Firms that enter into such contracts, which are inherently more risky, generally have special needs that require a reliable, long-term commitment. For example, a producer may desire a long-term contract in order to cover certain fixed costs necessary to expand production capability. In such a case, a producer could enter into an agreement to supply gas at a set price to an industrial firm or group of industrial firms. In return, the industrial customer would agree to finance any new production facilities needed to produce the gas, thus enabling the producer to meet its commitment to the industrial customer.

Another example of a long-term contract to support project finance would be a cogenerator that needs to have a relatively fixed fuel budget over several years in order to support investment in plant construction. A cogenerator usually obtains a long-term agreement for the sale of its power to an electric utility.¹³ The project manager then seeks a fuel supply contract to guarantee a reliable supply at a relatively fixed price. Many lenders for the project require that the fuel contract cover the time required for full payment of the debt. Lenders also look for fuel-pricing terms that will enable the cogenerator's fuel costs to be consistent with the revenues to be received from the sale of electricity.

¹⁰Commodity Futures Trading Commission, Division of Economic Analysis; and Energy Information Administration, *Natural Gas Monthly*, December 1993, DOE/EIA-0130(92/12) (Washington, DC, December 1993), Table 3.

¹¹Rick Hagar, "U.S. Producers Becoming Adept at Direct Sales of Gas to End Users," *Oil and Gas Journal* (July 10, 1989), pp.17-19; Cleve T. Hogarth, "Value-Added Contracts Rather than Long or Short-Term," *Natural Gas* (September 1993), pp. 8-13; Richard Peterson, "LDC purchasing strategies in a competitive gas market," *Utility Industries in Transition*, 25th Annual Conference, Institute of Public Utilities (Williamsburg, VA, December 13, 1993); and Carl V. Swanson, "The New Market System: Will it Work for LDCs?" *Natural Gas* (January 1993), pp. 6-8.

¹²Michael T. Langston, "Case Study: Southern Union Going for Long-Term Contracts," *Natural Gas* (September 1993), pp. 19-22.

¹³C. Richard Baker, "Project Financing for Cogeneration," *Public Utilities Fortnightly* (March 15, 1990), pp. 26-34; Timothy Burn, "Clinton Medina wells pay off for Atlas Resources on long term gas contracts," *Northeast Oil and Gas World* (October 1993), pp. 9-11; and John S. Woodard, "Long-term Gas Supply Contracting: New Contracts More Flexible," *Natural Gas* (May 1993) pp. 2-7.

Some long-term contracts have both fixed and variable gas costs.¹⁴ For example, some sellers charge a fee to cover any additional costs they might incur in arranging the contract. Long-term contracts usually are for a fixed quantity of gas delivered on a monthly basis. In contrast to the restrictive price provisions in the long-term contracts of a decade ago, prices today are more market responsive, often being indexed to the futures market or a published spot price. Some price terms may be renegotiated if the published price index no longer reflects the spot market. Otherwise, the price terms are not expected to be subject to renegotiation as long as active and liquid spot and futures markets exist.

Because long-term contracts extend beyond the 18-month price discovery period of the futures market, they usually have more special conditions or provisions than short- and mid-term contracts.¹⁵ For example, some long-term contracts with suppliers have "take-or-release" clauses whereby the purchaser, such as a marketer, agrees to make every reasonable effort to buy a specified volume of gas from a supplier. Yet, the supplier has the right to cancel the contract or reduce the volume of gas available under the contract if the buyer does not take the stipulated amount. Such contracts, unlike take-or-pay clauses of the past, relieve the buyer from paying for untaken volumes. Nonetheless, such clauses could motivate the marketer to sell the gas to another buyer, even a competing marketer, in order to maintain its relationship with the supplier. Selling to a competing marketer is not as strange as it might seem in the increasingly flexible gas industry. In fact, small producers sometimes need to purchase gas from large producers in order to satisfy their own current requirements under long-term contracts. These relationships are indicative of an important change in the gas industry. Available supplies, even in long-term contracts, tend not to be dedicated to a particular buyer. Instead the market is constantly reallocating available supplies based on supply and demand conditions and the willingness of buyers to pay for gas.¹⁶

Price Risk Management

The opening of the futures contract market in April 1990 provided the industry with an important new

business tool for dealing with the increasing price variability seen in the supply market. As the futures market became more actively used, other financial instruments were developed that complemented the futures market. Today three financial instruments are mainly used in the natural gas market to manage price risk: futures, options, and swaps (see "Terminology" box). Each instrument has its own unique appeal based on the specific requirement of the user. They vary according to effectiveness, ease of use, and cost (Table FE2). Participation in this "financial" market where there is rarely any exchange of gas is now an important extension to the traditional physical (cash) market where gas is actually bought and sold.

Parties who engage in the financial market do so in an attempt to stabilize the price they expect to receive or pay for natural gas. They choose to use a particular financial instrument or a combination of instruments depending on their own situation. By protecting themselves from an adverse price movement (e.g., prices to the consumer rising) the parties also forego the opportunity to benefit fully from favorable price movements (e.g., prices to the consumer dropping). This section describes these financial instruments and provides examples of how each may be used.

Futures

Trading began on the natural gas futures market on April 3, 1990, approximately 2 years after the physical market began showing wide swings in price over the course of a year.¹⁷ While gas may actually be delivered under a futures contract, the primary purpose of the market is to provide price discovery for the cash market and to enable participants to manage price risk.

Both buyers and sellers of natural gas have access to 18 months of futures prices. If a party sees a price in a future month that it would like to fix in the cash market for that month (called "hedging"), the party will establish a position in the futures market by acquiring a contract either to buy or sell gas in that future month. For example, a producer would acquire a futures contract to sell gas in that month at the currently traded price for that contract. To complete the transaction, the producer must close its position by acquiring a futures contract to buy the same amount of gas before

¹⁴Elizabeth Olmsted Teisburg and Thomas J. Teisburg, "The Value of Commodity Purchase Contracts with Limited Price Risk," *The Energy Journal*, 12, 3 (1991), pp. 109-127.

¹⁵John C. Herbert, "New Features in Long-Term Contracts from Order 636," *Natural Gas* (April 1993), pp. 6-10; and John S. Lowe, "Gas Contracting: The Lessons of the Seventies," *Natural Resources and Environment*, 3, 4 (Winter 1989), pp. 3-48.

¹⁶Cleve T. Hogarth, "Value-Added Contracts Rather than Long or Short-Term," *Natural Gas* (September 1993), pp. 8-13; John A. Gartman, "Natural Gas Purchasing Strategies of LDCs," NARUC Annual Regulatory Studies Program (East Lansing, MI, August 12, 1993); and John S. Woodard, "Long-term Gas Supply Contracting: New Contracts More Flexible," *Natural Gas* (May 1993), pp. 2-7.

¹⁷Each futures contract specifies the delivery of 10,000 million Btu of gas during a future month, and at any time, contracts for 1 to 18 months into the future are being traded. The principal sources for this section on futures are: (1) Energy Information Administration (EIA), "The Developing Natural Gas Futures Market and Its Potential Impact on Domestic Natural Gas Markets," *Annual Outlook for Oil and Gas 1990*, DOE/EIA-0517(90) (Washington, DC, May 1990); (2) EIA, *Natural Gas 1992: Issues and Trends*, DOE/EIA-0560(92) (Washington, DC, May 1993), Chapter 7; (3) Franklin R. Edwards and Cindy W. Ma, *Futures and Options* (New York: McGraw-Hill, Inc., 1992).

Table FE2. Features of Financial Instruments

Characteristics	Futures	Options	Swaps
Purpose	Fix price of gas for future sales and purchases	Fix price range for future sales and purchases	Fix price for future sales and purchases
Regulator	CFTC and NYMEX	CFTC and NYMEX. Unregulated also available	None
Term	Maximum 18 months	Maximum 12 months for regulated options. Unregulated options are frequently available for several years	Several years
Liquidity	Standard contract encourages broad industry participation in any one contract, which supports a liquid market	Standardized contract encourages broad industry participation in any one contract, which supports a liquid market	Customized contract limits participation in any one contract, which results in less liquidity
Costs	Margin requirement results in variable costs. Extensive administrative costs.	Fixed fee and minimal administrative costs. No margin requirements	Fixed, minimal administrative costs. No margin requirements
Credit Check	Minimal	None	Extensive
Delivery Capability	Yes	No	No
Performance	Guaranteed	Guaranteed if regulated. Otherwise not	At risk

CFTC = Commodity Futures Trading Commission; NYMEX = New York Mercantile Exchange.
Source: Energy Information Administration, Office of Oil and Gas.

the contract expires (see "Financial Market Examples").

The result for the participant depends on:

- The relationship between the closing price for the futures contract and the price when the contract was purchased
- The relationship between the spot price on the cash market and the closing futures price.

In this example, if the closing price for the futures contract is higher than at the time the contract was purchased, then the producer will experience a loss on the futures market because its contract to sell must be offset with a more expensive contract to buy gas in that month. However, assuming the spot price is the same as the closing futures price, the producer will sell gas on the cash market at this higher price. Because the loss on the futures market exactly matches the gain on the cash market, the producer has effectively sold gas at the "fixed" price. The producer has sacrificed the opportunity to gain on the cash market when prices rose in order to guarantee the earlier price.

Alternatively, if the closing price for the futures contract is lower than when it was purchased, the producer

will have to sell its gas on the cash market at this lower spot price (again assuming the prices are the same). However, the producer will receive an offsetting profit on the futures market. The producer has a contract to sell gas and will close its position in the futures market by acquiring what is now a less expensive contract to buy gas. Thus, the producer effectively sells its gas at the "fixed" price. In this case, the producer was protected from the drop in prices on the cash market by the gain made in the futures transaction.

Natural gas marketers have been the most active participants in the futures contract market--protecting the value of the gas they have already purchased and attempting to fix prices for future purchases. Producers, end users, and municipal distribution companies have also participated; but many local distribution companies have been prevented from direct participation by their State regulatory agencies, primarily because procedures have not yet been approved for treating any gains and losses from futures market activities.¹⁸

There are several disadvantages in attempting to manage price risk directly through the futures market. First, hedges are rarely "perfect."¹⁹ Yet, the hedge may be quite good if over time there is a constant difference between the spot price and the closing futures price,

¹⁸Craig A. Glazer, "The Use of Futures, Options, and Derivatives in the Development of Fuel Supply Portfolios for Natural Gas Utilities," presented at the NYMEX Conference "Managing Energy Price Risk - A Seminar for Government Officials, Regulators and Utility Executives" (New York City, April 20, 1993); and Decision Analysis Corporation, "Management of Fuel Price Risk in the Public Sector" (Vienna, VA, October 31, 1993).

¹⁹Energy Information Administration, "Natural Gas Futures Contract Market--The First 2 Years," *Natural Gas Monthly*, November 1992, DOE/EIA-0130(92/11) (Washington, DC, November 1992).

e.g., they are always approximately \$0.02 apart. However, this rarely happens, so that losses and gains in the futures and cash markets do not exactly offset each other. Moreover, a hedger may want price protection at a delivery location other than the Henry Hub. In this case, it is important that the difference between the prices at the Henry Hub and another receipt point remain relatively constant.

Also, the examples did not account for the costs of participating in the futures market, such as brokerage fees, staff time to monitor the market, and the margin required. The margin is a performance bond that typically ranges from 5 to 15 percent of the value of the futures contract. Thus a 10-percent margin on a \$2.00 contract requires a margin of $0.10 \times \$2.00/\text{MMBtu} \times 10,000 \text{ MMBtu} = \$2,000$ for each futures contract. If the price of the futures contract moves adversely for the contract holder, the exchange will require an increase in the margin. Thus, participation in the futures market has some costs that may be hard to predict. At times, margin requirements have risen to the point that the market participant has been forced out of the market before being able to complete the desired hedge.

Another limitation in using the futures market is that only those prices at which futures contracts are traded can be hedged. The other financial instruments, options and swaps, have features that overcome this and other disadvantages of the futures market.

Options

Natural gas options began trading on the NYMEX on October 2, 1992. Unregulated options, referred to as "over the counter," are also available from banks and other financial institutions. An option is the right to buy or sell a futures contract (that is, to open a position in the futures market to buy or sell gas) at a particular price during a particular time period. Unlike for a futures contract, the holder of an option is not required to put up a margin. The cost of participating in the options market is simply the price of the option. This fee is paid once and does not vary over time as the value of the underlying futures contract changes.²⁰

Another difference from the futures market is that there is a range of prices at which a futures contract may be purchased through the option. In the futures market, a particular futures contract can only be purchased at its current price on the exchange. However, an option may be purchased to buy that futures contract at \$0.05 increments around the prior day's settlement price on the contract, within a range of \$0.25 above

and below that settlement price. The price at which the futures contract may be purchased is referred to as the "strike" price for the option. The range of available strike prices gives the purchaser of the option much more flexibility in choosing a price it would like to hedge.

Options are similar to insurance policies. The owner of an insurance policy receives an agreed upon amount of protection from adverse conditions in exchange for a fixed premium, and is only out the cost of the policy if conditions are favorable. With an option, a party receives partial protection from adverse price moves; but if the price move is favorable, the party can benefit, less the cost of the option. Thus, the holder of an option is not trying to fix an exact price of gas. In contrast, in the futures market example under conditions of a perfect hedge, the producer receives full protection from the fall in prices, but no benefit from the rise in prices--the hedged price was, in effect, fixed.

As an example of how an option may be used to manage price risk, consider again the position of a producer. As an owner and seller of gas, a producer would normally buy an option for a futures contract to sell gas. The producer would choose a strike price for that futures contract as close as possible to the minimum price at which it wants to sell gas on the cash market for that month. The producer wants to receive protection from prices falling below this strike price, but would also like to benefit if prices are above the strike price when it sells gas. Thus, the producer is hedging the strike price.

The option is only the right to obtain the futures contract--the option holder is not required to exercise the option and actually participate in the futures market. If the producer does exercise an option and opens a sell position in the futures market, it will do so at the strike price specified in the option. The producer will then simultaneously close this position by obtaining a futures contract to buy gas, but at the settlement price for the futures contract on that day. Whether or not the holder exercises the option, or simply lets it expire, depends on the price of the futures contract relative to the strike price.

As a first case (see "Financial Market Examples"), assume that the futures and spot prices are the same, and that they are higher than the strike price in the option. In this case, the producer will not exercise the option to sell in the futures market because the position would have to be closed with a more expensive buy position, generating a loss on the futures market. The producer will simply let its option expire. However, the producer will sell gas on the cash market at the higher spot price.

²⁰The primary sources for this section on options are: (1) Jacquelyn S. Mitchell, "Risk Management Flexibility with NYMEX Natural Gas Options," *Natural Gas* (June 1993); and (2) Frankil R. Edward and Cindy W. Ma, *Futures and Options* (New York: McGraw-Hill, Inc., 1992), pp. 57-73.

Financial Market Examples

This section shows how three major financial tools--futures options, and swaps--are used in conjunction with activity in the physical market to manage the risk inherent in volatile wellhead prices. In general, using these tools involves foregoing some opportunities for profit or savings, in exchange for protection from adverse price moves. For simplification, it is assumed in these examples that the spot or cash price for natural gas is equal to the price in the futures contract for the month in question. Also, the examples present payments on a per-unit basis only. In the market, parties will actually obtain a sufficient number of financial contracts to cover the total volume of gas for which they want price protection. For example, if a party were concerned about hedging the price for 100,000 million Btu of gas, the party would obtain 10 futures contracts because each futures contract is for 10,000 million Btu.

Futures

Parties that prefer the security of a regulated market and that can meet the margin requirements would use the futures market to fix the price of gas. Fixing the price allows them to limit losses on future sales or to stabilize the cost of future purchases. As an example of how the futures market can be used, consider a producer who sees a September futures market price of \$2.00 per million Btu (MMBtu) and who would like to sell gas in the cash market in September at that price. In order to lock in the \$2.00 selling price, the producer will enter the futures market now, obtaining a futures contract to sell gas in September at \$2.00. When trading on the September futures contract closes, the producer must offset its position by obtaining a futures contract to buy gas at the September closing price.

If the closing futures price on the September contract and the spot price for September delivery are \$2.00 per MMBtu, then the producer gets its desired price and there is no net gain or loss when closing the futures market position. If the price is not \$2.00 per MMBtu:

- **Case 1:** Spot and futures prices rise, for example to \$2.15 per MMBtu
 - The producer sells gas on the cash market for \$2.15 per MMBtu.
 - The producer sees a net loss of \$0.15 per MMBtu when closing on the futures market by selling at \$2.00 and buying at \$2.15.
 - The effective net selling price is $\$2.15 - \$0.15 = \$2.00$ per MMBtu.
- **Case 2:** Spot and futures prices fall, for example to \$1.80 per MMBtu
 - The producer sells gas on the cash market for \$1.80 per MMBtu.
 - The producer sees a net profit of \$0.20 per MMBtu when closing on the futures market by selling at \$2.00 and buying at \$1.80.
 - The effective net selling price is $\$1.80 + \$0.20 = \$2.00$ per MMBtu.

Options

If it is not important to fix the price but rather to limit risk within a range of prices, a party can enter the options market rather than dealing in the futures market directly. Parties may also use unregulated options to manage price risk if they want to go beyond the 18-month maximum available in the futures market. As an example of how an option can be used, consider a producer who pays \$0.05 per million Btu (MMBtu) to buy an option for a futures contract to sell gas at \$2.00 per MMBtu. Later, the producer will make a deal on the cash market at which time:

- **Case 1:** The spot and futures prices are higher than the price in the option, for example, \$2.15 per MMBtu
 - The producer will not exercise its right to sell the futures contract at \$2.00 because to close out its position on the futures market, it would have to acquire simultaneously a futures contract to buy gas at the current price of \$2.15, thus losing \$0.15 per MMBtu.
 - The producer will sell gas at an effective price of $\$2.15 - \$0.05 = \$2.10$ per MMBtu.
- **Case 2:** The spot and futures prices are lower than the price in the option, for example, \$1.80 per MMBtu
 - The producer will exercise its right to acquire the futures contract to sell gas at \$2.00 and will immediately close its position by acquiring a futures contract to buy gas at the current price of \$1.80, making a profit of \$0.20 per MMBtu.
 - The producer will sell gas at an effective price of $\$1.80 + \$0.20 - \$0.05 = \1.95 per MMBtu.

Financial Market Examples

Swaps

If a party wants to fix a particular price over a period of several years, it might consider using a swap. However, to enter into a swap, the party must have an excellent credit rating and a counterparty must be found that is interested in similar terms and conditions. As an example of how a swap can be used, consider an investment bank that matches a producer seeking to fix a price of \$2.00 per million Btu (MMBtu) for 3 years with an end user seeking to fix a price of \$2.01 per MMBtu for the same time period. Payments are exchanged between the producer and the bank and between the end user and the bank throughout the term of the contract, depending on the price of gas in each delivery month.

- **Case 1:** The spot price is higher than both "fixed" prices, for example, \$2.15 per MMBtu
 - The producer pays the bank $\$2.15 - \$2.00 = \$0.15$ per MMBtu, foregoing the extra profit that could have been earned.
 - The bank pays the end user $\$2.15 - \$2.01 = \$0.14$ per MMBtu, enabling the end user in effect to pay only \$2.01 for the gas it purchases on the cash market.
 - The bank receives \$0.01 more per MMBtu from the producer than it paid to the end user. It keeps this amount.
- **Case 2:** The spot price is lower than both "fixed" prices, for example, \$1.80 per MMBtu
 - The bank pays the producer $\$2.00 - \$1.80 = \$0.20$ per MMBtu, enabling the producer in effect to sell gas on the cash market at \$2.00 per MMBtu.
 - The end user pays the bank $\$2.01 - \$1.80 = \$0.21$ per MMBtu, foregoing the savings from the lower price on the cash market.
 - The bank receives \$0.01 more per MMBtu from the end user than it paid to the producer. It keeps this amount.
- **Case 3:** The spot price equals one of the "fixed" prices
 - The price is \$2.00. There is no exchange of payments between the bank and the producer. The end user pays the bank $\$2.01 - \$2.00 = \$0.01$ per MMBtu.
 - The price is \$2.01. The producer pays the bank $\$2.01 - \$2.00 = \$0.01$ per MMBtu. There is no exchange of payments between the bank and the end user.

Comparison of the Three Financial Tools

- **Futures**
 - Whether prices moved favorably or unfavorably, the producer was able to sell gas at an effective price of \$2.00 per MMBtu.
 - The producer had to provide sufficient margin to maintain its position in the futures market as the value of the futures contract changed over time.
 - Any transaction costs would have to be paid for out of the effective selling price.
- **Options**
 - When the price move was favorable, the producer benefited partially, selling gas at an effective price of \$2.10 per MMBtu. The fee for the option was accounted for, but other transaction costs were not.
 - When the price move was not favorable, the producer was partially protected, selling gas at an effective price of \$1.95 per MMBtu. The fee for the option was accounted for, but other transaction costs were not.
- **Swaps**
 - Whether prices moved favorably or unfavorably, the producer was able to sell gas at an effective price of \$2.00 per MMBtu, and the end user was able to buy gas at the effective price of \$2.01 per MMBtu. The bank received income from each transaction.

The net price for the producer will be the spot price less the cost of the option. Recall that when hedging directly in the futures market, the producer's effective sales price exactly matched the hedged price.

Alternatively, if the futures and spot prices are the same and lower than the strike price in the option, then the producer will exercise its option because the profit on the futures market will partially offset the loss from selling on the cash market at the lower spot price. On the futures market, the producer will open a sell position at the strike price, then immediately close this out with a buy position at the currently lower price. The gain on the futures market will not exactly match the loss on the cash market because the price of the option itself must also be considered.

Swaps

A swap is an exchange of cash flows between two parties based on the difference between the price of natural gas set in the swap (the fixed price) and the current price in an agreed upon index, such as the spot price at the Henry Hub. Swaps are often described as being between a participant in the market, such as a producer, and a financial institution. However, in reality, the financial institution will attempt to match parties with opposite positions in the market, such as a producer and an end user, who are seeking to hedge nearly the same price.²¹ The price being hedged by each party is not necessarily restricted to any particular futures market price or any range of prices. However, because the parties are trying to fix prices at which they will either sell or buy gas on the cash market, their decisions will be influenced by conditions in both the physical and financial markets.

Because of their flexibility, swaps enable buyers and sellers of gas to fix the effective price paid or received better than any other price risk management tool. Swap agreements have been known to go out for 5 years or more. Thus, they are popular with parties interested in fixing prices over several years in order to support investment loans.

As an example of how a swap works, consider an arrangement between a producer and a financial institution, such as an investment bank (see "Financial Market Examples"). The two parties will agree on a term for the swap, a fixed price, and a means of determining the price on the cash market for each month. Then in each month, the producer will sell gas on the cash market and will either make a payment to the bank or receive a payment from the bank depending on the

relationship between the fixed price in the swap and the cash market price. If the price on the cash market is above the fixed price, the producer will pay the bank. If the price on the cash market is below the fixed price, the bank pays the producer.

The producer is willing to forego the profits to be made when selling at the higher price in order to receive the price protection when the spot price falls below the fixed price. The producer is able to pay the bank when the spot price is higher than the fixed price because the producer sells gas on the cash market in that month at that higher price. The bank, however, seeks another party in the swap in order to cover payments it must make to the producer.

Thus, consider the addition of an end user to this example. The end user needed to complete this swap would be seeking to fix a price a few cents per unit of gas higher than that of the producer. When the spot price is above both fixed prices in the swap, the producer pays the bank, and the bank pays the end user. Because the end user's fixed price is higher than that of the producer, the bank pays the end user less than what it receives from the producer, keeping the difference. Similarly, when the spot price is less than both fixed prices, the end user pays the bank and the bank pays the producer. But, the bank pays the producer less than what it receives from the end user, again keeping the difference.

In this situation, the end user is receiving the same kind of price protection as is the producer. The end user is willing to pay the price for gas that was fixed in the swap. In a month when the spot price is higher than the fixed price, the end user will buy the gas at this higher price, but will receive a compensating payment from the bank. When the spot price is lower than the fixed price, the end user will buy the cheaper gas on the spot market and pay the difference to the bank.

This description of swaps may give the impression that all parties would want to use a swap rather than futures or options in order to manage their price risk. However, there are two considerations that prevent this from happening. First, because the features of a swap are often tailored to the particular needs of the parties (e.g., fixed price, spot price, term, volume of gas), the swaps market is much less liquid than either the natural gas options or futures market. Second, because swaps are not regulated by any government agency, the parties to a swap are responsible for judging the financial soundness of the other parties. Each participant in the market will typically run a thorough credit check of the bank and the bank will likewise check the

²¹The principal sources for this section on swaps are: (1) Petroleum Industry Research Associates, Inc., *DOE Energy Policy Act Derivative Study* (New York, NY, August 1993); (2) Group of Thirty, *Derivatives: Practices and Principles* (Washington, DC, July 1993); (3) David Apsel, Jack Cogen, and Michael Rabin, "Hedging Long Term Commodity Swaps with Futures," *The Global Finance Journal*, 1, 1, (1989), pp. 77-93; (4) Mark E. Haedicke, "Contracts For the New Natural Gas Business," *Energy Law Journal*, 13, 2 (1992), pp. 313-333; and (5) Michael Emerson, "Basis Risk & EFP's," presented at the Energy Decisions Inc. Conference, "Natural Gas Risk Management: Putting the Pieces Together" (Houston, TX, July 19-20, 1993).

creditworthiness of the other parties. Many participants in the natural gas market are not sufficiently credit-worthy to engage in a swap. Many also find that the total cost of using the swap market (credit checks and other costs) is greater than engaging in either the options or futures markets.

Supply Risk Management

Although price risk management can be effectively obtained through financial contracts, the risk that gas may not be shipped and received when needed cannot be covered through such contracts. Supply risk is usually addressed by placing specific clauses and conditions in contracts and, in addition, by an overall strategy of supply source diversification.

Contract Provisions

"Evergreen" or rollover clauses, for example, extend the obligation of the buyer and seller to ship and receive gas, respectively, after the term of the contract has expired. Such clauses were suggested by FERC in Order 636. These clauses essentially provide the buyer and seller with a grace period to ensure that there is time to make adjustments at the end of a contract to avoid a disruption in supplies.

Some contracts have "corporate guarantee" clauses that obligate the parent of an affiliate, such as a marketing affiliate of a producing company, to supply gas if the affiliate goes bankrupt or is otherwise unwilling or unable to make delivery of gas under a contract.²²

Many think that the coordination capability of the gas industry has been reduced as a consequence of the numerous contracts for small volumes of gas and that the chance of local bottlenecks has increased. Thus, some buyers now require regional "supply diversity" provisions in contracts to ensure that the seller maintains geographically diverse sources of supply.²³

Other clauses reflect the increased sophistication of the gas industry. Buyers realize that marketers deal with many buyers with different requirements and are aware of changes in the current needs of these customers. Thus, a marketer can use "gas diversion" clauses in order to divert gas intended for one region to satisfy an unexpected increase in demand in another region.²⁴

Creditworthiness

Another way for two parties to guard against the possibility of nonperformance is to assess each other's underlying creditworthiness. For example, the expected performance of the seller is evaluated by the seller's capability to deliver natural gas consistently from existing reserves over time. The buyer, on the other hand, is evaluated by its ability to make payments from current and expected income. Because performance may take the form of a payment equivalent to the amount of gas stipulated in the contract at current prices, the financial integrity of the seller is also important. For example, if the seller is unable to deliver the amount of natural gas indicated on the contract, the seller should pay the buyer sufficient funds to obtain replacement gas from another seller.

The establishment of creditworthiness is often a time-consuming component of the natural gas contracting process. But time spent in establishing creditworthiness is saved later in more efficient contracting for gas shipments. If the company is an affiliate of another larger, possibly more credit-worthy, parent company, then the parent company may be asked to guarantee any debt stemming from the contract.

Use of Underground Storage

Still another way that companies can address supply reliability is through contracting for storage services. This strategy can be effectively used by both the purchaser and the seller. Underground storage facilities are most frequently situated near major consuming or major producing areas. An end user in Ohio, for example, frequently contracts for storage services from a nearby storage operator in Ohio or Pennsylvania in order to obtain gas on peak days, when the pipeline system from producing areas is operating at full capacity. A producer may develop storage services as a back-up in case production problems develop, such as well freezeoffs or other operational problems.

Storage service contracts enable the end user to minimize the need for expensive swing contracts or other peaking service contracts. The availability of storage also enables producers to avoid purchasing gas from other producing companies during peak demand periods when gas is expensive. Underground storage is an excellent way to manage both daily and seasonal supply risks, yet it is costly to use for price risk management because the cost of storing gas can easily add a dollar or more to the price per thousand cubic feet.²⁵

²²John Gregg, "Getting Your Mind Right! Gas Supply Contracting Without a Safety Net," *Public Utilities Fortnightly* (Washington, DC, October 1992), pp. 31-33.

²³John C. Herbert, "New Features in Long-Term Contracts from Order 636," *Natural Gas* (April 1993), pp. 6-10.

²⁴John C. Herbert, "New Features in Long-Term Contracts from Order 636," *Natural Gas* (April 1993), pp. 6-10.

²⁵Energy Information Administration, "The Expanding Role of Underground Storage," *Natural Gas Monthly*, October 1993, DOE/EIA-0130(93/10) (Washington, DC, October 1993); and Gas Daily, "New Projects Are Abundant But Is the Need There?" *Gas Daily's Gas Storage Report* (Rosslyn, VA: PASHA Publications, May 1993), pp. 1-12.

Supply Diversity

Supply risk can also be controlled by obtaining supply diversity. Large buyers frequently have contracts for capacity on several pipelines so that they can obtain gas from several producing areas. Marketers and other sellers also move gas to pooling points where they then allocate the gas to buyers.²⁶ Marketers have contracts with suppliers throughout the producing regions of the United States. Suppliers, in turn, have producing wells in a wide variety of producing regions.

No-Notice Service

Supply reliability can also be enhanced through a new firm service, called "no-notice." FERC Order 636 requires interstate pipeline companies that formerly provided sales service to offer their customers no-notice service, whereby a customer may receive gas on demand, up to the customer's contracted amount, without incurring the daily balancing and scheduling penalties that could occur under regular firm transportation service. No-notice service may consist of transportation only, storage only, or a combination of both. No-notice service is more expensive than regular firm service because of the additional resources needed to provide it. For example, a pipeline company may have to divert gas from interruptible customers, alter system line-packing, or withdraw gas from its own storage. Thus, customers must evaluate their typical usage patterns to decide whether paying the premium for no-notice service is less expensive than paying penalties that may occur under firm transportation or storage services.

Conclusion

Supply contracts being written today no longer contain the inflexible price and volume clauses that precipitated the market disruption seen during the past 20 years. Instead, the movement toward shorter term contracts, indexed pricing, and take-or-release clauses all provide the flexibility to ensure that contracts for gas purchases and sales reflect current market conditions. No longer are many contracts being written where buyers have an obligation to take large amounts of gas under a long-term commitment even if they cannot sell the gas (take-or-pay clauses). Instead, large buyers are purchasing gas under short-term contracts that give them the flexibility to purchase gas from sellers in regions with the lowest prices.

Some customers opt for mid-term contracts that are indexed to a price at a particular receipt point. This contract gives them greater security of supply but

more price risk than in a short-term contract. The buyer's competitive capability is limited in mid-term contracts because the particular receipt point price index in the contract may not represent the cheapest gas available in the market. Moreover, the customer usually pays a fixed reservation or service fee per month that could be avoided in a short-term contract. Yet, the customer still obtains a market-based rate by indexing the cost of gas to a published price because this price reflects changes over time in supply and demand conditions.

Long-term contracts are another matter. Because the term of futures contracts extends out only 18 months, it is more difficult to hedge price risk or to fix prices for these contracts. Thus, many of these contracts are between parties with special requirements in which both parties want to fix the cost and quantity of gas to be delivered over time in such a way that it will better enable the parties to support investment projects or other corporate goals.

In today's more competitive natural gas market, available supplies, even in long-term contracts, tend not to be dedicated to a particular buyer. In fact, the market is constantly reallocating available supplies based on current supply and demand conditions.

There are two key elements in the new contracting environment. One is the development of marketing companies who can rebundle the services formerly provided by pipeline companies. Marketers are not only providers of gas but providers of many of the services required for companies to operate effectively in the highly competitive natural gas marketplace. The other element is the futures contract market and other financial markets. These markets enable buyers and sellers to discover price and to control the price risk inherent in the new gas market where prices can be very volatile.

Although price risk management is handled well by the financial markets, supply risk management is handled by special provisions in contracts and by supply diversification. Creditworthiness is also very important for supply risk management since sellers are not only interested in shipping gas but in getting paid for the gas they ship on a regular basis. Creditworthiness is also particularly important for long-term contracts, both financial and physical. If parties to a contract do not have the highest credit rating, then a long-term contract between them is not likely to be completed. However, an increasing emphasis on establishing creditworthiness within the gas industry will enable many contracts to be much simpler than otherwise.

A final cost that needs to be considered in evaluating the new gas industry is the increase in the number of

²⁶John C. Herbert, "Natural Gas Contracts: Issues and Strategies, Marketer Perspective," Gas Daily Conference (Houston, TX, November 4, 1993).

contracts. Total transaction costs have risen as a consequence of this growth. Formerly, the integration of gas services by pipeline companies resulted in savings in terms of transaction costs.

Today, the relationships and assignment of responsibilities necessary to provide reliable gas service are codified in the numerous contracts for unbundled gas service. In fact, because these services are priced to

reflect current supply and demand conditions, there are important gains in efficiency from the improved allocation of resources and minimization of costs. Yet, it is still unclear to many whether the reduced costs from such efficiency gains are greater than the increased transaction costs from the increased number of contracts being signed.²⁷ This is one of the many trade-offs that are sure to be much discussed within the gas industry during the next several years.

²⁷For a useful discussion, see David J. Teece, "The Uneasy Case for Mandatory Contract Carriage in the Natural Gas Industry," Cato Institute and Institute for Energy Research Conference, "New Horizons in Natural Gas Regulation" (Washington, DC, March 4, 1993).

Overview

Highlights

In February 1994, the Energy Information Administration published its quarterly forecast of short-term energy supply, demand, and prices in the *Short-Term Energy Outlook, Quarterly Projections, First Quarter 1994 (STEO)*. The *STEO* covers four major energy sources: petroleum and petroleum products, natural gas, coal, and electricity. The forecasts in this current *STEO* cover the period from the first quarter of 1994 through the fourth quarter of 1995.

The projections made for natural gas are based on the following assumptions: real gross domestic product (GDP) growth will average 3 percent in 1994 and 2.4 percent in 1995 (1993 GDP averaged 2.8 percent); world oil prices during the first half of 1994 will average \$15 per barrel and gradually increase to \$17 per barrel by late 1995; and weather temperatures will remain normal. Given these assumptions, the *STEO* forecasts the following for natural gas through the first quarter of 1995:

Consumption

- Gas demand in the first half of 1993 was lower than projected because of higher wellhead prices and increased generation of other fuels. Demand rose dramatically (up 9.4 trillion cubic feet) during the second half of 1993, resulting in an annual increase of 4 percent. Electricity demand surged, causing a substantial rise in industrial and electric utility demand for natural gas.
- Gas demand is forecast to rise in 1994 by 2 percent to 20.6 trillion cubic feet due to low oil prices and normal summer weather. Gas demand in 1995 is expected to rise by an additional 2 percent to 20.9 trillion cubic feet with stronger economic growth and rising oil prices.
- Consumption in the industrial sector moderated the first half of 1993 because of higher gas prices. During the second half of 1993, however, rising economic growth, coupled with lower gas prices, resulted in a strong recovery. Industrial gas demand is projected to remain steady in 1994

at 7.8 trillion cubic feet and increase slightly in 1995 to 8 trillion cubic feet.

- Residential and commercial consumption in 1993 increased by 4 percent and 2 percent, respectively, as weather resumed a normal pattern. Demand in 1994 is projected to increase 4 percent to 5 trillion cubic feet for residential, but less than 1 percent to 2.9 trillion cubic feet for commercial as customers continue to increase.
- Utility gas demand fell in the first half of 1993, but rose more than expected during the second half to 2.8 trillion cubic feet.
- Natural gas generation is expected to help coal and oil meet the 3-percent increased demand for electricity in 1994 of 3 trillion cubic feet. In 1995, electricity demand will moderate at 3.1 trillion cubic feet.

Production

- In 1993 annual domestic production was up 2 percent to 18.3 trillion cubic feet.
- By late 1994, gas-directed drilling will respond to improved gas prices. Not enough new reserves are being brought on line because not enough capital is being invested in exploration and drilling. Production is projected to remain steady at 18.3 trillion cubic feet in 1994 and at 18.4 trillion cubic feet in 1995.

Imports

- Net imports, which are primarily from Canada, are projected to rise 5 percent in 1994 to 2.2 trillion cubic feet, reflecting a large increase in capacity. As in 1993, 1995 imports are projected to increase by 11 percent.

Wellhead Prices

- The average natural gas wellhead price of \$1.99 in 1993 was 15 percent, or 26 cents per thousand cubic feet higher than in 1992. As oil prices weaken, wellhead prices are projected to in-

crease by only 13 cents per thousand cubic feet in 1994 to \$2.12 and by 8 cents in 1995 to \$2.20.

Supply and Disposition

The Energy Information Administration estimates that marketed production (gross withdrawals less gas used for repressuring, quantities vented and flared, and nonhydrocarbon gases removed in treating or processing operations) totaled 1,686 billion cubic feet in December 1993 (Table 1). This is 2 percent higher than in December 1992.

The total gas supply available for disposition in December 1993 was an estimated 2,207 billion cubic feet, 1 percent greater than in December 1992 (Table 2). The December 1993 total includes 499 billion cubic feet withdrawn from storage, 13 billion cubic feet of supplemental fuel supplies, and 198 billion cubic feet of imported gas.

On the disposition side, the consumption of 2,138 billion cubic feet was 24 percent greater than in November 1993 and 1 percent greater than in December 1992 (Table 2). Total disposition included 58 billion cubic feet of gas injected into underground storage reservoirs and exports of 11 billion cubic feet.

Consumption

Data for the four major end-use sectors indicate that the total amount of gas delivered to all consumers in November 1993 was 1,572 billion cubic feet, 20 percent greater than in October 1993 (Table 3). Consumption in the industrial sector decreased from 653 billion cubic feet in October 1993 to 644 billion cubic feet in November 1993, a decrease of 1 percent.

The electric utility sector consumed 208 billion cubic feet in November 1993, which is 11 percent less than in October 1993 and a 10 percent increase from November 1992.

The residential sector consumed 455 billion cubic feet in November 1993, 4 percent greater than in November 1992. The commercial sector consumed 264 billion cubic feet in November 1993, 3 percent greater than in November 1992.

Prices

In November 1993, major interstate pipeline companies paid an average of \$2.32 per thousand cubic feet for gas purchased from domestic producers, 13 percent greater than October's \$2.05 price and almost identical to what was paid in November 1992 (Table 4). In November 1993, these pipeline companies paid \$1.85 per thousand cubic feet for imported gas.

Distributors paid an average \$3.14 per thousand cubic feet for gas at the city gate in November 1993. This is less than 1 percent less than what these distributors paid in October 1993 and 6 percent less than they paid in November 1992. Residential consumers paid \$6.16 per thousand cubic feet in November 1993, 2 percent higher than what they paid in November 1992. Commercial consumers paid \$5.13 per thousand cubic feet in November 1993, almost identical to what they paid in October 1993 and October 1992.

Industrial consumers paid \$3.09 per thousand cubic feet in November 1993, a 7-percent increase from the October 1993 price of \$2.88 and 5 percent less than in November 1992. Electric utilities paid an average of \$2.45 per thousand cubic feet in October 1993, a 9-percent decrease from the \$2.69 per thousand cubic feet paid in September 1993.

Table 1. Summary of Natural Gas Production in the United States, 1987-1993
(Billion Cubic Feet)

Year and Month	Gross Withdrawals	Repressuring	Nonhydrocarbon Gases Removed ^a	Vented and Flared	Marketed Production (Wet)	Extraction Loss ^b	Total Dry Gas Production ^c
1987 Total	20,140	2,208	376	124	17,433	812	16,621
1988 Total	20,999	2,478	460	143	17,918	816	17,103
1989 Total	21,074	2,475	382	142	18,095	785	17,311
1990 Total	21,523	2,489	289	150	18,594	784	17,810
1991							
January	1,958	235	24	13	1,686	76	1,610
February	1,738	221	22	12	1,483	67	1,417
March	1,889	245	24	13	1,607	72	1,535
April	1,800	234	21	14	1,531	69	1,462
May	1,786	227	23	15	1,522	69	1,453
June	1,713	226	22	14	1,451	65	1,385
July	1,740	236	23	16	1,465	66	1,399
August	1,741	231	23	15	1,471	66	1,405
September	1,716	214	24	14	1,464	66	1,398
October	1,864	245	23	15	1,580	71	1,509
November	1,864	226	23	15	1,600	72	1,528
December	1,842	231	24	15	1,673	75	1,597
Total	21,750	2,772	276	170	18,532	835	17,698
1992							
January	1,952	251	24	14	1,663	77	1,586
February	1,748	247	22	13	1,467	68	1,398
March	1,837	254	22	14	1,547	72	1,475
April	1,801	246	24	13	1,518	71	1,447
May	1,842	248	24	12	1,557	73	1,485
June	1,800	246	23	15	1,515	71	1,444
July	1,842	238	24	16	1,564	73	1,491
August	1,799	237	24	15	1,522	71	1,451
September	1,786	242	21	15	1,508	70	1,437
October	1,899	253	25	13	1,608	75	1,533
November	1,871	246	23	14	1,588	74	1,514
December	1,956	263	24	14	1,656	77	1,579
Total	22,132	2,973	280	168	18,712	872	17,840
1993							
January	^R 1,994	^R 271	22	15	^R 1,687	^R 79	^R 1,608
February	^R 1,790	^R 248	21	^R 15	^R 1,505	70	^R 1,435
March	^R 1,961	^R 268	21	^R 15	^R 1,657	^R 77	^R 1,579
April	^R 1,889	256	22	16	^R 1,595	74	^R 1,520
May	^R 1,920	^R 262	21	^R 16	^R 1,620	^R 76	^R 1,545
June	1,835	242	21	15	1,557	73	1,484
July	^R 1,890	^R 249	^R 23	^R 17	^R 1,602	^R 75	^R 1,527
August	^R 1,889	^R 250	22	^R 17	^R 1,600	^R 75	^R 1,525
September	^R 1,870	^R 256	^R 22	^R 16	^R 1,576	73	^R 1,502
October	^R 1,862	^R 272	22	^R 16	^R 1,652	^R 77	^R 1,575
November	^E 1,913	^E 257	^E 22	^E 15	^E 1,618	^E 75	^E 1,543
December	^E 1,999	^E 273	^E 23	^E 17	^E 1,686	^E 79	^E 1,607
Total	22,912	3,105	263	190	19,353	902	18,452

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

^b Extraction loss is only collected on an annual basis. Annually it is between 4 and 5 percent of marketed production. Monthly extraction loss is estimated from monthly marketed production by assuming that the preceding annual percentage remains constant for the next twelve months.

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

^E = Estimated Data.

^R = Revised Data.

Notes: Data for 1987 through 1992 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 1992*, Table 7 and EIA estimates, January 1993 through current month. See Appendix A, Explanatory Notes 1, 3, and 6 for discussion of computation, estimating procedures, and revision policy.

Table 2. Supply and Disposition of Dry Natural Gas in the United States, 1987-1993
(Billion Cubic Feet)

Year and Month	Supply					Total Supply/Disposition ^d	Disposition		
	Total Dry Gas Production	Withdrawals from Storage ^a	Supplemental Gaseous Fuels ^b	Imports	Balancing Item ^c		Additions to Storage ^a	Exports	Consumption ^e
1987 Total	16,621	1,905	101	993	-444	19,176	1,911	54	17,211
1988 Total	17,103	2,270	101	1,294	-453	20,315	2,211	74	18,030
1989 Total	17,311	2,854	107	1,382	-218	21,435	2,528	107	18,801
1990 Total	17,810	1,986	123	1,532	-149	21,302	2,499	86	18,716
1991									
January	1,610	682	12	163	-44	2,423	115	10	2,299
February	1,417	409	10	138	62	2,035	112	11	1,912
March	1,535	297	11	151	-15	1,979	129	10	1,840
April	1,462	104	9	144	65	1,785	234	9	1,542
May	1,453	58	9	141	13	1,675	331	8	1,337
June	1,385	42	8	133	-37	1,531	326	7	1,199
July	1,399	75	9	135	-28	1,590	299	8	1,283
August	1,405	82	9	127	-48	1,574	290	10	1,274
September	1,398	78	8	134	-72	1,545	304	11	1,231
October	1,509	103	10	157	-88	1,691	258	14	1,419
November	1,528	360	9	169	-209	1,856	150	15	1,691
December	1,597	461	11	181	-98	2,151	125	18	2,009
Total	17,698	2,752	113	1,773	-500	21,836	2,672	129	19,035
1992									
January	1,586	624	12	165	-71	2,315	60	16	2,239
February	1,398	463	11	175	42	2,089	45	14	2,031
March	1,475	397	11	180	-42	2,022	74	23	1,926
April	1,447	142	10	176	89	1,864	161	18	1,685
May	1,485	44	9	174	68	1,780	344	19	1,418
June	1,444	35	8	162	16	1,666	384	18	1,284
July	1,491	42	8	167	-8	1,700	373	16	1,311
August	1,451	46	8	175	-19	1,662	380	18	1,264
September	1,437	40	8	166	-24	1,629	362	18	1,249
October	1,533	70	10	176	-130	1,659	271	19	1,368
November	1,514	282	11	210	-239	1,778	88	19	1,672
December	1,579	587	12	209	-191	2,195	58	19	2,119
Total	17,840	2,772	118	2,138	-508	22,360	2,599	216	19,544
1993									
January	^a 1,608	^a 607	13	198	^a -65	^a 2,361	50	18	^a 2,293
February	^a 1,435	578	12	183	^a 3	^a 2,212	27	13	^a 2,172
March	^a 1,579	^a 382	12	199	^a 60	^a 2,233	^a 79	17	^a 2,137
April	^a 1,520	^a 110	10	185	^a 78	^a 1,904	^a 222	12	^a 1,671
May	^a 1,545	25	8	160	^a 21	^a 1,780	^a 457	12	^a 1,290
June	^a 1,484	^a 44	10	178	^a -8	^a 1,708	^a 418	11	^a 1,280
July	^a 1,527	^a 49	9	190	^a -19	^a 1,756	^a 399	^a 13	^a 1,345
August	^a 1,525	^a 100	9	184	^a -42	^a 1,776	^a 421	^a 10	^a 1,345
September	^a 1,502	^a 28	9	188	^a 2	^a 1,729	^a 382	^a 10	^a 1,337
October	^a 1,575	^a 102	10	^a 189	^a -155	^a 1,721	^a 255	^a 8	^a 1,458
November	^a 1,543	^a 316	^a 12	^a 182	^a -206	^a 1,846	^a 112	^a 10	^a 1,725
December	^a 1,607	499	^a 13	^a 198	-110	2,207	58	^a 11	^a 2,138
Total	18,452	2,840	128	2,235	-440	23,214	2,879	142	20,192

^a Monthly and annual data for 1987 through 1992 include underground storage and liquefied natural gas storage. Data for January 1993 forward include underground storage only. See Appendix A, Explanatory Note 7 for discussion of computation procedures.

^b Supplemental gaseous fuels data are only collected on an annual basis except for the Dakota Gasification Inc. coal gasification facility where they are gathered each month. The ratio of annual supplemental fuels (excluding Dakota Gasification Inc.) to the sum of dry gas production, net imports, and net withdrawals from storage is calculated. This ratio, which varies between .0028 and .0037, is applied to the monthly sum of these three elements. The Dakota Gasification Inc. monthly value is added to the result to produce the monthly supplemental fuels estimate.

^c Represents quantities lost and imbalances in data due to differences among data sources. See Appendix A, Explanatory Note 10 for full discussion.

^d "Total" data for 1987 through 1992 do not equal equivalent data in Table 1 of the *Natural Gas Annual 1992* due to the exclusion of intransit receipts and deliveries in the NGM.

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

^a = Estimated Data.

^a = Revised Data.

^a = Revised Estimated Data.

Notes: Data for 1987 through 1992 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 1992*, 1987 through 1992; IOGCC, MMS reporting, and EIA estimates, January 1993 through current month. See Appendix A, Explanatory Note 3 for estimation procedures and revision policy. *Withdrawals from and Additions to Storage: EIA *Natural Gas Annual 1992*, 1987 through 1992; Form EIA-191, January 1993 through current month. *Supplemental Gaseous Fuels: EIA *Natural Gas Annual 1992* 1987 through 1992; and EIA computations, January 1993 through current month. See Appendix A, Explanatory Note 2 for discussion of computation procedures and revision policy. *Imports and Exports: Form FPC-14, 1987 through 1992; and EIA estimates, January 1993 through the current month. See Appendix A, Explanatory Note 4 for discussion of procedures and revision policy. *Consumption and Balancing Item: EIA *Natural Gas Annual 1992*, 1987 through 1992; and EIA computations, January 1993 through current month. See Appendix A, Explanatory Notes 5 and 10 for discussion of computation procedures and revision policy.

Figure 1. Production and Consumption of Natural Gas in the United States, 1990-1994

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

Table 3. Natural Gas Consumption in the United States, 1987-1993
(Billion Cubic Feet)

Year and Month	Lease and Plant Fuel ^a	Pipeline Fuel ^b	Delivered to Consumers					Total Consumption
			Residential	Commercial	Industrial	Electric Utilities	Total	
1987 Total	1,149	519	4,315	2,430	5,953	2,844	15,542	17,211
1988 Total	1,096	614	4,630	2,670	6,383	2,636	16,320	18,030
1989 Total	1,070	629	4,781	2,718	6,816	2,787	17,102	18,801
1990 Total	1,236	660	4,391	2,623	7,018	2,787	16,820	18,716
1991								
January	102	74	844	434	672	173	2,123	2,299
February	90	61	664	359	591	146	1,761	1,912
March	98	58	573	310	607	193	1,683	1,840
April	93	49	373	225	586	216	1,400	1,542
May	93	42	229	154	571	249	1,202	1,337
June	89	37	148	119	546	260	1,073	1,199
July	90	40	126	125	572	330	1,153	1,283
August	90	40	118	113	586	328	1,144	1,274
September	89	38	138	121	582	263	1,103	1,231
October	97	44	225	163	626	263	1,278	1,419
November	97	54	459	256	627	198	1,540	1,691
December	101	64	658	350	665	170	1,843	2,009
Total	1,129	601	4,556	2,729	7,231	2,789	17,305	19,035
1992								
January	104	68	786	410	701	169	2,067	2,239
February	92	62	696	366	644	170	1,876	2,031
March	97	58	574	315	674	208	1,770	1,926
April	95	51	431	250	628	229	1,539	1,665
May	97	42	251	170	620	236	1,278	1,418
June	95	37	162	125	578	266	1,132	1,264
July	98	39	132	122	587	334	1,175	1,311
August	95	37	126	121	582	303	1,131	1,264
September	94	37	137	121	586	274	1,117	1,249
October	101	41	241	166	608	213	1,227	1,368
November	99	50	437	256	641	189	1,523	1,672
December	104	64	717	381	677	176	1,951	2,119
Total	1,171	588	4,690	2,803	7,527	2,766	17,786	19,544
1993								
January	^R 106	^R 69	834	421	699	164	2,119	^R 2,293
February	^R 94	65	770	408	672	162	2,012	^R 2,172
March	^R 104	64	703	374	699	194	1,969	^R 2,137
April	100	^R 50	450	257	639	174	1,521	^R 1,671
May	^R 101	^R 39	234	156	593	167	1,150	^R 1,290
June	97	38	164	127	598	255	1,144	1,280
July	^R 100	40	130	123	618	333	1,204	^R 1,345
August	^R 100	40	120	115	613	357	1,205	^R 1,345
September	^R 99	40	142	123	675	259	1,198	^R 1,337
October	103	44	252	172	653	233	1,311	^R 1,458
November	101	52	455	264	644	208	1,572	1,725
1993 YTD	1,106	543	4,253	2,542	7,104	2,506	16,405	20,192
1992 YTD	1,067	523	3,973	2,422	6,850	2,590	15,835	19,544
1991 YTD	1,028	537	3,897	2,378	6,566	2,619	15,461	19,035

^a Plant fuel data are only collected on an annual basis and monthly lease fuel data are only collected annually. Lease and plant fuel estimates have been between 6 and 7 percent of marketed production annually. Monthly lease and plant fuel use is estimated from monthly marketed production by assuming that the preceding annual percentage remains constant for the next twelve months.

^b Pipeline fuel use is only collected on an annual basis. Annually it is between 3 and 4 percent of total consumption. Monthly pipeline fuel data are estimated from monthly total consumption (excluding pipeline fuel) by assuming that the preceding annual percentage remains constant for the next twelve months.

^R = Revised Data.

Notes: Data for 1987 through 1992 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 1992*, 1987 through 1992; and Form EIA-857 and computations January 1993 through the current month. See Appendix A, Explanatory Note 5 for computation procedures and revision policy. Electric utility data: Form EIA-759, "Monthly Power Plant Report" (formerly Form FPC-4).

Figure 2. Natural Gas Deliveries to Consumers in the United States, 1989-1993

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

Table 4. Selected National Average Natural Gas Prices, 1987-1993
(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	Industrial	Electric Utilities ^c
1987 Annual Average	1.67	2.17	2.10	2.87	5.54	4.77	2.94	2.32
1988 Annual Average	1.69	2.00	2.13	2.92	5.47	4.63	2.95	2.33
1989 Annual Average	1.69	2.04	2.18	3.01	5.64	4.74	2.96	2.43
1990 Annual Average	1.71	2.03	2.19	3.03	5.80	4.83	2.93	2.38
1991								
January	1.96	2.20	2.19	3.08	5.54	4.94	3.25	2.70
February	1.62	2.10	1.93	2.94	5.56	4.94	2.97	2.35
March	1.49	1.92	2.02	2.78	5.60	4.89	2.75	2.21
April	1.50	2.03	1.87	2.74	5.90	4.87	2.68	2.10
May	1.48	1.99	1.96	2.76	6.28	4.65	2.40	2.01
June	1.43	2.03	1.75	2.86	6.97	4.80	2.34	1.94
July	1.34	2.11	1.79	2.74	7.23	4.50	2.23	1.88
August	1.43	1.71	1.71	2.78	7.36	4.73	2.29	1.96
September	1.59	1.84	1.76	2.91	6.92	4.57	2.40	2.19
October	1.82	2.00	1.94	2.92	6.20	4.58	2.69	2.35
November	1.89	2.20	2.02	2.92	5.51	4.71	2.84	2.43
December	2.00	2.09	2.11	3.05	5.51	4.84	3.09	2.64
Annual Average	1.64	2.02	1.92	2.90	5.82	4.81	2.69	2.18
1992								
January	1.74	2.20	2.10	2.90	5.53	4.85	3.04	2.49
February	1.26	1.98	1.70	2.70	5.54	5.03	2.78	2.03
March	1.35	1.45	1.90	2.61	5.50	4.77	2.58	1.99
April	1.42	2.01	1.73	2.74	5.62	4.77	2.54	2.07
May	1.51	1.79	1.99	2.90	6.15	4.59	2.44	2.11
June	1.62	2.03	2.16	3.00	6.84	4.72	2.53	2.18
July	1.55	1.89	1.86	3.01	7.27	4.64	2.54	2.13
August	1.84	1.85	2.14	3.18	7.45	4.73	2.71	2.42
September	1.92	2.05	2.13	3.23	7.15	4.69	2.82	2.51
October	2.38	2.13	2.69	3.50	6.52	4.90	3.21	3.04
November	2.13	2.32	R 2.33	3.33	6.02	5.12	3.26	2.87
December	2.07	1.92	2.40	3.17	5.74	5.11	3.38	2.81
Annual Average	1.74	1.97	R 2.09	3.01	5.89	4.88	2.84	2.36
1993								
January	1.96	2.02	2.17	3.11	5.71	5.18	3.26	2.70
February	1.72	1.91	1.94	2.94	5.71	5.08	3.12	2.55
March	1.89	1.78	2.20	3.06	5.66	5.06	3.08	2.61
April	2.05	2.15	2.34	3.24	5.99	5.13	3.13	2.75
May	2.30	2.13	2.81	3.58	6.72	5.21	3.24	2.90
June	1.87	1.95	2.03	3.44	7.32	5.31	2.95	2.47
July	1.91	1.78	2.02	3.34	7.83	5.03	2.71	2.46
August	2.00	2.02	2.35	3.35	8.10	5.26	2.86	2.60
September	2.11	2.17	2.58	3.52	7.74	5.27	3.03	2.69
October	R 1.93	1.97	2.05	3.15	6.75	5.12	2.88	2.45
November	E 2.06	1.85	2.32	3.14	6.16	5.13	3.09	NA
1993 YTD	1.98	1.98	2.25	3.20	6.16	5.14	3.04	2.60
1992 YTD	1.70	1.97	2.07	2.98	5.92	4.84	2.78	2.29
1991 YTD	1.60	2.01	1.90	2.88	5.68	4.81	2.65	2.13

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

NA = Not Available.

R = Revised Data.

E = Estimated Data.

Notes: Data for 1987 through 1992 are final. All other data are preliminary unless otherwise indicated. Geographic coverage is the 50 States and the District of Columbia. Prices for gas delivered to industrial consumers for 1987 include imputed averages for volumes of gas delivered for the account of others. From 1988 on, prices reflect on-system sales prices only. The change in series in 1988 affects the commercial and industrial sector prices.

Sources: •Average wellhead price: EIA *Natural Gas Annual 1992*, 1987 through 1992; and EIA estimates, January 1993 through current month. See Appendix A, 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 1987 through current month from Form EIA-857. See Appendix A, Explanatory Note 5 for discussion of revision policy. •Earlier prices from EIA *Natural Gas Annual 1992*. Electric Utilities average prices from Form FERC-423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."

Figure 3. Average Price of Natural Gas Delivered to Consumers in the United States, 1989-1993

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

Figure 4. Average Price of Natural Gas in the United States, 1989-1993

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

Table 5. U.S. Natural Gas Imports by Country, 1987-1993
(Volumes in Million Cubic Feet, Prices in Dollars per Thousand Cubic Feet)

Year and Month	Pipeline				LNG		Total	
	Canada		Mexico		Algeria		Volume	Average Price
	Volume	Average Price	Volume	Average Price	Volume	Average Price		
1987 Total	992,532	1.95	--	--	0	--	992,532	1.95
1988 Total	1,276,322	1.83	--	--	17,490	2.71	1,293,812	1.84
1989 Total	1,339,357	1.81	--	--	42,183	2.22	1,381,520	1.82
1990 Total	1,448,065	1.91	--	--	84,193	2.47	1,532,259	1.94
1991								
January	155,805	2.06	--	--	7,643	2.94	163,448	2.11
February	132,962	1.89	--	--	5,035	2.49	137,998	1.92
March	146,383	1.83	--	--	5,105	2.91	151,487	1.86
April	138,833	1.79	--	--	5,122	1.93	143,955	1.79
May	136,202	1.74	--	--	5,091	1.66	141,292	1.74
June	130,701	1.72	--	--	2,562	1.68	133,264	1.72
July	129,768	1.67	--	--	5,091	1.86	134,859	1.68
August	127,139	1.60	--	--	0	--	127,139	1.60
September	131,345	1.67	--	--	2,589	1.66	133,934	1.67
October	146,489	1.76	--	--	10,146	2.41	156,635	1.80
November	163,605	1.89	--	--	5,113	2.48	168,718	1.91
December	170,485	1.94	--	--	10,099	2.63	180,585	1.98
Total	1,709,716	1.81	--	--	63,596	2.36	1,773,313	1.83
1992								
January	157,026	1.95	--	--	7,610	2.49	164,636	1.98
February	170,167	1.64	--	--	5,076	2.91	175,243	1.68
March	177,978	1.63	--	--	2,503	3.32	180,482	1.65
April	173,615	1.62	--	--	2,531	2.12	176,146	1.63
May	174,312	1.66	--	--	0	--	174,312	1.66
June	159,743	1.77	--	--	2,505	2.09	162,249	1.77
July	167,216	1.70	--	--	0	--	167,216	1.70
August	172,240	1.81	--	--	2,492	3.15	174,733	1.83
September	183,584	1.96	--	--	2,533	1.83	186,117	1.96
October	173,904	2.21	--	--	2,563	3.19	176,466	2.22
November	202,846	1.94	--	--	7,633	2.57	210,479	1.96
December	201,756	2.13	--	--	7,670	2.17	209,426	2.13
Total	2,094,387	1.84	--	--	43,116	2.54	2,137,504	1.85
1993								
January	192,899	R 2.05	--	--	5,141	R 2.54	198,039	R 2.06
February	175,444	1.95	--	--	7,654	R 2.87	183,097	1.99
March	193,830	1.98	--	--	5,146	R 2.19	198,976	R 1.99
April	177,552	2.04	--	--	7,720	R 2.08	185,272	2.04
May	154,640	2.08	--	--	5,236	R 1.97	159,876	2.08
June	170,870	R 2.02	--	--	7,563	R 1.90	178,433	R 2.02
July	182,550	R 1.95	--	--	7,642	R 1.89	190,192	R 1.95
August	179,384	R 1.94	--	--	5,091	R 1.97	184,475	R 1.94
September	177,786	R 2.03	--	--	10,252	R 1.95	188,038	R 2.03
October	R 184,039	NA	--	--	5,075	NA	RE 189,114	NA
November	E 174,105	NA	--	--	7,593	NA	E 181,698	NA
December	E 189,216	NA	996	NA	7,570	NA	E 197,782	NA
Total	2,152,313	NA	996	NA	81,682	NA	2,234,992	NA

NA = Not Available.

-- = Not Applicable.

R = Revised Data.

E = Estimated Data.

RE = Revised Estimated data.

Source: 1987-1992: Energy Information Administration, Form FPC-14, "Annual Report for Importers and Exporters of Natural Gas." January 1993 through the current month: Office of Fossil Energy, U.S. Department of Energy, *Natural Gas Imports and Exports*. Monthly data (for the most current months), Pipeline Fuel: data shown with an E are taken from data from the National Energy Board of Canada plus EIA estimates. LNG: industry reports.

Table 6. U.S. Natural Gas Exports by Country, 1987-1993
(Volumes in Million Cubic Feet, Prices in Dollars per Thousand Cubic Feet)

Year and Month	Pipeline				LNG		Total	
	Canada		Mexico		Japan		Volume	Average Price
	Volume	Average Price	Volume	Average Price	Volume	Average Price		
1987 Total	3,297	1.81	2,125	3.18	48,599	3.15	54,020	3.07
1988 Total	19,738	2.02	2,327	3.21	51,573	2.99	73,638	2.74
1989 Total	38,443	2.00	17,004	2.14	51,424	3.01	106,871	2.51
1990 Total	17,359	2.70	15,859	1.88	52,546	3.59	85,565	3.10
1991								
January	1,710	2.47	3,477	2.19	4,375	5.19	9,562	3.61
February	3,343	2.02	2,853	1.70	4,370	4.79	10,566	3.08
March	1,228	2.04	4,404	1.61	4,369	4.13	10,001	2.76
April	2	1.71	3,208	1.56	5,829	3.59	9,039	2.87
May	36	1.73	4,782	1.46	2,947	3.23	7,744	2.14
June	31	1.51	3,759	1.43	2,915	3.18	6,706	2.19
July	195	1.24	3,235	1.28	4,400	3.20	7,830	2.36
August	540	1.21	3,117	1.40	5,869	3.25	9,526	2.53
September	446	1.30	5,921	1.68	4,370	3.31	10,737	2.32
October	2,245	1.57	7,776	1.84	4,371	3.39	14,393	2.27
November	2,385	1.87	8,349	2.00	4,371	3.50	15,105	2.41
December	2,630	1.97	9,586	2.12	5,820	3.61	18,036	2.58
Total	14,791	1.91	60,448	1.76	54,005	3.71	129,244	2.59
1992								
January	2,377	1.87	9,687	1.83	4,368	3.58	16,432	2.30
February	3,654	1.43	5,963	1.24	4,369	3.44	13,986	1.98
March	11,437	1.95	6,707	1.37	4,367	3.27	22,511	2.03
April	5,980	1.35	7,371	1.52	4,403	3.21	17,754	1.88
May	5,919	1.56	7,285	1.69	5,827	3.23	19,030	2.12
June	6,172	1.81	7,262	1.78	4,378	3.31	17,812	2.17
July	5,230	1.67	6,258	1.68	4,379	3.44	15,868	2.16
August	5,074	1.84	8,778	1.97	4,377	3.56	18,229	2.31
September	5,547	1.91	8,181	2.00	4,408	3.61	18,136	2.36
October	6,290	2.19	10,063	2.66	2,920	3.59	19,272	2.65
November	3,487	2.04	10,674	2.26	4,366	3.56	18,527	2.52
December	6,611	2.18	7,743	2.18	4,370	3.52	18,724	2.49
Total	67,777	1.83	95,973	1.90	52,532	3.43	216,282	2.25
1993								
January	5,577	R 1.87	7,833	R 1.75	4,367	R 3.47	17,777	R 2.21
February	6,453	R 1.44	2,121	R 1.21	4,355	R 3.35	12,929	R 2.04
March	7,583	R 2.16	3,199	R 1.38	5,812	R 3.28	16,594	R 2.40
April	4,527	R 1.37	2,875	R 1.53	4,373	R 3.27	11,775	R 2.11
May	3,841	R 1.61	3,453	R 1.70	4,381	R 3.33	11,775	R 2.28
June	3,647	R 1.79	4,050	R 1.77	2,950	R 3.36	10,647	R 2.22
July	R 3,564	R 2.12	R 3,806	R 1.94	5,162	R 3.34	R 12,532	R 2.57
August	R 2,441	R 2.00	R 2,681	R 2.15	4,761	R 3.26	R 9,883	R 2.64
September	R 2,914	R 2.24	2,227	R 2.31	5,136	R 3.36	R 10,277	R 2.81
October	RE 3,000	NA	R 1,738	NA	3,305	NA	RE 8,043	NA
November	RE 3,000	NA	R 1,862	NA	4,757	NA	RE 9,619	NA
December	E 3,000	NA	979	NA	6,592	NA	E 10,571	NA
Total	49,647	NA	36,824	NA	55,952	NA	142,423	NA

NA = Not Available.

R = Revised Data.

E = Estimated Data.

RE = Revised Estimated Data.

Source: 1987-1992: Energy Information Administration, Form FPC-14, "Annual Report for Importers and Exporters of Natural Gas." January 1993 through the current month: Office of Fossil Energy, U.S. Department of Energy, *Natural Gas Imports and Exports*. Monthly data (for the most current months), Pipeline Fuel: data shown with an E are EIA estimates. LNG: industry reports.

Table 7. Marketed Production of Natural Gas by State, 1987-1993
(Million Cubic Feet)

Year and Month	Alabama ^b	Alaska	California	Colorado	Florida	Kansas
1987 Total	117,241	359,837	424,821	164,557	8,281	472,752
1988 Total	129,524	378,838	399,663	191,544	7,484	592,845
1989 Total	128,411	393,729	362,860	216,737	7,534	601,196
1990 Total	135,276	402,907	362,748	242,997	6,483	573,603
1991						
January	13,267	40,203	30,159	20,110	290	63,891
February	11,866	36,265	27,015	23,344	285	54,601
March	13,131	38,847	32,268	23,648	325	57,863
April	13,020	34,664	30,902	24,673	412	51,936
May	13,906	32,434	31,072	22,724	301	50,732
June	13,174	33,065	29,259	23,034	94	46,685
July	14,400	33,840	32,169	23,088	381	44,913
August	15,273	33,448	31,021	23,659	465	42,777
September	11,850	41,809	31,944	22,546	543	43,491
October	15,207	36,384	35,427	23,868	602	50,386
November	15,502	38,363	34,194	24,349	591	57,959
December	20,250	38,700	32,953	30,918	594	63,225
Total	170,847	437,822	378,384	285,961	4,884	628,459
1992						
January	28,638	40,789	32,882	27,414	570	64,920
February	28,093	37,311	30,127	25,451	536	56,375
March	28,699	38,433	32,006	24,545	492	53,499
April	28,690	37,128	31,789	25,138	488	47,445
May	28,920	37,014	32,353	26,318	520	50,271
June	29,312	34,222	29,550	26,270	572	48,589
July	30,718	35,020	30,949	25,501	458	49,051
August	29,338	32,832	30,046	27,256	574	48,567
September	29,402	32,233	29,211	26,061	564	47,818
October	31,435	39,237	30,386	27,474	654	56,304
November	30,470	38,453	28,070	28,461	593	64,316
December	31,386	40,924	28,262	33,152	635	70,853
Total	355,099	443,597	365,632	323,041	6,657	658,007
1993						
January	24,591	41,375	26,956	28,356	637	64,279
February	22,157	35,689	24,024	^R 28,443	573	57,258
March	22,784	41,674	27,429	^R 32,291	603	61,084
April	22,235	39,226	25,320	^E 29,907	601	53,431
May	23,312	35,702	25,294	^E 29,932	685	54,054
June	22,460	^E 35,118	27,398	^E 29,421	577	51,743
July	24,424	^E 36,023	26,579	^E 29,521	648	51,429
August	25,064	^E 35,180	25,258	^E 30,604	632	49,692
September	^E 23,657	^E 37,453	^R 25,508	^E 29,574	587	46,323
October	^E 25,918	^E 40,153	^E 27,708	^E 31,932	626	^E 53,200
1993 YTD	236,602	377,593	261,474	299,981	6,169	542,493
1992 YTD	293,244	364,219	309,300	261,428	5,429	522,838
1991 YTD	135,094	360,758	311,237	230,694	3,700	507,276

See footnotes at end of table.

Table 7. Marketed Production of Natural Gas by State, 1987-1993 (Continued)
(Million Cubic Feet)

Year and Month	Louisiana	Michigan	Mississippi	Montana	New Mexico	North Dakota
1987 Total	5,122,509	146,996	139,727	46,456	823,773	62,258
1988 Total	5,180,267	146,145	124,053	51,654	791,819	57,747
1989 Total	5,078,125	155,988	102,845	51,307	854,615	51,174
1990 Total	5,241,989	172,151	94,616	50,429	965,104	52,169
1991						
January	468,583	15,493	9,113	5,235	96,319	4,640
February	408,977	13,850	7,601	4,433	79,943	4,162
March	440,394	17,320	9,021	4,779	89,186	4,588
April	421,649	18,019	9,346	4,786	86,221	4,351
May	415,253	19,521	9,745	4,516	86,029	4,419
June	388,442	15,994	9,499	3,467	81,862	4,481
July	387,063	16,468	9,467	3,501	77,279	4,787
August	392,982	15,697	8,866	4,081	83,204	4,625
September	394,190	16,040	8,183	3,940	83,766	4,054
October	430,728	15,055	8,615	4,393	91,254	4,253
November	430,550	15,344	9,217	4,166	90,101	4,482
December	455,550	16,948	9,359	4,702	93,120	4,638
Total	5,034,361	195,749	108,031	51,999	1,038,284	53,479
1992						
January	447,681	14,061	8,666	5,025	96,194	4,821
February	397,242	12,580	7,632	4,831	86,756	4,469
March	415,797	16,011	7,761	5,256	94,373	4,762
April	406,614	15,126	7,549	4,583	102,157	4,389
May	425,860	13,012	7,602	4,429	108,294	4,486
June	411,275	20,668	7,447	3,645	101,770	4,436
July	422,105	16,208	7,533	3,846	111,611	4,593
August	377,693	17,200	7,553	3,746	114,145	4,609
September	375,997	19,210	7,039	3,782	109,064	4,428
October	409,724	17,614	7,618	4,503	111,646	4,772
November	401,240	14,277	7,694	5,083	114,329	4,490
December	423,050	18,848	7,601	5,138	118,523	4,628
Total	4,914,300	194,815	91,697	53,867	1,268,863	54,883
1993						
January	E 449,393	18,622	7,657	5,205	116,663	4,484
February	E 400,231	9,728	7,249	4,729	108,426	3,923
March	E 425,024	24,098	7,166	5,054	118,479	4,702
April	E 415,982	19,700	7,047	4,304	113,865	4,664
May	E 435,973	14,321	7,025	4,617	119,167	4,856
June	E 415,775	17,810	6,549	3,984	112,820	4,610
July	E 433,884	20,187	6,969	3,912	114,282	4,732
August	E 424,467	16,473	6,388	3,376	119,317	4,751
September	E 425,714	18,394	6,474	4,021	115,816	4,524
October	E 439,447	15,761	6,132	3,816	120,609	E 4,743
1993 YTD	4,265,890	175,094	68,656	43,018	1,159,444	45,989
1992 YTD	4,090,010	161,690	76,401	43,646	1,036,011	45,765
1991 YTD	4,148,261	163,457	89,456	43,131	855,064	44,359

See footnotes at end of table.

Table 7. Marketed Production of Natural Gas by State, 1987-1993 (Continued)
(Million Cubic Feet)

Year and Month	Oklahoma	Texas	Utah	Wyoming	Other ^a States	U.S. Total
1987 Total	2,073,461	6,126,315	87,158	497,980	758,979	17,432,901
1988 Total	2,167,050	6,286,029	101,372	509,058	803,573	17,918,485
1989 Total	2,237,037	6,241,425	120,089	665,699	826,576	18,095,147
1990 Total	2,258,471	6,343,146	145,875	735,728	810,100	18,593,792
1991						
January	194,179	567,569	13,995	68,011	74,819	1,685,877
February	176,577	496,899	11,573	60,587	65,447	1,483,427
March	189,362	533,539	12,789	70,023	69,790	1,606,874
April	182,592	506,976	11,468	66,126	64,125	1,531,264
May	181,866	512,679	11,206	62,086	63,317	1,521,809
June	168,292	500,166	10,567	61,837	60,626	1,450,544
July	176,757	505,136	11,021	62,410	62,280	1,464,959
August	171,545	503,988	12,009	65,429	61,788	1,470,857
September	167,685	500,654	11,131	62,169	60,181	1,463,974
October	180,504	539,982	13,869	63,623	66,247	1,580,397
November	179,976	544,444	14,091	68,055	68,370	1,599,756
December	184,516	568,621	11,098	66,172	71,338	1,672,701
Total	2,153,852	6,280,654	144,817	776,528	788,328	18,532,439
1992						
January	184,091	551,786	11,797	74,325	69,450	1,663,111
February	166,004	483,182	11,312	50,091	64,761	1,466,733
March	165,802	506,941	12,727	71,930	68,252	1,547,288
April	168,030	493,746	11,852	67,036	66,346	1,518,106
May	165,080	510,273	13,378	62,977	66,344	1,557,151
June	166,336	495,691	13,310	58,427	63,463	1,514,984
July	160,800	508,414	13,930	77,202	65,761	1,563,702
August	159,160	515,119	14,425	74,171	65,848	1,522,282
September	160,231	509,836	15,250	73,315	64,218	1,507,660
October	170,825	531,784	17,177	77,161	69,246	1,607,569
November	172,795	513,103	16,718	78,509	68,952	1,587,552
December	178,201	525,996	19,417	77,434	71,622	1,655,671
Total	2,017,356	6,145,862	171,293	842,576	804,264	18,711,808
1993						
January	^E 181,647	553,029	19,774	^R 71,595	^E 72,658	^R 1,686,921
February	^E 162,327	490,478	19,304	^R 65,560	^E 65,382	^R 1,505,481
March	^E 167,673	554,949	22,763	^R 72,213	^E 68,714	^R 1,656,700
April	^E 165,335	538,617	18,986	^R 69,959	^E 65,504	^R 1,594,683
May	^E 165,190	546,915	17,584	^R 71,281	^E 64,466	^R 1,620,374
June	^E 165,784	521,387	18,487	^R 59,377	^E 63,598	^R 1,556,898
July	^E 164,697	528,063	18,152	^R 74,621	^E 63,481	^R 1,601,604
August	^E 170,885	533,433	15,513	^R 74,271	^E 64,239	^R 1,599,543
September	^E 169,526	518,257	15,130	^R 73,421	^E 61,228	^R 1,575,607
October	^E 167,344	533,874	19,488	73,644	^E 67,287	1,651,682
1993 YTD	1,700,408	5,319,002	185,181	705,942	656,557	16,049,493
1992 YTD	1,666,360	5,106,763	135,158	686,634	663,690	15,468,586
1991 YTD	1,789,360	5,167,588	119,828	642,301	648,620	15,259,983

^a Includes Arizona, Arkansas, Illinois, Indiana, Kentucky, Maryland, Missouri, Nebraska, New York, Ohio, Oregon, Pennsylvania, South Dakota, Tennessee, Virginia, and West Virginia.

^b The 1992 monthly and annual values for Alabama include Federal Offshore production. Federal Offshore production for 1993 is included in Louisiana marketed production.

^E = Estimated Data.

^R = Revised Data.

Notes: Data for 1987 through 1992 are final. All other data are preliminary unless otherwise indicated. Totals may not equal sum of components because of independent rounding. See Appendix A, Explanatory Notes 1 and 3 for discussion of computation procedures and revision policy.

Sources: •EIA *Natural Gas Annual* 1992, 1987 through 1992. •IOGCC, MMS reports, and EIA computations, January 1993 through current month.

Table 8. Revenues, Expenses, and Income of Major Interstate Natural Gas Pipeline Companies, 1987-1993
(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			
1987 Total	6,758	27,469	21,871	1,520	552	25,151	2,333	3,493	1,414
1988 Total	6,414	26,637	22,640	1,579	562	24,940	1,803	3,350	1,366
1989 Total	5,852	26,703	21,522	1,451	596	24,168	2,575	4,595	2,311
1990 Total	4,877	24,275	18,980	1,483	648	21,686	2,590	4,227	2,319
1991									
January	686	3,126	2,395	116	61	2,729	397	448	303
February	415	2,095	1,541	116	58	1,809	286	355	222
March	384	1,980	1,445	117	53	1,699	261	273	151
April	289	1,548	1,224	118	53	1,412	137	200	88
May	227	1,386	1,045	118	56	1,229	157	215	74
June	184	1,263	1,870	118	52	1,759	-496	-422	-540
July	212	1,295	989	117	53	1,133	162	194	41
August	251	1,396	1,068	117	55	1,235	162	128	-11
September	229	1,387	1,268	118	48	1,364	23	-398	-545
October	304	1,613	1,232	37	49	1,361	252	276	120
November	439	2,127	1,615	116	50	1,863	264	312	166
December	433	2,452	2,304	101	42	2,565	-113	277	130
Total	4,052	21,649	17,996	1,311	627	20,158	1,492	1,857	179
1992									
January	413	2,240	1,647	117	64	1,954	286	382	241
February	347	1,800	1,281	42	59	1,514	285	378	253
March	348	1,832	1,314	118	56	1,586	246	380	246
April	276	1,526	1,112	119	56	1,339	187	279	135
May	269	1,476	1,084	123	58	1,311	165	368	232
June	224	1,438	1,056	113	52	1,252	187	311	171
July	239	1,442	1,040	125	56	1,259	183	301	147
August	264	1,564	1,157	131	54	1,412	152	268	124
September	247	1,957	1,552	-24	49	1,625	331	349	252
October	268	1,739	1,363	68	55	1,533	206	314	168
November	R 360	R 2,138	R 1,585	R 118	R 53	R 1,890	R 248	R 363	R 226
December	435	2,430	1,892	76	51	2,252	178	341	206
Total	R 3,689	R 21,582	R 16,084	R 1,125	R 664	R 18,927	R 2,654	R 4,033	R 2,402
1993									
January	366	2,070	1,434	121	57	1,703	367	398	267
February	395	2,001	1,395	120	59	1,696	305	393	272
March	401	2,013	1,396	118	55	1,705	308	404	268
April	278	1,617	1,161	216	55	1,516	101	295	168
May	185	1,420	1,062	105	54	1,251	168	108	-39
June	219	1,487	1,062	123	52	1,310	177	275	144
July	225	1,451	980	116	51	1,212	239	319	196
August	225	1,468	1,095	100	49	1,291	177	231	106
September	223	1,498	1,071	84	47	1,287	211	376	169
October	202	1,498	1,112	66	58	1,323	174	408	216
November	291	1,959	1,378	99	48	1,664	295	341	268

^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.

R = Revised Data.

Notes: (1) Data up to the current month of the prior year are final. All other data are preliminary unless otherwise indicated. See Appendix A, 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.

(2) As of January 1993, Arkla, Inc. does not meet the filing requirements for the FERC-11. Arkla Energy Resources Company (A.E.R. Co.) is a subsidiary of Arkla, Inc.. Data submitted on the FERC-11 for A.E.R. Co. will indicate less sales volumes and revenues than previous years reported by Arkla, Inc..

Source: Form FERC-11.

Table 9. Volumes and Prices of Natural Gas Sold by Major Interstate Natural Gas Pipeline Companies, 1987-1993
(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*	Volume	Price*	Volume	Price*	Volume	Price*	Volume	Price*	
1987 Total	442,041	3.07	301,567	5.06	743,608	3.91	5,213,629	3.37	5,957,237	3.44	47
1988 Total	294,821	2.65	440,683	4.99	735,504	4.05	4,866,193	3.47	5,601,697	3.55	46
1989 Total	392,843	2.58	465,592	5.02	858,435	3.91	4,324,349	3.51	5,182,784	3.58	50
1990 Total	229,662	2.80	374,166	5.18	603,828	4.28	3,849,486	3.40	4,453,314	3.52	51
1991											
January	17,703	2.95	68,692	4.71	86,395	4.35	549,376	3.54	635,771	3.65	50
February	11,731	2.62	43,492	4.51	55,223	4.11	325,749	3.65	380,972	3.72	50
March	9,786	2.73	36,250	4.56	46,036	4.17	328,651	3.30	374,687	3.40	50
April	9,047	2.70	21,575	4.82	30,622	4.19	246,762	3.31	277,384	3.41	50
May	11,951	2.38	16,004	5.20	27,955	4.00	188,041	3.58	215,996	3.63	50
June	12,894	2.10	13,048	5.42	25,942	3.77	144,958	3.93	170,900	3.91	50
July	12,018	2.05	18,288	4.83	30,306	3.72	169,807	3.61	200,113	3.62	50
August	15,449	1.94	16,466	4.93	31,915	3.48	205,892	3.33	237,807	3.35	50
September	12,293	2.32	14,785	5.18	27,078	3.88	185,285	3.37	212,363	3.44	50
October	15,854	2.38	20,363	5.11	36,017	3.92	253,721	3.30	289,738	3.38	49
November	14,778	2.70	44,862	4.63	59,640	4.15	363,264	3.27	422,904	3.39	49
December	13,908	2.83	50,253	4.72	64,161	4.31	348,207	4.00	412,368	4.05	49
Total	157,212	2.48	364,078	4.77	521,290	4.08	3,309,713	3.51	3,831,003	3.59	50
1992											
January	12,270	2.58	59,297	4.53	71,567	4.19	333,807	3.58	405,374	3.68	48
February	10,489	2.09	42,699	4.42	53,188	3.97	287,148	3.32	340,336	3.42	49
March	11,460	2.14	35,898	4.42	47,358	3.87	290,133	3.14	337,491	3.24	49
April	14,176	2.15	26,940	4.79	41,116	3.88	221,838	3.32	262,954	3.40	50
May	14,610	1.82	16,500	5.12	31,110	3.57	224,480	3.27	255,590	3.31	50
June	9,991	2.79	13,422	5.45	23,413	4.31	179,954	3.58	203,367	3.66	50
July	14,592	2.04	14,071	5.25	28,663	3.62	188,636	3.45	217,299	3.47	50
August	16,179	2.30	13,925	5.28	30,104	3.68	213,550	3.51	243,654	3.53	50
September	12,858	2.56	13,916	5.36	26,774	4.01	199,862	3.87	228,636	3.89	50
October	12,632	2.88	20,116	5.53	32,748	4.50	222,784	3.46	255,532	3.59	50
November	R 13,316	R 3.01	R 35,936	R 4.96	R 49,252	4.43	R 294,466	R 3.90	R 343,718	R 3.97	50
December	12,300	2.89	55,691	5.00	67,991	4.62	353,866	3.35	421,857	3.56	50
Total	R 154,873	2.42	R 348,411	R 4.86	R 503,284	4.11	R 3,010,524	R 3.47	R 3,513,808	R 3.56	50
1993											
January	4,623	2.62	6,747	4.44	11,370	3.70	344,821	3.38	356,191	3.39	51
February	6,494	2.24	5,221	4.47	11,715	3.23	369,081	2.98	380,796	2.99	51
March	5,762	2.42	5,078	4.48	10,840	3.38	369,600	2.96	380,440	2.98	51
April	7,415	2.30	3,626	4.54	11,041	3.04	260,533	3.06	271,574	3.06	51
May	7,609	2.43	2,026	4.92	9,635	2.95	168,359	3.19	177,994	3.17	51
June	6,361	2.38	1,788	4.77	8,149	2.90	199,331	2.82	207,480	2.82	50
July	9,047	2.35	2,212	4.68	11,259	2.81	204,926	2.88	216,185	2.87	50
August	13,732	2.62	2,552	4.49	16,284	2.91	201,552	3.00	217,836	2.99	50
September	4,324	2.75	1,612	5.39	5,936	3.47	209,123	2.88	215,059	2.90	50
October	6,581	2.25	24	5.50	6,605	2.26	190,579	3.02	197,184	3.00	50
November	6,666	1.91	16	1.75	6,682	1.91	277,645	2.65	284,327	2.63	50

* All prices are weighted averages.

R = Revised Data.

Notes: (1) 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 the current month of the prior year are final. All other data are preliminary unless otherwise indicated. See Appendix A, Explanatory Note 9 for discussion of major interstate pipeline companies. Totals may not equal sum of components because of independent rounding.

(2) As of January 1993, Arkla, Inc. does not meet the filing requirements for the FERC-11. Arkla Energy Resources Company (A.E.R. Co.) is a subsidiary of Arkla, Inc.. Data submitted on the FERC-11 for A.E.R. Co. will indicate less sales volumes and revenues than previous years reported by Arkla, Inc..

Source: Form FERC-11.

Table 10. Volumes and Prices of Natural Gas Sold by Major Interstate Natural Gas Pipeline Companies, by Company, November 1993
(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	—	0	—	0	—	0	—
ANR	0	—	0	—	0	—	0	—	0	—
Arkla Energy Resources Co	0	—	0	—	0	—	4,365	2.94	4,365	2.94
Bear Creek Storage	0	—	0	—	0	—	0	—	0	—
Colorado Interstate	0	—	0	—	0	—	0	—	0	—
Columbia Gas Transm	0	—	0	—	0	—	44,661	3.04	44,661	3.04
Columbia Gulf	0	—	2	2.50	2	2.50	0	—	2	2.50
Consolidated Gas	59	2.58	0	—	59	2.58	450	2.58	509	2.58
East Tennessee	0	—	0	—	0	—	10,296	2.76	10,296	2.76
El Paso	3,552	1.82	0	—	3,552	1.82	6,834	1.90	10,386	1.87
Equitrans	0	—	0	—	0	—	1	—	1	—
Florida Gas	0	—	0	—	0	—	51	3.35	51	3.35
Great Lakes Gas	0	—	0	—	0	—	0	—	0	—
High Island Offshore	0	—	0	—	0	—	0	—	0	—
Iroquois Gas Transm. Sys.	0	—	0	—	0	—	0	—	0	—
K N Energy Inc	0	—	0	—	0	—	0	—	0	—
Kern River Gas Trans.	0	—	0	—	0	—	0	—	0	—
Michigan Gas Storage	0	—	0	—	0	—	0	—	0	—
Midwestern	0	—	0	—	0	—	0	—	0	—
Mississippi River	1,608	2.14	0	—	1,608	2.14	425	2.01	2,033	2.12
Mojave Pipeline Co.	0	—	0	—	0	—	0	—	0	—
Mountain Fuel Res	0	—	0	—	0	—	0	—	0	—
National Fuel	0	—	0	—	0	—	0	—	0	—
Natural Gas Pipeline	1	2.00	0	—	1	2.00	22,397	4.39	22,398	4.39
Northern Border	0	—	0	—	0	—	0	—	0	—
Northern Natural	0	—	0	—	0	—	14,456	2.09	14,456	2.09
Northwest Alaskan	0	—	0	—	0	—	28,250	1.49	28,250	1.49
Northwest Pipeline	0	—	0	—	0	—	0	—	0	—
Overthrust Pipeline	0	—	0	—	0	—	0	—	0	—
Pacific Gas Transm	0	—	0	—	0	—	0	—	0	—
Pacific Interstate	0	—	0	—	0	—	6,962	2.75	6,962	2.75
Panhandle Eastern	0	—	0	—	0	—	0	—	0	—
Sabine Pipeline Co	0	—	0	—	0	—	0	—	0	—
Sea Robin Pipeline	0	—	0	—	0	—	0	—	0	—
Southern Natural	0	—	0	—	0	—	57,526	2.53	57,526	2.53
Stingray Pipeline	0	—	0	—	0	—	0	—	0	—
Tenneco, Inc	0	—	0	—	0	—	18,484	1.73	18,484	1.73
Texas Eastern	0	—	0	—	0	—	631	4.88	631	4.88
Texas Gas Transm	0	—	0	—	0	—	4,135	2.25	4,135	2.25
Trailblazer Pipeline	0	—	0	—	0	—	0	—	0	—
Transcontinental	0	—	0	—	0	—	24,903	2.97	24,903	2.98
Transwestern Pipeline	1,446	1.81	11	2.03	1,457	1.81	0	—	1,457	1.81
Trunkline Gas Co	0	—	0	—	0	—	10,184	2.00	10,184	2.00
U-T Offshore	0	—	0	—	0	—	0	—	0	—
United Gas Pipeline	0	—	0	—	0	—	28,180	2.11	28,180	2.11
Valero Interstate Transm	0	—	0	—	0	—	758	3.16	758	3.16
Viking Gas Company	0	—	0	—	0	—	0	—	0	—
Williams Natural	0	—	3	—	3	—	0	—	3	—
Williston Basin	0	—	0	—	0	—	437	1.64	437	1.64
Wyoming Interstate	0	—	0	—	0	—	0	—	0	—
Total/Average Price*	6,666	1.91	16	1.75	6,682	1.91	284,386	2.64	291,068	2.63
Sales to Other Major Companies	—	—	—	—	—	—	6,741	2.35	6,741	2.35
Sales Excluding Sales to Major Companies	—	—	—	—	—	—	277,645	2.65	284,327	2.63

* 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 pending regulatory adjustments. See Appendix A, Explanatory Note 9 for discussion of apparent anomalies.

— Not Applicable.

Notes: (1) 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.

(2) As of January 1993, Arkla, Inc. does not meet the filing requirements for the FERC-11. Arkla Energy Resources Company (A.E.R. Co.) is a subsidiary of Arkla, Inc.. Data submitted on the FERC-11 for A.E.R. Co. will indicate less sales volumes and revenues than previous years reported by Arkla, Inc..

Source: Form FERC-11.

**Table 11. Natural and Other Gases Produced and Purchased by
Major Interstate Natural Gas Pipeline Companies, 1987-1993**
(Million Cubic Feet)

Year and Month	Transported Gas ^a	Natural Gas Production	Manufactured Gas, Liquefied Natural Gas, Gasified Coal, and Synthetic Gas Production	Purchased Natural Gas				
				From Producers	Intracompany Transfers	Imports	From Others	Total
1987 Total	13,479,989	152,039	22,905	4,848,577	124,572	759,345	400,134	6,132,628
1988 Total	15,950,507	139,821	23,960	4,516,120	66,879	962,383	374,983	5,920,365
1989 Total	18,696,398	108,036	24,809	3,532,588	74,058	903,488	411,997	4,922,131
1990 Total	21,681,372	93,386	24,163	3,601,690	72,986	965,859	355,273	4,995,808
1991								
January	2,098,858	8,065	1,588	372,884	7,194	79,078	40,958	500,112
February	1,839,900	6,242	2,157	262,740	5,669	68,257	21,918	358,584
March	1,865,092	5,837	2,120	222,064	5,388	78,343	19,280	325,075
April	1,792,255	5,603	1,114	193,804	4,453	64,319	19,803	282,379
May	1,723,696	5,534	2,202	174,738	4,808	61,258	14,697	255,501
June	1,579,146	5,353	2,121	160,553	4,294	52,828	22,143	239,818
July	1,610,413	5,571	2,295	155,126	5,186	49,545	15,099	224,956
August	1,735,157	6,213	2,030	149,415	5,253	73,437	22,489	250,574
September	1,691,806	5,998	1,880	169,800	5,586	60,109	14,208	249,703
October	1,856,527	5,473	2,192	210,115	5,329	71,899	18,976	306,119
November	2,103,022	6,378	1,708	261,011	11,226	73,042	33,149	378,428
December	2,135,449	6,798	1,969	298,819	7,732	74,645	31,468	412,664
Total	22,031,321	73,065	23,376	2,631,069	72,118	806,558	274,168	3,783,913
1992								
January	2,309,478	6,645	1,855	251,382	8,000	64,855	38,728	362,965
February	2,159,190	6,070	2,070	205,682	7,942	63,868	24,695	302,187
March	2,183,665	6,156	2,303	148,181	8,643	68,723	19,604	245,351
April	2,107,984	6,796	2,208	184,991	5,813	59,849	21,858	252,511
May	1,979,257	6,969	2,304	170,687	5,935	67,619	19,859	264,100
June	1,912,627	5,243	2,076	155,643	4,803	56,782	17,999	235,227
July	1,925,300	5,675	1,989	156,145	5,106	65,557	23,342	250,150
August	1,888,726	6,146	2,045	166,766	5,429	72,672	18,715	263,582
September	1,807,628	6,260	1,220	175,657	5,268	74,569	6,869	262,563
October	1,985,790	6,352	2,209	192,808	5,380	71,677	20,536	290,401
November	^R 2,130,614	6,503	2,195	^R 223,304	9,938	71,100	^R 23,592	^R 327,934
December	2,194,128	6,604	2,633	247,161	10,494	79,706	45,325	362,686
Total	^R 24,584,387	75,428	25,107	^R 2,258,607	82,751	816,977	^R 281,322	^R 3,439,657
1993								
January	2,334,905	6,430	2,335	203,273	5,475	76,801	7,912	293,461
February	2,163,229	6,047	2,102	160,616	5,238	70,472	9,394	245,720
March	2,214,880	6,310	2,460	171,111	5,563	71,018	11,065	258,757
April	1,976,998	5,532	2,233	164,581	4,796	75,589	1,134	248,100
May	1,934,569	5,578	894	162,910	5,037	63,140	5,158	236,245
June	1,949,219	5,031	2,216	164,781	4,175	74,253	5,315	248,524
July	1,958,582	5,343	2,140	172,148	4,500	76,334	2,357	255,339
August	1,941,343	5,228	2,189	152,659	4,668	71,406	1,640	230,373
September	1,860,922	5,433	1,788	152,912	4,660	69,772	5,860	233,204
October	2,078,609	5,684	2,143	144,311	340	76,058	^b -469	220,240
November	2,386,062	6,240	1,094	124,818	10	44,091	1,602	170,521

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

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

^R = Revised Data.

^{NA} = Not Available.

Notes: (1) 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 Appendix A, Explanatory Note 9 for discussion of major interstate pipeline companies. Totals may not equal sum of components because of independent rounding.

(2) As of January 1993, Arkia, Inc. does not meet the filing requirements for the FERC-11. Arkia Energy Resources Company (A.E.R. Co.) is a subsidiary of Arkia, Inc.. Data submitted on the FERC-11 for A.E.R. Co. will indicate less sales volumes and revenues than previous years reported by Arkia, Inc..

Source: Form FERC-11.

**Table 12. Natural and Other Gases Produced and Purchased
by Major Interstate Natural Gas Pipeline Companies, November 1993
(Million Cubic Feet)**

Pipeline Company	Transported Gas	Natural Gas Production	Manufactured Gas, Liquefied Natural Gas, Gasified Coal and Synthetic Gas Production	Purchased Natural Gas				
				From Producers	Intracompany Transfers	Imports	From Others	Total
Algonquin Gas	22,748	0	0	0	0	0	0	0
ANR	121,075	0	146	241	0	7,141	0	7,382
Arkla Energy Resources Co	51,338	0	0	71	0	0	0	71
Bear Creek Storage	0	0	0	0	0	0	0	0
Colorado Interstate	59,211	4,510	0	1,121	0	0	0	1,121
Columbia Gas Transm	99,755	0	0	1,412	0	0	1,131	2,543
Columbia Gulf	117,122	0	0	0	0	0	353	353
Consolidated Gas	68,261	1,254	0	3,964	10	0	21	3,995
East Tennessee	10,513	0	0	23,419	0	0	0	23,419
El Paso	108,407	0	0	7,124	0	0	1,644	8,768
Equitrans	8,509	0	0	* -157	0	0	0	* -157
Florida Gas	22,122	0	0	* -379	0	0	520	141
Great Lakes Gas	73,289	0	0	0	0	0	0	0
High Island Offshore	21,821	0	0	0	0	0	0	0
Iroquois Gas Transm. Sys.	22,135	0	0	0	0	0	0	0
K N Energy Inc	21,716	0	0	0	0	0	15	15
Kern River Gas Trans.	21,153	0	0	0	0	0	0	0
Michigan Gas Storage	20,828	0	0	0	0	0	0	0
Midwestern	24,571	0	0	0	0	0	0	0
Mississippi River	30,404	0	0	1,981	0	0	0	1,981
Mojave Pipeline Co.	7,033	0	0	0	0	0	0	0
Mountain Fuel Res	23,575	0	0	724	0	0	118	842
National Fuel	24,498	0	0	0	0	0	0	0
Natural Gas Pipeline	134,828	0	948	21,275	0	7,745	36	29,056
Northern Border	47,061	0	0	0	0	0	0	0
Northern Natural	169,990	0	0	2,476	0	0	10,447	12,923
Northwest Alaskan	0	0	0	0	0	28,250	0	28,250
Northwest Pipeline	57,009	0	0	16	0	917	0	933
Overthrust Pipeline	1,551	0	0	0	0	0	0	0
Pacific Gas Transm	62,418	0	0	0	0	0	0	0
Pacific Interstate	0	0	0	0	0	0	7,081	7,081
Panhandle Eastern	49,640	0	0	5	0	0	0	5
Sabine Pipeline Co.	18,999	0	0	0	0	0	0	0
Sea Robin Pipeline	23,080	0	0	0	0	0	0	0
Southern Natural	53,707	0	0	8,944	0	0	4	8,948
Stingray Pipeline	19,162	0	0	0	0	0	0	0
Tenneco, Inc	159,958	64	0	8,500	0	38	887	9,425
Texas Eastern	99,248	4	0	1,375	0	0	31	1,406
Texas Gas Transm	70,860	0	0	3,629	0	0	* -5,590	* -1,961
Trailblazer Pipeline	6,124	0	0	0	0	0	0	0
Transcontinental	186,726	0	0	25,516	0	0	3,340	28,856
Transwestern Pipeline	47,379	0	0	181	0	0	0	181
Trunkline Gas Co	48,550	0	0	10,977	0	0	0	10,977
U-T Offshore	10,988	0	0	0	0	0	0	0
United Gas Pipeline	67,377	0	0	2,388	0	0	0	2,388
Valero Interstate Transm	3,171	0	0	0	0	0	758	758
Viking Gas Company	10,772	0	0	0	0	0	0	0
Williams Natural	40,571	0	0	* -4	0	0	0	* -4
Williston Basin	8,179	408	0	19	0	0	0	19
Wyoming Interstate	4,634	0	0	0	0	0	0	0
Total	2,386,062	6,240	1,094	124,818	10	44,091	20,796	109,715
Purchases from Other Major Companies	—	—	—	0	0	0	19,194	19,194
Purchases Excluding Purchases from Other Major Companies	—	—	—	124,818	10	44,091	1,602	170,521

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

— Not Applicable.

Notes: (1) 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 Appendix A, Explanatory Note 9 for discussion of major interstate pipeline companies. Totals may not equal sum of components because of independent rounding.

(2) As of January 1993, Arkla, Inc. does not meet the filing requirements for the FERC-11. Arkla Energy Resources Company (A.E.R. Co.) is a subsidiary of Arkla, Inc.. Data submitted on the FERC-11 for A.E.R. Co. will indicate less sales volumes and revenues than previous years reported by Arkla, Inc..

Source: Form FERC-11.

**Table 13. Underground Natural Gas Storage - All Operators,
1987-1993**
(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
1987 Total^a	3,792	2,756	6,548	7	0.3	1,887	1,881	6
1988 Total^a	3,800	2,850	6,650	94	3.4	2,174	2,244	-69
1989 Total^a	3,812	2,513	6,325	-337	-11.8	2,491	2,804	-313
1990 Total^a	3,868	3,068	6,936	555	22.1	2,433	1,934	499
1991								
January	3,911	2,362	6,273	92	4.1	115	680	-545
February	3,908	2,063	5,972	59	3.0	112	397	-285
March	3,895	1,912	5,806	37	2.0	129	291	-162
April	3,898	2,037	5,935	91	4.7	228	104	124
May	3,931	2,273	6,204	93	4.3	319	58	261
June	3,939	2,553	6,492	68	2.7	314	42	272
July	3,942	2,771	6,713	-20	-7	290	75	214
August	3,949	2,978	6,927	-93	-3.0	282	82	200
September	3,950	3,201	7,151	-120	-3.6	294	78	216
October	3,961	3,369	7,330	-98	-2.8	251	103	148
November	3,952	3,148	7,100	-324	-9.3	150	352	-202
December	3,954	2,824	6,778	-244	-8.0	125	448	-323
Total	--	--	--	--	--	2,608	2,689	-80
1992								
January	4,061	2,216	6,277	-146	-6.2	68	591	-524
February	4,057	1,837	5,894	-226	-10.9	52	441	-389
March	4,046	1,545	5,591	-367	-19.2	81	381	-301
April	4,038	1,573	5,611	-463	-22.8	167	150	18
May	4,044	1,848	5,892	-425	-18.7	330	53	277
June	4,050	2,153	6,203	-400	-15.7	366	43	323
July	4,064	2,460	6,524	-311	-11.2	357	50	307
August	4,062	2,761	6,823	-217	-7.3	364	54	309
September	4,061	3,044	7,105	-157	-4.9	346	48	298
October	4,065	3,223	7,288	-146	-4.3	264	78	186
November	4,061	3,054	7,115	-94	-3.0	95	276	-181
December	4,044	2,597	6,641	-227	-8.0	65	557	-491
Total	--	--	--	--	--	2,555	2,724	-168
1993								
January	R 4,041	R 2,046	R 6,087	-170	-7.7	50	R 607	-556
February	R 4,015	1,519	R 5,534	R -318	-17.3	27	578	R -551
March	R 3,994	R 1,238	R 5,232	R -306	R -19.8	R 79	R 382	R -303
April	R 4,004	R 1,337	R 5,340	R -236	R -15.0	R 222	R 110	R 112
May	R 4,026	R 1,744	R 5,771	R -104	R -5.6	R 457	25	R 432
June	R 4,039	R 2,118	R 6,157	R -35	R -1.6	R 418	R 44	R 374
July	R 4,039	R 2,471	R 6,510	R 11	R .5	R 399	R 49	350
August	R 4,263	R 2,572	R 6,835	R -189	R -6.8	R 421	R 100	321
September	R 4,255	R 2,904	R 7,159	R -140	R -4.6	R 382	R 28	R 354
October	4,314	R 2,998	R 7,312	R -225	R -7.0	R 255	R 102	R 154
November	R 4,325	2,781	R 7,106	-273	-8.9	R 112	R 316	-204
December	4,325	2,341	6,666	-256	-9.9	58	499	-441
Total	--	--	--	--	--	2,879	2,840	39

^a Total as of December 31.

^b Total underground storage capacity at the end of each calendar year (in billion cubic feet): 1987, 1988, and 1989 - 8,124; 1990 - 8,125; 1991 - 7,993; and 1992 - 7,932.

^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: Data for 1987 through 1992 are final. All other data are preliminary unless otherwise noted. See Appendix A, 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.

Figure 5. Underground Natural Gas Storage in the United States, 1989-1993

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

**Table 14. Underground Natural Gas Storage - Interstate
Operators of Storage Fields, 1987-1993**
(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
1987 Total^a	2,461	2,024	4,485	14	0.7	1,365	1,348	17
1988 Total^a	2,469	2,092	4,561	68	3.3	1,587	1,532	55
1989 Total^a	2,478	1,764	4,242	-328	-15.7	1,788	2,072	-285
1990 Total^a	2,496	2,203	4,699	439	24.9	1,705	1,264	421
1991								
January	2,542	1,718	4,261	114	7.1	105	482	-377
February	2,546	1,502	4,048	40	2.7	93	292	-199
March	2,535	1,418	3,952	26	1.8	109	200	-91
April	2,537	1,500	4,037	76	5.3	165	82	83
May	2,569	1,647	4,216	78	5.0	218	48	170
June	2,575	1,834	4,409	51	2.9	213	35	178
July	2,576	1,970	4,546	-39	-2.0	193	63	130
August	2,577	2,105	4,682	-109	-4.9	186	64	122
September	2,571	2,265	4,836	-122	-5.1	211	64	148
October	2,571	2,382	4,953	-86	-3.5	181	83	98
November	2,572	2,210	4,782	-253	-10.3	117	274	-157
December	2,571	1,985	4,556	-218	-9.9	112	327	-215
Total	—	—	—	—	—	1,904	2,015	-111
1992								
January	2,675	1,554	4,230	-164	-9.5	60	410	-350
February	2,671	1,289	3,960	-213	-14.2	37	317	-280
March	2,661	1,080	3,741	-338	-23.8	65	284	-219
April	2,653	1,104	3,757	-396	-26.4	121	108	12
May	2,659	1,285	3,945	-362	-22.0	237	42	195
June	2,665	1,486	4,151	-348	-19.0	253	32	221
July	2,679	1,695	4,375	-274	-13.9	254	34	220
August	2,676	1,908	4,584	-197	-9.4	260	36	224
September	2,675	2,111	4,785	-155	-6.8	240	27	213
October	2,677	2,231	4,908	-151	-6.3	184	56	128
November	2,673	2,110	4,784	-100	-4.5	74	209	-135
December	2,652	1,819	4,471	-166	-8.4	54	386	-332
Total	—	—	—	—	—	1,838	1,940	-102
1993								
January	2,649	1,443	4,091	R -111	-7.2	R 43	421	-379
February	2,632	1,050	3,683	-239	-18.5	17	425	-409
March	2,615	829	3,444	-251	-23.3	46	282	-235
April	R 2,624	897	R 3,521	-207	R -18.8	R 148	R 77	R 71
May	R 2,644	R 1,196	R 3,840	R -89	R -6.9	R 337	R 15	R 322
June	R 2,650	R 1,474	R 4,124	R -12	R -.8	R 309	26	R 282
July	2,650	1,734	4,384	38	R 2.2	286	R 29	257
August	2,872	1,756	4,628	-152	-8.0	R 319	R 78	241
September	2,874	R 2,019	R 4,893	R -92	-4.4	R 275	13	R 262
October	R 2,930	R 2,058	R 4,988	R -173	R -7.8	R 171	77	R 95
November	R 2,945	R 1,875	R 4,820	R -235	-11.1	78	R 244	R -166
December	2,944	1,553	4,496	-266	-14.6	37	358	-320
Total	—	—	—	—	—	2,065	2,044	21

^a Total as of December 31.

^b Total underground storage capacity at the end of each calendar year (in billion cubic feet): 1987, 1988, 1989, and 1990 - 5,622; 1991 - 5,512; and 1992 - 5,524.

^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: Data for 1987 through 1992 are final. All other data are preliminary unless otherwise noted. See Appendix A, 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 EIA-176.

**Table 15. Underground Natural Gas Storage - Intrastate
Operators and Independent Producers, 1987-1993**
(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
1987 Total^a	1,331	732	2,063	-7	0.1	522	533	-11
1988 Total^a	1,331	758	2,089	26	3.8	587	711	-124
1989 Total^a	1,335	749	2,083	-9	-1.2	705	732	-26
1990 Total^a	1,372	864	2,236	115	15.4	728	650	78
1991								
January	1,369	644	2,012	-21	-3.2	10	178	-168
February	1,362	562	1,924	21	3.8	19	105	-86
March	1,360	494	1,854	13	2.7	20	90	-70
April	1,361	537	1,898	16	3.0	63	22	41
May	1,362	626	1,988	16	2.6	101	11	91
June	1,364	719	2,083	18	2.5	101	7	94
July	1,366	802	2,168	21	2.6	97	13	84
August	1,372	873	2,245	17	2.0	96	17	78
September	1,379	936	2,315	3	.3	83	14	69
October	1,390	987	2,377	-11	-1.2	70	20	49
November	1,380	937	2,317	-70	-6.9	33	78	-45
December	1,383	839	2,221	-25	-2.9	13	120	-108
Total	--	--	--	--	--	705	674	31
1992								
January	1,386	661	2,047	18	2.7	8	182	-174
February	1,386	548	1,934	-13	-2.4	15	124	-109
March	1,385	485	1,850	-29	-5.9	16	98	-82
April	1,385	470	1,854	-67	-12.5	47	42	5
May	1,385	563	1,948	-63	-10.1	93	11	82
June	1,385	666	2,051	-52	-7.3	113	11	102
July	1,385	764	2,150	-37	-4.6	103	16	87
August	1,386	853	2,239	-20	-2.3	103	18	85
September	1,386	933	2,320	-3	-.3	106	21	85
October	1,388	992	2,380	6	.6	80	22	57
November	1,388	943	2,331	6	.6	21	67	-46
December	1,392	778	2,170	-61	-7.3	11	171	-160
Total	--	--	--	--	--	717	784	-67
1993								
January	R 1,393	603	R 1,996	R -58	R -8.8	7	R 185	R -178
February	R 1,382	R 469	R 1,851	R -79	R -14.5	R 11	153	R -142
March	R 1,378	R 410	R 1,788	R -55	R -11.9	R 32	100	R -68
April	R 1,379	R 440	R 1,819	R -29	R -6.3	R 74	33	R 40
May	R 1,382	R 548	R 1,931	R -15	R -2.6	120	R 10	110
June	R 1,389	R 644	R 2,033	R -23	R -3.4	R 109	R 18	91
July	R 1,388	R 738	R 2,126	R -27	R -3.5	R 113	R 20	93
August	R 1,390	R 816	R 2,207	R -37	R -4.3	R 102	R 22	81
September	R 1,381	R 885	R 2,266	R -48	R -5.2	R 107	R 15	R 92
October	R 1,384	R 940	R 2,324	R -52	R -5.2	R 84	R 25	R 59
November	R 1,380	R 905	R 2,286	R -38	R -4.0	R 34	72	-39
December	1,382	788	2,170	10	1.3	21	141	-121
Total	--	--	--	--	--	814	796	18

^a Total as of December 31.

^b Total underground storage capacity at the end of each calendar year (in billion cubic feet): 1987, 1988, and 1989 - 2,502; 1990 - 2,503; 1991 - 2,481; and 1992 - 2,407.

^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: Data for 1987 through 1992 are final. All other data are preliminary unless otherwise noted. See Appendix A, 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 EIA-176.

Table 16. Net Withdrawals from Underground Storage, by State, 1991-1993
(Volume in Million Cubic Feet)

States	Total 1993	December 1993	November 1993	October 1993	September 1993	August 1993	July 1993
Arkansas	4,541	857	834	126	0	0	10
California	-21,527	34,162	15,024	-12,900	-14,928	-10,526	-23,040
Colorado	-2,475	1,122	R 2,516	R -385	-4,187	-4,540	-3,880
Illinois	-8,214	43,919	9,243	R -25,480	-36,219	-33,793	-30,687
Indiana	-1,222	2,515	1,370	-1,348	-4,192	R -4,544	R -4,455
Iowa	-5,155	17,624	6,658	-7,585	-12,617	-10,344	-10,896
Kansas	-12,761	9,041	R 9,837	R -2,121	-14,328	R -8,766	-5,456
Kentucky	8,864	10,713	5,840	-1,089	-8,357	-4,815	-7,557
Louisiana	-10,850	43,757	R 13,495	R -15,298	R -35,912	R -27,799	R -26,990
Maryland	865	2,869	-411	-2,688	-2,547	-1,718	-1,126
Michigan	-39,542	91,168	R 51,436	R -33,852	-66,961	R -82,150	-84,803
Minnesota	147	311	75	-83	-238	-128	-409
Mississippi	843	7,138	913	275	R -5,542	R -3,332	R -5,147
Missouri	68	-149	122	-215	-206	-317	-102
Montana	21,332	3,231	4,106	88	-453	-302	-1,169
Nebraska	-3,667	2,342	1,766	30	-1,539	-1,857	-2,561
New Mexico	8,841	-82	2,713	R -1,796	-612	2,318	-269
New York	-412	10,061	3,440	-2,063	-7,364	-8,269	-10,095
Ohio	21,318	40,369	11,977	-6,840	-25,635	-26,949	-29,068
Oklahoma	-16,750	14,749	17,766	-8,050	R -15,947	-13,432	-14,917
Oregon	69	1,103	731	-490	-578	-1,042	-1,181
Pennsylvania	855	48,965	6,173	-14,785	-49,905	-40,777	-46,928
Texas	12,841	17,164	R 15,301	R -5,730	R -18,629	R -11,975	-9,730
Utah	-8,138	4,635	5,588	-5,223	R -5,103	-5,153	-5,170
Washington	-1,757	-1,707	3,780	1,759	-1,979	-620	-2,148
West Virginia	11,979	32,857	12,919	R -6,858	-20,458	R -18,763	-20,172
Wyoming	489	2,280	1,445	-922	R -1,206	-1,625	-2,051
Total	-39,418	441,014	R 204,457	R -153,523	R -353,643	R -321,219	R -349,997

See footnotes at end of table.

Table 16. Net Withdrawals from Underground Storage, by State, 1991-1993
(Volume in Million Cubic Feet)—Continued

States	June 1993	May 1993	April 1993	March 1993	February 1993	January 1993	Total 1992
Arkansas	-14	824	121	478	872	633	514
California	-13,993	-28,521	-15,646	-6,478	17,346	37,972	28,120
Colorado	-4,646	-2,713	3,405	2,509	5,116	3,207	4,860
Illinois	-32,862	-33,685	-2,881	25,052	49,451	59,730	8,608
Indiana	R -2,127	-1,257	R -399	R 2,572	R 5,046	R 5,599	840
Iowa	-8,100	-6,824	-5,491	2,650	10,799	18,971	4,259
Kansas	-11,747	-24,818	-3,308	4,688	15,609	18,609	18,486
Kentucky	-7,759	-6,426	726	9,515	10,958	5,114	-6,573
Louisiana	R -35,287	R -38,181	R -3,356	R 22,821	R 43,458	R 48,442	13,958
Maryland	-1,175	-2,217	456	1,859	4,290	3,272	-333
Michigan	-85,218	-75,304	-20,444	65,891	103,072	97,623	2,251
Minnesota	-344	-318	49	418	418	396	-43
Mississippi	R -4,474	R -7,011	R -2,502	R 6,109	R 8,454	R 5,961	-1,732
Missouri	-451	-1,049	-1,551	1,085	1,811	1,091	15
Montana	685	1,157	1,710	2,759	4,420	5,100	12,602
Nebraska	-4,278	-2,958	-975	1,010	2,009	3,344	-407
New Mexico	-1,221	-2,705	2,927	792	4,164	2,613	2,458
New York	-10,768	-10,921	-3,964	10,303	16,122	13,106	-1,572
Ohio	-31,671	-29,544	-3,384	38,459	45,111	38,493	15,672
Oklahoma	-17,825	-20,586	-12,860	8,856	21,531	23,966	10,058
Oregon	-1,298	-1,645	426	728	1,397	1,918	872
Pennsylvania	-53,535	-57,981	-18,784	56,156	100,956	71,301	-5,873
Texas	-8,376	-27,775	-19,952	12,328	24,856	45,359	43,441
Utah	-6,636	-6,685	1,016	3,663	5,057	5,873	-4,482
Washington	-866	-4,528	-1,002	-1,231	3,347	3,439	5,667
West Virginia	-27,572	-39,358	-5,496	29,813	43,205	31,863	8,180
Wyoming	-2,069	-983	-500	371	2,388	3,361	8,536
Total	R -373,628	R -432,012	R -111,662	R 303,175	R 551,262	R 556,357	168,381

See footnotes at end of table.

Table 16. Net Withdrawals from Underground Storage, by State, 1991-1993
(Volume in Million Cubic Feet)—Continued

States	December 1992	November 1992	October 1992	September 1992	August 1992	July 1992	June 1992
Arkansas	624	366	196	-434	-664	-852	-509
California	54,829	9,135	-8,186	-17,264	-10,887	-15,281	-23,985
Colorado	2,582	3,085	-2,169	-5,822	-6,286	-4,177	-2,019
Illinois	42,048	14,263	-26,155	-32,482	-35,313	-28,140	-29,861
Indiana	3,610	2,364	-2,936	-5,203	-4,107	-5,123	-2,563
Iowa	18,942	7,997	-8,683	-10,088	-10,162	-10,141	-7,264
Kansas	12,181	9,027	-3,672	-10,142	-11,527	-4,255	-2,319
Kentucky	2,982	1,514	-10,704	-4,201	-1,610	-3,544	-1,546
Louisiana	31,771	5,495	-18,911	-16,545	-13,386	-13,811	-18,063
Maryland	2,249	-544	-1,333	-2,204	-2,546	-1,942	-2,867
Michigan	84,911	47,094	-28,345	-67,401	-67,079	-73,161	-66,808
Minnesota	193	7	4	-126	-184	-299	-307
Mississippi	6,940	998	-267	-6,250	-297	-4,165	-7,931
Missouri	7	8	-191	-208	-218	-266	-146
Montana	5,601	3,347	1,357	280	-766	-1,026	-714
Nebraska	3,451	2,461	316	-1,167	-1,187	-2,083	-2,611
New Mexico	-417	1,036	-2,559	-1,172	-1,949	2,103	-542
New York	10,534	3,023	-3,455	-6,488	-9,745	-10,849	-9,127
Ohio	31,661	5,352	-11,598	-15,846	-23,106	-28,770	-29,912
Oklahoma	31,363	16,578	-7,728	-12,709	-5,444	-16,356	-11,329
Oregon	579	1,100	-173	-453	-1,010	-1,194	-1,540
Pennsylvania	57,665	-2,844	-28,736	-47,631	-48,824	-41,339	-58,946
Texas	55,358	35,326	-9,677	-15,735	-28,309	-17,447	-16,212
Utah	6,756	5,453	-1,284	-3,128	-4,680	-3,526	-2,776
Washington	3,797	947	760	-1,196	-1,458	-1,024	-1,175
West Virginia	17,912	6,875	-12,723	-13,281	-18,576	-19,023	-21,294
Wyoming	3,440	1,735	1,034	-814	-101	-1,069	-568
Total	491,369	181,199	-185,819	-297,793	-309,424	-306,761	-322,935

See footnotes at end of table.

Table 16. Net Withdrawals from Underground Storage, by State, 1991-1993
(Volume in Million Cubic Feet)—Continued

States	May 1992	April 1992	March 1992	February 1992	January 1992	Total 1991	December 1991
Arkansas	18	159	443	519	652	1,968	664
California	-15,170	-15,220	14,214	15,305	40,831	-12,276	24,681
Colorado	368	4,146	6,690	2,758	5,804	-7,370	598
Illinois	-31,163	8,578	25,247	43,448	58,118	978	34,113
Indiana	-1,206	500	4,104	4,606	6,794	926	4,826
Iowa	-7,583	-2,061	3,325	11,535	18,442	5,207	13,739
Kansas	-2,161	4,821	9,031	13,082	4,420	-10,822	-2,317
Kentucky	1,236	1,675	4,848	1,211	1,568	1,397	2,666
Louisiana	-19,021	-719	10,774	24,031	42,343	24,989	30,577
Maryland	-3,527	958	2,840	5,269	3,314	-1,852	1,070
Michigan	-43,850	-507	62,627	72,236	82,535	39,200	74,384
Minnesota	-391	198	311	123	426	-267	53
Mississippi	-3,896	-106	2,066	1,362	9,794	5,884	6,130
Missouri	-427	-1,570	330	1,199	1,498	-1,117	12
Montana	-1,517	-63	484	2,207	3,412	9,737	3,548
Nebraska	-1,609	-604	46	1,041	1,540	-229	2,362
New Mexico	95	2,400	734	710	2,019	-3,694	-1,002
New York	-8,430	-2,328	11,629	13,614	11,051	-11,619	7,125
Ohio	-26,466	-2,246	36,501	35,632	44,471	-431	27,910
Oklahoma	-8,448	-5,813	3,738	8,339	17,666	12,139	11,502
Oregon	-1,572	443	1,566	1,540	1,568	-566	487
Pennsylvania	-45,507	-6,017	61,022	73,709	81,577	11,335	37,591
Texas	-26,278	-2,096	4,693	20,462	43,357	-6,398	9,801
Utah	-3,514	-1,845	-252	415	3,899	9,976	7,418
Washington	-1,351	877	581	2,979	1,930	-3,200	458
West Virginia	-24,410	-1,169	32,072	29,522	32,275	16,888	22,834
Wyoming	-343	84	666	2,005	2,269	-426	1,941
Total	-277,127	-17,528	300,570	388,858	523,770	80,355	322,991

^R = Revised Data.

Notes: This table contains total net withdrawals for each State with natural gas storage facilities. Positive numbers indicate the volume of withdrawals in excess of injections. Negative values indicate the volume of injections in excess of withdrawals. Data for "1991 and 1992" are final. All other data are preliminary at this time and are not considered final until publication of the *Natural Gas Annual* for that year.

Source: Form EIA-191.

**Table 17. Activities of Underground Natural Gas Storage Operators,
by State, December 1993**
(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		Storage Activity	
		Base Gas	Working Gas	Total	Volume	Percent	Injections	Withdrawals
Arkansas	31,278	17,528	3,711	21,239	-3,455	-48.2	0	857
California	472,109	247,425	184,518	411,943	23,858	17.0	1,444	35,807
Colorado	105,790	49,049	29,304	78,353	-3,762	-11.4	1,772	2,894
Illinois	952,388	624,483	232,268	856,749	-32,127	-12.2	1,797	45,718
Indiana	106,677	71,453	30,203	101,656	1,054	3.8	496	3,011
Iowa	279,700	200,700	40,257	240,957	-42,967	-51.6	0	17,624
Kansas	289,798	183,536	76,230	259,766	14,774	24.0	5,751	14,793
Kentucky	210,242	105,481	83,489	188,970	-8,886	-9.6	485	11,178
Louisiana	542,900	251,132	171,159	422,291	21,384	14.3	2,153	45,910
Maryland	62,400	48,677	11,927	58,605	-1,170	-8.9	488	3,357
Michigan	1,043,782	420,600	440,064	860,664	42,784	10.8	1,137	92,305
Minnesota	7,000	4,655	1,957	6,612	-147	-7.0	0	311
Mississippi	114,627	70,555	31,086	101,641	-21,299	-40.7	2,753	9,892
Missouri	30,564	21,600	8,869	30,469	-70	-8	218	69
Montana	375,010	188,573	81,906	250,479	-20,013	-19.6	266	3,497
Nebraska	93,312	77,857	6,562	84,418	-47,951	-88.0	11	2,353
New Mexico	94,600	29,766	7,914	37,680	-7,436	-48.4	1,647	1,564
New York	173,463	108,662	53,140	161,801	-3,149	-5.6	1,227	11,268
Ohio	594,644	358,966	111,154	470,120	-21,422	-16.2	107	40,476
Oklahoma	359,616	229,765	92,126	321,891	-31,099	-25.2	8,657	23,406
Oregon	11,445	3,291	6,406	9,697	-69	-1.1	0	1,103
Pennsylvania	664,694	360,971	278,791	639,761	-9,642	-3.3	8,124	57,089
Texas	598,783	235,803	190,679	426,482	-97,419	-33.8	14,880	32,043
Utah	114,980	51,250	23,933	75,184	6,489	37.2	557	5,191
Washington	34,100	18,800	11,274	30,074	1,760	18.5	3,351	1,644
West Virginia	519,286	305,949	129,738	435,687	-14,222	-9.9	879	33,736
Wyoming	105,669	60,746	21,990	82,736	-1,939	-8.1	164	2,445
Total	7,988,856	4,325,271	2,340,655	6,665,925	-256,142	-9.9	58,344	499,358

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: Form EIA-191.

Table 18. Natural Gas Deliveries to Residential Consumers by State, 1992-1993**(Million Cubic Feet)**

State	YTD 1993	YTD 1992	YTD 1991	November 1993	October 1993	September 1993
Alabama	44,507	42,383	39,753	3,835	1,522	1,326
Alaska	12,086	12,668	11,871	1,261	1,043	513
Arizona	23,608	23,268	26,689	1,848	988	855
Arkansas	39,356	33,289	35,158	4,020	1,576	1,103
California	428,797	404,271	441,662	39,229	24,385	23,927
Colorado	91,406	78,900	83,433	8,959	4,436	3,019
Connecticut	36,721	36,539	31,972	NA	2,286	1,117
Delaware	7,301	7,150	6,297	607	288	184
District of Columbia	14,309	14,374	13,284	1,104	582	423
Florida	12,222	12,614	11,231	998	699	662
Georgia	95,121	89,659	80,850	11,563	6,126	2,882
Hawaii	510	501	499	46	42	42
Idaho	10,461	7,713	8,664	1,155	479	309
Illinois	420,248	397,728	395,861	51,239	31,948	15,198
Indiana	138,827	128,432	123,828	16,541	9,447	4,001
Iowa	71,850	62,051	66,424	8,692	4,604	2,142
Kansas	73,476	58,789	63,817	6,810	2,684	1,803
Kentucky	55,794	51,295	49,783	7,666	3,865	1,420
Louisiana	48,752	46,810	47,026	5,124	2,114	1,890
Maine	793	761	620	108	62	27
Maryland	65,302	64,555	59,274	6,562	3,586	2,114
Massachusetts	106,963	105,482	90,101	NA	5,644	3,286
Michigan	315,519	307,712	288,045	34,000	22,111	9,908
Minnesota	104,896	95,018	98,619	12,468	7,000	3,537
Mississippi	24,546	22,289	22,131	2,521	934	816
Missouri	118,407	96,854	103,273	11,924	4,772	3,095
Montana	17,340	13,608	15,787	2,219	1,234	735
Nebraska	44,246	34,329	38,098	4,137	1,906	1,162
Nevada	17,422	14,882	16,194	1,492	804	651
New Hampshire	5,739	5,699	4,919	NA	328	155
New Jersey	174,127	170,910	151,904	17,676	9,887	5,304
New Mexico	26,894	26,240	25,369	2,679	1,041	856
New York	337,822	328,974	292,604	33,861	19,182	9,836
North Carolina	40,416	35,769	32,329	3,922	1,461	815
North Dakota	9,260	8,221	8,849	964	505	271
Ohio	300,473	291,077	273,717	34,700	20,304	7,937
Oklahoma	67,870	54,176	59,131	6,801	2,324	1,734
Oregon	25,045	18,772	22,770	2,337	1,117	699
Pennsylvania	230,923	229,919	208,589	24,272	15,206	6,898
Rhode Island	17,699	17,597	15,180	1,510	975	487
South Carolina	20,479	18,608	16,489	2,009	624	387
South Dakota	10,663	8,994	9,623	1,261	641	363
Tennessee	48,953	43,095	41,741	5,590	1,801	1,108
Texas	196,531	179,248	189,359	23,455	11,442	7,217
Utah	44,160	36,745	42,731	4,676	2,322	1,449
Vermont	2,246	2,212	1,889	189	127	51
Virginia	54,645	53,034	46,417	5,486	2,655	1,414
Washington	46,138	35,118	39,886	4,745	2,432	1,406
West Virginia	29,900	31,145	27,865	3,308	1,805	735
Wisconsin	111,513	104,325	105,277	13,624	7,833	3,874
Wyoming	10,946	9,093	10,327	1,183	641	381
Total	4,253,229	3,972,895	3,897,210	455,284	251,838	141,523

See footnote at end of table.

Table 18. Natural Gas Deliveries to Residential Consumers by State, 1992-1993
(Continued)
(Million Cubic Feet)

State	August 1993	July 1993	June 1993	May 1993	April 1993	March 1993
Alabama	1,326	1,426	1,636	2,840	5,652	8,691
Alaska	402	423	577	891	1,288	1,471
Arizona	802	833	1,097	1,298	2,179	4,080
Arkansas	1,017	1,109	1,309	2,256	4,970	6,735
California	22,743	23,641	25,109	29,404	36,242	50,580
Colorado	2,384	2,843	3,985	6,487	9,870	14,984
Connecticut	959	1,026	1,257	1,921	3,989	6,171
Delaware	167	184	242	447	1,016	1,483
District of Columbia	414	432	540	817	1,624	2,838
Florida	611	671	764	952	1,463	1,903
Georgia	2,922	3,013	3,111	4,449	9,292	15,685
Hawaii	41	46	47	44	48	52
Idaho	250	301	333	689	1,040	1,899
Illinois	9,736	10,380	12,724	18,265	42,438	68,000
Indiana	3,080	3,140	4,346	6,398	14,327	23,924
Iowa	1,527	1,566	2,387	3,458	7,613	11,612
Kansas	1,684	1,874	2,459	4,727	9,162	13,049
Kentucky	1,145	1,299	1,722	1,921	5,024	9,264
Louisiana	1,837	2,112	2,217	2,946	5,580	7,940
Maine	22	22	30	38	71	115
Maryland	1,898	1,943	2,442	3,419	6,596	12,217
Massachusetts	3,090	3,505	4,472	7,277	13,203	18,308
Michigan	7,120	8,494	11,337	18,067	34,718	54,009
Minnesota	2,389	2,565	3,564	5,382	10,745	16,317
Mississippi	789	831	949	1,467	2,965	4,402
Missouri	2,486	2,870	3,675	7,478	13,434	21,556
Montana	526	604	639	997	1,674	2,591
Nebraska	954	1,068	1,427	2,252	4,864	7,316
Nevada	612	600	910	1,087	1,503	2,715
New Hampshire	124	149	211	349	721	1,009
New Jersey	4,617	5,104	5,972	8,744	19,991	31,606
New Mexico	828	856	1,062	1,699	2,798	4,026
New York	9,195	10,140	13,837	20,317	39,136	60,720
North Carolina	762	830	1,040	1,979	5,036	8,033
North Dakota	210	268	350	568	1,082	1,462
Ohio	6,501	7,220	11,797	13,734	32,024	52,333
Oklahoma	1,616	1,837	2,338	3,917	8,042	12,165
Oregon	672	788	945	1,769	2,533	3,844
Pennsylvania	5,668	5,595	8,528	10,967	24,899	42,203
Rhode Island	472	558	671	1,117	2,200	3,291
South Carolina	373	402	495	947	2,532	4,230
South Dakota	236	281	370	606	1,153	1,678
Tennessee	1,007	1,102	1,353	2,288	5,647	9,840
Texas	7,393	7,750	8,441	10,676	17,317	27,195
Utah	1,353	1,533	1,845	3,055	4,375	6,589
Vermont	45	50	84	138	271	433
Virginia	1,391	1,420	1,608	2,402	5,781	10,351
Washington	1,270	1,455	2,676	3,191	4,766	6,815
West Virginia	616	529	955	1,596	3,534	5,724
Wisconsin	2,570	2,487	3,726	5,548	12,504	18,048
Wyoming	292	366	506	811	1,166	1,655
Total	120,146	129,524	164,118	234,089	450,098	702,955

See footnote at end of table.

Table 18. Natural Gas Deliveries to Residential Consumers by State, 1992-1993
(Continued)
(Million Cubic Feet)

State	February 1993	January 1993	Total 1992	December 1992	November 1992	October 1992
Alabama	8,165	8,087	49,644	7,261	3,402	1,728
Alaska	2,138	2,079	14,350	1,882	1,442	1,209
Arizona	4,122	5,507	28,386	5,118	1,576	1,000
Arkansas	7,123	8,139	39,474	6,185	3,132	1,511
California	65,997	87,540	479,537	75,266	37,291	24,434
Colorado	15,937	18,500	94,614	15,715	7,607	3,547
Connecticut	7,302	6,635	42,394	5,855	3,876	2,271
Delaware	1,382	1,301	8,194	1,044	628	307
District of Columbia	2,795	2,740	16,587	2,213	1,314	642
Florida	1,849	1,650	14,380	1,766	956	685
Georgia	18,101	17,977	108,214	18,555	12,934	5,284
Hawaii	51	51	551	50	42	42
Idaho	1,951	2,256	9,659	1,946	1,024	428
Illinois	74,465	85,855	475,360	77,632	54,950	28,742
Indiana	25,852	27,770	152,692	24,261	15,953	8,361
Iowa	13,078	15,171	74,879	12,827	8,350	3,725
Kansas	13,450	15,775	71,522	12,732	6,102	2,421
Kentucky	11,225	11,222	61,911	10,617	6,997	3,376
Louisiana	8,409	8,584	55,221	8,411	4,185	2,222
Maine	153	144	872	111	70	41
Maryland	12,767	11,757	75,122	10,567	6,855	4,038
Massachusetts	19,634	18,257	119,670	14,189	10,056	5,342
Michigan	56,815	58,940	358,088	50,376	34,278	20,856
Minnesota	18,621	22,308	113,560	18,543	12,857	6,449
Mississippi	4,393	4,480	26,487	4,198	1,927	979
Missouri	21,884	25,234	116,655	19,801	10,344	4,259
Montana	2,490	3,631	16,673	3,065	1,792	1,106
Nebraska	7,759	11,404	41,414	7,085	4,561	2,030
Nevada	3,157	3,892	18,184	3,302	1,226	727
New Hampshire	1,081	1,048	6,449	750	526	288
New Jersey	34,599	30,626	198,462	27,553	17,953	10,368
New Mexico	4,736	6,313	31,433	5,194	1,992	1,033
New York	62,212	59,387	378,689	49,715	30,758	18,633
North Carolina	8,149	8,389	42,588	6,819	3,446	1,781
North Dakota	1,522	2,059	9,693	1,472	990	458
Ohio	58,337	55,585	340,628	49,551	34,181	20,929
Oklahoma	12,493	14,604	65,811	11,635	4,722	2,236
Oregon	4,570	5,790	23,109	4,337	1,993	1,017
Pennsylvania	44,864	41,824	266,528	36,609	24,806	15,853
Rhode Island	3,326	3,091	20,000	2,403	1,720	890
South Carolina	4,247	4,232	22,392	3,784	1,750	792
South Dakota	1,784	2,291	10,791	1,797	1,267	602
Tennessee	9,089	10,127	52,220	9,125	4,473	1,885
Texas	34,330	41,315	214,682	35,434	19,205	8,584
Utah	8,045	8,918	44,701	7,957	3,844	1,802
Vermont	446	412	2,520	308	205	129
Virginia	11,461	10,675	62,431	9,396	5,553	3,307
Washington	7,491	9,891	43,048	7,930	4,236	2,236
West Virginia	5,916	5,182	35,291	4,146	3,120	1,899
Wisconsin	18,316	22,983	123,405	19,080	13,233	7,630
Wyoming	1,799	2,145	10,895	1,803	1,071	551
Total	769,882	833,773	4,690,065	717,170	436,771	240,862

See footnote at end of table.

Table 18. Natural Gas Deliveries to Residential Consumers by State, 1992-1993
(Continued)
(Million Cubic Feet)

State	September 1992	August 1992	July 1992	June 1992	May 1992	April 1992
Alabama	1,373	1,311	1,423	1,772	2,714	5,012
Alaska	643	438	474	628	1,012	1,346
Arizona	870	815	947	1,132	1,207	2,313
Arkansas	1,096	1,124	1,194	1,371	1,854	3,828
California	21,969	22,039	22,397	24,100	28,422	37,311
Colorado	2,644	2,438	2,809	3,963	5,005	8,789
Connecticut	1,155	996	1,125	1,394	2,417	4,284
Delaware	183	179	197	301	528	948
District of Columbia	446	420	469	630	948	1,820
Florida	636	627	674	733	936	1,340
Georgia	3,211	2,981	3,170	3,536	4,718	7,360
Hawaii	43	42	45	46	47	46
Idaho	274	183	233	247	445	730
Illinois	13,758	11,171	10,391	12,963	22,488	40,752
Indiana	3,960	3,312	3,484	4,627	7,584	14,093
Iowa	1,885	1,668	1,546	2,186	3,335	6,857
Kansas	1,798	1,740	1,832	2,609	3,788	6,917
Kentucky	1,413	1,416	1,326	1,835	2,626	4,179
Louisiana	2,014	1,960	2,067	2,288	2,799	4,544
Maine	17	22	24	37	66	96
Maryland	2,027	2,068	2,153	2,577	4,007	7,087
Massachusetts	3,369	3,203	3,453	4,822	8,475	13,384
Michigan	9,435	8,655	8,773	11,927	21,545	36,421
Minnesota	3,021	2,525	2,702	3,130	5,136	10,391
Mississippi	856	817	896	963	1,287	2,440
Missouri	2,942	2,681	2,931	3,838	5,858	11,044
Montana	727	421	485	541	837	1,371
Nebraska	1,096	983	1,047	1,311	2,020	3,760
Nevada	608	529	671	695	803	1,394
New Hampshire	151	139	159	219	461	766
New Jersey	5,338	4,918	5,239	6,166	11,680	20,212
New Mexico	889	851	929	1,122	1,514	2,723
New York	10,006	9,649	10,509	13,470	23,835	41,548
North Carolina	806	734	837	1,301	2,222	4,509
North Dakota	285	214	260	311	616	1,002
Ohio	8,111	7,238	8,098	10,336	17,276	31,114
Oklahoma	1,775	1,712	1,949	2,549	3,219	5,961
Oregon	648	526	610	772	1,248	1,891
Pennsylvania	6,950	5,902	6,134	8,047	13,989	26,243
Rhode Island	547	423	639	771	1,446	2,271
South Carolina	409	386	424	597	1,033	2,295
South Dakota	315	254	265	321	638	996
Tennessee	1,100	1,051	1,120	1,437	2,186	4,859
Texas	7,750	7,553	8,119	8,776	10,307	14,934
Utah	1,321	1,255	1,406	1,524	1,986	3,184
Vermont	53	49	53	72	145	284
Virginia	1,467	1,406	1,495	1,788	3,269	5,884
Washington	1,310	956	910	1,384	2,377	3,736
West Virginia	819	661	683	1,105	2,076	4,038
Wisconsin	3,229	2,662	2,604	3,681	6,373	11,914
Wyoming	360	278	323	431	613	951
Total	137,106	125,580	131,801	162,378	251,416	431,401

NA = Not Available.

Notes: Geographic coverage is the 50 States and the District of Columbia. See Appendix A, Explanatory Note 5 for discussion of computations and revision policy.

Source: Form EIA-857.

Table 19. Natural Gas Deliveries to Commercial Consumers by State, 1992-1993

(Million Cubic Feet)

State	YTD 1993	YTD 1992	YTD 1991	November 1993	October 1993	September 1993
Alabama	22,830	21,894	20,743	2,123	1,299	1,137
Alaska	17,711	18,909	18,590	1,786	1,564	1,113
Arizona	24,279	23,516	24,520	2,112	1,559	1,530
Arkansas	25,451	21,718	22,689	2,472	1,386	1,123
California	239,629	256,270	260,230	22,096	21,022	18,305
Colorado	63,146	56,100	59,444	6,169	3,160	3,084
Connecticut	25,945	25,967	23,442	NA	1,633	1,023
Delaware	4,486	4,343	3,712	408	226	154
District of Columbia	14,179	14,182	13,786	1,030	833	678
Florida	37,298	37,812	35,310	3,335	2,979	2,886
Georgia	49,915	46,218	44,366	5,259	3,351	2,474
Hawaii	1,951	1,960	1,964	183	173	168
Idaho	9,186	7,375	8,261	952	509	383
Illinois	175,114	165,390	165,281	22,151	13,063	7,361
Indiana	66,132	60,623	58,150	8,347	4,535	2,365
Iowa	43,589	38,268	39,448	5,673	2,864	1,638
Kansas	50,645	46,430	53,032	4,576	2,539	2,474
Kentucky	31,597	29,900	28,538	3,960	2,305	1,214
Louisiana	22,446	24,871	22,610	2,097	1,355	1,297
Maine	2,023	1,923	1,582	251	166	77
Maryland	37,417	36,898	32,985	3,866	2,213	1,688
Massachusetts	57,282	57,419	47,161	NA	3,720	2,713
Michigan	154,809	149,591	142,427	16,698	10,119	5,770
Minnesota	73,879	69,586	73,294	9,030	5,575	2,920
Mississippi	17,876	15,555	15,535	1,819	1,047	926
Missouri	59,644	51,316	54,327	6,023	2,899	2,249
Montana	12,019	9,463	11,056	1,515	902	537
Nebraska	32,093	29,549	36,254	3,410	2,111	1,302
Nevada	15,379	13,931	14,984	1,425	1,050	910
New Hampshire	5,396	5,147	4,385	NA	332	186
New Jersey	116,677	114,422	105,171	11,528	6,879	5,268
New Mexico	24,550	23,719	21,406	2,570	1,329	1,795
New York	192,722	191,406	174,477	18,110	13,867	9,891
North Carolina	31,691	31,477	30,151	3,209	2,058	1,521
North Dakota	9,166	8,210	9,197	1,068	629	381
Ohio	140,000	136,875	128,399	14,876	9,572	4,470
Oklahoma	35,711	29,419	33,935	3,440	1,565	1,361
Oregon	20,561	16,404	19,569	1,917	1,188	933
Pennsylvania	113,720	115,869	108,095	12,423	7,630	4,392
Rhode Island	7,884	8,129	7,374	1,009	503	243
South Carolina	14,733	14,554	13,879	1,436	983	830
South Dakota	9,280	7,646	8,187	1,085	633	393
Tennessee	44,651	39,687	39,795	4,752	2,599	2,022
Texas	186,398	162,580	160,364	17,601	12,816	11,459
Utah	16,530	13,464	16,572	1,696	731	441
Vermont	2,058	2,050	1,774	235	143	83
Virginia	45,829	43,862	38,376	4,336	3,092	2,104
Washington	38,159	32,091	36,681	3,668	2,496	1,844
West Virginia	21,734	21,023	18,276	2,493	1,625	1,086
Wisconsin	67,900	60,227	60,578	8,516	4,833	2,504
Wyoming	8,309	6,737	7,867	817	624	350
Total	2,541,611	2,421,980	2,378,231	264,317	172,283	123,057

See footnote at end of table.

Table 19. Natural Gas Deliveries to Commercial Consumers by State, 1992-1993
(Continued)
(Million Cubic Feet)

State	August 1993	July 1993	June 1993	May 1993	April 1993	March 1993
Alabama	1,096	1,105	1,199	1,564	2,566	3,632
Alaska	958	918	1,055	1,442	1,864	2,052
Arizona	1,611	1,665	2,046	1,861	2,418	3,071
Arkansas	1,044	1,010	1,075	1,536	2,914	3,987
California	15,595	19,856	16,987	19,515	19,725	23,421
Colorado	2,393	2,482	3,162	4,353	6,587	9,560
Connecticut	911	973	1,012	1,430	2,874	4,286
Delaware	154	163	139	281	569	850
District of Columbia	697	658	724	1,138	1,534	2,144
Florida	2,835	2,923	3,075	3,352	3,864	4,065
Georgia	2,514	2,600	2,559	3,077	4,829	7,755
Hawaii	170	174	183	168	177	179
Idaho	362	385	389	569	833	1,302
Illinois	5,640	5,877	5,099	7,745	17,603	27,690
Indiana	1,793	1,800	2,057	2,850	6,549	10,975
Iowa	1,208	1,215	1,481	2,030	4,308	6,756
Kansas	3,420	3,504	2,248	2,924	5,087	7,223
Kentucky	1,005	1,029	1,443	1,325	2,923	5,179
Louisiana	1,280	1,269	1,456	1,746	2,381	3,082
Maine	67	71	80	107	192	291
Maryland	1,555	1,496	1,846	2,094	3,742	6,182
Massachusetts	2,513	2,614	3,121	4,066	6,366	8,919
Michigan	4,133	5,039	5,968	8,940	18,049	25,283
Minnesota	2,183	2,176	2,533	3,561	7,222	11,305
Mississippi	922	970	958	1,100	1,741	2,655
Missouri	1,988	2,093	2,293	4,168	6,389	9,885
Montana	418	439	436	686	1,143	1,750
Nebraska	1,781	1,289	1,351	1,440	3,027	4,472
Nevada	940	921	1,054	1,344	1,317	2,022
New Hampshire	171	177	204	294	612	912
New Jersey	3,901	5,985	5,256	7,197	13,341	19,219
New Mexico	1,408	1,416	1,464	1,732	2,334	2,819
New York	10,413	10,369	11,087	11,562	20,159	28,850
North Carolina	1,415	1,314	1,421	1,793	3,300	5,038
North Dakota	294	317	347	477	926	1,339
Ohio	3,843	3,919	5,194	6,324	14,913	25,344
Oklahoma	1,442	1,343	1,458	2,075	3,770	5,949
Oregon	839	914	1,009	1,447	1,926	2,877
Pennsylvania	3,897	3,505	4,462	5,749	11,795	19,664
Rhode Island	364	273	330	429	907	1,325
South Carolina	834	826	861	988	1,478	2,158
South Dakota	292	315	343	531	996	1,346
Tennessee	1,839	1,912	2,023	2,618	4,625	7,385
Texas	15,027	16,324	15,471	14,520	17,105	19,070
Utah	414	471	560	1,074	1,605	2,695
Vermont	67	62	80	124	199	350
Virginia	2,052	1,986	2,171	2,825	4,835	7,305
Washington	1,765	1,816	1,921	2,797	3,817	5,201
West Virginia	1,012	906	1,088	1,271	2,184	3,452
Wisconsin	1,896	2,016	2,594	3,413	7,006	10,572
Wyoming	361	336	369	598	828	1,192
Total	114,729	123,216	126,742	156,250	257,452	374,035

See footnote at end of table.

Table 19. Natural Gas Deliveries to Commercial Consumers by State, 1992-1993
(Continued)
(Million Cubic Feet)

State	February 1993	January 1993	Total 1992	December 1992	November 1992	October 1992
Alabama	3,581	3,528	25,235	3,338	1,983	1,320
Alaska	2,472	2,488	21,299	2,390	1,928	1,790
Arizona	2,968	3,439	27,135	3,573	1,858	1,580
Arkansas	4,161	4,742	25,314	3,596	2,078	1,219
California	33,785	29,322	285,035	28,738	20,999	19,112
Colorado	10,266	11,929	66,443	10,319	5,594	3,078
Connecticut	4,816	4,490	29,838	3,871	2,623	1,562
Delaware	810	732	4,965	622	395	240
District of Columbia	2,414	2,328	16,103	1,921	1,103	753
Florida	4,055	3,929	41,736	3,914	3,317	2,954
Georgia	7,887	7,610	53,861	7,642	4,640	3,201
Hawaii	190	185	2,144	184	178	168
Idaho	1,684	1,817	8,932	1,557	889	465
Illinois	29,700	33,186	196,972	31,575	22,757	12,394
Indiana	11,930	12,932	72,779	12,097	8,135	4,253
Iowa	7,756	8,662	46,097	7,827	5,843	2,645
Kansas	7,616	9,034	53,973	7,543	4,867	3,162
Kentucky	5,592	5,622	35,419	5,519	4,064	2,237
Louisiana	3,214	3,269	28,454	3,574	2,295	1,577
Maine	364	356	2,209	285	188	116
Maryland	6,514	6,222	42,464	5,565	3,895	2,491
Massachusetts	9,032	8,492	64,355	6,933	5,530	3,776
Michigan	27,068	27,742	173,806	24,211	16,298	9,760
Minnesota	12,792	14,583	82,381	12,795	9,526	5,092
Mississippi	2,944	2,794	17,942	2,387	1,489	942
Missouri	10,245	11,412	60,963	9,646	5,335	2,728
Montana	1,714	2,479	11,560	2,095	1,271	810
Nebraska	4,725	7,164	34,491	4,941	3,988	2,508
Nevada	2,117	2,279	16,113	2,170	1,022	982
New Hampshire	974	994	5,862	715	515	295
New Jersey	20,061	18,042	130,891	16,470	11,027	7,164
New Mexico	3,440	4,243	27,891	4,165	2,269	1,673
New York	29,647	28,766	217,220	25,808	16,804	12,860
North Carolina	5,223	5,398	36,424	4,941	3,010	2,138
North Dakota	1,478	1,911	9,762	1,549	1,015	576
Ohio	26,510	25,034	160,704	23,770	15,094	9,092
Oklahoma	6,186	7,124	35,235	5,771	2,608	1,449
Oregon	3,367	4,144	19,576	3,166	1,652	1,105
Pennsylvania	21,017	19,186	134,257	18,385	12,784	8,439
Rhode Island	1,359	1,140	9,089	951	654	609
South Carolina	2,114	2,225	16,644	2,089	1,345	1,006
South Dakota	1,498	1,849	9,127	1,476	1,104	558
Tennessee	7,553	7,326	46,534	6,846	3,963	2,368
Texas	21,693	25,314	184,677	22,093	17,366	11,672
Utah	3,307	3,536	16,599	3,120	1,329	545
Vermont	368	347	2,319	269	211	144
Virginia	7,738	7,386	50,757	6,895	4,714	3,275
Washington	5,718	7,118	37,883	5,709	3,418	2,240
West Virginia	3,504	3,114	24,419	3,396	2,092	1,482
Wisconsin	11,753	12,798	71,343	11,087	7,918	4,108
Wyoming	1,295	1,539	8,019	1,271	760	439
Total	408,214	421,317	2,803,262	380,772	255,758	166,151

See footnote at end of table.

Table 19. Natural Gas Deliveries to Commercial Consumers by State, 1992-1993
(Continued)
(Million Cubic Feet)

State	September 1992	August 1992	July 1992	June 1992	May 1992	April 1992
Alabama	1,136	1,078	1,108	1,225	1,513	2,287
Alaska	1,252	1,013	1,084	1,206	1,597	1,935
Arizona	1,601	1,505	1,690	1,754	1,620	2,352
Arkansas	1,029	1,022	1,082	1,108	1,358	2,114
California	19,247	21,633	21,150	22,150	27,118	18,379
Colorado	2,312	2,183	2,430	3,055	3,631	5,965
Connecticut	1,075	1,061	1,046	1,149	1,779	2,941
Delaware	162	152	166	198	308	537
District of Columbia	653	673	718	764	1,056	1,774
Florida	2,849	2,881	2,976	3,085	3,382	3,741
Georgia	2,462	2,503	2,536	2,596	3,103	4,381
Hawaii	178	173	174	184	177	183
Idaho	369	330	345	343	447	643
Illinois	6,618	6,025	5,811	4,907	8,872	17,598
Indiana	2,131	1,955	1,811	2,004	3,400	6,172
Iowa	1,433	1,257	1,100	1,427	1,877	3,883
Kansas	3,132	3,462	3,609	2,814	3,736	4,571
Kentucky	1,209	1,158	1,066	1,132	1,600	2,612
Louisiana	1,508	1,431	1,556	1,564	1,769	2,367
Maine	67	52	79	80	157	229
Maryland	1,615	1,586	1,553	1,784	2,391	3,807
Massachusetts	2,753	2,884	3,072	2,768	4,450	7,049
Michigan	5,431	4,964	4,981	5,883	10,406	17,769
Minnesota	2,631	2,296	2,244	2,467	3,602	7,517
Mississippi	847	867	885	888	994	1,473
Missouri	2,024	1,993	1,849	2,547	3,144	5,601
Montana	523	331	365	377	568	930
Nebraska	1,710	2,393	2,366	1,330	1,781	2,411
Nevada	872	824	1,015	945	1,012	1,335
New Hampshire	174	169	179	208	376	629
New Jersey	5,462	4,981	5,240	5,294	8,392	14,066
New Mexico	1,541	1,513	1,200	1,171	1,687	2,372
New York	9,582	9,456	9,327	9,915	13,518	23,039
North Carolina	1,679	1,607	1,591	1,733	2,205	3,296
North Dakota	363	262	279	298	529	937
Ohio	4,418	4,280	4,291	5,016	7,455	15,893
Oklahoma	1,240	1,292	1,407	1,540	1,785	2,956
Oregon	863	782	784	884	1,171	1,542
Pennsylvania	4,579	4,132	4,046	4,520	6,793	12,210
Rhode Island	411	479	448	498	676	1,047
South Carolina	875	882	820	944	1,068	1,436
South Dakota	324	284	291	303	460	828
Tennessee	1,933	1,681	1,838	2,016	2,436	4,205
Texas	11,356	12,966	13,768	10,879	12,557	14,174
Utah	405	372	410	457	642	1,155
Vermont	77	75	79	75	118	231
Virginia	1,903	2,055	2,085	2,271	3,289	4,523
Washington	1,734	1,514	1,575	1,830	2,343	3,179
West Virginia	910	855	812	999	1,341	2,322
Wisconsin	1,954	1,615	1,759	1,986	3,632	6,870
Wyoming	287	269	264	309	438	668
Total	120,899	121,186	122,339	124,881	169,759	250,136

NA = Not Available.

Notes: Geographic coverage is the 50 States and the District of Columbia. Deliveries for total year 1992 may not equal the sum of the twelve months. Gas volumes delivered for use as vehicle fuel are included in the annual total but not in the monthly components. See Appendix A, Explanatory Note 5 for discussion of computations and revision policy.

Source: Form EIA-857.

**Table 20. Natural Gas Deliveries to Industrial Consumers by State,
1992-1993
(Million Cubic Feet)**

State	YTD 1993	YTD 1992	YTD 1991	November 1993	October 1993	September 1993
Alabama	159,077	154,143	141,324	14,682	14,775	12,636
Alaska	69,045	73,051	68,728	6,831	5,353	7,052
Arizona	18,950	17,800	17,560	2,006	1,799	1,756
Arkansas	102,951	108,148	95,212	10,534	9,753	8,532
California	525,751	545,798	553,084	48,826	57,645	48,221
Colorado	78,859	50,996	50,886	7,324	6,508	6,901
Connecticut	33,833	32,894	29,431	NA	3,359	2,686
Delaware	17,894	16,300	14,815	1,545	1,535	1,618
District of Columbia	0	0	0	0	0	0
Florida	90,753	77,037	75,635	9,020	8,716	8,150
Georgia	154,806	158,023	153,185	14,895	14,822	13,314
Hawaii	0	0	0	0	0	0
Idaho	26,532	24,347	24,179	2,547	2,497	2,067
Illinois	274,096	269,072	270,850	27,863	25,265	20,875
Indiana	239,856	220,716	205,637	23,497	22,013	19,241
Iowa	93,540	91,258	88,612	9,907	9,043	8,367
Kansas	122,104	117,855	112,612	10,447	10,421	9,940
Kentucky	68,825	66,457	64,565	7,212	6,890	5,412
Louisiana	730,741	860,431	845,922	66,381	70,857	69,577
Maine	1,470	1,883	2,004	183	187	143
Maryland	44,859	45,374	42,732	4,992	4,622	3,601
Massachusetts	74,166	64,342	50,715	NA	8,807	7,992
Michigan	289,019	277,743	244,822	27,104	24,910	22,359
Minnesota	82,183	84,031	83,828	7,744	8,224	6,428
Mississippi	103,751	94,136	95,263	9,651	10,006	8,590
Missouri	53,831	52,643	51,522	5,513	4,834	4,159
Montana	11,233	10,938	8,652	1,222	1,160	1,045
Nebraska	30,611	23,436	22,602	3,175	2,678	2,551
Nevada	32,841	8,505	6,111	3,187	3,057	3,249
New Hampshire	3,614	3,536	3,189	NA	327	279
New Jersey	169,652	158,332	91,747	16,677	14,524	14,422
New Mexico	16,649	15,537	16,770	1,591	1,732	1,633
New York	139,612	132,575	106,692	13,972	12,516	10,931
North Carolina	85,801	83,130	77,559	8,207	7,772	7,202
North Dakota	5,639	5,370	4,520	555	474	522
Ohio	268,699	265,512	252,930	27,464	24,355	20,848
Oklahoma	162,828	159,802	164,984	16,159	15,201	13,978
Oregon	56,560	53,611	50,418	5,292	5,247	5,115
Pennsylvania	223,016	215,010	210,220	19,753	19,273	17,099
Rhode Island	42,151	44,115	23,564	3,563	3,896	3,751
South Carolina	87,312	87,295	78,950	8,801	8,487	7,195
South Dakota	4,292	3,962	4,290	392	471	324
Tennessee	109,651	115,151	105,164	8,732	10,221	9,343
Texas	1,773,479	1,578,647	1,606,309	136,405	152,539	221,532
Utah	40,800	36,136	37,217	4,674	3,418	2,714
Vermont	1,858	1,761	1,530	191	181	149
Virginia	86,512	63,218	54,859	6,320	6,435	6,802
Washington	84,990	72,587	72,047	7,955	8,122	7,486
West Virginia	43,864	39,548	37,435	3,978	3,987	3,557
Wisconsin	120,110	116,259	115,511	12,394	10,436	9,027
Wyoming	45,736	51,369	29,909	2,969	4,052	4,707
Total	7,104,403	6,849,824	6,566,300	644,180	653,402	675,078

See footnotes at end of table.

**Table 20. Natural Gas Deliveries to Industrial Consumers by State,
1992-1993 (Continued)**
(Million Cubic Feet)

State	August 1993	July 1993	June 1993	May 1993	April 1993	March 1993
Alabama	13,419	14,029	13,539	13,800	14,999	15,943
Alaska	4,919	6,934	5,517	5,906	6,220	6,258
Arizona	1,676	1,598	1,316	1,679	1,867	1,879
Arkansas	7,887	8,207	8,515	8,939	9,393	10,786
California	46,480	52,134	44,010	46,173	43,228	48,371
Colorado	6,431	6,778	7,245	7,322	7,372	7,220
Connecticut	2,627	2,504	2,619	2,737	3,176	3,903
Delaware	1,658	1,604	1,516	1,632	1,726	1,776
District of Columbia	0	0	0	0	0	0
Florida	8,166	8,164	8,044	8,210	7,917	8,362
Georgia	14,733	14,267	13,515	13,488	13,685	14,155
Hawaii	0	0	0	0	0	0
Idaho	2,101	2,154	2,307	2,272	2,383	2,759
Illinois	17,810	19,314	19,630	21,681	24,113	31,811
Indiana	18,983	18,558	19,517	19,866	21,485	25,813
Iowa	8,174	7,164	7,690	7,765	7,847	9,406
Kansas	10,933	12,117	10,374	10,749	10,619	11,489
Kentucky	5,190	4,909	5,146	5,351	6,128	7,429
Louisiana	69,247	70,055	63,367	60,391	64,569	65,052
Maine	141	112	69	80	142	136
Maryland	3,892	3,374	3,742	3,868	3,635	4,634
Massachusetts	8,094	5,428	6,288	5,846	5,305	5,911
Michigan	23,408	22,728	24,666	24,531	27,239	31,681
Minnesota	6,152	6,189	7,192	6,251	7,093	8,841
Mississippi	8,903	9,573	9,031	9,194	9,837	9,854
Missouri	3,992	3,727	4,098	4,188	4,947	6,015
Montana	921	954	780	755	931	1,192
Nebraska	2,214	2,624	2,276	2,294	3,653	2,747
Nevada	3,209	3,322	3,240	2,995	4,051	2,181
New Hampshire	290	311	297	375	366	325
New Jersey	14,051	14,046	14,198	14,283	16,500	16,846
New Mexico	1,743	1,414	1,335	1,315	1,533	1,416
New York	10,394	9,984	10,889	11,505	13,610	15,669
North Carolina	7,905	6,829	7,828	7,584	8,054	8,604
North Dakota	411	421	482	467	504	582
Ohio	21,157	14,929	22,180	22,139	26,126	30,726
Oklahoma	15,069	13,959	13,198	14,390	14,510	15,270
Oregon	5,054	4,889	4,725	5,009	5,329	5,457
Pennsylvania	17,884	17,968	19,245	18,966	20,885	24,765
Rhode Island	4,421	3,803	3,799	3,941	3,726	3,771
South Carolina	8,188	7,449	7,884	7,301	7,967	8,723
South Dakota	285	334	340	346	364	459
Tennessee	10,480	8,927	9,454	10,212	9,456	10,368
Texas	157,355	167,329	154,284	143,652	157,790	166,799
Utah	3,167	2,826	2,925	3,164	3,527	4,062
Vermont	139	137	136	159	173	191
Virginia	11,058	10,951	7,470	4,907	7,099	7,839
Washington	7,438	7,134	6,335	7,582	7,503	8,979
West Virginia	3,730	3,815	3,777	3,924	4,116	4,588
Wisconsin	8,083	7,378	8,031	8,792	12,166	14,082
Wyoming	3,650	4,475	4,123	4,737	4,461	3,404
Total	613,313	617,831	598,186	592,712	639,321	698,633

See footnotes at end of table.

**Table 20. Natural Gas Deliveries to Industrial Consumers by State,
1992-1993 (Continued)**
(Million Cubic Feet)

State	February 1993	January 1993	Total 1992	December 1992	November 1992	October 1992
Alabama	15,288	15,987	169,049	14,906	14,853	13,988
Alaska	6,298	7,757	80,938	7,887	7,337	7,810
Arizona	1,561	1,713	19,774	1,974	1,533	1,657
Arkansas	9,765	10,839	118,850	10,701	9,918	9,760
California	49,424	41,239	594,569	48,770	50,165	40,509
Colorado	7,883	8,075	57,579	6,583	5,439	5,093
Connecticut	4,043	3,590	36,383	3,490	3,102	2,867
Delaware	1,571	1,713	18,060	1,760	1,892	1,790
District of Columbia	0	0	0	0	0	0
Florida	7,983	8,022	84,829	7,792	7,151	6,330
Georgia	13,736	14,196	172,227	14,203	13,951	14,085
Hawaii	0	0	0	0	0	0
Idaho	2,718	2,726	27,044	2,615	2,502	2,351
Illinois	33,445	32,289	300,366	31,294	26,739	24,506
Indiana	25,146	25,736	245,523	24,807	22,453	20,770
Iowa	9,036	9,143	100,752	9,493	9,725	8,384
Kansas	12,998	12,017	130,807	12,952	12,023	13,293
Kentucky	7,801	7,356	73,619	7,162	6,649	6,574
Louisiana	63,341	67,902	932,467	72,036	71,738	72,644
Maine	126	152	2,048	165	207	152
Maryland	4,283	4,217	49,720	4,346	4,674	3,916
Massachusetts	5,694	5,983	70,872	6,530	6,385	5,899
Michigan	30,798	29,595	305,416	27,672	28,339	23,810
Minnesota	8,690	9,380	93,025	8,994	8,883	6,997
Mississippi	8,840	10,271	102,612	8,476	8,480	8,514
Missouri	5,789	6,568	58,466	5,823	5,291	4,626
Montana	1,067	1,206	12,218	1,280	1,345	1,138
Nebraska	2,663	3,737	26,451	3,015	2,529	2,226
Nevada	1,679	2,672	9,259	754	777	903
New Hampshire	304	318	3,828	292	305	270
New Jersey	16,874	17,230	174,569	16,237	17,046	15,572
New Mexico	1,458	1,480	17,070	1,533	1,389	1,493
New York	14,948	15,192	147,520	14,944	12,875	11,595
North Carolina	7,620	8,195	90,984	7,854	7,862	7,852
North Dakota	586	635	5,940	570	525	484
Ohio	29,475	29,299	294,805	29,294	26,573	23,979
Oklahoma	14,773	16,320	175,168	15,365	14,394	13,263
Oregon	4,878	5,565	58,519	4,908	5,103	5,544
Pennsylvania	23,806	23,571	236,708	21,697	21,184	18,784
Rhode Island	3,695	3,786	47,917	3,803	3,734	4,140
South Carolina	7,408	7,909	94,327	7,032	8,337	7,589
South Dakota	462	515	4,488	526	412	330
Tennessee	10,444	12,014	126,230	11,079	10,956	10,577
Texas	149,368	166,428	1,734,001	155,355	137,499	142,094
Utah	4,733	5,590	40,878	4,741	4,615	3,175
Vermont	187	215	1,958	196	169	167
Virginia	9,108	8,523	68,808	5,590	5,951	4,648
Washington	8,143	8,313	79,766	7,179	6,962	6,744
West Virginia	4,083	4,310	44,178	4,630	3,973	3,751
Wisconsin	14,459	15,263	130,267	14,008	12,810	10,269
Wyoming	4,306	4,852	56,046	4,677	4,419	4,894
Total	672,366	699,383	7,726,898	676,992	640,954	607,784

See footnotes at end of table.

**Table 20. Natural Gas Deliveries to Industrial Consumers by State,
1992-1993 (Continued)
(Million Cubic Feet)**

State	September 1992	August 1992	July 1992	June 1992	May 1992	April 1992
Alabama	13,496	13,309	13,659	13,739	13,894	13,624
Alaska	4,841	5,355	6,968	6,317	6,902	6,696
Arizona	1,562	1,581	1,627	1,613	1,543	1,842
Arkansas	9,778	9,314	9,129	9,098	9,868	9,864
California	52,231	49,895	43,635	47,916	60,503	32,593
Colorado	4,660	4,044	4,197	4,173	3,949	4,555
Connecticut	2,732	2,643	2,522	2,621	2,775	3,241
Delaware	1,433	1,354	1,238	1,343	1,501	1,548
District of Columbia	0	0	0	0	0	0
Florida	6,536	6,619	6,606	6,991	7,389	7,303
Georgia	13,982	13,862	14,270	13,854	14,505	14,863
Hawaii	0	0	0	0	0	0
Idaho ^a	1,895	1,657	1,975	2,241	2,286	2,243
Illinois	20,992	18,500	19,944	18,988	22,957	25,873
Indiana	18,229	16,896	17,145	17,745	18,817	19,954
Iowa	7,775	7,636	8,064	7,792	7,771	8,161
Kansas	9,933	9,956	10,029	9,699	9,303	10,097
Kentucky	5,308	5,401	4,797	5,273	5,449	6,023
Louisiana	64,894	73,865	80,422	74,285	78,686	87,445
Maine	164	162	161	157	172	219
Maryland	3,517	3,615	3,825	3,603	3,785	4,419
Massachusetts	6,004	5,995	4,698	6,041	6,524	7,528
Michigan	20,895	21,660	20,153	22,387	24,900	28,501
Minnesota	6,241	6,348	6,436	6,144	6,951	7,863
Mississippi	8,372	7,936	8,302	8,251	8,453	8,936
Missouri	3,958	4,132	3,908	4,084	4,268	5,027
Montana	1,071	904	883	782	841	870
Nebraska	2,111	1,966	1,917	2,197	1,710	2,172
Nevada	658	732	718	783	821	814
New Hampshire	336	333	302	300	312	422
New Jersey	14,276	14,887	14,037	14,027	13,014	14,133
New Mexico	1,238	1,260	1,038	1,004	1,323	1,563
New York	11,241	10,137	10,465	10,805	11,273	12,441
North Carolina	7,226	7,160	6,663	7,088	7,410	7,565
North Dakota	408	390	438	420	469	472
Ohio	21,158	19,914	19,985	21,123	22,201	26,498
Oklahoma	13,890	14,236	14,509	13,932	14,326	14,259
Oregon	5,437	5,229	4,923	4,296	3,796	3,926
Pennsylvania	17,389	16,876	17,173	16,470	18,523	20,700
Rhode Island	3,730	3,688	4,209	4,241	4,017	4,321
South Carolina	7,766	7,702	7,890	8,110	8,183	8,128
South Dakota	278	246	356	323	346	418
Tennessee	9,712	9,933	10,197	9,366	9,693	11,278
Texas	147,054	143,664	146,392	138,927	147,828	145,134
Utah	2,522	2,512	2,538	2,771	2,632	2,997
Vermont	145	130	119	128	149	141
Virginia	5,732	6,018	7,366	4,886	5,300	5,618
Washington	5,964	6,214	5,717	5,900	6,222	6,616
West Virginia	3,435	3,426	3,209	3,403	3,431	3,697
Wisconsin	8,636	8,127	7,610	7,867	8,838	11,327
Wyoming	4,864	4,551	4,841	4,976	4,667	4,366
Total	585,706	581,772	587,203	578,480	620,479	628,092

^a Small volumes of natural gas representing onsystem sales to industrial consumers in Idaho are included in the annual total but not in monthly components. Deliveries for total year 1992 do not equal the sum of the twelve months.

^R = Revised Data.

^{NA} = Not Available.

Notes: Geographic coverage is the 50 States and the District of Columbia. See Appendix A, Explanatory Note 5 for discussion of computations and revision policy.

Source: Form EIA-857.

Table 21. Natural Gas Deliveries to Electric Utility^a Consumers by State, 1992-1993
(Million Cubic Feet)

State	YTD 1993	YTD 1992	YTD 1991	November 1993	October 1993	September 1993
Alabama	4,345	3,198	3,768	250	237	213
Alaska	24,638	26,232	28,841	2,544	2,407	2,017
Arizona	19,109	30,610	22,927	1,376	1,540	1,816
Arkansas	20,716	26,770	27,595	2,758	3,088	3,349
California	418,427	517,287	412,768	49,810	46,514	43,805
Colorado	4,542	4,493	5,011	438	448	378
Connecticut	535	2,072	4,661	15	16	22
Delaware	7,298	7,804	13,373	1,131	1,290	531
District of Columbia	0	0	0	0	0	0
Florida	162,456	192,186	188,293	10,549	12,328	17,684
Georgia	2,996	1,149	818	32	50	103
Hawaii	0	0	0	0	0	0
Idaho	0	0	0	0	0	0
Illinois	14,090	8,923	12,198	1,925	2,274	1,272
Indiana	5,160	6,947	8,192	566	424	250
Iowa	4,114	2,073	3,432	140	200	191
Kansas	20,706	13,173	35,383	1,166	1,406	1,708
Kentucky	249	249	208	24	18	54
Louisiana	230,117	243,217	242,152	18,169	23,055	27,395
Maine	0	0	0	0	0	0
Maryland	8,276	11,145	15,740	701	365	1,194
Massachusetts	28,391	38,114	38,869	1,674	2,450	2,854
Michigan	17,608	23,180	21,142	1,308	1,506	930
Minnesota	3,580	4,676	5,487	437	281	524
Mississippi	38,402	52,555	59,697	3,893	4,022	3,238
Missouri	4,815	2,285	12,611	149	392	176
Montana	229	212	239	57	19	2
Nebraska	1,778	1,767	3,321	60	120	82
Nevada	20,045	23,919	20,850	1,381	1,935	1,977
New Hampshire	136	633	0	0	0	0
New Jersey	34,413	38,090	60,732	1,417	1,059	3,479
New Mexico	25,994	21,078	26,274	2,012	1,954	2,239
New York	166,469	198,091	198,672	10,308	14,786	15,431
North Carolina	2,744	2,990	2,757	105	90	229
North Dakota	1	1	1	0	0	0
Ohio	2,671	2,903	3,100	53	86	76
Oklahoma	143,605	138,860	158,498	11,017	12,320	13,054
Oregon	13,307	13,288	8,937	2,178	2,065	1,638
Pennsylvania	8,072	2,838	1,844	457	700	369
Rhode Island	302	469	1,631	51	0	30
South Carolina	1,834	1,789	9,816	10	6	132
South Dakota	126	39	176	18	9	4
Tennessee	1,524	266	185	0	0	15
Texas	1,010,436	899,414	941,646	77,896	91,536	107,761
Utah	5,736	6,035	4,573	549	539	414
Vermont	267	800	1,078	1	21	0
Virginia	17,710	10,097	8,730	1,280	1,383	1,956
Washington	4,590	5,375	116	9	4	6
West Virginia	125	193	119	18	4	6
Wisconsin	2,890	2,438	2,552	185	240	207
Wyoming	83	76	71	5	5	1
Total	2,505,654	2,590,000	2,619,083	208,122	233,192	258,812

See footnotes at end of table.

Table 21. Natural Gas Deliveries to Electric Utility^a Consumers by State, 1992-1993 (Continued)
(Million Cubic Feet)

State	August 1993	July 1993	June 1993	May 1993	April 1993	March 1993
Alabama	603	1,444	418	266	144	215
Alaska	1,794	1,790	2,027	2,105	2,155	2,482
Arizona	4,184	2,590	1,397	1,765	1,402	1,921
Arkansas	4,587	3,846	1,646	267	311	280
California	44,724	31,247	31,453	17,816	32,390	38,720
Colorado	338	470	398	278	354	514
Connecticut	152	194	13	8	10	20
Delaware	1,095	1,231	953	272	322	253
District of Columbia	0	0	0	0	0	0
Florida	20,015	19,776	18,980	16,262	12,549	12,232
Georgia	670	1,554	398	74	33	22
Hawaii	0	0	0	0	0	0
Idaho	0	0	0	0	0	0
Illinois	3,369	1,951	1,089	377	445	482
Indiana	788	611	245	273	437	457
Iowa	1,589	835	176	233	238	169
Kansas	5,391	5,219	2,037	846	649	920
Kentucky	26	24	22	19	27	11
Louisiana	39,699	36,385	26,473	13,920	10,869	14,087
Maine	0	0	0	0	0	0
Maryland	1,563	2,097	647	385	187	560
Massachusetts	4,857	4,400	2,606	2,513	3,815	2,955
Michigan	2,691	2,153	1,685	1,345	925	1,380
Minnesota	804	287	282	297	185	164
Mississippi	6,671	7,334	3,987	2,968	1,335	2,114
Missouri	2,204	1,305	224	54	63	113
Montana	52	34	13	13	4	15
Nebraska	399	454	114	137	148	111
Nevada	2,657	2,613	1,852	2,157	1,695	2,305
New Hampshire	0	3	36	91	6	0
New Jersey	7,797	11,574	4,252	1,278	329	1,508
New Mexico	3,097	3,149	2,710	2,067	2,811	2,793
New York	21,138	25,652	19,450	12,276	14,335	12,983
North Carolina	564	720	323	100	99	141
North Dakota	0	0	0	0	0	0
Ohio	469	399	149	135	102	417
Oklahoma	22,607	20,634	13,982	10,542	10,485	10,268
Oregon	2,234	0	15	0	0	1,990
Pennsylvania	932	1,206	814	211	337	1,133
Rhode Island	87	52	82	0	0	0
South Carolina	417	806	311	24	21	69
South Dakota	78	1	1	2	0	10
Tennessee	386	904	132	15	14	15
Texas	142,579	135,348	111,153	74,821	71,510	75,318
Utah	390	368	422	507	592	697
Vermont	0	129	79	18	15	1
Virginia	2,404	2,350	1,229	174	1,317	1,776
Washington	5	4	0	0	683	1,836
West Virginia	27	7	13	4	11	6
Wisconsin	559	245	297	222	343	318
Wyoming	5	6	13	7	7	15
Total	356,695	333,405	254,601	167,146	173,709	193,795

See footnotes at end of table.

Table 21. Natural Gas Deliveries to Electric Utility* Consumers by State, 1992-1993 (Continued)
(Million Cubic Feet)

State	February 1993	January 1993	Total 1992	December 1992	November 1992	October 1992
Alabama	306	249	3,368	171	382	234
Alaska	2,535	2,781	28,953	2,721	2,756	2,514
Arizona	588	530	30,939	328	597	2,631
Arkansas	263	322	27,015	246	209	733
California	40,118	41,829	564,432	47,146	50,027	53,026
Colorado	394	531	5,019	526	396	493
Connecticut	62	25	2,100	28	18	19
Delaware	55	164	8,384	580	586	581
District of Columbia	0	0	0	0	0	0
Florida	11,459	10,621	202,576	10,390	12,389	12,525
Georgia	49	12	1,162	13	12	65
Hawaii	0	0	0	0	0	0
Idaho	0	0	0	0	0	0
Illinois	396	509	9,293	370	279	301
Indiana	450	658	7,772	824	525	158
Iowa	106	236	2,265	193	207	200
Kansas	670	694	13,981	809	534	546
Kentucky	12	12	269	20	23	19
Louisiana	9,246	10,820	254,922	11,705	13,510	18,382
Maine	0	0	0	0	0	0
Maryland	349	229	11,575	430	489	665
Massachusetts	128	138	38,341	227	3,903	3,683
Michigan	1,904	1,781	24,908	1,727	1,994	1,675
Minnesota	144	176	4,906	231	336	210
Mississippi	1,249	1,591	54,180	1,625	1,843	1,616
Missouri	75	59	2,351	67	85	67
Montana	16	4	220	8	47	32
Nebraska	48	104	1,903	136	191	210
Nevada	926	547	24,355	436	808	1,968
New Hampshire	0	0	633	0	0	16
New Jersey	1,383	338	38,772	681	1,209	1,562
New Mexico	1,699	1,463	22,486	1,408	1,440	1,803
New York	9,569	10,543	208,731	10,640	11,688	13,307
North Carolina	205	167	3,159	169	165	127
North Dakota	0	0	1	0	0	0
Ohio	432	352	2,956	53	90	217
Oklahoma	9,249	9,447	148,980	10,120	8,514	9,300
Oregon	2,074	1,113	14,264	977	1,373	1,789
Pennsylvania	1,156	757	3,100	262	148	262
Rhode Island	0	0	469	0	0	0
South Carolina	20	17	1,795	5	82	22
South Dakota	2	0	48	9	27	2
Tennessee	21	20	291	25	10	18
Texas	59,828	62,686	968,165	68,751	72,018	80,276
Utah	557	700	6,576	542	138	665
Vermont	1	1	801	1	28	122
Virginia	1,978	1,862	10,936	839	11	25
Washington	1,896	147	5,385	9	4	426
West Virginia	19	10	201	8	9	6
Wisconsin	130	143	2,584	146	207	134
Wyoming	8	10	83	7	8	8
Total	161,778	164,400	2,765,608	175,608	189,296	212,640

See footnotes at end of table.

Table 21. Natural Gas Deliveries to Electric Utility* Consumers by State, 1992-1993 (Continued)
(Million Cubic Feet)

State	September 1992	August 1992	July 1992	June 1992	May 1992	April 1992
Alabama	305	296	322	307	350	216
Alaska	2,311	2,374	2,342	2,204	2,116	2,410
Arizona	4,607	5,277	3,999	2,778	3,300	2,300
Arkansas	2,324	2,828	4,145	3,788	3,881	4,068
California	53,989	66,474	51,011	38,892	41,387	43,478
Colorado	469	479	570	355	357	243
Connecticut	14	291	407	316	131	391
Delaware	851	1,140	971	1,034	598	593
District of Columbia	0	0	0	0	0	0
Florida	21,038	20,829	21,946	21,623	19,942	18,239
Georgia	66	120	654	75	24	106
Hawaii	0	0	0	0	0	0
Idaho	0	0	0	0	0	0
Illinois	554	589	854	998	955	943
Indiana	301	370	488	760	1,056	605
Iowa	135	277	262	208	155	195
Kansas	1,395	2,036	2,833	1,388	1,385	910
Kentucky	23	28	23	28	16	23
Louisiana	23,855	26,733	33,952	30,520	26,127	22,298
Maine	0	0	0	0	0	0
Maryland	1,228	1,457	3,004	1,367	974	772
Massachusetts	4,664	4,803	7,643	5,418	3,630	3,795
Michigan	1,738	2,421	1,449	1,473	2,126	2,516
Minnesota	440	473	509	491	352	316
Mississippi	5,419	5,359	7,189	5,227	6,629	5,878
Missouri	86	200	1,025	131	176	79
Montana	10	20	29	20	26	11
Nebraska	280	85	153	139	111	211
Nevada	2,761	3,629	3,491	3,091	2,681	2,152
New Hampshire	499	118	0	0	0	0
New Jersey	3,860	6,351	12,179	3,330	1,794	3,878
New Mexico	2,183	2,594	2,532	1,911	2,444	1,981
New York	21,641	22,006	25,124	23,875	20,936	18,809
Nor Carolina	336	361	614	341	180	159
North Dakota	0	0	0	0	0	0
Ohio	243	288	264	173	339	409
Oklahoma	15,806	15,714	17,018	14,312	13,004	13,652
Oregon	2,045	1,854	1,437	661	0	0
Pennsylvania	274	320	824	345	129	138
Rhode Island	11	78	80	90	78	90
South Carolina	42	82	525	202	10	13
South Dakota	1	5	0	1	1	0
Tennessee	15	7	40	35	33	37
Texas	95,796	99,748	120,114	97,150	76,427	74,644
Utah	542	550	517	509	627	642
Vermont	2	34	186	160	122	122
Virginia	714	945	2,408	1,014	909	1,036
Washington	523	2,698	185	1,028	195	293
West Virginia	18	24	26	47	28	7
Wisconsin	249	178	219	259	269	345
Wyoming	6	5	5	8	4	12
Total	273,670	302,544	333,567	265,882	236,316	229,012

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

Notes: Geographic coverage is the 50 States and the District of Columbia. See Appendix A, Explanatory Note 5 for discussion of computations and revision policy.

Source: Form EIA-759.

Table 22. Natural Gas Deliveries to All Consumers by State, 1992-1993
(Million Cubic Feet)

State	YTD 1993	YTD 1992	YTD 1991	November 1993	October 1993	September 1993
Alabama	230,759	221,618	205,589	20,890	17,833	15,312
Alaska	123,480	130,860	128,030	12,421	10,367	10,694
Arizona	85,946	95,195	91,696	7,342	5,886	5,956
Arkansas	188,474	189,925	180,654	19,783	15,802	14,107
California	1,612,603	1,723,626	1,667,744	159,961	149,566	134,258
Colorado	237,953	190,489	198,773	22,891	14,552	13,382
Connecticut	97,034	97,472	89,506	NA	7,294	4,847
Delaware	36,979	35,598	38,197	3,691	3,340	2,487
District of Columbia	28,488	28,556	27,071	2,134	1,416	1,101
Florida	302,730	319,650	310,468	23,903	24,721	29,382
Georgia	302,839	295,050	279,219	31,750	24,350	18,773
Hawaii	2,462	2,461	2,463	229	215	211
Idaho	46,180	39,435	41,104	4,654	3,485	2,759
Illinois	883,548	841,113	844,189	103,178	72,551	44,706
Indiana	449,974	416,717	395,806	48,951	36,419	25,857
Iowa	213,092	193,651	197,914	24,412	16,711	12,338
Kansas	266,932	236,247	264,844	22,999	17,050	15,925
Kentucky	156,465	147,901	143,094	18,862	13,099	8,100
Louisiana	1,032,056	1,175,329	1,157,710	91,771	97,381	100,159
Maine	4,285	4,568	4,206	541	414	248
Maryland	155,855	157,973	150,731	16,121	10,786	8,597
Massachusetts	266,802	265,357	226,847	NA	20,621	16,845
Michigan	776,955	758,226	696,435	79,110	58,646	38,968
Minnesota	264,539	253,310	261,229	29,678	21,080	13,409
Mississippi	184,576	184,535	192,625	17,884	16,010	13,570
Missouri	236,697	203,098	221,733	23,610	12,898	9,679
Montana	40,821	34,221	35,734	5,013	3,315	2,318
Nebraska	108,728	89,081	100,275	10,783	6,815	5,097
Nevada	85,687	61,238	58,140	7,485	6,845	6,788
New Hampshire	14,884	15,015	12,493	NA	986	620
New Jersey	494,869	481,754	409,554	47,299	32,349	28,472
New Mexico	94,067	86,574	89,819	8,852	6,055	6,523
New York	836,625	851,047	772,445	76,251	60,351	46,090
North Carolina	160,652	153,366	142,796	15,443	11,382	9,767
North Dakota	24,066	21,802	22,567	2,588	1,607	1,173
Ohio	711,842	696,367	658,147	77,093	54,317	33,331
Oklahoma	410,015	382,257	416,548	37,417	31,411	30,127
Oregon	115,473	102,075	101,694	11,723	9,617	8,384
Pennsylvania	575,730	563,637	528,748	56,906	42,809	28,758
Rhode Island	68,036	70,309	47,748	6,133	5,374	4,511
South Carolina	124,358	122,247	119,134	12,256	10,100	8,545
South Dakota	24,361	20,642	22,277	2,755	1,753	1,084
Tennessee	204,779	198,198	186,885	19,074	14,621	12,487
Texas	3,166,844	2,819,889	2,897,678	255,356	268,332	347,969
Utah	107,226	92,380	101,093	11,594	7,010	5,019
Vermont	6,429	6,823	6,271	616	472	282
Virginia	204,696	170,212	148,381	17,422	13,564	12,276
Washington	173,876	145,171	148,730	16,378	13,053	10,742
West Virginia	95,623	91,909	83,695	9,797	7,421	5,385
Wisconsin	302,413	283,250	283,919	34,718	23,342	15,612
Wyoming	65,075	67,276	48,174	4,974	5,322	5,438
Total	16,404,897	15,834,698	15,460,825	1,571,902	1,310,715	1,198,470

See footnotes at end of tables.

Table 22. Natural Gas Deliveries to All Consumers by State, 1992-1993 (Continued)
(Million Cubic Feet)

State	August 1993	July 1993	June 1993	May 1993	April 1993	March 1993
Alabama	16,445	18,003	16,792	18,470	23,361	28,481
Alaska	8,073	10,065	9,176	10,344	11,527	12,263
Arizona	8,272	6,686	5,857	6,603	7,866	11,052
Arkansas	14,534	14,172	12,546	12,998	17,589	21,788
California	129,541	126,878	117,559	112,908	131,584	161,093
Colorado	11,547	12,575	14,790	18,440	24,183	32,278
Connecticut	4,649	4,698	4,901	6,095	10,048	14,381
Delaware	3,073	3,182	2,850	2,632	3,633	4,363
District of Columbia	1,111	1,090	1,265	1,955	3,158	4,982
Florida	31,627	31,533	30,864	28,777	25,794	26,562
Georgia	20,839	21,434	19,583	21,088	27,838	37,618
Hawaii	211	220	231	213	225	230
Idaho	2,714	2,840	3,029	3,530	4,256	5,760
Illinois	36,555	37,522	38,542	48,068	84,599	127,983
Indiana	24,644	24,110	26,165	29,387	42,797	61,168
Iowa	12,498	10,780	11,735	13,485	20,005	27,943
Kansas	21,427	22,714	17,117	19,246	25,517	32,681
Kentucky	7,365	7,260	8,333	8,617	14,102	21,883
Louisiana	112,063	109,821	93,514	79,003	83,399	90,160
Maine	230	205	179	226	405	542
Maryland	8,909	8,909	8,676	9,765	14,160	23,593
Massachusetts	18,554	15,948	16,486	19,701	28,688	36,093
Michigan	37,352	38,414	43,655	52,883	80,931	112,353
Minnesota	11,528	11,217	13,572	15,490	25,245	36,627
Mississippi	17,285	18,709	14,925	14,729	15,877	19,025
Missouri	10,669	9,995	10,290	15,888	24,833	37,569
Montana	1,918	2,030	1,869	2,451	3,752	5,549
Nebraska	5,347	5,435	5,167	6,122	11,692	14,646
Nevada	7,418	7,455	7,057	7,583	8,566	9,222
New Hampshire	585	639	749	1,111	1,705	2,245
New Jersey	30,366	36,709	29,678	31,501	50,161	69,180
New Mexico	7,076	6,836	6,571	6,812	9,476	11,053
New York	51,140	56,145	55,263	55,661	87,239	118,222
North Carolina	10,646	9,894	10,613	11,456	16,490	21,815
North Dakota	915	1,006	1,179	1,512	2,511	3,383
Ohio	31,971	26,466	39,320	42,332	73,165	108,821
Oklahoma	40,734	37,774	30,976	30,924	36,806	43,651
Oregon	8,799	6,571	6,694	8,225	9,787	14,168
Pennsylvania	28,381	28,273	33,049	35,893	57,915	87,765
Rhode Island	5,344	4,685	4,882	5,467	6,833	8,388
South Carolina	9,812	9,483	9,552	9,259	12,000	15,180
South Dakota	892	933	1,054	1,485	2,513	3,492
Tennessee	13,712	12,845	12,962	15,132	19,743	27,608
Texas	322,354	326,750	289,348	243,669	263,722	288,382
Utah	5,324	5,199	5,752	7,800	10,099	14,043
Vermont	251	379	380	438	658	976
Virginia	16,904	16,708	12,478	10,309	19,033	27,271
Washington	10,477	10,410	10,932	13,570	16,769	22,830
West Virginia	5,384	5,257	5,833	6,795	9,844	13,771
Wisconsin	13,108	12,127	14,647	17,976	32,018	43,020
Wyoming	4,309	5,184	5,012	6,152	6,462	6,266
Total	1,204,883	1,203,976	1,143,847	1,150,197	1,520,579	1,969,418

See footnotes at end of tables.

Table 22. Natural Gas Deliveries to All Consumers by State, 1992-1993 (Continued)
(Million Cubic Feet)

State	February 1993	January 1993	Total 1992	December 1992	November 1992	October 1992
Alabama	27,321	27,851	247,295	25,675	20,620	17,250
Alaska	13,443	15,106	145,541	14,680	13,463	13,323
Arizona	9,239	11,189	106,234	10,994	5,564	6,868
Arkansas	21,311	23,843	210,653	20,728	15,335	13,222
California	189,324	199,930	1,923,573	199,920	158,481	137,081
Colorado	34,279	39,036	223,656	33,143	19,036	12,212
Connecticut	16,223	14,740	110,715	13,243	9,619	6,718
Delaware	3,818	3,910	39,604	4,005	3,502	2,919
District of Columbia	5,209	5,068	32,690	4,135	2,416	1,395
Florida	25,346	24,221	343,521	23,862	23,814	22,494
Georgia	39,772	39,794	335,464	40,414	31,537	22,635
Hawaii	242	236	2,695	234	221	210
Idaho	6,353	6,799	45,635	6,119	4,415	3,244
Illinois	138,006	151,839	981,991	140,871	104,726	65,944
Indiana	63,379	67,096	478,765	61,989	47,066	33,542
Iowa	29,976	33,211	223,992	30,340	24,125	14,953
Kansas	34,734	37,520	270,284	34,037	23,526	19,422
Kentucky	24,630	24,212	171,213	23,317	17,733	12,206
Louisiana	84,210	90,574	1,271,064	95,726	91,729	94,825
Maine	643	652	5,129	561	464	309
Maryland	23,913	22,426	178,881	20,908	15,894	11,110
Massachusetts	34,489	32,650	293,238	27,879	25,875	18,700
Michigan	116,586	118,057	862,217	103,987	80,909	56,101
Minnesota	40,247	46,446	293,873	40,563	31,602	18,748
Mississippi	17,426	19,136	201,221	16,686	13,740	12,051
Missouri	37,994	43,272	238,435	35,337	21,055	11,679
Montana	5,287	7,319	40,671	6,448	4,455	3,085
Nebraska	15,195	22,429	104,258	15,177	11,269	6,974
Nevada	7,878	9,390	67,912	6,663	3,833	4,579
New Hampshire	2,359	2,361	16,771	1,756	1,346	868
New Jersey	72,918	66,236	542,695	60,941	47,235	34,665
New Mexico	11,333	13,499	98,881	12,300	7,091	6,002
New York	116,377	113,887	952,161	101,107	72,124	56,395
North Carolina	21,197	22,149	173,156	19,783	14,484	11,898
North Dakota	3,586	4,606	25,397	3,592	2,529	1,518
Ohio	114,755	110,270	799,093	102,668	75,938	54,217
Oklahoma	42,702	47,495	425,195	42,892	30,238	26,249
Oregon	14,890	16,613	115,469	13,388	10,121	9,455
Pennsylvania	90,643	85,337	640,593	76,952	58,902	43,339
Rhode Island	8,381	8,017	77,476	7,158	6,108	5,639
South Carolina	13,789	14,382	135,157	12,911	11,513	9,408
South Dakota	3,746	4,656	24,454	3,807	2,810	1,490
Tennessee	27,107	29,487	225,275	27,075	19,403	14,849
Texas	265,219	295,743	3,101,526	281,632	246,108	242,627
Utah	16,641	18,744	108,755	16,360	9,926	6,188
Vermont	1,003	975	7,598	775	613	561
Virginia	30,286	28,446	192,932	22,720	16,229	11,255
Washington	23,248	25,468	166,092	20,827	14,620	11,646
West Virginia	13,521	12,615	104,089	12,180	9,194	7,138
Wisconsin	44,657	51,188	327,599	44,320	33,967	22,141
Wyoming	7,409	8,547	75,044	7,758	6,257	5,892
Total	2,012,239	2,118,873	17,785,833	1,950,542	1,522,779	1,227,238

See footnotes at end of tables.

Table 22. Natural Gas Deliveries to All Consumers by State, 1992-1993 (Continued)
(Million Cubic Feet)

State	September 1992	August 1992	July 1992	June 1992	May 1992	April 1992
Alabama	16,309	15,994	16,511	17,043	18,471	21,138
Alaska	9,049	9,181	10,869	10,355	11,627	12,386
Arizona	8,640	9,178	8,263	7,277	7,670	8,607
Arkansas	14,227	14,288	15,530	15,364	16,961	19,874
California	147,435	160,041	138,193	130,858	157,730	131,762
Colorado	10,084	9,145	10,006	11,545	12,943	19,552
Connecticut	4,975	4,991	5,100	5,480	7,102	10,857
Delaware	2,629	2,825	2,571	2,877	2,935	3,626
District of Columbia	1,100	1,093	1,187	1,394	2,005	3,594
Florida	31,059	30,956	32,201	32,431	31,649	30,622
Georgia	19,721	19,466	20,629	20,062	22,350	26,709
Hawaii	221	215	218	230	224	229
Idaho	2,538	2,171	2,553	2,830	3,178	3,616
Illinois	41,922	36,285	37,000	37,856	55,272	85,166
Indiana	24,622	22,532	22,927	25,135	30,857	40,824
Iowa	11,228	10,838	10,972	11,613	13,137	19,096
Kansas	16,258	17,192	18,403	16,510	18,212	22,495
Kentucky	7,952	8,003	7,213	8,268	9,691	12,836
Louisiana	92,270	103,989	117,997	108,657	109,381	116,654
Maine	249	236	264	274	395	545
Maryland	8,387	8,727	10,535	9,331	11,158	16,084
Massachusetts	16,790	16,884	18,866	19,048	23,079	31,756
Michigan	37,499	37,701	35,356	41,669	58,977	85,208
Minnesota	12,333	11,642	11,892	12,233	16,041	26,087
Mississippi	15,494	14,978	17,272	15,329	17,363	18,727
Missouri	9,009	9,007	9,713	10,600	13,446	21,751
Montana	2,330	1,675	1,761	1,720	2,273	3,182
Nebraska	5,197	5,428	5,483	4,977	5,622	8,555
Nevada	4,899	5,714	5,896	5,514	5,317	5,695
New Hampshire	1,161	759	640	727	1,149	1,817
New Jersey	28,937	30,937	36,695	28,817	34,881	52,289
New Mexico	5,851	6,218	5,700	5,208	6,969	8,639
New York	52,470	51,248	55,424	58,065	69,561	95,837
North Carolina	10,047	9,863	9,704	10,463	12,017	15,528
North Dakota	1,057	866	977	1,029	1,615	2,411
Ohio	33,930	31,699	32,638	36,649	47,271	74,144
Oklahoma	32,711	32,953	34,883	32,332	32,334	36,829
Oregon	8,993	8,391	7,755	6,614	6,215	7,359
Pennsylvania	29,191	27,230	28,178	29,383	39,434	59,291
Rhode Island	4,698	4,667	5,376	5,600	6,217	7,729
South Carolina	9,092	9,051	9,659	9,853	10,294	11,871
South Dakota	918	789	912	947	1,444	2,242
Tennessee	12,760	12,672	13,194	12,854	14,348	20,379
Texas	261,956	263,931	288,393	255,732	247,119	248,887
Utah	4,790	4,689	4,871	5,260	5,887	7,978
Vermont	277	288	436	435	534	778
Virginia	9,816	10,424	13,355	9,960	12,766	17,060
Washington	9,531	11,383	8,387	10,143	11,137	13,824
West Virginia	5,182	4,967	4,730	5,554	6,876	10,065
Wisconsin	14,068	12,581	12,191	13,793	19,112	30,455
Wyoming	5,517	5,103	5,432	5,723	5,723	5,997
Total	1,117,381	1,131,083	1,174,910	1,131,621	1,277,970	1,538,641

NA = Not Available.

Notes: Geographic coverage is the 50 States and the District of Columbia. Deliveries for total year 1992 may not equal the sum of the twelve months. Gas volumes delivered for use as vehicle fuel are included in the annual total for commercial deliveries but not in the monthly components. See Appendix A, Explanatory Note 5 for discussion of computations and revision policy.

Sources: Form EIA-857 and Form EIA-759.

Table 23. Average City Gate Price by State, 1992-1993
(Dollars per Thousand Cubic Feet)

State	YTD 1993	YTD 1992	YTD 1991	November 1993	October 1993	September 1993	August 1993	July 1993
Alabama	3.53	3.18	3.07	3.56	3.78	4.11	3.96	3.83
Alaska	.34	.34	.33	.33	.32	.33	.41	.33
Arizona	2.61	2.29	2.44	2.57	2.57	3.10	3.07	3.03
Arkansas	2.63	2.59	2.47	2.82	2.78	2.72	2.71	2.49
California	2.86	2.72	2.76	3.06	2.85	3.09	2.78	2.81
Colorado	2.92	2.87	2.88	2.89	3.54	3.13	3.46	3.35
Connecticut	3.92	3.75	3.51	NA	3.60	3.56	4.90	5.37
Delaware	3.21	2.75	2.51	2.94	3.19	3.56	2.98	3.15
District of Columbia	---	---	---	---	---	---	---	---
Florida	2.74	2.56	2.49	2.60	2.64	2.80	2.76	2.57
Georgia	3.74	3.24	3.39	3.73	3.67	4.58	4.17	4.06
Hawaii	5.67	7.73	8.72	5.13	5.23	5.17	5.18	5.46
Idaho	2.19	2.21	2.15	2.33	2.39	2.46	2.54	2.92
Illinois	3.32	3.16	2.86	3.25	3.00	3.37	3.25	3.28
Indiana	3.18	3.05	3.01	3.14	3.10	3.47	3.55	3.40
Iowa	3.20	3.19	2.71	2.90	3.17	3.80	3.44	3.52
Kansas	2.78	2.50	2.55	2.70	2.71	2.79	2.44	2.74
Kentucky	3.21	2.98	2.81	3.28	3.10	3.25	3.05	3.00
Louisiana	2.69	2.43	2.56	2.80	2.62	2.74	2.74	2.69
Maine	3.85	3.07	2.91	---	3.96	4.31	4.20	4.77
Maryland	3.58	3.21	3.05	3.33	3.69	5.01	5.27	5.41
Massachusetts	4.03	3.46	3.31	NA	3.93	4.37	4.72	4.77
Michigan	2.89	3.03	3.09	2.87	2.76	2.96	2.79	2.60
Minnesota	3.06	2.86	2.58	2.96	2.84	3.41	3.39	3.48
Mississippi	2.86	2.57	2.53	3.07	2.96	3.42	3.00	2.89
Missouri	3.21	2.88	2.90	2.89	3.37	3.88	3.79	3.63
Montana	3.23	3.59	3.72	2.90	3.21	4.01	4.53	4.44
Nebraska	3.39	2.88	2.73	3.96	4.28	6.24	3.51	3.37
Nevada	3.09	2.37	2.34	3.01	3.72	4.49	4.75	3.74
New Hampshire	3.78	3.53	3.29	NA	3.66	4.37	4.40	4.55
New Jersey	3.55	3.29	3.15	3.49	3.40	3.84	4.30	4.69
New Mexico	2.44	2.18	2.53	2.48	2.36	2.23	2.10	1.86
New York	3.30	2.97	2.89	3.11	3.44	3.66	3.25	3.49
North Carolina	3.13	2.83	2.66	2.67	2.88	3.52	3.53	3.74
North Dakota	3.27	3.33	3.50	2.88	3.20	3.66	4.45	4.57
Ohio	3.57	3.19	3.04	3.48	3.04	3.76	3.85	3.82
Oklahoma	2.40	2.18	2.02	2.65	2.43	2.40	2.00	1.80
Oregon	2.40	2.33	2.38	2.54	2.65	2.52	2.61	2.51
Pennsylvania	3.42	3.27	3.31	3.03	3.46	4.51	4.43	3.97
Rhode Island	4.49	3.84	3.69	4.75	4.78	7.37	6.64	7.73
South Carolina	3.55	3.18	2.90	3.35	3.49	4.02	4.18	4.25
South Dakota	3.32	3.06	3.11	2.93	3.19	3.61	4.69	4.42
Tennessee	3.16	2.84	2.73	3.00	3.39	3.70	3.38	3.34
Texas	3.27	3.00	2.85	3.49	3.21	3.39	3.16	3.04
Utah	2.57	4.36	4.07	1.85	1.53	2.20	2.30	2.89
Vermont	3.01	2.97	2.88	2.74	2.98	3.80	4.38	3.78
Virginia	3.29	2.84	2.71	3.38	3.16	3.41	3.41	3.29
Washington	2.32	1.85	1.89	2.84	2.37	2.89	2.35	2.37
West Virginia	3.38	3.22	3.50	4.38	3.76	5.68	6.82	5.73
Wisconsin	3.76	3.39	3.17	3.37	3.99	5.25	6.22	5.71
Wyoming	2.77	2.95	3.08	2.46	2.51	2.49	2.86	3.05
Total	3.20	2.98	2.88	3.14	3.15	3.52	3.35	3.34

See footnotes at end of table.

Table 23. Average City Gate Price by State, 1992-1993 (Continued)
(Dollars per Thousand Cubic Feet)

State	June 1993	May 1993	April 1993	March 1993	February 1993	January 1993	Total 1992	December 1992
Alabama	3.98	3.88	3.38	3.16	3.37	3.33	3.21	3.43
Alaska	.33	.33	.33	.33	.33	.33	.34	.33
Arizona	2.92	3.23	2.00	2.50	2.28	2.63	2.33	2.55
Arkansas	2.44	2.65	2.60	2.63	2.45	2.62	2.60	2.64
California	2.84	2.97	2.86	2.90	2.69	2.74	2.72	2.75
Colorado	3.59	3.02	2.78	2.57	2.67	2.80	2.86	2.81
Connecticut	4.61	5.51	4.32	3.31	3.27	3.70	3.73	3.59
Delaware	3.52	3.52	3.33	3.22	3.03	3.13	2.83	3.53
District of Columbia	---	---	---	---	---	---	---	---
Florida	2.81	2.89	2.90	2.64	2.63	2.90	2.61	3.07
Georgia	4.25	4.62	3.44	3.25	3.48	3.79	3.28	3.51
Hawaii	5.62	5.72	5.69	5.46	7.01	6.49	7.72	7.59
Idaho	2.39	2.24	1.89	2.12	1.97	2.03	2.18	2.06
Illinois	3.18	3.40	3.43	3.26	3.48	3.75	3.20	3.53
Indiana	3.42	3.74	3.14	2.91	2.83	3.04	3.08	3.26
Iowa	3.60	4.28	3.55	2.94	2.81	3.02	3.20	3.21
Kansas	2.37	2.48	2.54	3.18	2.66	3.06	2.50	2.48
Kentucky	3.43	3.94	3.26	3.24	3.10	3.13	3.02	3.26
Louisiana	2.77	3.23	2.78	2.59	2.38	2.59	2.48	2.82
Maine	4.67	3.67	3.31	3.66	3.53	3.69	3.17	4.00
Maryland	5.85	4.98	3.80	2.90	2.89	3.02	3.20	3.17
Massachusetts	4.81	4.42	3.92	3.94	3.53	3.81	3.52	3.89
Michigan	2.77	3.17	2.82	2.84	2.90	3.43	3.04	3.16
Minnesota	3.46	3.82	2.98	2.94	2.78	2.97	2.92	3.32
Mississippi	3.00	3.41	2.89	2.61	2.44	2.62	2.62	2.97
Missouri	3.81	3.89	2.91	2.96	2.87	3.37	2.86	2.78
Montana	4.47	4.11	3.16	2.92	2.96	2.98	3.45	2.91
Nebraska	3.49	3.94	3.19	2.78	2.78	2.92	2.91	3.09
Nevada	3.55	3.73	3.29	2.66	2.36	2.57	2.37	2.40
New Hampshire	4.46	3.86	3.42	3.68	3.30	3.78	3.58	3.96
New Jersey	4.18	4.26	3.44	3.27	2.82	3.32	3.29	3.32
New Mexico	2.36	2.71	3.04	2.54	2.34	2.45	2.25	2.55
New York	3.73	4.08	3.64	3.11	2.91	3.10	3.01	3.34
North Carolina	3.57	3.65	3.24	3.01	2.83	3.09	2.88	3.22
North Dakota	4.21	4.05	3.24	3.01	2.97	3.11	3.28	3.06
Ohio	4.23	4.27	4.28	3.44	3.43	3.40	3.26	3.69
Oklahoma	2.10	2.54	2.26	2.44	2.40	2.50	2.22	2.38
Oregon	2.83	2.74	2.18	2.16	2.26	2.22	2.34	2.39
Pennsylvania	4.70	4.19	3.57	3.15	2.93	3.02	3.29	3.37
Rhode Island	6.17	6.59	4.09	3.34	3.12	3.57	3.82	3.67
South Carolina	3.93	4.20	3.48	3.09	3.27	3.39	3.23	3.56
South Dakota	4.31	4.31	3.36	3.12	2.98	3.07	3.10	3.29
Tennessee	3.39	3.80	3.29	3.07	2.81	2.95	2.89	3.20
Texas	3.14	3.36	3.09	3.16	3.21	3.44	3.06	3.47
Utah	2.71	5.61	3.74	3.49	2.89	2.94	4.09	3.00
Vermont	3.99	3.85	3.03	2.57	2.53	2.52	2.93	2.60
Virginia	3.43	3.73	3.36	3.14	3.18	3.24	2.91	3.32
Washington	2.56	2.52	1.85	2.06	2.11	2.18	1.90	2.16
West Virginia	4.77	1.94	3.32	2.94	2.94	2.96	3.24	3.36
Wisconsin	5.65	5.43	3.86	3.15	2.95	3.06	3.36	3.17
Wyoming	3.04	3.77	3.07	2.89	2.63	2.71	2.90	2.69
Total	3.44	3.58	3.24	3.06	2.94	3.11	3.01	3.17

See footnotes at end of table.

Table 23. Average City Gate Price by State, 1992-1993 (Continued)
(Dollars per Thousand Cubic Feet)

State	November 1992	October 1992	September 1992	August 1992	July 1992	June 1992	May 1992	April 1992
Alabama	3.44	3.91	3.67	3.65	3.25	3.28	3.01	2.80
Alaska	.33	.33	.33	.34	.33	.33	.33	.33
Arizona	2.69	2.64	2.45	2.43	2.70	2.31	1.57	1.98
Arkansas	2.71	2.49	2.41	2.38	2.41	2.53	2.43	2.38
California	2.91	2.92	2.80	2.82	2.73	2.59	2.47	2.88
Colorado	2.74	2.98	3.67	3.61	3.32	3.23	3.45	2.75
Connecticut	3.80	4.02	4.13	4.23	4.12	4.96	4.76	3.75
Delaware	3.93	3.74	2.74	1.78	2.72	2.90	2.59	2.55
District of Columbia	—	—	—	—	—	—	—	—
Florida	3.19	3.16	2.64	2.58	2.41	2.37	2.29	2.39
Georgia	3.27	3.93	3.70	3.55	3.10	3.21	2.90	2.57
Hawaii	7.81	8.17	7.87	8.27	8.08	7.55	7.60	7.64
Idaho	1.99	2.37	2.47	3.81	2.52	2.57	2.55	1.94
Illinois	3.47	3.60	3.36	3.19	3.08	2.89	2.72	2.97
Indiana	3.33	3.69	3.03	3.52	2.97	3.16	2.71	2.57
Iowa	3.44	3.97	3.89	3.86	4.16	4.12	3.77	2.48
Kansas	2.79	2.33	2.31	2.49	2.30	2.07	2.32	2.28
Kentucky	3.28	3.53	2.76	2.74	2.57	2.98	2.89	2.89
Louisiana	2.83	3.24	2.70	2.60	2.26	2.30	2.42	2.25
Maine	3.41	3.45	2.80	4.19	2.72	2.82	2.66	2.44
Maryland	3.66	3.91	4.58	4.83	5.04	4.46	3.71	2.88
Massachusetts	3.95	3.88	3.40	3.24	3.35	3.77	3.66	2.91
Michigan	3.33	3.31	3.02	2.95	2.78	2.82	2.89	2.93
Minnesota	3.31	3.57	3.28	3.34	3.12	3.25	3.02	2.26
Mississippi	3.07	3.59	2.99	2.81	2.39	2.59	2.50	2.32
Missouri	3.16	3.56	3.52	3.39	2.74	3.20	2.85	2.60
Montana	3.01	3.19	3.85	4.38	4.80	4.51	4.03	3.63
Nebraska	3.15	3.55	3.47	3.23	3.18	3.28	3.07	2.47
Nevada	2.43	2.45	2.67	2.92	2.72	2.68	2.65	2.09
New Hampshire	4.02	3.70	3.16	3.83	3.27	3.62	3.31	2.92
New Jersey	4.32	3.95	3.97	3.38	3.40	3.17	3.19	2.66
New Mexico	2.66	2.99	2.30	2.13	2.09	2.48	2.09	2.40
New York	3.47	3.75	3.37	3.15	2.92	3.11	2.91	2.67
North Carolina	3.32	3.38	3.26	3.04	3.13	3.13	2.85	2.56
North Dakota	3.09	3.16	3.38	3.79	4.16	3.55	3.36	3.21
Ohio	3.51	3.84	3.60	3.71	3.72	3.43	3.35	2.96
Oklahoma	2.52	2.44	1.84	1.79	1.82	1.88	2.97	2.11
Oregon	2.36	2.35	2.27	2.41	2.25	2.14	2.59	2.22
Pennsylvania	3.61	3.82	4.20	4.32	3.92	4.01	3.62	3.06
Rhode Island	4.49	4.45	4.58	4.87	4.26	4.21	3.99	3.38
South Carolina	3.56	3.74	3.48	3.38	3.22	3.10	2.93	2.75
South Dakota	3.18	2.83	3.25	4.09	3.91	3.68	3.42	2.42
Tennessee	3.40	3.66	3.41	3.41	2.94	3.09	3.01	2.68
Texas	3.47	3.61	3.01	2.94	2.71	2.78	2.85	2.83
Utah	3.95	4.71	9.36	7.45	7.72	7.48	8.05	5.26
Vermont	2.86	2.95	4.06	4.17	3.25	3.25	3.04	2.76
Virginia	3.83	3.70	3.26	3.63	2.87	2.69	2.80	2.33
Washington	1.98	2.00	1.99	1.93	1.96	1.87	1.84	1.63
West Virginia	3.99	4.59	6.20	5.74	7.91	4.36	4.05	2.29
Wisconsin	3.48	3.97	4.47	4.94	4.76	3.84	3.45	3.12
Wyoming	2.55	2.66	3.01	3.32	3.36	3.63	3.43	3.23
Total	3.33	3.50	3.23	3.18	3.01	3.00	2.90	2.74

NA = Not Available.

— = Not Applicable.

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 transferred from a pipeline to a local distribution company within the State. See Appendix A, Explanatory Note 5 for discussion of computations and revision policy.

Source: Form EIA-857.

Table 24. Average Price of Natural Gas Delivered to Residential Consumers by State, 1992-1993
(Dollars per Thousand Cubic Feet)

State	YTD 1993	YTD 1992	YTD 1991	November 1993	October 1993	September 1993	August 1993	July 1993
Alabama	7.13	6.80	7.16	7.42	9.62	9.94	9.90	9.81
Alaska	3.98	3.80	4.25	3.94	4.00	4.32	4.50	4.47
Arizona	7.34	7.39	7.08	7.74	9.38	9.74	9.94	9.50
Arkansas	5.38	5.17	5.01	5.45	6.73	7.58	7.29	7.14
California	6.21	6.00	6.28	6.29	6.68	6.67	6.61	6.61
Colorado	4.46	4.64	4.63	4.50	4.97	5.51	6.01	5.62
Connecticut	9.48	9.16	8.78	NA	9.86	11.43	11.59	11.37
Delaware	6.55	6.12	5.91	6.92	7.85	8.68	8.80	8.66
District of Columbia	8.45	7.50	7.09	8.55	9.20	9.92	8.68	8.17
Florida	10.54	9.14	9.12	11.21	12.32	12.50	12.81	12.62
Georgia	6.90	6.51	6.79	6.75	7.76	9.32	9.43	9.06
Hawaii	17.56	18.03	22.96	17.14	17.61	17.84	18.43	17.97
Idaho	5.37	5.32	5.24	5.94	6.28	6.54	6.81	6.30
Illinois	5.58	5.08	5.03	5.36	6.12	7.16	8.26	7.88
Indiana	5.91	5.41	5.53	5.72	6.03	7.60	8.39	8.49
Iowa	5.81	5.22	4.81	5.48	6.59	8.64	8.69	9.13
Kansas	4.83	4.76	4.41	5.29	6.04	6.55	6.49	6.12
Kentucky	5.32	5.00	4.91	5.17	5.65	7.52	7.68	7.44
Louisiana	6.01	5.58	5.80	6.62	7.89	8.11	8.06	7.26
Maine	7.37	6.92	6.84	7.52	7.52	8.55	9.05	8.88
Maryland	7.24	6.34	6.20	7.12	8.07	9.11	9.65	9.65
Massachusetts	8.12	7.84	8.06	NA	7.55	8.33	8.56	8.01
Michigan	4.88	5.11	5.14	4.95	5.33	6.35	7.21	6.69
Minnesota	5.34	4.79	4.49	5.02	5.66	6.46	7.36	6.29
Mississippi	4.93	4.94	5.28	5.50	6.20	5.70	5.58	5.55
Missouri	5.28	5.14	5.21	5.50	6.86	8.14	8.42	7.96
Montana	4.96	4.85	4.54	5.13	5.29	5.71	5.95	5.64
Nebraska	4.93	4.80	4.65	4.95	5.70	6.40	6.71	6.45
Nevada	5.65	5.72	5.69	6.20	6.80	7.16	7.32	7.07
New Hampshire	7.51	7.49	7.14	NA	7.09	8.45	9.29	8.60
New Jersey	6.88	6.96	6.84	6.92	7.38	8.58	8.85	8.64
New Mexico	5.56	4.78	5.58	5.87	7.63	8.07	8.00	7.99
New York	8.16	7.56	7.38	8.49	8.57	11.03	11.58	11.10
North Carolina	6.98	6.59	6.18	7.11	8.56	10.54	10.91	10.49
North Dakota	5.24	5.02	4.84	5.40	6.04	6.92	7.38	6.83
Ohio	5.72	5.18	5.33	5.87	6.19	7.49	7.79	7.39
Oklahoma	5.02	5.04	4.75	4.79	6.61	7.33	7.51	7.15
Oregon	6.36	6.23	6.17	6.77	7.15	7.99	8.02	7.78
Pennsylvania	6.85	6.67	6.84	6.97	7.42	8.92	9.54	9.47
Rhode Island	8.20	7.69	7.66	9.04	8.98	10.09	10.09	9.72
South Carolina	7.37	7.06	7.00	7.61	8.03	9.07	9.15	8.93
South Dakota	5.44	5.12	4.93	5.15	5.86	7.29	7.09	6.65
Tennessee	5.75	5.53	5.21	5.62	6.87	7.33	7.60	7.38
Texas	5.99	5.90	5.80	5.82	7.21	8.05	7.78	7.54
Utah	5.14	5.48	5.54	5.07	5.04	5.70	5.84	5.60
Vermont	6.19	6.75	6.22	6.50	6.88	7.96	7.81	7.60
Virginia	7.74	6.62	6.85	7.37	9.26	10.81	11.04	11.17
Washington	5.13	5.09	4.72	5.46	6.95	7.01	7.24	6.76
West Virginia	6.39	6.14	6.59	6.67	6.66	8.24	8.75	9.35
Wisconsin	6.34	5.86	5.60	6.52	6.83	7.44	7.73	7.61
Wyoming	4.70	4.78	4.79	4.93	5.19	5.76	5.96	5.58
Total	6.16	5.92	5.88	6.16	6.75	7.74	8.10	7.83

See footnotes at end of table.

Table 24. Average Price of Natural Gas Delivered to Residential Consumers by State, 1992-1993 (Continued)
(Dollars per Thousand Cubic Feet)

State	June 1993	May 1993	April 1993	March 1993	February 1993	January 1993	Total 1992	December 1992
Alabama	9.38	7.74	6.59	6.15	6.49	6.53	6.74	6.42
Alaska	4.25	4.05	3.93	3.90	3.82	3.83	3.79	3.70
Arizona	8.92	8.23	7.31	6.68	6.50	6.36	7.24	6.55
Arkansas	6.65	5.76	5.12	5.04	5.02	4.77	5.10	4.73
California	6.58	6.10	5.71	5.87	6.02	6.20	5.97	5.80
Colorado	5.06	4.56	4.36	4.21	4.17	4.13	4.56	4.17
Connecticut	10.89	10.35	9.59	9.03	8.79	8.99	8.96	7.68
Delaware	8.25	7.09	6.25	6.01	6.05	6.09	6.13	6.22
District of Columbia	8.28	8.70	8.27	8.22	8.33	8.45	7.61	8.30
Florida	12.39	11.42	9.83	9.27	9.23	9.07	9.08	8.63
Georgia	8.91	8.08	6.49	6.13	6.18	6.51	6.44	6.11
Hawaii	17.57	17.86	17.70	17.20	16.50	17.62	18.03	18.05
Idaho	5.99	5.49	5.30	5.02	4.98	4.93	5.23	4.89
Illinois	7.64	6.98	5.63	4.88	5.02	5.08	5.09	5.14
Indiana	7.81	6.81	5.94	5.36	5.43	5.58	5.43	5.54
Iowa	7.27	7.04	5.92	5.27	4.94	5.34	5.23	5.29
Kansas	6.28	5.26	4.58	4.43	4.41	4.37	4.70	4.45
Kentucky	6.78	6.72	5.28	4.83	4.72	5.08	5.01	5.04
Louisiana	7.29	6.98	5.67	5.30	4.71	5.44	5.60	5.73
Maine	8.29	8.11	7.51	7.11	6.89	6.75	6.95	7.12
Maryland	9.09	8.05	7.02	6.43	6.66	6.88	6.43	6.99
Massachusetts	7.52	6.85	6.54	6.33	6.28	6.27	7.92	8.55
Michigan	6.10	5.37	4.67	4.46	4.42	4.43	5.06	4.73
Minnesota	6.13	6.10	5.35	5.03	4.95	5.13	4.86	5.19
Mississippi	5.49	5.76	4.66	4.36	4.44	4.80	4.95	5.05
Missouri	7.42	5.82	4.91	4.62	4.67	4.72	5.11	4.93
Montana	5.65	5.16	4.85	4.68	4.73	4.55	4.80	4.61
Nebraska	5.99	5.51	4.77	4.51	4.55	4.72	4.82	4.90
Nevada	6.50	6.01	5.54	5.23	5.06	4.96	5.59	5.03
New Hampshire	7.53	6.59	5.91	7.66	7.48	7.86	7.55	8.00
New Jersey	8.23	7.67	6.93	6.33	6.34	6.49	6.94	6.80
New Mexico	7.71	6.40	5.59	4.90	4.80	4.50	4.75	4.58
New York	9.96	9.29	7.81	7.24	7.30	7.67	7.58	7.74
North Carolina	9.57	7.71	6.33	6.08	6.58	6.76	6.60	6.66
North Dakota	6.38	5.60	5.06	4.84	4.82	4.71	5.00	4.85
Ohio	6.50	5.97	5.49	5.31	5.43	5.33	5.20	5.38
Oklahoma	6.55	5.64	4.76	4.52	4.58	4.57	4.96	4.57
Oregon	7.44	6.55	6.14	5.99	5.95	5.90	6.17	5.92
Pennsylvania	8.20	7.64	6.69	6.35	6.34	6.18	6.60	6.18
Rhode Island	9.47	8.49	7.85	7.67	7.64	7.69	7.68	7.62
South Carolina	8.47	7.34	6.56	6.78	7.31	7.69	7.03	6.86
South Dakota	6.13	5.89	5.38	5.15	5.12	5.13	5.15	5.30
Tennessee	7.01	6.23	5.47	5.20	5.83	5.45	5.50	5.34
Texas	7.20	6.76	5.78	5.32	5.52	5.26	5.78	5.14
Utah	5.40	4.82	4.89	5.15	5.08	5.14	5.44	5.21
Vermont	6.91	6.46	6.08	5.94	5.96	5.59	6.70	6.36
Virginia	10.71	9.30	7.49	6.79	7.18	7.14	6.69	7.10
Washington	3.75	5.37	5.03	4.80	4.76	4.59	5.00	4.60
West Virginia	7.63	6.88	6.18	5.97	5.93	6.00	6.31	7.60
Wisconsin	7.29	7.36	6.15	5.96	5.94	5.91	5.87	5.98
Wyoming	4.91	4.69	4.54	4.44	4.43	4.36	4.72	4.41
Total	7.32	6.72	5.99	5.66	5.71	5.71	5.89	5.74

See footnotes at end of table.

Table 24. Average Price of Natural Gas Delivered to Residential Consumers by State, 1992-1993 (Continued)
(Dollars per Thousand Cubic Feet)

State	November 1992	October 1992	September 1992	August 1992	July 1992	June 1992	May 1992	April 1992
Alabama	7.36	8.36	8.94	9.06	8.93	8.00	6.98	6.24
Alaska	3.74	3.79	4.02	4.54	4.20	4.03	3.83	3.75
Arizona	7.59	9.19	9.64	9.87	9.54	9.02	8.53	7.43
Arkansas	5.30	6.39	6.86	6.83	6.46	6.16	5.53	4.97
California	5.60	6.35	6.29	6.21	6.27	6.28	5.99	5.52
Colorado	4.50	5.37	5.89	6.06	5.78	5.25	4.96	4.52
Connecticut	7.84	8.41	10.66	11.20	10.67	10.54	9.84	9.05
Delaware	6.44	7.20	8.05	8.08	7.94	7.39	6.51	5.98
District of Columbia	8.58	9.13	9.18	7.36	6.77	7.22	7.95	7.08
Florida	10.20	11.36	11.48	11.26	10.99	10.69	9.80	8.66
Georgia	6.33	7.64	3.87	8.38	8.30	7.88	6.96	6.29
Hawaii	18.42	18.60	18.46	18.52	18.19	17.71	18.04	17.07
Idaho	5.24	5.62	6.00	6.61	6.22	6.17	5.56	5.42
Illinois	5.42	5.60	6.37	6.87	6.91	6.45	5.52	4.68
Indiana	5.17	5.44	6.85	6.97	6.87	6.42	5.93	5.30
Iowa	5.62	6.90	7.66	7.89	7.56	6.71	5.67	4.68
Kansas	4.71	5.32	5.81	5.92	5.95	5.40	5.11	4.59
Kentucky	5.14	6.34	6.96	6.42	6.25	5.79	4.98	4.69
Louisiana	6.61	7.87	7.34	7.41	7.06	6.78	6.27	4.85
Maine	6.89	6.77	7.12	7.65	7.51	6.76	6.78	7.08
Maryland	6.81	7.43	8.80	8.51	8.17	7.58	6.26	5.40
Massachusetts	8.61	6.74	7.70	7.79	7.61	6.95	6.12	8.32
Michigan	4.98	5.39	6.45	6.71	6.58	6.02	5.28	4.89
Minnesota	5.43	6.04	5.93	5.98	5.56	5.51	4.85	4.34
Mississippi	5.70	6.25	5.75	5.84	5.64	5.51	5.45	4.62
Missouri	5.57	6.59	7.23	7.40	6.99	6.24	5.32	4.60
Montana	4.77	5.14	5.45	6.02	5.78	5.57	5.06	4.73
Nebraska	5.15	5.78	6.16	6.24	5.90	5.47	4.91	4.41
Nevada	5.68	6.76	7.06	7.37	6.89	6.81	6.41	5.68
New Hampshire	9.10	8.09	8.97	9.16	8.09	8.58	7.83	6.94
New Jersey	6.99	7.23	8.50	8.77	8.68	8.41	7.46	6.71
New Mexico	5.17	6.44	6.81	6.88	6.63	6.04	5.35	4.50
New York	8.68	8.62	9.92	10.28	9.70	8.70	7.40	6.79
North Carolina	7.12	7.72	10.03	10.51	9.89	8.24	6.74	5.54
North Dakota	4.98	5.64	6.26	6.75	6.33	6.04	5.21	4.78
Ohio	5.52	5.76	6.51	6.98	6.27	5.92	5.27	4.83
Oklahoma	4.82	6.14	6.71	6.84	6.59	6.29	5.87	4.96
Oregon	6.16	6.66	7.27	7.64	7.32	6.96	6.48	6.21
Pennsylvania	6.36	6.67	8.34	8.98	8.94	8.14	7.20	6.55
Rhode Island	7.85	8.28	9.00	9.53	8.71	8.45	7.77	7.45
South Carolina	7.39	7.17	8.45	8.61	8.37	7.67	6.68	6.27
South Dakota	5.37	6.09	6.36	6.67	6.31	6.04	4.64	4.78
Tennessee	5.93	6.29	7.02	7.14	6.81	6.38	5.72	5.19
Texas	6.02	7.32	7.48	7.62	7.42	7.16	6.92	6.06
Utah	5.15	5.35	5.87	5.95	5.86	5.80	5.48	5.50
Vermont	6.73	7.14	8.02	8.42	8.22	7.78	7.05	6.68
Virginia	7.05	7.93	9.83	9.16	8.97	7.84	6.61	5.62
Washington	4.94	5.57	6.35	7.05	7.17	6.24	5.46	5.00
West Virginia	6.12	6.48	7.83	8.41	8.32	7.23	6.39	5.93
Wisconsin	6.27	6.68	6.89	6.90	6.50	6.40	5.67	5.44
Wyoming	4.64	5.09	5.57	5.96	5.69	5.28	4.96	4.64
Total	6.02	6.52	7.15	7.45	7.27	6.84	6.15	5.62

NA = Not Available.

Notes: Data for 1992 are final. All other data are preliminary unless otherwise indicated. Geographic coverage is the 50 States and the District of Columbia. See Appendix A, Explanatory Note 5 for discussion of computations and revision policy.

Source: Form EIA-857.

Table 25. Average Price of Natural Gas Sold to Commercial Consumers by State, 1992-1993
(Dollars per Thousand Cubic Feet)

State	YTD 1993	YTD 1992	YTD 1991	November 1993	October 1993	September 1993	August 1993	July 1993
Alabama	6.12	5.68	5.77	6.24	6.75	6.84	6.75	6.86
Alaska	2.77	2.63	2.92	2.76	2.70	2.84	2.54	2.61
Arizona	5.05	5.21	5.07	5.30	5.36	5.16	5.00	4.86
Arkansas	4.45	4.39	4.34	4.57	4.91	5.00	4.68	4.77
California	5.50	5.07	5.46	4.55	4.43	5.20	5.95	4.83
Colorado	3.86	4.04	4.05	3.98	4.03	3.90	4.04	4.08
Connecticut	7.23	7.25	6.87	NA	6.77	7.42	7.26	7.31
Delaware	5.39	4.90	4.85	5.79	5.59	6.00	5.84	5.64
District of Columbia	5.81	5.28	5.17	6.03	5.05	5.62	5.56	5.47
Florida	5.75	4.94	4.91	5.76	5.65	5.54	5.52	5.82
Georgia	5.79	5.54	5.67	5.76	6.09	6.26	6.12	5.78
Hawaii	12.94	13.32	13.38	12.63	12.84	12.86	13.08	13.23
Idaho	4.60	4.44	4.44	5.23	5.21	5.21	5.16	4.93
Illinois	5.13	4.60	4.62	5.02	5.51	5.82	6.55	6.01
Indiana	5.31	4.51	4.64	4.97	5.03	5.59	5.80	6.33
Iowa	4.78	4.20	3.94	4.53	5.17	5.87	5.33	5.66
Kansas	4.05	3.46	3.22	4.59	4.28	3.81	3.44	3.41
Kentucky	4.78	4.42	4.44	4.95	4.90	5.51	5.11	5.27
Louisiana	5.25	4.71	4.88	5.92	5.88	5.67	5.66	5.39
Maine	6.57	6.15	5.96	6.49	6.49	6.81	6.42	6.96
Maryland	5.79	5.13	5.04	5.57	6.24	5.81	6.07	6.13
Massachusetts	6.18	5.72	6.05	NA	4.63	4.48	4.45	4.36
Michigan	4.53	4.68	4.73	4.68	4.94	5.48	5.75	5.57
Minnesota	4.52	4.01	3.75	4.14	4.42	4.81	5.20	4.56
Mississippi	4.15	4.07	4.29	4.57	4.45	4.22	3.95	3.94
Missouri	4.69	4.43	4.52	4.82	5.17	5.37	5.16	5.18
Montana	4.75	4.48	4.34	4.93	4.86	5.09	5.14	5.07
Nebraska	4.28	3.94	3.85	4.17	4.22	4.80	4.19	4.55
Nevada	4.33	4.34	4.35	4.44	4.41	4.42	4.42	4.42
New Hampshire	6.63	6.67	6.33	NA	5.96	6.12	6.20	6.21
New Jersey	5.42	5.51	5.27	5.90	5.17	5.18	5.44	4.95
New Mexico	4.27	3.32	4.23	4.57	4.72	4.61	4.34	4.42
New York	6.06	5.68	5.45	6.10	5.89	5.83	5.89	6.11
North Carolina	5.53	4.69	4.45	5.87	5.67	5.48	5.68	5.79
North Dakota	4.77	4.50	4.31	4.68	5.24	5.51	5.61	5.45
Ohio	5.23	4.64	4.78	5.45	5.55	5.90	5.96	5.65
Oklahoma	4.53	4.18	3.91	4.47	4.53	4.64	4.48	4.76
Oregon	4.97	4.73	4.76	5.24	5.27	5.38	5.53	5.43
Pennsylvania	5.97	5.92	6.05	6.01	6.04	6.50	6.88	6.89
Rhode Island	7.08	6.24	5.95	7.37	6.62	7.00	6.64	7.26
South Carolina	5.79	5.59	5.56	6.02	5.35	5.32	5.43	5.41
South Dakota	4.50	4.15	4.01	4.18	4.56	5.76	4.82	4.72
Tennessee	5.16	5.03	4.74	5.19	5.20	5.24	5.30	5.30
Texas	4.34	4.03	3.98	4.81	4.66	4.41	3.82	3.79
Utah	4.15	4.43	4.50	4.16	3.93	4.23	4.32	4.19
Vermont	5.28	5.69	5.23	5.06	4.92	5.11	5.69	5.75
Virginia	5.61	4.87	4.83	5.47	5.63	5.72	6.14	5.95
Washington	4.52	4.41	4.05	4.69	4.95	4.98	5.00	4.80
West Virginia	5.95	5.51	6.17	5.98	5.93	6.95	7.25	7.52
Wisconsin	4.96	4.78	4.60	5.14	5.27	5.52	5.34	5.20
Wyoming	4.23	4.27	4.33	4.57	4.16	4.49	4.28	4.33
Total	5.14	4.84	4.81	5.13	5.12	5.27	5.26	5.03

See footnotes at end of table

Table 25. Average Price of Natural Gas Sold to Commercial Consumers by State, 1992-1993 (Continued)
(Dollars per Thousand Cubic Feet)

State	June 1993	May 1993	April 1993	March 1993	February 1993	January 1993	Total 1992	December 1992
Alabama	6.74	6.33	5.83	5.89	5.89	5.92	5.71	5.90
Alaska	2.67	2.73	2.83	2.79	2.92	2.89	2.84	2.68
Arizona	4.82	5.03	5.03	5.06	5.00	5.02	5.20	5.09
Arkansas	4.96	4.41	4.35	4.32	4.33	4.20	4.38	4.35
California	5.83	5.24	5.50	6.19	5.43	6.93	5.15	5.73
Colorado	3.95	3.87	3.82	3.82	3.81	3.75	4.00	3.84
Connecticut	6.97	7.19	7.36	7.35	7.22	7.33	7.20	6.88
Delaware	7.75	5.46	5.19	5.11	5.12	5.17	4.94	5.18
District of Columbia	5.59	5.60	5.72	6.08	5.99	5.95	5.36	5.95
Florida	5.98	6.01	5.87	5.94	5.90	5.20	4.98	5.36
Georgia	6.13	6.14	5.60	5.21	5.79	5.92	5.55	5.62
Hawaii	12.92	13.27	13.18	12.79	12.40	13.17	13.34	13.57
Idaho	4.65	4.65	4.60	4.38	4.26	4.33	4.40	4.22
Illinois	6.80	6.01	5.26	4.65	4.83	4.91	4.65	4.88
Indiana	5.99	5.29	4.99	4.62	4.81	4.95	4.57	4.85
Iowa	5.07	5.48	5.03	4.64	4.23	4.73	4.27	4.58
Kansas	4.14	4.24	4.12	4.11	4.09	4.09	3.53	3.98
Kentucky	3.98	5.00	4.62	4.60	4.59	4.91	4.47	4.78
Louisiana	5.46	5.43	5.05	4.91	4.55	5.11	4.79	5.39
Maine	6.84	6.81	6.77	6.77	6.45	6.30	6.19	6.46
Maryland	5.99	5.91	5.68	5.57	5.77	5.85	5.24	5.89
Massachusetts	4.58	4.72	7.02	7.20	7.38	7.21	5.86	7.00
Michigan	5.29	4.77	4.35	4.27	4.27	4.32	4.65	4.49
Minnesota	4.71	5.11	4.70	4.43	4.32	4.60	4.10	4.59
Mississippi	4.00	4.54	4.06	3.93	3.93	4.25	4.13	4.53
Missouri	5.30	4.73	4.48	4.47	4.54	4.60	4.47	4.68
Montana	5.12	4.79	4.65	4.61	4.66	4.56	4.46	4.39
Nebraska	4.13	4.58	4.24	4.16	4.20	4.34	3.99	4.31
Nevada	4.41	4.15	4.30	4.30	4.31	4.28	4.33	4.26
New Hampshire	6.04	5.78	5.61	7.14	6.92	6.99	6.74	7.18
New Jersey	5.16	5.29	5.25	5.41	5.42	5.64	5.54	5.75
New Mexico	4.79	4.52	4.38	4.07	4.03	3.89	3.36	3.66
New York	6.83	7.12	6.27	5.73	5.85	6.10	5.75	6.26
North Carolina	5.77	5.44	5.15	5.31	5.51	5.66	4.79	5.38
North Dakota	5.37	5.04	4.75	4.61	4.54	4.55	4.52	4.59
Ohio	5.89	5.10	5.13	4.97	5.16	5.03	4.72	5.15
Oklahoma	4.66	4.44	4.51	4.48	4.52	4.55	4.23	4.45
Oregon	5.29	4.97	4.77	4.75	4.79	4.78	4.73	4.72
Pennsylvania	6.52	6.43	6.07	5.81	5.79	5.60	5.87	5.59
Rhode Island	7.55	7.48	7.01	6.94	6.95	7.21	6.31	6.95
South Carolina	5.46	5.49	5.67	5.85	6.12	6.22	5.65	6.02
South Dakota	4.61	5.21	4.52	4.34	4.31	4.43	4.19	4.44
Tennessee	5.50	5.12	4.95	4.96	5.13	5.31	5.06	5.25
Texas	3.85	4.07	4.12	4.34	4.74	4.73	4.09	4.54
Utah	4.18	3.82	3.96	4.23	4.19	4.26	4.40	4.27
Vermont	5.73	5.54	5.32	5.36	5.35	5.05	5.67	5.49
Virginia	6.01	5.61	5.62	5.26	5.61	5.66	4.97	5.66
Washington	4.66	4.52	4.34	4.33	4.36	4.28	4.32	3.85
West Virginia	7.01	6.41	5.84	5.67	5.67	5.69	5.48	5.30
Wisconsin	5.20	5.53	4.93	4.74	4.71	4.77	4.81	4.94
Wyoming	4.51	4.18	4.15	4.15	4.16	4.12	4.26	4.21
Total	5.31	5.21	5.13	5.06	5.08	5.18	4.88	5.11

See footnotes at end of table

Table 25. Average Price of Natural Gas Sold to Commercial Consumers by State, 1992-1993 (Continued)
(Dollars per Thousand Cubic Feet)

State	November 1992	October 1992	September 1992	August 1992	July 1992	June 1992	May 1992	April 1992
Alabama	6.10	6.19	6.12	6.14	5.98	5.70	5.60	5.38
Alaska	2.67	2.59	2.50	2.63	2.48	2.54	2.61	2.65
Arizona	5.22	5.28	4.87	5.28	5.08	5.37	5.74	5.29
Arkansas	4.47	4.72	4.55	4.62	4.36	4.29	4.25	4.43
California	5.45	4.53	4.20	4.40	4.39	3.91	3.77	5.93
Colorado	3.91	4.19	4.32	4.38	4.32	4.23	4.16	4.01
Connecticut	6.80	6.90	6.45	6.30	6.37	7.55	7.21	7.21
Delaware	5.07	5.07	5.16	5.14	5.16	5.14	5.01	4.89
District of Columbia	5.90	5.26	4.99	4.76	4.85	4.89	5.18	5.18
Florida	5.35	5.30	5.13	4.95	4.75	4.97	4.43	4.84
Georgia	6.03	5.98	2.76	5.53	5.51	5.53	5.34	5.28
Hawaii	13.71	13.83	13.67	13.44	13.24	12.95	13.34	12.57
Idaho	4.50	4.53	4.56	4.60	4.65	4.64	4.61	4.60
Illinois	4.93	4.89	5.28	5.31	5.48	5.94	4.80	4.02
Indiana	4.34	4.21	4.95	4.64	4.79	4.75	4.67	4.52
Iowa	4.54	5.31	5.02	4.99	4.57	4.58	4.23	3.85
Kansas	3.68	3.08	2.69	2.77	2.88	2.85	3.15	3.58
Kentucky	4.77	4.52	4.61	4.75	4.50	4.46	4.19	4.27
Louisiana	5.54	5.60	4.91	5.06	4.71	4.80	4.69	4.08
Maine	6.14	5.38	5.56	5.95	5.49	5.47	5.53	6.37
Maryland	5.73	5.57	5.54	5.37	5.31	5.01	4.79	4.63
Massachusetts	6.40	4.29	4.15	3.85	3.76	4.54	4.49	6.16
Michigan	4.63	4.89	5.40	5.47	5.41	5.11	4.70	4.52
Minnesota	4.61	4.88	4.39	4.32	3.96	4.20	3.99	3.70
Mississippi	4.51	4.62	4.02	3.90	3.80	3.89	4.04	3.90
Missouri	4.86	4.62	4.53	4.71	4.96	4.35	4.25	4.11
Montana	4.46	4.58	4.76	4.98	4.93	4.86	4.58	4.43
Nebraska	4.27	4.21	3.93	3.78	3.69	3.98	3.75	3.69
Nevada	4.31	4.37	4.42	4.45	4.37	4.41	4.40	4.33
New Hampshire	7.43	6.75	6.95	6.85	7.24	6.50	7.03	6.46
New Jersey	6.02	5.45	5.31	5.24	4.99	5.33	5.36	5.52
New Mexico	3.32	3.19	3.08	2.99	3.28	3.82	3.39	3.23
New York	6.44	5.66	5.57	5.84	5.76	6.08	5.77	5.31
North Carolina	5.31	4.73	4.93	4.82	4.84	4.78	4.49	4.16
North Dakota	4.68	4.89	4.96	5.15	5.00	4.92	4.55	4.32
Ohio	5.08	5.00	5.19	5.28	4.67	4.84	4.54	4.42
Oklahoma	4.22	4.10	4.11	4.05	4.06	4.31	4.28	4.33
Oregon	4.69	4.73	4.89	5.02	4.95	4.82	4.73	4.71
Pennsylvania	5.67	5.70	6.23	6.49	6.73	6.56	6.25	6.14
Rhode Island	6.99	5.49	5.15	5.07	5.31	5.67	5.73	6.01
South Carolina	6.08	5.31	5.36	5.32	5.34	5.32	5.07	5.36
South Dakota	4.45	4.84	4.62	4.62	4.40	4.40	4.19	3.82
Tennessee	5.35	5.25	5.17	5.25	4.86	4.91	4.77	4.77
Texas	4.45	4.12	4.00	3.63	3.53	3.93	3.81	3.89
Utah	4.20	4.04	4.23	4.33	4.36	4.36	4.23	4.40
Vermont	5.55	5.61	5.73	6.01	6.15	6.20	5.96	5.66
Virginia	5.27	5.42	5.06	5.08	5.05	4.51	4.20	4.26
Washington	4.44	4.56	4.63	4.69	4.64	4.63	4.49	4.39
West Virginia	5.45	5.75	6.83	6.93	6.90	6.42	5.76	5.36
Wisconsin	5.21	5.45	5.43	5.42	4.91	5.11	4.44	4.46
Wyoming	4.28	4.36	4.38	4.38	4.31	4.31	4.23	4.25
Total	5.12	4.90	4.69	4.73	4.64	4.72	4.59	4.77

NA = Not Available.

Notes: Data for 1992 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 consumers reflect onsystem sales prices only. See Appendix A, Explanatory Note 5 for discussion of computations and revision policy. See Table 28 for data on onsystem sales expressed as a percentage of both total commercial and total industrial deliveries.

Source: Form EIA-857.

Table 26. Average Price of Natural Gas Sold to Industrial Consumers by State, 1992-1993
(Dollars per Thousand Cubic Feet)

State	YTD 1993	YTD 1992	YTD 1991	November 1993	October 1993	September 1993	August 1993	July 1993
Alabama	3.41	3.02	2.96	3.30	3.19	3.60	3.25	3.16
Alaska	1.30	1.17	1.18	1.20	1.20	1.24	1.24	1.24
Arizona	4.03	4.17	3.47	4.08	4.07	3.97	4.01	3.98
Arkansas	3.21	3.11	3.06	3.33	3.31	3.26	3.15	3.19
California	3.34	3.65	3.91	2.75	2.41	3.02	3.39	2.84
Colorado	2.29	2.19	2.31	2.46	2.48	2.07	2.17	2.10
Connecticut	4.48	4.90	4.78	NA	3.73	4.02	3.95	3.93
Delaware	3.36	3.21	3.07	3.61	3.37	3.44	3.17	3.11
District of Columbia	—	—	—	—	—	—	—	—
Florida	3.84	3.19	3.08	4.03	3.88	3.85	3.85	4.00
Georgia	4.06	3.40	3.30	4.06	4.12	4.63	3.84	3.61
Hawaii	—	—	—	—	—	—	—	—
Idaho *	—	—	2.95	—	—	—	—	—
Illinois	4.40	3.68	3.82	4.64	4.62	4.40	4.77	4.62
Indiana	3.63	3.31	3.51	4.01	3.81	4.14	3.68	3.97
Iowa	3.83	3.50	2.57	3.71	2.87	4.64	3.74	4.04
Kansas	2.59	2.57	2.66	1.71	2.53	2.79	2.56	2.59
Kentucky	3.78	3.16	3.19	4.16	3.85	3.75	3.72	3.66
Louisiana	2.28	1.88	1.71	2.42	2.40	2.40	2.22	2.16
Maine	4.62	4.06	4.64	4.33	4.33	3.97	3.96	4.03
Maryland	3.61	3.47	3.52	3.61	2.80	3.90	3.82	3.67
Massachusetts	4.80	4.03	3.90	NA	3.87	3.94	3.71	4.24
Michigan	4.12	3.92	4.01	4.20	4.26	4.49	4.33	4.37
Minnesota	3.24	3.01	2.75	3.89	3.00	3.11	3.47	3.21
Mississippi	2.94	2.49	2.32	3.19	3.02	3.23	3.00	2.62
Missouri	4.20	3.79	4.08	4.28	4.29	4.02	4.06	4.19
Montana	4.07	4.15	3.19	4.73	5.02	4.66	4.23	4.17
Nebraska	3.14	2.86	2.71	3.23	3.20	3.22	2.87	2.91
Nevada	4.31	4.11	4.20	4.80	5.19	4.93	4.33	4.03
New Hampshire	4.30	4.40	4.23	NA	3.94	3.75	3.75	3.60
New Jersey	3.58	3.32	3.61	3.59	3.48	3.32	3.23	3.32
New Mexico	3.77	6.57	3.55	4.19	3.20	3.91	3.50	3.71
New York	5.60	4.85	4.70	5.19	5.27	5.15	5.84	5.44
North Carolina	3.82	3.24	3.19	4.12	3.61	3.59	3.44	3.47
North Dakota	3.36	3.22	3.16	3.33	3.36	3.13	3.73	3.43
Ohio	4.71	4.08	4.08	5.00	4.72	4.94	4.77	4.56
Oklahoma	2.17	2.00	1.69	2.22	2.14	2.28	2.26	1.92
Oregon	3.45	3.34	3.41	3.46	3.26	3.37	3.36	3.40
Pennsylvania	3.69	3.74	4.04	3.70	3.77	3.48	3.35	3.52
Rhode Island	5.09	4.56	5.33	4.48	4.53	4.74	3.94	4.46
South Carolina	3.29	3.06	2.92	3.37	3.12	3.30	3.05	3.03
South Dakota	3.82	3.67	3.26	3.73	3.89	5.47	3.99	3.65
Tennessee	3.65	3.37	3.20	3.72	3.63	3.68	3.47	3.59
Texas	2.35	2.07	1.89	2.32	2.28	2.62	2.42	2.24
Utah	3.06	3.96	3.68	3.16	2.87	3.00	2.81	3.00
Vermont	3.59	3.22	2.98	3.52	3.43	3.39	3.48	3.56
Virginia	4.00	3.62	3.81	4.45	3.97	3.81	2.61	2.93
Washington	3.15	2.93	2.78	3.27	3.20	3.38	3.31	3.14
West Virginia	2.89	2.85	2.89	3.17	2.85	3.18	2.79	1.88
Wisconsin	3.96	3.33	3.10	4.07	4.08	4.07	3.69	3.77
Wyoming	2.95	2.91	3.02	3.29	3.25	3.23	3.19	3.07
Total	3.04	2.78	2.65	3.09	2.88	3.03	2.86	2.71

See footnotes at end of table.

Table 26. Average Price of Natural Gas Sold to Industrial Consumers by State, 1992-1993 (Continued)
(Dollars per Thousand Cubic Feet)

State	June 1993	May 1993	April 1993	March 1993	February 1993	January 1993	Total 1992	December 1992
Alabama	3.30	3.78	3.47	3.47	3.38	3.58	3.07	3.59
Alaska	1.35	1.35	1.35	1.35	1.35	1.35	1.18	1.19
Arizona	4.65	4.03	3.92	3.97	3.98	3.97	4.16	4.09
Arkansas	3.07	3.04	3.15	3.22	3.31	3.24	3.13	3.28
California	3.77	3.52	3.82	3.31	3.77	4.85	3.67	3.82
Colorado	2.14	2.48	2.26	2.27	2.27	2.49	2.20	2.32
Connecticut	3.90	4.42	4.77	4.96	5.01	5.34	4.92	5.05
Delaware	3.52	3.69	3.31	3.26	3.22	3.32	3.25	3.59
District of Columbia	—	—	—	—	—	—	—	—
Florida	4.01	4.03	3.86	3.82	3.64	3.48	3.22	3.51
Georgia	4.41	4.49	4.11	3.97	3.81	4.10	3.50	4.43
Hawaii	—	—	—	—	—	—	—	—
Idaho	—	—	—	—	—	—	2.97	—
Illinois	4.62	4.64	4.81	4.23	4.15	4.12	3.75	4.14
Indiana	3.96	3.12	3.36	3.41	2.48	3.86	3.39	4.17
Iowa	4.78	3.75	4.44	3.85	3.50	4.11	3.55	3.86
Kansas	2.55	2.70	2.60	2.83	2.66	2.87	2.61	3.07
Kentucky	3.62	3.65	3.44	3.76	3.83	4.23	3.23	4.14
Louisiana	2.43	2.62	2.27	1.96	1.96	2.27	1.93	2.54
Maine	5.36	5.31	4.75	5.49	5.40	4.76	4.14	4.97
Maryland	3.41	4.33	4.67	3.96	3.88	3.25	3.56	4.13
Massachusetts	3.68	4.56	5.80	6.45	6.55	6.32	4.14	5.65
Michigan	4.24	4.16	4.06	4.02	4.02	4.04	3.92	3.86
Minnesota	2.70	3.40	3.34	3.03	3.33	3.33	3.05	3.32
Mississippi	2.80	3.34	2.94	2.76	2.71	2.80	2.53	3.02
Missouri	4.25	4.10	4.19	4.15	4.27	4.26	3.87	4.56
Montana	4.09	3.97	3.82	3.81	3.81	3.99	4.19	4.67
Nebraska	2.57	3.94	3.17	2.97	3.04	3.24	2.92	3.36
Nevada	4.36	4.26	4.12	3.80	4.09	3.69	4.07	3.84
New Hampshire	3.33	3.00	4.07	6.06	5.91	5.66	4.49	5.58
New Jersey	3.75	3.61	3.44	3.83	3.70	—	3.42	4.38
New Mexico	4.44	3.83	3.92	4.01	3.78	—	6.86	8.02
New York	5.25	6.28	5.73	5.57	5.73	—	4.93	5.51
North Carolina	3.55	3.80	3.62	3.87	4.14	—	3.34	4.11
North Dakota	3.53	3.49	3.44	3.28	3.23	3.37	3.25	3.47
Ohio	4.73	4.57	4.47	4.52	4.72	4.85	4.15	4.68
Oklahoma	2.51	2.12	2.07	2.12	2.10	2.19	2.02	2.10
Oregon	3.35	3.62	3.52	3.54	3.54	3.59	3.36	3.56
Pennsylvania	3.58	3.72	3.66	3.78	3.85	3.83	3.75	3.83
Rhode Island	4.46	4.99	5.78	6.08	6.08	6.27	4.66	5.85
South Carolina	3.19	3.53	3.29	3.25	3.46	3.52	3.13	3.88
South Dakota	3.79	4.24	3.84	3.46	3.57	3.33	3.63	3.41
Tennessee	3.79	3.78	3.49	3.58	3.54	3.84	3.44	4.18
Texas	2.16	2.81	2.47	2.23	2.06	2.31	2.12	2.59
Utah	2.93	2.91	2.92	3.27	3.24	3.31	3.91	3.60
Vermont	3.74	3.65	3.59	3.54	3.67	3.81	3.28	3.81
Virginia	3.77	4.30	4.26	4.61	4.57	4.61	3.72	4.60
Washington	3.15	3.45	3.19	2.89	2.92	2.99	2.91	2.69
West Virginia	2.75	3.24	2.73	2.68	3.90	3.04	2.89	3.12
Wisconsin	3.87	4.33	3.99	3.85	3.83	3.97	3.38	3.68
Wyoming	3.00	2.87	2.80	2.81	2.74	2.88	2.91	2.89
Total	2.95	3.24	3.13	3.08	3.12	3.26	2.84	3.38

See footnotes at end of table.

Table 26. Average Price of Natural Gas Sold to Industrial Consumers by State, 1992-1993 (Continued)
(Dollars per Thousand Cubic Feet)

State	November 1992	October 1992	September 1992	August 1992	July 1992	June 1992	May 1992	April 1992
Alabama	3.54	3.61	3.18	3.13	2.77	2.76	2.81	2.81
Alaska	1.17	1.17	1.17	1.16	1.17	1.16	1.16	1.16
Arizona	4.21	4.11	4.21	4.14	4.19	4.23	4.16	4.11
Arkansas	3.28	3.20	3.03	3.00	2.97	2.84	2.90	3.05
California	3.10	3.44	3.46	3.29	3.49	3.42	3.04	3.98
Colorado	2.29	2.34	1.63	2.30	1.88	2.18	2.31	2.29
Connecticut	4.85	4.64	4.09	4.26	4.32	4.51	4.71	4.94
Delaware	3.47	3.69	3.22	3.17	2.97	3.15	2.94	3.03
District of Columbia	—	—	—	—	—	—	—	—
Florida	3.80	3.89	3.28	3.16	2.97	2.81	2.97	3.07
Georgia	4.28	4.38	2.91	3.35	3.20	3.19	3.01	2.85
Hawaii	—	—	—	—	—	—	—	—
Idaho ^a	—	—	—	—	—	—	—	—
Illinois	3.79	3.21	3.17	3.84	3.68	4.06	3.57	3.67
Indiana	3.51	3.01	3.36	2.84	3.05	3.00	2.96	3.33
Iowa	3.85	4.29	3.76	3.50	3.23	3.69	2.97	3.15
Kansas	2.86	2.87	2.70	2.58	2.40	2.39	2.31	2.32
Kentucky	3.92	3.11	3.05	3.08	2.75	2.76	2.79	3.11
Louisiana	2.70	2.69	2.19	1.99	1.85	1.84	1.73	1.54
Maine	4.50	3.88	3.55	3.49	3.36	3.65	3.43	3.93
Maryland	3.75	3.65	3.37	3.80	3.77	3.77	3.96	3.00
Massachusetts	5.05	3.35	3.06	3.01	3.38	2.81	3.40	3.71
Michigan	3.90	3.97	4.14	3.99	3.84	3.91	3.77	3.88
Minnesota	3.51	3.57	3.21	3.02	2.87	2.86	2.70	2.58
Mississippi	3.05	3.34	2.64	2.56	2.21	2.42	2.29	2.20
Missouri	4.57	3.49	3.89	3.55	3.63	3.57	3.61	3.38
Montana	4.81	4.80	4.66	4.35	4.21	4.11	4.00	3.86
Nebraska	3.41	3.62	3.00	2.96	2.65	2.60	2.45	2.39
Nevada	4.11	3.99	4.25	3.40	4.32	4.08	4.15	4.11
New Hampshire	5.31	4.20	3.62	3.47	3.65	3.67	4.69	4.08
New Jersey	3.45	3.29	3.05	2.85	2.97	2.96	2.98	3.42
New Mexico	7.00	6.66	5.85	6.06	6.71	6.33	5.83	6.62
New York	5.41	4.75	4.54	5.04	4.66	4.47	4.12	4.91
North Carolina	4.02	3.55	3.38	3.16	3.00	3.06	2.86	2.84
North Dakota	3.74	3.71	3.43	3.27	3.19	3.13	2.90	2.86
Ohio	4.82	4.13	4.30	4.13	4.44	3.82	3.86	3.80
Oklahoma	2.17	2.29	2.03	1.96	2.00	1.85	1.81	1.98
Oregon	3.46	3.42	3.31	3.30	3.30	3.32	3.29	3.28
Pennsylvania	3.54	3.51	3.54	3.60	3.80	4.16	4.01	3.81
Rhode Island	5.48	3.91	3.73	2.75	4.74	3.84	3.88	4.14
South Carolina	3.62	3.60	3.18	3.06	2.80	2.84	2.68	2.64
South Dakota	3.62	4.59	4.03	4.09	3.79	3.79	3.45	3.25
Tennessee	4.05	3.92	3.74	3.37	3.08	3.30	3.14	3.01
Texas	2.56	2.92	2.28	2.23	1.91	1.90	1.84	1.78
Utah	3.66	3.37	3.55	3.58	3.65	3.74	3.73	3.66
Vermont	3.75	3.56	3.56	3.57	3.32	3.22	3.09	2.97
Virginia	3.60	4.58	3.57	3.88	3.79	2.70	2.85	3.35
Washington	3.13	3.37	2.96	2.71	2.72	2.82	2.85	2.81
West Virginia	2.87	2.98	2.96	3.18	3.00	2.71	2.79	2.74
Wisconsin	3.87	4.04	3.47	3.24	3.10	3.07	2.99	2.97
Wyoming	2.92	3.04	3.09	3.03	3.04	2.90	2.80	2.81
Total	3.26	3.21	2.82	2.71	2.54	2.53	2.44	2.54

^a The price for small volumes of natural gas representing onsystem sales to industrial consumers in Idaho is included as an annual figure but not distributed to monthly components.

NA = Not Available.

— = Not Applicable.

Notes: Data for 1992 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 reflect onsystem sales prices only. See Appendix A, Explanatory Note 5 for discussion of computations and revision policy. See Table 28 for data on onsystem sales expressed as a percentage of both total commercial and total industrial deliveries.

Source: Form EIA-857.

**Table 27. Average Price of Natural Gas Delivered to Electric Utility^a
Consumers by State, 1992-1993
(Dollars per Thousand Cubic Feet)**

State	YTD 1993	YTD 1992	YTD 1991	October 1993	September 1993	August 1993	July 1993	June 1993
Alabama	2.54	2.16	1.83	2.48	2.87	2.61	2.42	2.50
Alaska	.63	.57	.53	.64	.63	.64	.63	.61
Arizona	2.90	2.24	1.99	2.22	3.18	2.87	2.89	3.14
Arkansas	2.25	1.57	1.44	2.22	2.47	2.36	2.23	2.14
California	3.08	2.72	2.90	2.65	3.01	3.15	3.12	3.01
Colorado	2.48	2.03	2.13	2.48	2.48	3.83	2.19	2.14
Connecticut	3.77	2.66	2.11	7.40	5.60	3.17	2.53	6.19
Delaware	3.11	2.79	2.41	2.49	3.07	3.31	2.82	3.05
District of Columbia	—	—	—	—	—	—	—	—
Florida	2.39	2.28	2.13	2.35	2.31	2.32	2.39	2.37
Georgia	3.29	2.87	2.82	3.64	3.72	3.18	3.22	3.32
Hawaii	—	—	—	—	—	—	—	—
Idaho	—	—	—	—	—	—	—	—
Illinois	2.50	2.18	2.11	2.35	2.60	2.39	2.43	2.42
Indiana	2.76	2.38	2.25	2.53	2.78	2.78	2.88	2.81
Iowa	3.01	3.02	2.51	3.21	3.41	2.85	2.64	3.30
Kansas	2.27	1.90	1.63	2.09	2.28	2.25	2.27	2.18
Kentucky	3.06	2.68	2.64	2.76	3.12	2.92	2.82	3.06
Louisiana	2.46	1.85	1.56	2.36	2.71	2.51	2.34	2.34
Maine	—	—	—	—	—	—	—	—
Maryland	2.92	2.59	2.31	2.79	3.23	2.85	2.70	2.96
Massachusetts	2.72	2.60	2.26	2.58	2.79	2.57	2.57	2.47
Michigan	.87	.84	.73	.37	1.03	1.50	1.36	.87
Minnesota	2.46	1.81	1.65	2.38	2.58	2.30	2.27	2.26
Mississippi	2.44	1.85	1.59	2.28	2.68	2.53	2.42	2.44
Missouri	2.34	1.88	1.47	2.05	2.51	2.34	2.34	2.26
Montana	5.17	4.41	5.22	4.76	5.07	5.04	4.91	3.87
Nebraska	2.63	2.20	1.78	2.58	2.87	3.01	2.35	2.26
Nevada	2.40	1.88	1.74	2.26	2.44	2.48	2.17	2.17
New Hampshire	2.21	2.15	—	—	—	—	2.11	2.21
New Jersey	2.37	2.16	1.97	2.38	2.64	2.34	2.20	2.44
New Mexico	2.21	1.93	1.66	2.02	2.32	2.24	2.08	1.96
New York	2.72	2.39	2.20	2.60	2.83	2.58	2.46	2.64
North Carolina	3.53	2.82	2.76	3.43	3.66	3.38	3.26	3.50
North Dakota	1.96	—	2.12	4.60	4.69	—	4.62	—
Ohio	3.20	2.22	2.14	3.73	3.84	3.92	3.67	3.32
Oklahoma	3.23	3.16	2.98	3.14	3.33	3.00	2.94	3.18
Oregon	2.16	1.91	1.47	2.06	2.16	2.09	—	—
Pennsylvania	2.62	2.94	3.13	2.69	2.94	2.67	2.54	2.56
Rhode Island	2.77	2.24	1.99	—	2.76	2.95	2.64	2.66
South Carolina	2.95	1.77	1.53	3.17	3.26	2.84	2.82	3.08
South Dakota	1.96	1.98	1.67	—	—	2.39	—	—
Tennessee	—	—	.95	—	—	—	—	—
Texas	2.45	2.18	1.98	2.39	2.58	2.51	2.32	2.31
Utah	2.24	1.84	1.74	2.49	2.80	2.51	2.60	2.17
Vermont	2.02	1.96	1.64	2.01	—	—	1.96	1.93
Virginia	2.88	2.45	1.83	2.85	2.95	2.63	2.79	3.02
Washington	4.27	3.57	4.02	3.87	4.00	3.80	3.44	5.90
West Virginia	3.91	3.30	4.27	3.99	4.06	5.73	4.27	5.40
Wisconsin	2.57	2.28	2.65	2.50	2.81	2.24	2.46	2.62
Wyoming	3.40	3.34	3.50	3.77	3.71	3.68	3.71	3.39
Total	2.60	2.29	2.13	2.45	2.69	2.60	2.46	2.47

See footnotes at end of table.

**Table 27. Average Price of Natural Gas Delivered to Electric Utility^a
Consumers by State, 1992-1993 (Continued)
(Dollars per Thousand Cubic Feet)**

State	May 1993	April 1993	March 1993	February 1993	January 1993	Total 1992	December 1992	November 1992
Alabama	3.18	2.69	2.42	2.29	2.59	2.28	2.88	2.79
Alaska	.63	.63	.64	.64	.64	.57	.56	.56
Arizona	3.21	2.64	2.70	3.12	3.81	2.28	3.99	3.47
Arkansas	1.71	1.61	1.50	1.38	1.64	1.57	1.35	1.15
California	3.56	3.20	3.09	3.02	3.29	2.81	3.24	3.28
Colorado	2.46	2.22	2.39	2.33	2.51	2.14	2.49	2.45
Connecticut	9.99	8.63	6.07	3.50	6.86	2.74	6.11	7.15
Delaware	3.90	5.31	2.78	4.38	3.65	2.70	5.40	4.89
District of Columbia	—	—	—	—	—	—	—	—
Florida	2.67	2.59	2.41	2.23	2.27	2.30	2.32	2.65
Georgia	4.25	3.82	3.90	3.51	3.90	2.89	4.38	4.05
Hawaii	—	—	—	—	—	—	—	—
Idaho	—	—	—	—	—	—	—	—
Illinois	2.57	2.62	3.00	3.08	2.99	2.24	3.11	3.05
Indiana	3.04	2.57	2.42	2.94	2.87	2.48	2.81	3.21
Iowa	3.65	3.33	3.30	3.34	3.37	3.08	3.42	3.37
Kansas	2.56	2.53	2.29	2.42	2.40	1.94	2.42	2.22
Kentucky	3.87	3.22	2.76	2.74	2.99	2.77	3.12	3.24
Louisiana	2.98	2.55	2.31	2.10	2.35	1.91	2.35	2.51
Maine	—	—	—	—	—	—	—	—
Maryland	3.43	3.10	2.82	2.86	3.14	2.66	4.07	3.79
Massachusetts	3.01	2.88	2.92	3.25	3.51	2.68	3.70	3.27
Michigan	.30	.38	.45	.85	.68	.81	.64	.67
Minnesota	2.82	2.68	2.38	2.52	2.81	1.85	2.74	2.52
Mississippi	2.85	2.30	2.23	1.98	2.06	1.85	2.34	2.46
Missouri	2.79	2.56	2.71	2.42	2.62	1.89	2.75	2.61
Montana	3.34	8.88	10.41	2.78	7.62	3.30	2.44	2.38
Nebraska	2.87	2.45	2.46	2.61	2.88	2.28	2.84	2.32
Nevada	2.45	2.22	2.42	3.11	3.17	1.91	3.12	2.44
New Hampshire	2.21	2.22	—	—	—	2.20	—	—
New Jersey	2.70	2.72	2.51	2.35	2.66	2.18	3.09	2.98
New Mexico	2.61	2.36	2.21	2.06	2.35	1.99	2.40	2.45
New York	3.24	2.87	2.76	2.66	3.02	2.48	3.21	3.12
North Carolina	3.90	3.38	3.71	4.11	4.16	2.96	4.15	4.10
North Dakota	—	4.27	—	—	—	4.18	4.46	—
Ohio	3.54	3.72	2.34	2.64	2.79	2.31	2.59	4.17
Oklahoma	3.68	3.39	3.57	3.37	3.31	3.20	3.25	3.76
Oregon	—	—	2.09	1.99	2.96	1.97	2.44	2.15
Pennsylvania	3.21	3.14	2.58	2.41	2.47	3.06	3.51	5.19
Rhode Island	—	—	—	—	—	2.20	—	—
South Carolina	3.37	3.18	3.20	3.61	3.78	1.73	3.72	3.33
South Dakota	—	—	2.62	—	—	2.88	2.95	2.92
Tennessee	—	—	—	—	—	—	—	—
Texas	2.72	2.58	2.40	2.32	2.46	2.25	2.67	2.69
Utah	2.73	1.87	1.86	1.87	2.03	1.87	2.27	1.80
Vermont	2.28	2.28	3.33	3.60	3.30	2.00	3.14	3.02
Virginia	5.31	2.90	3.01	3.10	2.57	2.47	2.70	.48
Washington	7.68	6.52	4.05	3.73	3.70	3.31	4.54	4.57
West Virginia	3.86	3.80	4.18	—	4.04	3.53	3.51	3.27
Wisconsin	3.02	2.66	2.33	2.68	3.22	2.42	3.41	3.33
Wyoming	3.47	3.41	3.20	3.21	3.25	3.33	3.29	3.22
Total	2.90	2.75	2.61	2.55	2.70	2.36	2.81	2.87

See footnotes at end of table.

**Table 27. Average Price of Natural Gas Delivered to Electric Utility^a
Consumers by State, 1992-1993 (Continued)
(Dollars per Thousand Cubic Feet)**

State	October 1992	September 1992	August 1992	July 1992	June 1992	May 1992	April 1992	March 1992
Alabama	3.20	2.43	2.36	1.98	2.15	2.05	1.86	1.70
Alaska	.56	.57	.54	.55	.57	.55	.56	.59
Arizona	2.40	2.40	2.40	2.21	2.27	2.14	1.81	2.02
Arkansas	2.18	1.85	1.85	1.64	1.50	1.52	1.44	1.36
California	3.41	2.93	2.73	2.57	2.39	2.39	2.50	2.36
Colorado	2.50	1.94	1.80	1.98	1.84	1.98	2.02	1.81
Connecticut	6.29	6.31	2.82	2.58	2.62	2.57	2.25	2.23
Delaware	4.31	3.32	2.68	2.22	2.47	2.86	2.35	2.68
District of Columbia	—	—	—	—	—	—	—	—
Florida	2.88	2.59	2.51	2.41	2.41	2.29	2.01	1.82
Georgia	4.32	2.30	2.75	2.83	2.61	2.99	2.78	3.18
Hawaii	—	—	—	—	—	—	—	—
Idaho	—	—	—	—	—	—	—	—
Illinois	2.93	2.39	2.43	2.37	2.29	2.07	2.03	1.69
Indiana	3.14	3.00	2.57	2.31	2.30	2.11	2.44	2.18
Iowa	3.77	3.51	3.32	2.80	3.01	2.93	2.76	2.56
Kansas	2.14	1.99	1.98	1.83	2.08	1.67	1.73	1.87
Kentucky	3.38	2.67	2.59	2.46	2.60	2.71	2.67	2.57
Louisiana	2.73	2.16	2.04	1.72	1.90	1.78	1.56	1.36
Maine	—	—	—	—	—	—	—	—
Maryland	3.78	2.82	2.73	2.33	2.45	2.15	2.38	2.57
Massachusetts	3.43	2.81	2.67	2.58	2.37	2.17	2.19	2.39
Michigan	.56	1.28	.51	.63	.81	1.34	.93	.71
Minnesota	3.35	1.89	1.81	1.76	1.64	1.54	1.62	1.53
Mississippi	2.66	2.22	2.17	1.87	1.97	1.72	1.65	1.49
Missouri	2.13	2.31	2.14	1.49	1.94	2.12	1.60	2.89
Montana	9.41	3.76	2.93	2.19	2.48	3.04	1.40	6.28
Nebraska	2.46	2.27	2.50	2.12	2.10	2.31	1.54	2.02
Nevada	2.55	1.87	2.25	1.86	1.95	1.59	1.43	1.53
New Hampshire	—	2.20	2.20	—	—	—	—	—
New Jersey	2.92	2.42	2.35	2.02	2.23	2.26	1.84	1.73
New Mexico	2.67	2.30	2.11	1.72	1.77	1.72	1.61	1.64
New York	3.22	2.55	2.39	2.06	2.30	2.28	2.19	2.27
North Carolina	3.22	3.15	2.83	2.78	2.83	2.52	2.53	2.69
North Dakota	—	4.05	4.30	4.03	—	—	—	4.28
Ohio	2.66	1.97	2.01	2.11	2.14	2.06	2.08	2.49
Oklahoma	4.11	3.29	3.19	2.92	3.08	2.72	2.74	2.92
Oregon	2.40	2.05	1.99	1.72	1.88	—	—	—
Pennsylvania	4.07	3.49	3.20	2.34	2.73	3.16	2.90	2.91
Rhode Island	—	2.84	2.45	2.45	2.27	2.13	2.04	1.86
South Carolina	3.30	2.74	2.46	1.91	1.71	2.56	3.15	1.46
South Dakota	4.04	—	2.61	—	—	—	—	—
Tennessee	—	—	—	—	—	—	—	—
Texas	2.90	2.34	2.30	1.99	2.06	2.03	1.99	1.94
Utah	1.99	1.98	1.92	1.76	1.74	1.67	1.82	1.83
Vermont	2.18	2.24	2.16	2.09	1.94	1.77	1.74	1.63
Virginia	5.05	2.20	3.10	2.18	2.67	2.59	2.32	2.22
Washington	5.97	3.32	2.94	2.95	3.31	3.57	7.71	4.18
West Virginia	3.34	4.27	3.40	5.36	3.26	1.21	—	3.66
Wisconsin	3.47	2.80	2.30	2.21	2.06	2.01	1.94	1.88
Wyoming	3.21	3.19	3.22	3.22	3.31	3.37	3.36	3.48
Total	3.04	2.51	2.42	2.13	2.18	2.11	2.07	1.99

^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-178.

— = Not Applicable.

Notes: Data for 1992 are final. All other data are preliminary unless otherwise indicated. Geographic coverage is the 50 States and the District of Columbia. See Appendix A, Explanatory Note 5 for discussion of computations and revision policy.

Sources: Form FERC-423 and Form EIA-178.

Table 28. Percentage of Total Deliveries Represented by Onsystem Sales by State, 1991-1993

State	November 1993		October 1993		September 1993		August 1993	
	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial
Alabama	69.6	18.9	65.7	18.8	69.2	18.2	68.8	17.7
Alaska	100.0	71.2	100.0	54.8	100.0	68.6	100.0	61.3
Arizona	90.3	24.0	91.8	23.0	89.9	22.8	89.2	24.7
Arkansas	92.6	16.3	87.7	15.0	85.6	14.1	84.6	14.5
California	74.5	31.2	72.5	40.3	69.2	35.4	68.9	31.6
Colorado	93.7	24.1	90.0	25.1	94.0	33.5	92.7	32.8
Connecticut	NA	NA	100.0	79.7	100.0	73.8	99.2	70.7
Delaware	100.0	74.6	100.0	76.5	100.0	79.2	100.0	78.0
District of Columbia	95.9	—	92.5	—	90.1	—	88.3	—
Florida	96.1	15.1	97.2	16.2	97.2	20.8	96.9	17.2
Georgia	90.5	27.5	85.0	22.6	84.6	21.0	83.9	25.2
Hawaii	100.0	—	100.0	—	100.0	—	100.0	—
Idaho	81.6	.0	77.8	.0	79.3	.0	81.4	.0
Illinois	53.8	11.9	50.3	9.2	50.1	7.7	38.4	6.4
Indiana	91.9	18.8	90.3	13.7	92.4	13.1	90.5	15.6
Iowa	95.1	20.6	92.3	17.1	88.3	10.4	88.2	10.3
Kansas	74.2	11.5	71.6	11.8	80.2	16.6	85.5	19.9
Kentucky	94.5	23.1	91.9	22.6	87.8	24.4	85.2	16.3
Louisiana	97.0	31.8	98.1	31.5	98.7	30.2	98.7	31.6
Maine	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Maryland	97.1	20.0	95.3	19.4	93.3	11.9	93.3	10.5
Massachusetts	NA	NA	100.0	46.3	99.5	39.9	99.6	42.1
Michigan	66.8	7.5	61.6	4.7	49.3	3.8	52.9	2.7
Minnesota	96.7	37.2	95.3	42.1	96.7	43.2	87.5	30.2
Mississippi	89.2	27.6	88.7	27.1	85.8	29.4	88.6	30.1
Missouri	81.6	24.1	72.4	19.1	73.4	20.4	68.2	16.5
Montana	91.6	6.9	89.9	4.7	87.6	4.0	91.3	8.3
Nebraska	84.0	29.7	84.5	28.1	82.0	23.4	87.2	30.0
Nevada	91.0	4.9	89.8	4.0	89.8	4.1	86.9	4.2
New Hampshire	NA	NA	100.0	100.0	100.0	100.0	100.0	100.0
New Jersey	92.6	56.1	90.3	60.7	85.0	55.3	80.3	53.2
New Mexico	50.7	6.7	53.7	4.1	37.0	2.9	50.2	7.1
New York	78.9	21.7	75.2	18.3	74.0	15.9	73.3	14.1
North Carolina	91.9	80.9	79.4	57.7	99.4	70.3	89.6	54.0
North Dakota	74.3	27.9	56.1	23.3	53.5	17.2	54.0	14.9
Ohio	84.3	11.1	82.5	7.9	72.3	7.1	69.1	5.8
Oklahoma	90.8	27.6	81.8	26.9	82.3	25.7	80.9	31.9
Oregon	96.5	33.5	94.1	31.4	97.3	29.8	97.5	28.7
Pennsylvania	73.2	22.5	73.3	18.2	66.2	20.3	65.4	19.3
Rhode Island	100.0	8.5	100.0	11.9	100.0	12.1	100.0	9.1
South Carolina	100.0	61.5	94.5	57.3	100.0	58.8	93.5	59.3
South Dakota	90.1	49.1	78.7	61.2	75.8	52.1	72.9	46.4
Tennessee	92.1	43.9	90.8	33.7	89.7	34.7	89.4	32.0
Texas	82.4	34.4	79.1	30.7	78.7	17.9	83.2	31.5
Utah	100.0	14.9	100.0	15.0	100.0	15.7	100.0	13.9
Vermont	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Virginia	87.6	16.7	77.8	12.8	84.5	15.1	75.2	10.3
Washington	97.4	43.0	94.4	37.8	90.7	35.5	90.5	33.3
West Virginia	49.6	9.0	41.5	9.0	28.3	9.3	25.9	7.5
Wisconsin	94.4	53.8	91.1	43.2	88.4	41.7	87.0	37.3
Wyoming	97.3	3.0	97.1	2.2	94.7	1.7	96.4	1.9
Total	76.5	27.1	73.6	25.4	71.7	21.7	71.3	24.7

See footnotes at end of table.

Table 28. Percentage of Total Deliveries Represented by Onsystem Sales by State, 1991-1993 (Continued)

State	July 1993		June 1993		May 1993		April 1993	
	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial
Alabama	70.9	20.1	71.9	18.2	75.3	17.1	80.3	19.8
Alaska	100.0	73.3	100.0	79.7	100.0	70.9	100.0	73.4
Arizona	87.9	24.8	90.3	18.7	90.9	26.8	89.7	24.0
Arkansas	85.8	13.1	84.1	14.3	87.5	14.3	91.8	16.0
California	75.1	33.7	70.0	31.4	75.6	34.1	79.6	35.9
Colorado	92.6	32.4	95.2	30.1	94.9	30.1	95.5	34.2
Connecticut	86.5	68.1	99.2	71.9	99.3	69.5	98.0	70.0
Delaware	100.0	75.3	100.0	69.3	100.0	75.0	100.0	72.5
District of Columbia	96.8	—	99.8	—	100.0	—	100.0	—
Florida	97.0	17.5	97.6	35.4	97.5	30.6	97.3	28.6
Georgia	84.3	30.3	81.6	23.1	85.3	23.4	90.1	26.5
Hawaii	100.0	—	100.0	—	100.0	—	100.0	—
Idaho	82.9	.0	82.5	.0	87.5	.0	88.0	.0
Illinois	43.0	5.6	43.5	7.2	51.6	8.5	56.5	16.1
Indiana	89.9	13.0	91.4	14.2	100.0	25.0	99.4	26.0
Iowa	89.7	10.1	90.3	8.0	92.3	12.9	96.0	12.0
Kansas	82.1	16.9	78.8	14.4	84.4	12.3	83.5	12.6
Kentucky	89.2	17.8	93.0	24.3	91.9	28.5	93.1	37.7
Louisiana	98.8	31.0	98.8	31.8	98.9	34.6	98.5	35.3
Maine	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Maryland	94.9	10.7	96.1	47.9	94.6	7.7	96.2	9.1
Massachusetts	99.7	52.3	99.8	53.0	99.7	58.6	99.7	52.5
Michigan	48.9	2.7	50.0	3.0	62.2	5.3	66.6	8.6
Minnesota	88.3	32.8	93.4	48.4	99.3	50.1	99.2	45.9
Mississippi	88.4	29.4	91.6	31.1	95.6	33.4	96.7	32.3
Missouri	71.2	18.5	73.8	17.6	80.2	22.4	86.8	24.3
Montana	91.3	7.7	91.2	9.9	95.0	13.8	94.0	14.1
Nebraska	87.5	23.3	87.7	23.1	97.8	29.5	93.0	24.2
Nevada	89.9	3.3	90.8	3.8	92.6	3.4	91.1	3.7
New Hampshire	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
New Jersey	87.5	53.0	86.8	53.5	88.8	54.6	91.5	55.5
New Mexico	51.9	4.9	54.3	2.1	59.6	10.4	61.3	1.7
New York	70.3	13.5	67.5	16.0	72.5	14.8	78.8	22.0
North Carolina	90.0	53.0	90.1	54.8	100.0	94.3	100.0	95.7
North Dakota	58.1	16.6	62.6	15.7	73.3	19.0	76.9	26.2
Ohio	74.3	8.1	73.6	6.6	75.8	7.3	83.6	10.7
Oklahoma	79.2	31.1	82.0	28.3	88.3	27.3	90.2	31.1
Oregon	97.6	25.7	97.8	27.2	97.6	21.8	97.9	22.1
Pennsylvania	72.5	17.1	72.5	17.6	71.4	23.6	77.7	27.0
Rhode Island	100.0	9.6	100.0	12.1	100.0	10.4	100.0	10.7
South Carolina	94.0	60.4	100.0	61.4	100.0	55.9	100.0	58.3
South Dakota	75.0	55.2	73.3	38.4	76.4	43.7	81.2	55.1
Tennessee	89.9	32.0	89.6	31.9	97.3	38.8	95.8	45.9
Texas	80.9	29.7	78.3	27.5	77.6	29.9	83.2	28.0
Utah	100.0	12.3	100.0	13.7	100.0	12.2	100.0	12.5
Vermont	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Virginia	83.9	10.8	86.3	14.3	89.1	21.7	86.3	16.2
Washington	90.6	34.6	89.8	38.8	90.9	42.1	93.7	45.2
West Virginia	25.7	11.5	28.4	8.3	40.6	8.4	53.3	7.7
Wisconsin	87.6	38.1	89.3	36.6	90.1	40.7	91.8	42.7
Wyoming	97.1	2.1	96.9	4.1	98.4	3.2	98.2	3.1
Total	78.3	26.7	78.0	24.4	81.6	28.4	84.3	29.3

See footnotes at end of table.

Table 28. Percentage of Total Deliveries Represented by Onsystem Sales by State, 1991-1993 (Continued)

State	March 1993		February 1993		January 1993		Total 1992	
	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial
Alabama	82.4	20.0	81.8	22.1	80.4	20.4	80.7	29.9
Alaska	100.0	70.1	100.0	73.4	100.0	76.0	100.0	69.8
Arizona	92.2	28.0	93.1	25.7	93.1	29.3	92.6	29.6
Arkansas	92.7	16.1	93.0	16.6	92.5	16.7	90.7	13.8
California	76.5	36.1	81.3	44.7	78.8	31.7	74.5	27.5
Colorado	96.3	32.7	96.2	34.9	96.3	35.4	95.5	32.2
Connecticut	97.1	73.5	97.6	73.5	97.1	71.6	96.5	65.6
Delaware	100.0	73.7	100.0	75.5	100.0	71.9	100.0	65.0
District of Columbia	100.0	—	100.0	—	100.0	—	99.0	—
Florida	96.6	28.7	96.6	31.0	96.5	32.6	97.7	32.9
Georgia	94.1	35.2	92.3	37.3	90.8	32.0	88.1	35.0
Hawaii	100.0	—	100.0	—	100.0	—	100.0	—
Idaho	91.1	.0	90.0	.0	89.5	.0	85.7	.3
Illinois	58.5	15.4	58.5	16.9	61.2	21.2	57.7	15.0
Indiana	99.6	27.4	93.7	26.9	94.3	23.9	96.8	23.2
Iowa	95.4	15.0	96.3	18.2	96.3	16.3	95.7	17.6
Kansas	85.2	10.6	82.1	8.8	83.4	10.2	84.4	10.2
Kentucky	95.0	29.0	95.1	21.4	94.9	20.0	93.1	35.1
Louisiana	97.9	31.8	97.8	34.7	97.3	34.7	87.5	37.6
Maine	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Maryland	96.5	22.1	97.4	15.0	97.3	18.6	96.0	20.1
Massachusetts	99.8	51.7	99.8	55.3	99.8	56.2	99.8	45.4
Michigan	71.3	10.3	71.1	10.9	73.2	11.8	68.8	9.1
Minnesota	96.5	48.5	96.9	48.8	98.8	50.5	96.2	42.3
Mississippi	92.7	35.9	84.5	34.6	91.7	34.9	96.4	45.5
Missouri	88.8	27.3	86.4	28.7	87.9	29.4	85.5	24.5
Montana	95.0	15.0	94.1	16.1	95.5	16.5	95.4	17.5
Nebraska	94.1	42.4	94.4	45.4	93.7	45.0	88.2	41.2
Nevada	94.3	7.6	96.0	6.9	97.1	6.1	88.3	7.5
New Hampshire	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
New Jersey	93.9	58.6	94.2	60.5	93.8	63.4	92.4	55.7
New Mexico	66.2	1.6	62.6	2.9	67.8	4.8	70.0	4.3
New York	83.2	25.6	82.4	28.4	82.3	25.4	77.7	23.3
North Carolina	100.0	92.9	100.0	94.0	100.0	97.1	95.9	81.0
North Dakota	77.4	29.5	73.9	31.5	77.1	34.3	68.9	21.6
Ohio	86.7	13.6	86.8	12.6	89.3	11.2	85.6	11.6
Oklahoma	91.1	27.2	91.4	37.5	91.2	41.3	88.5	23.7
Oregon	98.5	23.9	99.0	26.0	98.6	25.4	97.8	20.7
Pennsylvania	79.0	25.3	79.2	26.7	80.0	29.3	75.8	22.9
Rhode Island	100.0	11.7	100.0	11.8	100.0	10.8	100.0	11.4
South Carolina	100.0	67.0	100.0	70.0	100.0	72.2	98.6	66.9
South Dakota	84.4	54.4	83.9	61.4	86.5	68.3	82.4	52.6
Tennessee	95.9	46.5	96.3	44.9	96.0	39.2	96.4	49.6
Texas	83.8	30.2	85.2	29.1	83.9	30.0	79.7	31.3
Utah	100.0	12.0	100.0	12.3	100.0	9.9	100.0	11.7
Vermont	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Virginia	88.7	13.2	90.9	15.3	89.1	14.5	90.7	25.6
Washington	93.9	44.4	93.3	46.0	93.8	48.0	87.3	37.4
West Virginia	54.9	8.1	54.9	6.7	54.3	8.8	56.9	16.2
Wisconsin	94.2	49.0	95.1	48.6	94.1	46.6	91.3	41.5
Wyoming	98.5	5.0	98.3	4.3	98.6	4.8	98.0	3.6
Total	85.8	30.1	85.8	31.2	86.2	30.8	83.2	30.3

See footnotes at end of table.

Table 28. Percentage of Total Deliveries Represented by Onsystem Sales by State, 1991-1993 (Continued)

State	December 1992		November 1992		October 1992		September 1992	
	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial
Alabama	80.6	31.1	74.2	30.4	73.2	28.7	74.4	26.5
Alaska	100.0	73.9	100.0	72.3	100.0	71.2	100.0	81.3
Arizona	92.9	31.6	89.1	28.8	91.2	30.1	90.5	27.2
Arkansas	90.8	20.1	88.7	15.3	87.6	14.4	86.4	12.2
California	81.4	30.0	76.7	27.7	79.0	31.6	79.7	33.3
Colorado	96.2	37.0	93.7	32.4	91.2	37.3	93.6	40.5
Connecticut	98.4	75.3	98.2	78.9	97.8	69.7	98.7	63.9
Delaware	100.0	74.0	100.0	72.3	100.0	68.8	100.0	61.9
District of Columbia	100.0	—	100.0	—	100.0	—	99.0	—
Florida	97.0	35.1	97.4	31.8	98.2	28.9	98.3	32.3
Georgia	92.9	40.3	87.9	29.4	84.6	30.0	83.4	40.6
Hawaii	100.0	—	100.0	—	100.0	—	100.0	—
Idaho	88.3	.0	82.2	.0	77.9	.0	80.2	.0
Illinois	59.9	20.7	60.5	22.1	55.5	19.5	47.0	12.8
Indiana	98.0	22.3	99.9	29.8	99.8	28.3	91.9	20.9
Iowa	96.7	23.9	96.1	26.7	91.0	19.2	88.7	13.3
Kansas	82.7	8.6	78.0	10.4	81.1	9.8	86.9	10.7
Kentucky	94.9	27.0	94.6	35.4	93.0	57.3	87.9	51.3
Louisiana	86.4	34.0	81.4	32.8	90.6	33.5	91.1	36.4
Maine	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Maryland	97.4	30.5	97.0	41.0	95.0	18.6	94.1	8.4
Massachusetts	99.8	33.9	99.7	36.6	99.6	43.6	99.6	44.7
Michigan	73.1	12.8	68.6	8.6	61.1	5.7	49.9	4.2
Minnesota	97.6	54.4	98.5	48.9	99.4	45.0	93.0	39.9
Mississippi	97.4	44.8	95.9	45.4	95.6	43.3	95.6	43.1
Missouri	87.2	27.0	81.0	21.7	76.1	28.8	74.5	18.5
Montana	94.6	13.2	92.8	14.1	92.0	11.1	90.6	9.3
Nebraska	90.9	44.6	87.1	45.8	84.5	40.0	80.5	33.4
Nevada	95.4	14.1	88.5	6.4	88.9	6.5	82.7	6.3
New Hampshire	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
New Jersey	96.9	59.5	94.8	63.9	86.4	57.9	80.7	55.9
New Mexico	61.1	9.8	57.0	8.2	57.9	3.2	60.8	9.1
New York	81.5	27.7	82.6	24.2	76.0	21.1	69.3	16.1
North Carolina	100.0	98.9	100.0	97.5	99.9	96.7	89.2	75.1
North Dakota	68.9	31.0	67.3	25.7	56.8	18.0	57.2	14.2
Ohio	88.5	14.5	85.7	12.8	84.2	12.2	73.1	7.4
Oklahoma	88.1	41.5	86.9	31.8	85.3	28.3	84.3	25.4
Oregon	98.4	24.4	97.4	22.7	94.6	18.7	97.8	17.8
Pennsylvania	79.4	34.3	74.1	30.4	74.0	29.4	69.4	20.5
Rhode Island	100.0	11.0	100.0	12.5	100.0	12.1	100.0	13.3
South Carolina	100.0	74.7	100.0	69.8	99.7	66.6	97.0	63.2
South Dakota	84.7	68.6	81.8	64.4	76.5	59.2	78.0	54.7
Tennessee	97.4	48.8	97.5	48.8	97.3	48.5	91.6	36.9
Texas	78.6	32.0	75.3	28.0	72.4	33.3	71.9	29.4
Utah	100.0	13.4	100.0	10.2	100.0	11.7	100.0	11.9
Vermont	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Virginia	90.3	30.4	86.6	30.2	89.9	26.0	83.8	30.9
Washington	92.3	44.8	86.8	36.6	83.4	37.1	81.6	39.3
West Virginia	58.9	24.2	56.8	16.7	48.1	13.6	33.4	13.8
Wisconsin	95.1	49.0	93.4	46.2	90.7	38.4	85.2	34.8
Wyoming	98.3	4.5	98.2	4.0	97.2	2.7	97.4	2.3
Total	85.6	32.5	83.1	30.8	80.9	31.4	78.0	29.3

See footnotes at end of table.

Table 28. Percentage of Total Deliveries Represented by Onsystem Sales by State, 1991-1993 (Continued)

State	August 1992		July 1992		June 1992		May 1992	
	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial
Alabama	74.7	28.9	75.3	29.9	77.6	28.3	79.0	28.4
Alaska	100.0	60.1	100.0	66.7	100.0	69.9	100.0	67.7
Arizona	86.0	26.0	86.3	26.8	88.9	26.3	89.9	26.3
Arkansas	85.4	12.2	85.9	12.4	87.0	13.1	88.4	12.6
California	64.6	29.8	60.9	31.1	74.5	26.2	63.5	24.3
Colorado	93.3	34.6	94.2	40.0	96.0	27.9	95.1	28.5
Connecticut	98.8	61.8	95.8	54.2	87.2	52.1	93.6	54.1
Delaware	100.0	62.3	100.0	59.0	100.0	59.9	100.0	63.4
District of Columbia	99.5	—	91.4	—	100.0	—	97.6	—
Florida	98.1	31.6	98.1	34.5	98.2	38.1	98.3	38.5
Georgia	83.3	35.6	79.7	31.4	82.7	30.1	85.0	40.2
Hawaii	100.0	—	100.0	—	100.0	—	100.0	—
Idaho	82.4	.0	81.0	.0	80.2	.0	83.1	.0
Illinois	49.2	7.9	44.4	7.4	43.4	5.6	53.0	9.1
Indiana	99.6	25.6	92.8	17.8	99.9	22.8	99.7	24.7
Iowa	90.6	13.1	91.3	11.8	93.2	12.8	94.3	14.2
Kansas	88.9	13.6	88.4	12.2	86.8	9.8	88.8	13.5
Kentucky	87.4	42.9	86.7	45.2	86.9	47.3	87.9	33.7
Louisiana	90.2	30.2	90.6	30.6	90.1	28.7	90.5	46.3
Maine	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Maryland	92.7	9.1	93.1	7.4	92.8	7.0	94.1	5.8
Massachusetts	99.6	44.9	99.7	47.7	99.8	44.2	99.7	48.9
Michigan	51.6	4.0	48.5	4.6	55.5	4.7	66.6	7.2
Minnesota	89.8	36.3	93.1	32.7	88.3	37.1	92.2	35.6
Mississippi	94.8	45.6	95.5	45.1	95.4	43.4	95.2	44.6
Missouri	75.8	21.5	71.9	18.2	80.6	18.6	82.7	17.5
Montana	96.8	14.8	95.4	15.1	94.9	16.3	96.6	17.3
Nebraska	83.6	36.9	85.6	32.1	81.7	33.0	88.7	43.1
Nevada	81.4	6.7	84.8	4.7	84.0	7.5	83.7	6.2
New Hampshire	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
New Jersey	80.7	55.7	88.6	52.8	91.3	53.6	94.1	51.8
New Mexico	64.4	2.1	62.4	1.9	66.5	2.4	64.0	7.6
New York	69.3	13.7	72.9	17.3	70.9	15.6	72.4	19.8
North Carolina	86.2	61.1	84.3	46.9	85.8	61.1	88.3	61.8
North Dakota	58.8	13.0	61.6	12.6	63.8	14.7	73.6	21.0
Ohio	73.5	9.2	72.0	7.3	73.9	8.4	78.9	8.4
Oklahoma	85.7	21.8	80.2	16.2	84.1	17.0	85.4	16.8
Oregon	96.7	17.6	97.9	17.5	97.8	20.4	97.7	24.4
Pennsylvania	67.2	17.9	68.1	14.1	73.1	12.3	71.8	14.7
Rhode Island	100.0	9.1	100.0	12.1	100.0	9.8	100.0	15.1
South Carolina	95.8	65.4	95.5	61.9	95.8	64.6	98.5	69.2
South Dakota	74.6	50.3	72.3	32.7	73.5	39.2	80.7	40.9
Tennessee	90.4	43.1	97.3	43.8	95.8	47.9	93.7	50.6
Texas	75.9	32.8	77.0	31.4	77.8	35.0	79.5	31.0
Utah	100.0	11.6	100.0	11.1	100.0	10.7	100.0	11.3
Vermont	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Virginia	85.9	21.5	86.9	14.0	88.4	30.3	88.9	25.0
Washington	80.3	34.6	78.5	36.1	80.7	36.1	83.5	34.8
West Virginia	33.6	14.4	35.8	10.3	39.3	12.6	54.5	14.9
Wisconsin	84.1	33.2	83.3	32.0	82.3	31.9	85.8	36.9
Wyoming	97.1	2.4	96.5	2.3	97.2	2.5	97.9	3.2
Total	76.1	28.6	76.0	27.4	79.4	28.0	79.3	29.8

See footnotes at end of table.

Table 28. Percentage of Total Deliveries Represented by Onsystem Sales by State, 1991-1993 (Continued)

State	April 1992		March 1992		February 1992		January 1992	
	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial
Alabama	83.2	29.4	84.0	35.6	86.8	32.2	83.7	29.1
Alaska	100.0	68.8	100.0	69.1	100.0	68.1	100.0	68.7
Arizona	92.7	31.4	96.3	33.0	97.0	32.9	97.2	33.1
Arkansas	92.7	14.4	91.3	10.3	94.7	16.4	93.0	11.5
California	79.0	36.1	75.7	24.0	65.6	22.9	86.6	20.6
Colorado	95.7	25.8	95.9	27.6	96.7	25.0	96.7	28.2
Connecticut	94.4	59.2	95.6	62.7	97.2	72.0	97.7	75.8
Delaware	100.0	61.0	100.0	62.1	100.0	63.7	100.0	65.9
District of Columbia	97.4	—	100.0	—	100.0	—	99.6	—
Florida	98.2	27.8	97.4	29.0	97.2	28.2	96.8	38.2
Georgia	88.2	46.0	89.3	32.6	90.6	28.8	90.8	34.4
Hawaii	100.0	—	100.0	—	100.0	—	100.0	—
Idaho	85.2	.0	87.1	.0	89.0	.0	89.4	.0
Illinois	57.5	11.9	59.5	14.6	58.2	16.8	63.0	21.2
Indiana	99.1	22.4	98.6	20.2	92.4	19.8	93.6	23.2
Iowa	96.2	15.0	96.5	15.5	97.4	19.8	97.6	22.1
Kansas	86.8	10.5	83.9	7.4	83.8	9.4	82.9	8.5
Kentucky	91.9	22.2	93.6	17.6	94.2	20.2	95.4	31.8
Louisiana	90.6	42.4	88.7	43.1	87.7	44.8	82.3	43.6
Maine	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Maryland	95.6	15.1	96.3	23.5	97.2	29.7	97.2	32.2
Massachusetts	99.8	53.1	99.8	42.4	99.9	47.4	99.9	60.0
Michigan	70.5	10.6	71.4	12.0	74.5	14.0	73.7	15.5
Minnesota	95.5	39.8	96.0	42.4	95.3	40.9	99.6	46.4
Mississippi	96.6	45.5	96.4	47.2	97.3	51.5	96.9	46.2
Missouri	88.1	28.4	89.1	26.2	90.1	31.0	89.7	29.5
Montana	96.5	23.4	96.7	27.3	98.0	26.6	97.1	24.7
Nebraska	90.9	40.3	89.9	48.5	91.6	43.1	91.7	50.2
Nevada	87.2	6.9	88.3	6.6	89.5	9.1	90.6	8.6
New Hampshire	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
New Jersey	87.7	48.4	92.1	53.9	95.7	56.6	96.9	55.9
New Mexico	73.0	.7	75.3	1.6	84.9	1.7	84.7	3.8
New York	77.3	24.6	79.5	27.4	78.9	31.0	81.0	33.5
North Carolina	93.1	73.3	99.2	95.1	99.2	93.8	99.3	98.4
North Dakota	71.6	24.9	72.0	21.3	73.7	28.9	71.7	25.7
Ohio	85.7	12.0	88.4	13.2	88.0	14.9	89.1	14.5
Oklahoma	90.9	16.4	87.7	18.6	92.3	19.3	91.6	30.2
Oregon	97.7	24.5	97.4	23.4	98.4	19.4	98.6	19.9
Pennsylvania	75.1	20.4	76.6	21.5	79.6	23.4	77.1	29.3
Rhode Island	100.0	13.3	100.0	11.1	100.0	8.2	100.0	9.2
South Carolina	98.6	61.6	98.9	62.0	99.1	69.0	99.1	77.9
South Dakota	83.1	44.4	85.6	46.5	83.3	53.4	87.0	67.2
Tennessee	97.2	50.7	96.8	56.0	97.1	57.4	96.6	57.3
Texas	83.6	32.4	83.4	28.3	85.6	32.5	86.9	30.1
Utah	100.0	11.8	100.0	10.8	100.0	12.4	100.0	12.8
Vermont	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Virginia	91.7	26.4	93.7	23.5	93.3	27.5	94.6	25.4
Washington	85.5	35.0	88.7	37.5	89.0	38.1	92.1	38.0
West Virginia	63.0	17.4	59.9	18.1	65.9	18.3	65.0	16.4
Wisconsin	90.0	42.3	91.6	44.5	92.1	46.6	92.7	46.3
Wyoming	98.4	4.3	97.8	4.8	98.1	4.9	98.6	5.3
Total	84.0	31.3	84.7	29.9	85.2	31.4	87.1	31.8

NA = Not Available.

— = Not Applicable

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.

Figure 6. Percentage of Total Deliveries Represented by Onsystem Sales, 1989-1993

Source: Form EIA-857.

Table 29. Gas Home Customer-Weighted Heating Degree-Days

Census Divisions	December 1 through December 31					Cumulative July 1 through December 31				
	Normal ^a	1992	1993	Percent Change		Normal ^a	1992	1993	Percent Change	
				Normal to 1993	1992 to 1993				Normal to 1993	1992 to 1993
New England CT, ME, MA, NH, RI, VT	1,073	1,015	1,031	-3.9	1.6	2,327	2,475	2,374	2.0	-4.1
Middle Atlantic NJ, NY, PA	1,010	945	979	-3.1	3.6	2,126	2,225	2,144	.8	-3.6
East North Central IL, IN, MI, OH, WI	1,142	1,052	1,076	-5.8	2.3	2,399	2,497	2,507	4.5	.4
West North Central IA, KS, MN, MO, ND, NE, SD	1,235	1,188	1,114	-8.8	-6.2	2,560	2,727	2,720	6.3	-.3
South Atlantic DE, FL, GA, MD and DC, NC, SC, VA, WV	696	672	723	3.9	7.6	1,350	1,383	1,403	3.9	1.4
East South Central AL, KY, MS, TN	717	675	720	.4	6.7	1,376	1,387	1,480	7.6	6.7
West South Central AR, LA, OK, TX	534	463	483	-9.6	4.3	900	908	1,043	15.9	14.9
Mountain AZ, CO, ID, MT, NV, NM, UT, WY	1,006	1,063	918	-8.7	-13.6	2,310	2,420	2,402	4.0	-.7
Pacific ^b CA, OR, WA	519	543	495	-4.6	-8.8	1,066	924	908	-14.8	-1.7
U.S. Average ^b	881	840	836	-5.1	-.5	1,818	1,862	1,865	2.6	.2

^a Normal is based on calculations of data from 1961 through 1990.

^b Excludes Alaska and Hawaii.

Notes: Degree-days are relative measurements of outdoor air temperature. Heating degree-days are deviations of the mean daily temperature below 65 degrees Fahrenheit. A weather station recording a mean daily temperature of 40 degrees Fahrenheit would report 25 heating degree-days. There are several degree-day data bases maintained by the National Oceanic and Atmospheric Administration. The information published in the EIA *Natural Gas Monthly* is developed by the National Weather Service Climate Analysis Center, Camp Springs, Maryland. The data are available weekly with monthly summaries and are based on mean daily temperatures recorded at about 200 major weather stations around the country. The temperature information recorded at these weather stations is used to calculate Statewide degree-day averages weighted by gas home customers. The State figures are then aggregated into Census Divisions and into the national average.

Source: National Oceanic and Atmospheric Administration.

Appendix A

Explanatory Notes

2 of 2

Appendix A

Explanatory Notes

The Energy Information Administration (EIA) publishes monthly data for the supply and disposition of natural gas in the United States in the *Natural Gas Monthly*. These data are preliminary when initially published. Some of these monthly data are estimates

developed by EIA staff. Others are taken or estimated from submitted reports. The table below lists the methodologies for deriving the monthly data to be published initially for the components of supply and disposition.

Table A1. Methodology for Reporting Initial Monthly Natural Gas Supply and Disposition Data

Components	Reporting Methodology
Supply and Disposition	
Marketed Production	Estimated from Historical Data
Extraction Loss	Derived from Marketed Production
Dry Production	Marketed Production minus Extraction Loss
Withdrawals from Storage	Reported on Form EIA-191
Supplemental Gaseous Fuels	Derived from Supply Estimates and Coal Gasification Information
Imports	Estimated from National Energy Board of Canada Information and Liquefied Natural Gas Information
Additions to Storage	Reported on Form EIA-191
Exports	Estimated from Industry Trends and Liquefied Natural Gas Information
Current-Month Consumption	Estimated from Historical Month-to-Month Percent Changes
Prior-Month Consumption	
Lease and Plant Fuel	Derived from Marketed Production
Pipeline Fuel	Derived from Estimates for Lease and Plant Fuel and Deliveries to Consumers
Deliveries to Consumers	
Residential	Estimated from Reports to the Sample Survey Form EIA-857
Commercial	Estimated from Reports to the Sample Survey Form EIA-857
Industrial	Estimated from Reports to the Sample Survey Form EIA-857
Electric Utilities	Reported on Form EIA-759

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 1992, of the 33 producing States, 23 reported data on nonhydrocarbon gases removed. The 23 States accounted for 61 percent of total 1992 gross withdrawals. Of the 23 States reporting nonhydrocarbon gases removed, 13 reported zero values: Alaska, Arizona, Arkansas, Colorado, Illinois, Indiana, Maryland, Missouri, Nevada, New York, Oregon, South Dakota, and Virginia. The eight States reporting volumes greater than zero are Alabama, California, 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 35 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

Beginning with report year 1990, States filing the Form EIA-627, "Annual Quantity and Value of Natural Gas Report," were asked to supply monthly breakdowns of all data previously reported on an annual basis. The sums of the reported figures were used to calculate monthly volumes.

For States not supplying monthly data on the EIA-627, final monthly data are calculated by proportionally allocating the differences between total 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 33 gas-producing States on Form EIA-627 which includes gross withdrawals, vented and flared, repressuring, nonhydrocarbon gases removed, fuel used on leases, marketed production (wet), and extraction loss. 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 final monthly data reported on the Form EIA-627 for the previous year.

Estimates for total U.S. marketed production are based on final monthly data reported on the Form EIA-627

for the previous year. State estimates for nonhydrocarbon gas removed, gas used for repressuring, and gas vented and flared are based on the ratio of the that item to gross withdrawals as reported on the EIA-627. These ratios are applied to the month's estimates for gross withdrawals to calculate figures for nonhydrocarbon gases removed, gas used for repressuring, and gas vented and flared. Estimates for gross withdrawal data are calculated from final monthly data filed on Form EIA-627 for the previous year.

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 and Gas Compact Commission (IOGCC) 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

Final monthly data for 1991 and 1992 are the sums of monthly data reported on the annual Form EIA-627, "Annual Quantity and Value of Natural Gas Report." For prior years, the differences between each State's annual production data reported on the EIA-627 and the sum of its monthly IOGCC reports for the year were allocated proportionally to the monthly IOGCC 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. Comparison of preliminary and final monthly data on exports has indicated that preliminary figures do not provide good estimates of the trend in exports. Thus caution should be used in making inferences from these data.

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

Estimated 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.

Average Price of Deliveries to Consumers

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.

The prices reported for deliveries to residential, commercial, or industrial consumers in Tables 24, 25, and 26 represent the ratio of revenues reported by respondents to Form EIA-857 to volumes of natural gas sold and delivered to customers in each of the three consumer classes. Revenues contain not only the commodity charge but also all the incidental "costs of doing business" which public utility commissions consider in allowing the tariffs, as well as taxes charged to the customer and passed along to the appropriate government units. Some of the incidental costs represent companies' investments -- such as pipe to deliver gas -- and labor.

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 volumes reported in Form EIA-857.

The seasonal pattern of prices for residential customers, where the ratio is higher in the summer months and lower in the winter, reflects the fact the reported revenues contain not only the commodity cost of the gas consumed, but also the incidental costs involved in serving the residential sector. Providing service to residential customers is both capital and labor intensive, both absolutely and relative to providing service to either commercial or industrial customers. During the summer, the volume of gas sold to residential consumers is much lower than in other seasons, but the revenue stream they generate -- including as it does the constant costs of doing business -- leads to a calculated price contained in Table 22 that is higher than in other seasons. The use of gas by either industrial or commercial consumers does not have the severe seasonal peaks and valleys of the residential sector so the reported price does not contain the algebraic inflation during the slack use period that is reflected in the residential prices.

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. 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 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*.

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 marketed production.

Note 7. Natural Gas Storage

Underground Natural Gas Storage

All monthly data concerning underground storage are published from the EIA-191. A new EIA-191 became effective in January 1991. Injection and withdrawal data from the 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 1987 through 1992 shown in Table 2 include both underground and liquefied natural gas (LNG) storage. Underground storage data are obtained from the 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 production. This unit price is then applied to the quantity of the State's marketed production to derive the imputed value of marketed production.

Initial Monthly Data

An initial estimate is calculated based on the statistical relationship between U.S. monthly wellhead gas prices and the monthly composite spot wellhead prices published in the *Natural Gas Week*. The estimate is prepared using the same methodology that generates monthly gas price estimates for EIA's *Short-Term Energy Outlook*. The initial estimate is the latest monthly estimate presented.

Preliminary Monthly Data

A preliminary estimate of the U.S. gas price is made each month based on the change in the production-weighted gas price from four States: Mississippi, New Mexico, Oklahoma, and Texas. Gas prices for these four States are used because both their gas production and value represent a substantial sample of the U.S. gas production and value (roughly 50 percent), and their prices are readily available and provide a consistent series. The latest preliminary U.S. gas price estimate is calculated by multiplying the preliminary U.S. gas price estimate for the prior month by the ratio of the four States' gas price for the latest month to that of the prior month. This estimate replaces the initial gas price estimate.

Final Monthly Data

Preliminary monthly gas price data for Mississippi, New Mexico, Oklahoma, and Texas are replaced by final monthly data that are adjusted to match the annual prices published in the *Natural Gas Annual* for each State. A revised set of the monthly U.S. gas price estimates are derived based on the monthly change in

the production-weighted prices for these four States and adjusted to match the U.S. gas price published in the *Natural Gas Annual*.

Note 9. Financial Data of Major Interstate Pipeline Companies

The prices in Table 4 for imports and purchases from producers by major interstate pipeline companies, and all data in Tables 8 through 12 are derived from Form FERC-11. Form FERC-11 is filed monthly by the approximately 51 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 8 through 12 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 FERC-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 current data which will indicate any revisions. Revisions are made on a month by month basis.

Note 10. Balancing Item

The "balancing item" 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 "balancing item" data, see the *Natural Gas Annual*.

Preliminary Monthly Data

Preliminary monthly data in the "balancing item" category are calculated by subtracting dry gas production, withdrawals from storage, supplemental gaseous fuels, and imports from total supply/disposition.

Appendix B

Data Sources

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 survey is the Form 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.

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. Beginning with 1990 data, the responses are not considered proprietary.

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.

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 was 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.

In 1990, revisions to the Form were approved that permitted collection of data on deliveries of natural gas for use as a vehicle fuel and detailed underground storage information. Data filed on the EIA-176 are no longer held confidential.

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 1993 mailing for report year 1992 totaled 2,104 questionnaire packages. To this original mailing, 6 names were added and 46 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 2,064 responses from approximately 1,800 companies.

Following the original mailing, second request mailing, and nonrespondents followup, 2,056 responses were entered into the data base, and there were eight 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*.

Figure B1. Form EIA-176

EIA-176 (Revised 1991)

**U.S. DEPARTMENT OF ENERGY
ENERGY INFORMATION ADMINISTRATION**

Form Approved
OMB No. 19050175
Expires: 12/31/93

ANNUAL 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 2F-081 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 Number: _____	Area 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.	
2.0 Name	3.0 Title
4.0 Signature	5.0 Date
<p>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.</p>	

EIA-176, 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 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) <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>o ☐ 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	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	
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

	Volume (Mcf at 14.73 psia)	e or f	Cost (Dollars)	e 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 pipelines and/or distribution companies				
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 and/or exchange 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 storage facilities:				
5.1 Withdrawn from company-operated underground storage:				
5.1.1 Company-owned natural gas				
5.1.2 Natural gas owned by others				
5.2 Company-owned natural gas received directly from underground storage operators				
5.3 Received from underground storage operators for the account of others				
5.4 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				

EIA COPY Page 2

EIA-176, 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)	e or f	Cost or Revenue (Dollars)	e 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 less 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 Added to storage facilities:				
4.1 Injected into company-operated underground storage				
4.1.1 Company-owned natural gas				
4.1.2 Natural gas owned by others				
4.2 Company owned gas delivered directly to underground storage operators				
4.3 Delivered to underground storage operators for the account of others				
4.4 Added to liquefied natural gas storage				
5.0 Deliveries of company-owned natural gas				
5.1 Delivered to other pipelines within the report State				
5.2 Delivered to resellers (e.g. distribution companies)				
5.3 Delivered at the State line or U.S. border to:				
Company 				
State or Country 				
(Continue on Part VI if more space is needed)				
5.4 Delivered directly to consumers: Number of consumers				
5.4.1 Residential sales	 			
5.4.2 Commercial sales	 			
5.4.3 Industrial sales	 			
5.4.4 Electric utility sales	 			
5.4.5 Natural gas used as vehicle fuel	 			
6.0 Average heat content of gas delivered directly to consumers	 Btu			
7.0 Natural gas transported for the account of others				
7.1 Delivered to other pipelines within the report State				
7.2 Delivered to resellers for the account of others				
7.3 Delivered at the State line or U.S. border to:				
Company 				
State or Country 				
(Continue on Part VI if more space is needed)				
7.4 Transported and delivered to consumers for the account of others Number of consumers				
7.4.1 Residential consumers	 			
7.4.2 Commercial consumers	 			
7.4.3 Industrial consumers	 			
7.4.4 Electric utility consumers	 			
7.4.5 Natural gas used as vehicle fuel	 			
8.0 Deliveries or exchange gas				
8.1 Delivered at point(s) 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 Used in pipeline, storage, and/or distribution operations				
10.0 Other disposition (specify) 				
(Continue on Part VI if more space is needed)				
11.0 Total disposition accounted for				
12.0 Unaccounted for gas supply (+) or disposition (-)				

EIA-176, 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)				
Supply (Continued)		Volume (Mcf at 14.73 psia)	e or f	Cost or Revenue (Dollars)
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 and or exchange 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: (Cont'd)				
State or Country 				
State or Country 				
State or Country 				
State or Country 				
PART IV, 7.0 Other sources of supply (specify source and/or kind of fuel): (Continued)				
				
				
				
Disposition (Continued)				
PART V, 5.3 Company-owned natural gas deliveries at State line or U.S. border to: (Continued)				
Company 				
State or Country 				
Company 				
State or Country 				
PART V, 7.3 Transported for the account of others out of report State to: (Continued)				
State or Country 				
State or Country 				
State or Country 				
State or Country 				
PART V, 8.2 Deliveries of exchange gas at State line or U.S. border to: (Continued)				
Company 				
State or Country 				
Company 				
State or Country 				
PART V, 10.0 Other disposition (specify): (Continued)				
				
				
				

EIA COPY Page 4

EIA	
1	2

4.0 Resubmittal ☐ Date:

[illegible]

Figure B2. Form EIA-176, Short Form

EIA-176 (Revised 1991)

U.S. DEPARTMENT OF ENERGY
ENERGY INFORMATION ADMINISTRATION

Form Approved
OMB No. 19050175
Expires: 12/31/93

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 93-275). 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 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 2F-081 Forrestal, 1000 Independence Ave SW, Washington DC 20595; 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.

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

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EIA

PART III: TYPE OF COMPANY AND GAS ACTIVITIES OPERATED IN THE REPORT STATE

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

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EIA COPY **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. 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. The form was redesigned in 1990 to collect monthly breakdowns of all annual data elements. Data are not considered proprietary. 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 33 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 1992, data on the quantities of nonhydrocarbon gases removed were reported by the appropriate agencies of 23 of the 33 States. These 23 States accounted for 61 percent of total 1992 gross withdrawals. In addition, gross withdrawal data from Kansas, Oklahoma, Louisiana, and Montana, which together accounted for 35 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 annual form that collects data on the monthly and annual 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; quantities of fuel used on leases; 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 and Gas 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 and Gas Compact Commission Form "Monthly Report of Natural Gas Production"

Survey Design

The Interstate Oil Gas Compact Commission (IOGCC) is an organization comprised of 32 gas and oil producing States; the Governor of each State sits on the board of the IOGCC. The IOGCC form, "Monthly Report of Natural Gas Production," (Figure B4) is a voluntary report filed to the IOGCC by most of the producing States. The IOGCC 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. Data are not considered proprietary.

Survey Universe and Response Statistics

Most of the 32 States report data to the IOGCC. 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 IOGCC approximately 80 days after the end of the report month.

EIA-627 (Revised 1992)

U.S. DEPARTMENT OF ENERGY
Energy Information AdministrationForm Approved
OMB No. 19050175
Expires: 12/31/93

ANNUAL QUANTITY AND VALUE OF NATURAL GAS REPORT

PART I: IDENTIFICATION DATA	
1. Name of State Reporting	2. Calendar Year Being Reported 19 <input type="text"/> <input type="text"/>
3. Name of Office/Agency	4. Office Address (Street, City, State, Zip Code)
5. Name of Contact Person	6. Phone Number
PART II: NATURAL GAS VOLUMES (REPORT ALL VOLUMES IN MILLIONS OF CUBIC FEET)	
Enter the pressure base at which all volumes are reported (psia at 60°F)	
Enter the total number of producing gas wells in operation as of December 31 for the reporting year.	

Public reporting burden for this collection of information is estimated to average 4.7 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 2F-081 Forrestal, 1000 Independence Ave. SW, Washington, D.C. 20585, and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503.

Month	Gross Withdrawals			Used for Repressuring Etc.	Vented and Flared	Nonhydrocarbon Gases Removed	Natural Gas Used as Fuel on Leases	Marketed Production
	Gas and Condensate Wells	Oil Wells (Casinghead)	Total					
January								
February								
March								
April								
May								
June								
July								
August								
September								
October								
November								
December								
TOTAL								

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.

EIA-627, ANNUAL QUANTITY AND VALUE OF NATURAL GAS REPORT**PART III: Value of Marketed Production (Wellhead Sales Prices)**Enter the available value of marketed production
REPORT IN THOUSANDS OF DOLLARS

\$

Enter the quantity of marketed production associated with the value entered
REPORT IN MILLIONS OF CUBIC FEET

NOTE: The value reported 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.

Does your computation of wellhead value agree with the above conditions? Yes ____ No ____

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.

Item (a)	Included (b)	Excluded (c)
Natural gas plant liquids		
Lease condensate		
Gathering and compression charges		
State production, severance, and/or similar taxes		

PART IV: COMMENTS

Enter any additional comments including identification and explanation of any data elements submitted based on definitions differing from those provided for the previous year. If more space is needed, please attach separate sheet(s).

Name of Contact Person

Phone Number

Complete and return to: Energy Information Administration, Mail Station BG-094 Forrestal,
U.S. Department of Energy, Washington, D.C. 20585, Attn: Form EIA-627

Page 2

Figure B4. IOGCC Form

INTERSTATE OIL AND GAS COMPACT COMMISSION

900 Northeast 23rd Street ■ P.O. Box 53127 ■ Oklahoma City, Oklahoma 73152-3127 ■ Phone: 405/525-3556 ■ Fax: 405/525-3592

Chairman:

Joan Finney
Governor of Kansas

Past Chairmen:

David Walters
Governor of Oklahoma

Mike Sullivan
Governor of Wyoming

Edwin W. Edwards
Governor of Louisiana

Bruce King
Governor of
New Mexico

Executive Director:

W. Timothy Dowd

MEMBER STATES:

ALABAMA ALASKA
ARIZONA ARKANSAS
CALIFORNIA
COLORADO ILLINOIS
INDIANA KANSAS
KENTUCKY LOUISIANA
MARYLAND MICHIGAN
MISSISSIPPI
MONTANA NEBRASKA
NEVADA NEW MEXICO
NEW YORK NORTH
DAKOTA OHIO
OKLAHOMA
PENNSYLVANIA
SOUTH DAKOTA TEXAS
UTAH VIRGINIA
WEST VIRGINIA
WYOMING

ASSOCIATES:

GEORGIA IDAHO
NORTH CAROLINA
OREGON SOUTH
CAROLINA WASHINGTON

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:

Interstate Oil and Gas Compact Commission
P.O. Box 53127
Oklahoma City, OK 73152-3127.

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 estimate 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. _____

Summary of Data Requirements

The IOGCC 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.

EIA-191 Survey, "Underground Natural Gas Storage Report"

Survey Design

Beginning in January 1991, the EIA-191, "Underground Natural Gas Storage Report," was revised. All prior data on the storage of natural gas was collected on a survey 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. The new form will collect storage data by State, field, and reservoir of which there are approximately 400 operating reservoirs in the United States. Data are considered proprietary.

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 were not merged because of FERC's stated desire to maintain the separate identity of the FERC-8 for administrative reasons. FERC jurisdictional firms will continue to file the FERC-8 in addition to the new EIA-191.

Survey Universe and Response Statistics

The same group of 92 companies that operate underground facilities will file the new Form EIA-191. Of these companies, 40 are subject to the jurisdiction of

FERC and are required to report data on Form FERC-8.

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 EIA-191 Data Reporting Requirements

The EIA-191 is a multipart form that reports the quantities of gas in storage, injections and withdrawals, and the location (including State and county, field, reservoirs) and capacity of underground storage reservoirs along with peak day send out during the reporting period. 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. 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 Form EIA-191 Edit Checks

Data received on Form EIA-191 are entered into the survey processing system. The survey's five principal data elements (total, base, and working gas in storage, injections, and withdrawals) receive a preliminary visual edit to eliminate and correct obvious errors or omissions. Respondents are required to refile reports containing any inconsistencies or errors.

Other EIA Publications Referencing Form EIA-191

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

U.S. DEPARTMENT OF ENERGY
ENERGY INFORMATION ADMINISTRATION
WASHINGTON, D.C. 20585
UNDERGROUND GAS STORAGE REPORT

Form Approved
OMB No. 19050175
Expires: 12/31/93

I. RESPONDENT IDENTIFICATION DATA Control (ID) No. _____ Name..... _____ Street or Post Office Box: _____ City, State, Zip Code: _____					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 "Provisions for Confidentiality" in the General Instructions for confidentiality statement. Public reporting burden for this collection of information is estimated to average 3.6 hours per response, including the time of reviewing instruction, 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: Energy Information Administration, Office of Statistical Standards, EI-73, 1000 Independence Ave., SW, Washington, DC 20585; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.					
Person to contact if questions arise concerning this report: _____					Tel. No. (Include Area Code and Extension) _____					
II. GAS STORAGE DATA (All volumes in Mcf - 14.73 psia - 60°F)							Report Period		Mo	Yr
Storage Field Name			Location	State		Storage Field Capacity				
Reservoir Name(s)				County		Maximum Deliverability (Mcf/d)				
☐ Estimated ☐ Actual ☐ Revised			Base Gas		Working Gas		Total Gas In Storage		Injections	Withdrawals
A	Respondent's Gas in Field Operated by Respondent									
B	Gas Belonging to Others in Field Operated by Respondent									
Total Gas (Sum of A and B)										
Peak Day Withdrawals (in Mcf) Date <input type="text"/> Day <input type="text"/>										
Storage Field Name			Location	State		Storage Field Capacity				
Reservoir Name(s)				County		Maximum Deliverability (Mcf/d)				
☐ Estimated ☐ Actual ☐ Revised			Base Gas		Working Gas		Total Gas In Storage		Injections	Withdrawals
A	Respondent's Gas in Field Operated by Respondent									
B	Gas Belonging to Others in Field Operated by Respondent									
Total Gas (Sum of A and B)										
Peak Day Withdrawals (in Mcf) Date <input type="text"/> Day <input type="text"/>										
III. CERTIFICATION I certify that the information submitted in this report is the most accurate available at this time to the best of my knowledge.										
Name (Type or Print)			Title			Signature			Date	

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 B6) 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. Data are not considered proprietary.

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 50 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

The completed Form FERC-11 is sent on disk along with two facsimiles of the form to FERC. FERC loads these disks on a electronic data file. This file is transmitted to EIA for further processing and editing. Edit

reports are produced of the current file and are reviewed manually. This review is to ensure consistency in reporting within and among utilities in the presentation of current and 12-month financial sales data.

Other EIA Publications Referencing Form FERC-11

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

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. Data are not considered proprietary.

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 Administration (ERA) and it now resides with the Office of Fuels Programs in the Office of Fossil Energy. In 1990, 228 companies met the reporting criteria, only 102 reported imports or exports 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.

Figure B6. Form FERC-11

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 lines 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		
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 62, 63, 64, 65, 66, 71, 72)					

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 are considered preliminary until the annual data on the Form FPC-14 are 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. Data are considered proprietary.

Survey Universe and Response Statistics

A sample of 391 natural gas companies including interstate pipelines, intrastate pipelines, and local distribution companies report on the survey. The sample was selected independently for each of the 50 States and the District of Columbia from a frame consisting

of all respondents to Form EIA-176 who reported deliveries of natural gas to consumers in the residential, commercial, or industrial sectors. Each selected company is required to complete and file the Form EIA-857 on a monthly basis. Initial response statistics are as follows: responses received by due date, approximately 50 percent, and responses received after follow-up, 100 percent. Virtually all are received in time for incorporation in the current month's processing cycle. When a response is extremely late, and the company represents less than 25 percent of the natural gas volumes delivered by all sampled companies in the State, values are imputed as described in Appendix C. When the company's submission is eventually received, the submitted data are used for future processing and revisions.

The Form EIA-857 is a monthly sample survey of firms delivering natural gas to consumers. 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.

Figure B7. Form FPC-14

FEDERAL ENERGY REGULATORY COMMISSION
Washington, D.C. 20426ANNUAL REPORT FOR
IMPORTERS AND EXPORTERS OF NATURAL GAS
GENERAL INSTRUCTIONSForm Approved
OMB Number: 1902-0027
Expiration Date: 09/30/92

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)

Figure B8. Form EIA-857

EIA-857 (Revised 1991)

U.S. Department of Energy
Energy Information Administration

Form Approved
OMB No. 19050175
Expires: 12/31/93

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, EI-73, Mail Station: 2F-081 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: BG-094
U.S. Department of Energy
Washington, D.C. 20585
Attn: Form EIA-857

SECTION I — Natural Gas Purchases and Deliveries to Consumers

		Report Period		Revised Report
		Mo.	Yr.	Indicator
		03		04
SECTION 1 — Natural Gas Purchases and Deliveries to Consumers		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			
Delivered to Electric Utilities (Onsystem Sales)	09			
Transported to Residential Consumers	10			Shaded areas not required
Transported to Commercial Consumers	11			
Transported to Industrial Consumers	12			
Transported to Electric Utilities	13			
Total Delivered and Transported to Consumers	14			
Average Btu Content of Gas Delivered to Consumers	15	(Btu/cu. ft.)		

SECTION II — Footnotes

SECTION III — CONTACT PERSON AND CERTIFICATION

Contact Person: 16 Name:	17 Telephone: (Area Code—Number—Extension)
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.	
18 Name:	19 Title:
Signature:	Date:

Appendix C

Statistical Considerations

Statistical Considerations

The monthly sales (volume and price) and monthly deliveries (volume) of natural gas to residential, commercial and industrial consumers presented in this report by State 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 companies delivering natural gas to consumers. It includes interstate pipeline companies, intrastate pipeline companies, producers, and local distribution companies. The survey provides data that are used each month to estimate the volume and price for onsystem sales of natural gas by State and the volume of natural gas delivered for the account of others, 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 1,705 companies. These companies were respondents to the Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition," for reporting year 1990 who reported sales or deliveries to consumers in the residential, commercial or industrial sectors. (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 natural gas physically delivered in the

State to the three consuming sectors by the company in 1990. As a supplement, two companies with no deliveries to end users during 1990 but having subsequently started delivering very large volumes were sampled with certainty. 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 391 respondent companies. While some mergers and acquisitions were uncovered as a result of the initial mail-out, all resulted in a substitution of respondent companies rather than a reduction in the number of respondents. The sample for the 1992 survey year contains a total of 391 respondent 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 deliveries, 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 and deliveries were determined. Companies with natural gas deliveries to the industrial sector or to the combined residential/commercial sector above a certain level were selected with certainty. Since a few large companies often account for most of the natural gas delivered within a State, this ensures those companies' inclusion in the sample. 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 natural gas 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 natural gas 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 of width I for selecting the companies systematically was calculated using ($I = \frac{X_2}{m}$). 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 cu-

mulative 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 eight 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:

California: companies handling only industrial gas and all other companies.

Louisiana: companies handling only industrial gas and all other companies, with the latter being further subdivided according to size. The larger group is comprised of all companies with total deliveries of at least 200 million cubic feet while the smaller group consists of companies with less than that volume of delivered gas (three subgroups).

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

West Virginia: companies delivering only residential or commercial gas and all other companies.

Arkansas, Colorado, Georgia, Pennsylvania, and Tennessee: companies delivering 1 billion cubic feet or more of gas and companies delivering less than 1 billion cubic feet of gas.

Oklahoma: Companies delivering less than 500 million cubic feet of gas and those delivering more than that volume.

New York: companies delivering 8 billion cubic feet or more of gas and companies delivering less than 8 billion 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 1990 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.

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 price of natural gas for a State within a sector is calculated as follows:

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

where:

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

R_j = the reported revenue from natural gas sales within the State in consumer sector j.

V_j = the reported volume of natural gas sales within the 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 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.

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. Virtually all natural gas deliveries to the residential sector represent onsystem sales volumes only.

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 are 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.

Revision of Volumes and Prices for Deliveries to Electric Utilities. Revisions to monthly electric utilities data are published throughout the year as they become available.

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 C1. 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, November 1993**

State	Volume Million Cubic Feet				Price Dollars per Thousand Cubic Feet		
	Residential	Commercial	Industrial	Total	Residential	Commercial	Industrial
Alabama	379	669	2,260	2,387	0.17	0.21	0.44
Alaska	0	0	0	0	--	--	--
Arizona	43	20	0	47	.04	.11	--
Arkansas	98	122	128	202	.03	.04	.04
California	580	172	1,263	1,401	.01	.10	.20
Colorado	44	47	0	65	.02	.02	--
Connecticut	0	0	0	0	--	--	--
Delaware	0	0	0	0	--	--	--
District of Columbia	0	0	0	0	--	--	--
Florida	25	59	1,916	1,917	.13	.05	.63
Georgia	2,559	1,326	478	2,922	.05	.23	.86
Hawaii	0	0	0	0	--	--	--
Idaho	0	0	0	0	--	--	--
Illinois	7,337	4,544	2,376	8,951	.66	1.18	.13
Indiana	1,228	169	558	1,360	.66	.52	.72
Iowa	54	386	147	416	.04	.30	.25
Kansas	1,129	7,202	9,348	11,854	.34	2.78	3.96
Kentucky	739	628	811	1,264	.13	.07	1.23
Louisiana	317	52	2,422	2,443	.27	.17	.06
Maine	0	0	0	0	--	--	--
Maryland	14	8	56	58	.02	.04	.13
Massachusetts	82	134	566	587	.32	.37	.11
Michigan	2,393	1,262	174	2,711	.12	.13	.51
Minnesota	588	294	497	823	.11	.16	.36
Mississippi	270	37	608	666	.86	.13	.13
Missouri	250	652	251	742	.54	.60	4.06
Montana	9	8	0	12	.02	.02	--
Nebraska	97	64	182	216	.08	.02	.13
Nevada	0	0	0	0	--	--	--
New Hampshire	0	0	0	0	--	--	--
New Jersey	0	0	0	0	--	--	--
New Mexico	181	448	388	620	.22	1.47	--
New York	4,256	712	1,699	4,637	.33	.41	.35
North Carolina	19	49	248	253	.07	.12	.19
North Dakota	0	0	0	0	--	--	--
Ohio	1,228	2,196	1,824	3,107	.18	.23	.50
Oklahoma	17	5	25	30	.02	.05	.01
Oregon	0	0	0	0	--	--	--
Pennsylvania	83	110	2,566	2,569	.14	.11	.63
Rhode Island	0	0	0	0	--	--	--
South Carolina	26	51	953	955	.22	.26	.21
South Dakota	0	0	0	0	--	--	--
Tennessee	643	257	216	726	.10	.15	.11
Texas	1,373	5,839	25,348	26,048	.21	.78	.15
Utah	0	0	0	0	--	--	--
Vermont	0	0	0	0	--	--	--
Virginia	552	252	277	667	.14	.44	1.07
Washington	0	0	0	0	--	--	--
West Virginia	1,309	964	251	1,645	.38	1.92	.36
Wisconsin	2,517	1,637	1,719	3,460	.48	.23	.26
Wyoming	49	53	754	757	.11	.11	.13
U.S. Totals	10,042	10,993	27,780	31,519	.13	.14	.20

NA = Not Available.

-- = Not Applicable.

Source: Energy Information Administration, Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers."

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:

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

where:

H = the total number of strata

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 1992*, DOE/EIA-0131(92), November 1993.
- *Natural Gas Annual 1991 Supplement: Company Profiles* DOE/EIA-0131(91/S), January 1993.
- *Statistics of Interstate Natural Gas Pipeline Companies 1991*, DOE/EIA-0145(91), December 1992.
- *Gas Supplies of Interstate Natural Gas Pipeline Companies 1991*, DOE/EIA-0167(91), December 1992.

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

- *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves - 1992 Annual Report*, DOE/EIA-0216(92), October 1993.
- *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 1992*, DOE/EIA-0173(92), March 1993. Published annually.
- *Annual Energy Outlook 1993*, DOE/EIA-0383(93), January 1993. Published annually.
- *Annual Energy Review 1992*, DOE/EIA-0384(92), June 1993. Published annually.
- *Short-Term Energy Outlook*, DOE/EIA-0202. Published quarterly. Provides forecasts for next six quarters for natural gas and other energy sources.

Selected One-Time Natural Gas and Related Reports

- *U.S. Production of Natural Gas from Tight Reservoirs*, DOE/EIA-TR-0574, October 1993.
- *Energy Policy Act Transportation Rate Study*, DOE/EIA-0571, October 1993.
- *Largest U.S. Oil and Gas Fields*, DOE/EIA-TR-0567, August 1993.
- *Natural Gas 1992: Issues and Trends*, DOE/EIA-0560(20), March 1993.
- *Natural Gas Productive Capacity for the Lower 48 States, 1982 through 1993*, DOE/EIA-0542(93), March 1993.
- *Geologic Distributions of U.S. Oil and Gas*, DOE/EIA-0557, July 1992.
- *Capacity and Service on the Interstate Natural Gas Pipeline System 1990*, DOE/EIA-0556, June 1992.
- *Effects of Interruptible Natural Gas Service: Winter 1989-1990*, SR/OG-91-01, June 1991.
- *The Outlook for Natural Gas Imports: Supporting Analysis for the National Energy Strategy*, SR/NES/90-06, January 1991.

Selected and Recurring Natural Gas and Related Data Reference Reports

- *Directory of Energy Data Collection Forms*, DOE/EIA-0249(92), January 1993.
- *Oil and Gas Field Code Master List, 1993*, EIA-0370(93), December 1993.

NGM Feature Articles

January 1991

Take-or-Pay Settlements

(Presents information on the resolutions of the take-or-pay issue.)

February 1991

Recent Trends and Regional Variability in Underground Storage Activities

(Discusses underground storage in the expansion of end-use markets.)

March 1991

Natural Gas Transportation Services: An Update

(Reassesses transportation market activities by examining data through 1989 for major interstate pipeline companies.)

April 1991

An Overview of Recent Developments in the Underground Storage Market

(Reviews the changing market for underground natural gas storage services in the United States.)

May 1991

Analysis of Long-Term Contracts for Imports of Canadian Natural Gas

(Focuses on the contractual provisions that will govern imports of natural gas from Canada through the 1990's and beyond.)

June 1991

Natural Gas Productive Capacity for the Lower 48 States, 1980 through 1991

(Summarizes the full report and contrasts the findings for two major producing regions: Texas and the Gulf of Mexico Outer Continental Shelf.)

July 1991

The Outlook for Natural Gas 1991

(Focuses upon the natural gas supply and market aspects of the forecasts contained in the *Annual Outlook for Oil and Gas 1991*.)

August 1991

U.S. Natural Gas Imports and Exports - 1990

(Contains final 1990 data on all U.S. imports and exports of natural gas.)

September 1991

Background on the Natural Gas Industry

(Focuses on changes in the industry that pertain to natural gas.)

Domestic Natural Gas Reserves and Production Dedicated to Interstate Pipeline Companies, 1990

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

March 1992

Revisions to Monthly Natural Gas Data

(Discusses the revision errors for natural gas data.)

August 1992

U.S. Natural Gas Imports and Exports - 1991

(Contains final 1991 data on all U.S. imports and exports of natural gas.)

November 1992

Natural Gas Futures Contract Market - The First 2 Years

(Reviews the financial and economic significance of trading in natural gas futures markets.)

December 1992

Three-Dimensional Seismology -- A New Perspective

(Describes the impact 3D seismology will have on future U.S. reserves and production.)

Imports of Canadian Gas Under Long-Term Contracts

(Addresses how regulatory changes have altered the contractual revisions of long-term agreements.)

March 1993

Natural Gas 1992: Issues and Trends

(Provides an overview of the natural gas industry in 1991 and 1992, focusing on trends in production, consumption, and pricing of natural gas.)

Natural Gas Productive Capacity

(Analyzes monthly natural gas wellhead productive capacity and projects this capacity for 1992 and 1993.)

April 1993

Revisions to Monthly Natural Gas Data

(Discusses the revision errors for natural gas data.)

August 1993

U.S. Natural Gas Imports and Exports - 1992

(Contains final 1992 data on all U.S. imports and exports of natural gas.)

October 1993

U.S. Production of Natural Gas from Tight Reservoirs

(Discusses the economic incentives offered to induce operators to explore for and develop gas reservoirs from unconventional sources.)

The Expanding Role of Underground Storage

(Discusses the expanded role of underground natural gas storage in the restructured natural gas industry.)

January 1994

U.S. Coalbed Methane Production

(Updates the Energy Information Administration's coalbed methane production information through 1992 and presents it by geologic basin and by State.)

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:	Interstate Oil and Gas Compact Commission (IOGCC)	Donna Guerrina (202) 586-6135
		Annual:	EIA-627, "Annual Quantity and Value of Natural Gas Report"	
		Monthly:	Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers"	Roy Kass (202) 586-4790
Extraction Loss	1	Monthly:	EIA computations	Margo Natof (202) 586-6303
		Annual:	Form EIA-816, "Monthly Natural Gas Liquids Report" and Form EIA-64A, "Annual Report of the Origin of Natural Gas Liquids Production"	
Supplemental Gaseous Fuels	2	Monthly:	EIA computations	Donna Guerrina (202) 586-6135
		Annual:	Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition"	Margo Natof (202) 586-6303
Imports and Exports	2	Monthly:	EIA computations	Norman Crabtree (202) 586-6180
		Annual:	Form FPC-14, "Annual Reports for Importers and Exporters of Natural Gas"	
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:	EIA computations	Donna Guerrina (202) 586-6135
		Annual:	Form EIA-627, "Annual Quantity and Value of Natural Gas Report"	
Electric Utility	4	Monthly:	Form FPC-423, "Cost and Quality of Fuels for Electric Power Plants"	Roy Kass (202) 586-4790
Summary of Natural Gas Imports and Exports	5, 6	Monthly:	Form FPC-14, "Annual Report for Importers and Exporters of Natural Gas"	Norman Crabtree (202) 586-6180
Producer Related Activities:				
Natural Gas Production	7	Monthly:	Interstate Oil and Gas Compact Commission (IOGCC)	Donna Guerrina (202) 586-6135
Interstate Pipeline Activities:	8, 9, 10, 11, 12	Monthly:	Form FERC-11, "Natural Gas Pipeline Company Monthly Statement"	James Keeling (202) 586-6107
Underground Storage:	13, 14, 15, 16, 17	Monthly:	Forms FERC-8 and EIA-191, "Underground Gas Storage Report"	Rosemary Jameson (202) 586-6229
Distribution and Consumption:				
Deliveries to:				
Residential,	18	Monthly:	Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers"	Roy Kass (202) 586-4790
Commercial,	19			
Industrial,	20			
Electric Utility,	21		Form FERC-423, "Cost and Quality of Fuels for Electric Power Plants"	
All Consumers	22			
Average Price to:				

City Gate	23	Monthly:	Form EIA-857, "Monthly Report of	Roy Kass
Residential,	24		Natural Gas Purchases and Deliveries	(202) 586-4790
Commercial,	25		to Consumers"	
Industrial,	26		Form FERC-423, "Cost and Quality	
Electric Utility	27		of Fuels for Electric Power Plants"	
Onsystem Sales	28	Monthly:	Form EIA-857, "Monthly Report of	Roy Kass
			Natural Gas Purchases and Deliveries	(202) 586-4790
			to Consumers"	
Heating Degree Days	29	Seasonal:	National Oceanic and Atmospheric	Rosemary Jameson
			Administration	(202) 586-6229
Highlights				Carol Jones
				(202) 586-6168
Industry Overview				Eva Fleming
				(202) 586-6113

Glossary

Balancing Item: 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.

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 and Alaska to foreign countries.

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: Any person who is engaged in the production or gathering of natural gas and who sells natural gas in interstate commerce for resale but who is not engaged in the transportation of natural gas (other than gathering) by pipeline in interstate commerce.

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.

Intransit Deliveries: Redeliveries to a foreign country of foreign gas received for transportation across U.S. territory and deliveries of U.S. gas to a foreign country for transportation across its territory and redelivery to the United States.

Intransit Receipts: Receipts of foreign gas for transportation across U.S. territory and redelivery to a foreign country and redeliveries to the United States of U.S. gas transported across foreign territory.

Intrastate Companies: Companies not subject to FERC jurisdiction.

Lease and Plant Fuel: Natural gas used in well, field, lease operations and as fuel in natural gas processing plants.

Liquefied Natural Gas (LNG): Natural gas that has been liquefied by reducing its temperature to minus 260 degrees Fahrenheit at atmospheric pressure.

Major Interstate Pipeline Company: A company whose combined sales for resale, and gas transported interstate or stored for a fee, exceeded 50 million thousand cubic feet in the previous year.

Marketed Production: Gross withdrawals less gas used for repressuring, quantities vented and flared, and nonhydrocarbon gases removed in treating or processing operations. Includes all quantities of gas used in field and processing operations. See Explanatory Note 1 for discussion of coverage of data concerning nonhydrocarbon gases removed.

Native Gas: Gas in place at the time that a reservoir was converted to use as an underground storage reservoir as in contrast to injected gas volumes.

Natural Gas: A mixture of hydrocarbon compounds and small quantities of various nonhydrocarbons existing in the gaseous phase or solution with oil in natural underground reservoirs at reservoir conditions.

Natural Gas Policy Act of 1978 (NGPA): Signed into law on November 9, 1978, the NGPA is a framework for the regulation of most facets of the natural gas industry. See Explanatory Note 10 for a full discussion.

Nonhydrocarbon Gases: Typical nonhydrocarbon gases that may be present in reservoir natural gas are carbon dioxide, helium, hydrogen sulfide, and nitrogen.

Onsystem Sales: Sales to customers where the delivery point is a point on, or directly interconnected with, a transportation, storage, and/or distribution system operated by the reporting company.

Pipeline Fuel: Gas consumed in the operation of pipelines, primarily in compressors.

Repressuring: The injection of gas into oil or gas formations to effect greater ultimate recovery.

Residential Consumption: Gas used in private dwellings, including apartments, for heating, cooking, water heating, and other household uses.

Storage Additions: The volume of gas injected or otherwise added to underground natural gas or liquefied natural gas storage during the applicable reporting period.

Storage Withdrawals: Total volume of gas withdrawn from underground storage or liquefied natural gas storage during the applicable reporting period.

Supplemental Gaseous Fuels Supplies: Synthetic natural gas, propane-air, refinery gas, biomass gas, air injected for stabilization of heating content, and manufactured gas commingled and distributed with natural gas.

Synthetic Natural Gas (SNG): A manufactured product chemically similar in most respects to natural gas, that results from the conversion or reforming of petroleum hydrocarbons and may easily be substituted for or interchanged with pipeline quality natural gas.

Therm: One-hundred thousand British thermal units.

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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