Natural Gas Monthly

May 1997

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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, Ann M. Ducca (202) 586-6137, 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. Cubic feet are converted to cubic meters by applying a factor of 0.02831685.

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	OCS	Outer Continental Shelf
EIA	Energy Information Administration, U.S. Department of Energy	STIFS	Short-Term Integrated Forecasting System
FERC	Federal Energy Regulatory Commission	STEO	Short Term Energy Outlook
		Tcf	Trillion Cubic Feet

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Restructuring Energy Industries: Lessons from Natural Gas

Margaret Jess

For most of this century, firms in some industries, especially public utility industries such as energy, transportation, and communications, have been publicly owned or economically regulated¹ to alleviate public fears that such firms would use market power to raise prices artificially. Many of these industries exhibited some type of scale economies, meaning that over a range of output, the per unit cost of their outputs declined as output increased. This characteristic means that a single firm would have the lowest cost of production and could monopolize the industry. Hence, these industries are treated as natural monopolies and regulated to control entry, prices, and profits.

Over time, however, economic growth and technological improvements have reduced the importance of scale economies, lowered the cost of raising large amounts of capital, and changed perceptions about the potential for economic efficiency. In many cases, these historic changes have led to new products, new delivery systems, or new providers that compete with firms in regulated industries. These economic and technical developments have raised questions about maintaining traditional industry structure and regulation. As a consequence, many industries have restructured² to rely more on competition.³ And, in the course of this restructuring, regulation evolved to accommodate changing economic realities. During the past 25 years, restructuring has occurred in such regulated industries as telecommunications, railroads, airlines, trucking, natural gas, banking, and finance. Most recently, the electric power industry has come under structural pressure.

For the past 20 years, the natural gas industry has been undergoing a restructuring similar to the transition now

confronting the electric power industry. This article presents a summary of some of these gas industry experiences to provide a basis for some insights into energy industry restructuring. The article first discusses some similarities and differences between the natural gas and the electric power industries. Then, with these industry features as background, the discussion turns to issues in restructuring, drawing on experiences in the natural gas industry and suggesting potential parallels in the electric power industry. In conclusion, observations of developments in the natural gas industry are used to suggest some of the difficulties of restructuring, especially when new competitive markets must develop to further the process.

Background

Only a few years ago, doing away with electric power monopoly franchises would have been unthinkable. But large shifts in relative energy prices, starting in the early 1970's with the Arab oil embargo, set off searches for ways to improve energy and economic efficiency. These experiments have produced new perspectives on energy processes and economic organizations. Many of these experiments led to national legislation or policy programs. As time passed, not all these innovations proved successful. Nevertheless, changing government programs often interacted with economic forces to increase the momentum of industry restructuring.

The 1970's energy policy initiatives focused on improving the efficiency of production and consumption.⁴ Many of these programs built on the old command-and-control regulatory system.⁵ New programs included initiatives that discouraged the use of natural gas for electric generation and industrial heat (to conserve on a high-value exhaustible resource), initiatives that tried to rationalize production of natural

¹Economic regulation implies that firms in the industry are subject to entry control and profit limitations.

²Regulatory reform at the Federal and State level is expected to affect the structure and operation of the utilities, either individually or as an industry. These changes are referred to as the restructuring of electric utilities.

³The evolution of regulated into competitive market structures does not necessarily provide equal benefits to all sectors of the economy; therefore, not everyone applauds these changes. Some consumer advocates point to restructuring as causing declines in product quality, reliability, and availability. Similarly, spokespersons for labor or capital interests may identify restructuring with declines in returns to specific factors of production such as wages or profits.

⁴During this same time period, Congress and the courts restructured and in some cases completely deregulated the airline, telecommunication, trucking, and rail industries.

⁵Economic regulation of entry and profit limitations is effected by regulators asserting command and control of the regulated entities; therefore, traditional economic regulation is frequently effected by public bodies exercising command and control over firms engaged in regulated activities.

General Observations on Restructuring

In describing regulated industry restructuring, so much emphasis is placed on legal and regulatory events that it would be easy to imply that restructuring is, at its heart, a regulatory phenomena. In most cases, however, this is an illusion. Restructuring usually is not set in motion by changes in regulation. Rather, economic and technological forces that drive industries to change also, by necessity, cause regulation to adapt. This is because under the traditional command-and-control regulation, public utility industries are molded and shaped to fit a regulatory process. When a regulated industry comes under sufficient pressure from economic growth and technological improvement, it tends to become very inefficient. Growing inefficiencies build forces for change in the industry, but the required changes frequently conflict with the existing regulation. This conflict forces regulation to adapt. Changes in regulated industries are driven by the same basic forces that cause change in the economy as a whole. Because regulation is the platform that shapes these industries, however, changes in regulation are effectively driven by the same forces that pressure the industry itself. In tightly controlled industries, it may not even be possible to assess the true character of the underlying developments until after the regulatory evolution begins to unfold.

Restructuring is often a lengthy process. Indeed, one of the first lessons to be learned from studying other industries in the process of restructuring is just how extended the process is likely to be. For example, the disparity between interstate and intrastate gas prices that signaled the beginning of the need for restructuring in the natural gas industry was first observed more than 25 years ago. But, only now are the outcomes of that restructuring process being translated into direct measures of action for smaller consumers in retail markets. Other restructurings in telecommunications, airlines, and railroads show similar lengthy periods of dynamic readjustment. It is unlikely that the electric power industry will achieve a new integrated structure more quickly than was the case in other industries.

In general, restructurings improve economic efficiency because they grow directly out of opportunities to lower costs. In addition, restructurings that substitute market discipline, when competition is viable, for command-and-control regulation can usually result in improved incentives for efficient behavior that will bring additional pressures to lower prices. Therefore, restructurings generally hold the promise of overall benefits for the economy. Even if the benefits of restructurings are not distributed in the ways that society might prefer, the net gains can then be rearranged without giving up the newly gained efficiency improvements.

gas by setting wellhead price-ceiling schedules that were directed toward its eventual price deregulation (to encourage more high-value production), programs to improve highway vehicle mileage (to reduce the need for imported oil), and programs that mandated electric utilities to purchase electricity produced by some nonutility generators (to enhance efficient energy use).

During the 1980's, Congress and other policy makers periodically reassessed these experiments. A number of programs were modified or dropped. For example, the restrictions on industrial and electric utility gas uses were greatly reduced. In addition, the natural gas pipeline companies and the Federal Energy Regulatory Commission (FERC) devised ways to open gas pipelines to multiple users; and, in 1989, Congress passed legislation to decontrol natural gas wellhead prices completely as of January 1, 1993. This period of energy policy reassessment culminated in 1992 when Congress passed the Energy Policy Act (EPACT). EPACT is very comprehensive legislation addressing nearly every

aspect of energy production and consumption in the national economy. Almost incidentally among its many sections are requirements that provide for open electric generation ownership and transmission access. This legislation effectively made possible the restructuring of the electric power industry by permitting outside entry into the supply of electricity for the first time in many years.

FERC has followed through on EPACT by requiring transmitting electric utilities to provide open transmission services. Order 888, the electricity open-access rule, is similar to Order 636, which encouraged gas pipeline companies to become open providers of gas transportation services (Table FE1). As it did in the gas industry, FERC will require transmission-owning utilities to separate power sales functionally from the provision of transmission services.

The experiences of the natural gas industry during restructuring provide useful parallels for examining

Table FE1. Comparing Milestones in Restructuring Industries

Event	Natural Gas Industry	Electric Industry
First step toward competition	Intrastate gas markets never federally regulated. Some large consumers in the interstate market started purchasing gas and pipeline transportation separately—mid-1970's.	Short-term, inter-utility coordination trade at negotiated prices subject to regulated caps—1950's. Utilities file FERC rates with "up-to" cost-based formulas—early 1980's.
Explicit exceptions to cost-of-service rates appear	NGPA removes some natural gas price ceilings—1978. Pipeline companies use Special Marketing Programs to accommodate direct sales under price ceilings—early 1980's. FERC sets up blanket certificates to encompass SMPs—1984.*	PURPA mandates purchases from QF's at utility's avoided cost—1978. FERC accepts power pool agreement with weighted aggregate price ceilings in lieu of individual company rates—1978. FERC recognizes competitive bidding for new capacity—1988.
Transition costs start accumulating	FERC relieves distributors of their obligations to purchase from pipeline companies without relieving pipeline companies of their obligations to purchase gas supplies—1984.	States subject new utility plants to review for large cost overruns—1970's. Avoided cost QF contracts start a PURPA boom—1984.
Transmission access proposed to dampen anticompetitive behavior and encourage competition	FERC encourages pipelines to make unbundled sales and provide open-access transportation—1985.	NRC requires transmission access for some licenses—1970's. FERC initiates transmission access conditions for merger approval—1988; and for market-priced power sales—1990. Energy Policy Act authorizes FERC to order transmission access to encourage competition—1992.
Standards to mitigate monopoly control in transmission announced	Order 636 issued 1992: <ul style="list-style-type: none"> • Comparable transmission and storage open-access required. • Functional unbundling of product and transportation sales required. • Pipeline companies allowed to make market-priced gas sales through affiliates. • Capacity release established. • Firm transportation customers get flexible receipt and delivery points. • Transportation rates usually set by SFV method. 	Orders 888 and 889 issued 1996: <ul style="list-style-type: none"> • Nondiscriminatory, comparable open access required. • Public utilities must file transmission tariffs and take service under them. • Ancillary services must be offered under a general tariff. • Functional unbundling of accounting and billing for all new wholesale sales required. • Resale of transmission with access to flexible receipt and delivery points on an "as available" basis must be offered.
Access to information to support market functions	Trade press publishes spot gas prices—1989. FERC mandates individual pipeline EBB's—1992. FERC mandates standardized Internet communication protocol—1997.	Market-based pricing includes requirements for EBB's—1992; EPACT requires public capability reporting—1992; FERC orders OASIS—1996.
Market characteristics evolve	Company consolidation starts—mid-1980's. Product markets active; prices transparent—1987. Gas marketing evolves as an unregulated industry—1987. Robust market centers/hubs for physical trade—1993. Some private swaps and options available—1993. Futures market matures and large consumer access to transportation is available in most States—1994. Transportation trade in formative stage—1995.	Company consolidation starts—late 1980's. Spot and forward markets still largely restricted to utilities—1995. Neither transportation nor product prices are transparent yet—1995. Development of a futures market hindered by a lack of a standardized spot market for benchmarking. New entrants are trying to find product niches. Innovators hope to combine gas and electric market instruments for added value—1995.
Rates address risk	FERC starts trying to accommodate take-or-pay liabilities—1985. FERC's move to SFV rates for pipeline transportation shifts the risk of capital recovery to customers—1992. FERC broadens views on transition costs—1994.	FERC allows recovery of 100 percent of legitimate and verifiable wholesale stranded costs—1996.

*The courts later rejected Special Marketing Programs.

FERC=Federal Energy Regulatory Commission; NGPA=Natural Gas Policy Act; PURPA=Public Utility Regulatory Policies Act; QF=FERC qualifying facility; NRC=Nuclear Regulatory Commission; NOPR=Notice of proposed rulemaking; SFV=Straight fixed-variable; SMP=Special Marketing Program; EBB=Electronic bulletin board; EPACT=Energy Policy Act; and OASIS=Open Access Same-Time Information System.

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

potential change within the electric power industry. In examining the parallels, it is important to understand the differences in traditional organization and functions of the two industries.

Similarities and Differences

The gas and electric power industries, although very different in size and structure, share some important characteristics. However, even shared characteristics diverge at some point in the comparison. The similarities and differences between the two can be best viewed as a continuum. If the gas industry's experience in restructuring is to provide useful insights into the forthcoming restructuring of the electricity industry, it is important to understand where the parallels between the two industries may be predictive and where they may indicate limits.

Size

Based on aggregate company statistics, the electric power industry, with revenues from final sales of more than \$200 billion, is about four times as large as the regulated natural gas industry, which has final sales of about \$50 billion. However, this revenue comparison may understate the size of the natural gas industry, because as much as 36.5 percent of its final sales are made offsystem by firms that are not included in current statistical measures.⁶ However, if the offsystem gas deliveries to final consumers were valued at an approximation of their value, the estimated final revenues of the natural gas industry would still amount to only one-third of electric power sales to final consumers.⁷ As recently as 10 years ago, before a large numbers of gas customers had access to offsystem suppliers, final revenues from natural gas sales to final consumers were about one-half of electric power company revenues. However, as the natural gas industry has progressed through restructuring, prices to final consumers have fallen, which has reduced revenues. In real terms (adjusted for inflation), onsystem sales of natural gas show a price decline of 13 percent between 1990 and 1995. Over this same period, average real electric prices to final consumers have fallen by nearly 9 percent. Residential natural gas and electricity prices adjusted for inflation fell between 1990 and 1995 in each

Census Division except New England (Figures FE1 and FE2).

Products

A significant difference between the two industries lies in the nature of the products. Simply put, because gas is not perishable and can be compressed, it can be stored economically—at the production site, in storage facilities along the way to market, and in high-volume pipelines while in transit. This feature of gas means that it can be produced at the most desirable rate in the field, stored if necessary, and delivered later to consumers according to their needs.

In contrast, under current technology, there are few economical ways to store electric power; consequently, electricity must be produced when it is demanded. This means that reliable electric service depends on the production and transmission of power when it is needed. Moreover, because many electric appliances cannot function if the voltage varies from the level for which these devices were designed, electricity must be delivered to consumers at constant voltage levels.⁸ Electric transmission systems cannot be used to compensate for differences in supply and demand. Basically, electricity has to be produced at the desired strength when it is demanded. This feature of electricity, combined with the interactive network structure of the electric transmission grid, requires that the production, transmission, and consumption of electricity stay balanced within quite narrow tolerances.

In addition, the nature of basic activities of the natural gas and electric power industries is very different. Natural gas is extracted from large underground deposits. The location of gas production depends on regional geology and economics. Capital investments in gas production are tied to the locations of gas reservoirs and transportation facilities to move gas to markets.

By way of contrast, electricity is produced by a manufacturing process that can be located at a convenient site based on the economics of fuel supply, environmental conditions, and customers. Although both industries are capital intensive, a large share of the total value of the gas industry is tied up in holding and developing natural gas reserves. The electric power industry asset values tend to be concentrated in generating facilities, but these can be located to optimize value.

⁶Offsystem sales are gas purchases from third-party gas suppliers and not from local distribution companies.

⁷Revenue estimates for 1995 use the average commercial/industrial price for offsystem commercial sales and the average of the industrial/electric utility price for offsystem industrial sales.

⁸Many applications of electricity from computers to street lights could be destroyed by relatively small voltage variances in power inputs.

Figure FE1. Residential Natural Gas Prices by Census Division
(1995 Dollars per Million Btu)

Source: Energy Information Administration, *Natural Gas Annual 1994 and 1995* (November 1995 and 1996).

Figure FE2. Residential Electricity Prices by Census Division
(1995 Dollars per Million Btu)

Source: Energy Information Administration, *Electric Power Annual 1991 and 1995* (July 1992 and 1996).

Ownership

The natural gas industry is generally characterized by separate ownership of the individual stages of the industry. Reserves and gas production usually are owned by large mineral extraction companies, such as the major oil companies, or by independent gas producers. Traditionally there have been numerous gas producers. Interstate gas pipeline companies and natural gas marketers are usually owned as individual corporations, and gas distribution companies tend to be publicly owned either as stand-alone companies or in combination with electric utility companies.

But the electric utility industry is dominated by comprehensive vertical ownership of the stages of production. A single firm owns generation, transmission, and distribution. In the electric power industry, although there are many generators, about 75 percent belong to utilities that are vertically integrated into transmission and distribution functions. And, it is not uncommon for electric utilities to extend this vertical ownership further back to fuel production and transportation.

The organization of ownership was influenced by the way each industry developed and by ownership restrictions imposed on public utilities by the Public Utility Holding Company Act. The implications of these differences for restructuring are significant because the distribution of regulatory oversight is determined by the differences in ownership organization and because the firms in natural gas production generally lacked significant market power before restructuring began. Moreover, the largely unaffiliated ownership of gas production, transportation, and distribution creates a natural competitive tension among industry participants that is lacking in the electric power industry.

Before restructuring, interstate gas pipeline companies bought gas from producers, transported it, and then resold it to distribution companies at a price that included the cost of the commodity, transportation, storage, handling, and delivery. Gas distribution companies, in turn, bought gas as needed at the city gate (the point where gas enters the distributor's system) and delivered it to final consumers on its distribution system under a similar "all inclusive" bundled price.

The electric industry also defines its products as inclusive bundles covered by a single price. The only differences between the two industries on this point are the result of the differences in ownership structure. The arrangements between gas producers and pipeline companies and between pipelines and gas distribution companies are,

for the most part, established along standard commercial lines for transactions between unrelated companies. In the electric power industry, although there are commercial relationships among unrelated entities, a majority of the production, transportation and distribution relationships are arranged under an umbrella of affiliated entities.

Regulation

Perhaps the greatest parallel between the two industries is in the area of regulation. The regulatory histories of the two industries are closely intertwined. Federal regulation of both was established when the Federal Power Act and the Natural Gas Act were incorporated in the Public Utility Holding Company Act in 1935. The acts were passed in response to regulatory problems and financial irregularities that had developed as the industries grew beyond State boundaries and matured. This set of laws authorized Federal oversight of both the financial and structural organization of interstate electric power and gas companies. The legislation charged the Securities and Exchange Commission (SEC) with the financial and organizational oversight of interstate public utility holding companies. The then Federal Power Commission (now the Federal Energy Regulatory Commission (FERC)) was charged with oversight of interstate transportation and sales of natural gas and electric power.

The differing ownership structure of the two industries is largely a consequence of the restrictions placed on the organization of public utility companies in the Public Utility Holding Company Act (PUHCA) and the timing of the development of each industry. PUHCA subjects multi-State utility holding companies to intense financial review, restricts their operations to physically integrated electric systems, and severely limits their ability to diversify into any other business. Much of the national expansion of the natural gas industry occurred after the passage of PUHCA, while electric power was already nationwide at the time the act was passed. The SEC reshaped the electric power industry to bring it into compliance with PUHCA in the 15 years following the act's passage.

In addition to the statutory parallels, both industries usually are regulated by the same board or commission at both Federal and State levels; hence, there is a tendency for regulatory bodies to apply the same approaches to both industries. In part because of the statutory parallels, the courts also generally have treated the industries as though they were parallel. In general, both State and Federal economic regulation used cost-of-service ratemaking that constrains a firm's profitability.

Profits are limited to fair returns that are no higher than needed to compensate invested capital. Moreover, prices may not be unduly discriminatory. Therefore, it was very much in keeping with this historical precedent for FERC to refer to the history of restructuring of the gas industry as it initiated new Federal rules for the electric industry.⁹ FERC has relied on this regulatory parallelism to form the foundation for electric industry restructuring.

Jurisdiction

Differences in ownership result in differences in the extent of Federal authority over the two industries despite the parallels in their regulatory histories. Because of these ownership differences, FERC's regulation of interstate natural gas pipeline companies is for all practical purposes exclusive,¹⁰ while its authority over investor-owned firms in the electric power industry is limited to their interstate wholesale sales and transmission functions.¹¹ Because transmission functions are integrated by an interconnected transmission network, Federal authority over the price for electric transmission services overrides State authority in all States except Alaska, Hawaii, and Texas.¹² Thus, FERC has jurisdiction over prices on most of the transmission system.

These differences in law and industry structure give FERC comprehensive regulatory oversight of interstate pipeline companies' assets and activities, but leave it little ability to influence directly the production and distribution firms in the industry. FERC's authority in the electric power industry is restricted to wholesale sales and interstate transportation, but because firms in the industry are vertically integrated, most of them fall under FERC's jurisdiction for some regulated activities. In terms of economic impacts, FERC currently regulates all revenues of interstate gas pipeline companies but only

about 10 to 15 percent of the revenues of public utility electric power companies.

In addition, FERC has the direct authority to certify pipeline construction and provide eminent domain for pipeline routes, but it does not have the authority to review gas pipeline mergers. In the electric power industry, FERC has authority to approve mergers of electric utilities for the public interest, but it generally does not have approval authority over construction of facilities. Electric utility construction decisions fall under State authority. There is no FERC authority for eminent domain for electric transmission corridors.¹³

Transportation

Both gas and electric power are transported via a unique means limited to transporting the product for which it is designed.¹⁴ Neither gas nor electric energy can be transported economically by any means other than a dedicated pipe or transmission line. These specialized transportation facilities have other characteristics in common—both are capital intensive, embody large-scale economies, and require special right-of-ways. As a result, most regulators presume that these transportation systems are susceptible to monopoly control and will continue to require some form of economic regulation for the foreseeable future.

In some other respects, however, the two transportation systems are very different. Natural gas pipelines are independently operated, easily directed, relatively slow-moving flow systems; while the high-voltage, interconnected electric transmission grids are rapidly responding networks distinguished by high degrees of physical interdependence. As a result, gas pipelines can allow for much larger tolerances in operating conditions. Pipelines continue to function robustly under a wide variety of operating conditions.

Electricity transmission networks must be operated under very narrow tolerances and, because of their interdependence, require high degrees of coordination and information sharing to be reliable. One of the implications of these physical differences between gas pipelines and electric transmission systems is that the restructured industry's rules for physical access are likely

⁹Federal Energy Regulatory Commission, Order 888 (April 24, 1996).

¹⁰It should be noted that FERC does not have jurisdiction over all gas transmission. Gas pipelines restricted to intrastate operation are regulated by the States in which they operate and are not subject to FERC authority. These intrastate pipelines are a significant part of gas transportation capacity in some States, especially States that produce large quantities of gas such as Texas, Louisiana, and Oklahoma; however they may also play a prominent role in the gas transportation industry in some other States, especially California.

¹¹FERC does not regulate the rates of the Federal Power Marketing Administrations, such as the Bonneville Power Authority, but is required to review their proposed rates for consistency and financial responsibility. Other publicly owned electric utilities are not under FERC regulatory oversight.

¹²Neither Alaska nor Hawaii is interconnected to the interstate electric transmission grid. A large area of the State of Texas also is not interconnected with the rest of the country. Hence, electric sales and transmission functions escape FERC jurisdiction in much of that State.

¹³Only FERC's hydroelectric oversight authority includes transmission lines for these facilities.

¹⁴Gas can be converted to a liquid and transported, but the conditions for maintaining it in such a state require special transportation facilities, and the economics of the conversion process plus the specialized facilities have been in general too costly to make this type of gas transportation competitive with pipeline movements in North America.

to be more exacting for electric power than for gas. Consequently, to ensure continued reliable service, the standards for access to electricity transmission networks are likely to be more closely monitored than similar functions for natural gas pipelines.

Environment

Both the natural gas and electric power industries face problems related to the potential impacts of growing environmental concerns. Although both industries are required to mitigate environmental damages, the environmental compliance implications of the electric power industry restructuring appear to be far more extensive than the gas industry's.

The potential impacts of environmental compliance are greatest in natural gas production and electric power generation. Natural gas producers, however, face a rather comprehensive set of regulatory and legislative provisions that specify acceptable activities and allowable tolerances for environmental impacts. Within this framework, natural gas producers conduct operations in the most economically advantageous way while complying with environmental standards. Individual electric generators have not been subjected to a uniform set of performance requirements. At the generating level, units must collectively conform to an area's specified range of emission level limits. Restructuring has raised concerns that generator-use decisions will be made on the basis of lowest costs only, and it is feared that this will result in increased use of units that have lower costs but higher environmental impact.

Other

There are other similarities and differences between the two industries. For example, the distribution systems of both industries are also closely parallel. This parallel is demonstrated by the large number of utility companies that combined gas and electric distribution. Both types of operations traditionally relied on franchised monopoly delivery systems to deliver bundled services to final consumers.

These distribution functions both normally bundle auxiliary services along with products. This bundling of delivery functions with other associated qualities may make it difficult to extend competition to small scale consumers. In addition, distribution systems convey valuable right-of-ways that would be uneconomic to replicate for multiple suppliers. Efficient means of sharing rights or separating retail transportation from

supply and auxiliary services remain to be devised in both industries.

Lastly, the characteristics of the demand for natural gas and electricity are quite different. Electricity is almost universally distributed and it has many different applications. Neither of these characteristics are features of gas demand. Compared with electricity, gas distribution is limited in geographic scope and its applications are limited mostly to heat processes.¹⁵ In many applications, a number of fuels can be substituted directly for gas. Although some of these substitutions take substantial time and investment, there are many that do not. Consequently, in recent years natural gas demand has been considerably affected by prices of competing fuels.

On the other hand, there are no substitutes for electricity in many uses. Although the price elasticity of demand for electricity is still largely a matter of speculation, it is likely to be more inelastic than that of natural gas in both the short and long run. The differences in the demand characteristics of the two products may influence the final outcome of the industries' restructuring.

Issues in Restructuring

During restructuring, most industries tend to encounter similar issues. Since the natural gas industry has made significant progress toward a complete restructuring, opportunities for anticipating events in the electric power industry can be identified by understanding how progress in the gas industry has occurred.

Issue: Identifying the Forces of Change

Industry restructurings usually are grounded in inefficient practices that resist change and innovation. In regulated industries, such as natural gas and electric power, an initiating event sometimes appears to be a change in the regulatory framework, but the underlying cause is usually the result of major economic stress in the industry. Gas industry restructuring started as a response to pinned up supplies and inflexible contract practices.

¹⁵Feedstocks use less than 10 percent of annual domestic gas consumption. Except for ornamental uses, gas for lighting was displaced by electricity early in the century. Vehicular use of natural gas has grown substantially but accounts for less than 3 billion cubic feet of the 21,581 billion cubic feet of total consumption as of 1995. Heat processes are defined to include all types of cooling applications because these processes basically use heat reversal to accomplish the objective.

Electric industry restructuring was initiated by technological improvements.

In the natural gas industry, the initial stress can be traced back to price differences between interstate and intrastate markets.¹⁶ Starting in the early 1970's, expanding gas demand caused gas prices in interstate markets to rise to the levels of Federal price ceilings, where they were constrained. Once the price ceilings were binding, supply shortages began to appear sporadically.¹⁷ Prices in intrastate markets, by contrast, were free to reach levels that would allow demand to be fully satisfied. Additional inflexibility in interstate markets grew out of their tendency to use fixed-price, long-term supply contracts (some up to 30 years long).¹⁸ Since the intrastate markets were more flexible and price responsive, they tended to attract incremental gas supplies, thus worsening the supply situation in the interstate markets. Rising price pressures and fear of curtailments in interstate markets initially were met with increased regulation and legislation to set price-ceiling escalation schedules.¹⁹ In subsequent years, when mandated wellhead price-ceiling increases and demand conservation policies led to growing gas surpluses, it became generally recognized that wellhead gas-price regulation had not worked.²⁰

Some large consumers and distribution companies quickly tried to find ways to avoid buying high-priced

pipeline gas. They turned to spot markets where production surpluses led to prices much below the weighted average price of pipeline companies' contracted supplies. These customers sought arrangements that would permit them to purchase gas and transportation services separately. These arrangements could produce substantial savings over the pipeline companies' bundled products that included high-cost contract gas. Efforts by these large customers to reduce their own cost of delivered gas service set the stage for further restructuring of the gas industry.²¹

In the electric power industry, the opportunity to reduce significantly the average price and locational price differences of electric power grew out of experiences with generators exempted from wholesale price regulation under the Public Utility Regulatory Policies Act (PURPA). The coincidence of technological progress in gas turbine design along with the PURPA conservation experiments encouraged the building of nonutility generators at costs that, in some cases, were significantly below electric utilities' average costs. More than half of the generation capacity built under this program used gas-fired technology.

Unlike the situation in the gas industry, the vast majority of U.S. generating capacity is still owned and operated by integrated public electric utility companies. And, most of the newly built PURPA generating facilities are under long-term contracts to sell their output at wholesale to those same integrated utilities. Even after the passage of the EPACT provisions,²² the electric power industry lacks the pre-existing competitive supply conditions that characterized the natural gas production industry. Moreover, the electric industry has proportionately fewer unaffiliated distribution companies eager to find arms-length supplier arrangements. In addition, it remains more difficult for large customers to gain access to new electricity suppliers because of the shared Federal/State jurisdiction and limits at the Federal level that do not allow requiring electric retail customer access as was done in the natural gas industry.

Issue: Surviving the Transition

Transition issues fall into two classes. One type stems from the need to dispose of leftovers from the old

¹⁶Intrastate markets are regulated by the States in which they operate and are not subject to FERC authority.

¹⁷In addition to periodic curtailed deliveries, another effect of these shortages was moratoriums on hookups for new customers.

¹⁸This contract term structure was required by regulatory practices that emphasized reliability. For example, pipeline companies were required to demonstrate control of sufficient gas supplies to serve additional customers in order to get certificates to construct new facilities.

¹⁹Interstate pipeline company gas costs that were passed on to their customers were calculated as weighted averages of the companies' cost of gas, and included both old contracts with relatively low gas prices and newer contracts with relatively high gas prices. Over time, the proportion of high-cost gas in the supply mix rose causing the weighted average gas costs to rise. The Energy Information Administration chronicled the impact of these programs over time in a series of publications. Interesting historical insight into these events can be found, for example, in *Natural Gas Producer/Purchaser Contracts and Their Potential Impacts on the Natural Gas Market*, DOE/EIA-0330 (Washington, DC, June 1982); *Structure and Trends in Natural Gas Wellhead Contracts*, DOE/EIA-0419 (November 1983); *A Study of Contracts between Interstate Pipelines and Their Customers*, DOE/EIA-0449 (July 1984); and *An Analysis of Natural Gas Contracts—Volume III: Contract Provisions Covering Production of New Gas*, DOE/EIA-0505 (May 1987).

²⁰Many analysts have argued that Congress never intended price regulation to be applied to producers' gas prices under the Natural Gas Act. Although some regulation of extractive activities can be justified by economics, gas production never demonstrated the characteristics of monopoly control that are supposed to provide the rationale for regulation of prices and profits.

²¹FERC supported customers' efforts to arrange cost-saving gas supplies including some approval of pipeline companies' applications to bypass distribution companies.

²²The EPACT provisions permit unfettered entry into electric generation and wholesale access to industry-owned transmission facilities.

structure that are impeding needed changes. The second type encompasses issues associated with developing new institutions and conventions to promote efficient operation in a restructured industry. Some would argue that the leftover issues have to be resolved before the industry is able to concentrate on devising new institutions and conventions. Others believe that both types of transition issues can be worked on at the same time. Transition issues are important because they open opportunities for individual losses or gains. For this same reason, it may be hard to get the industry to agree to consensus solutions.

Dealing with the Old

One of the most contentious of the leftover issues is stranded costs—costs that cannot be recovered in a competitive market because the current book value of some assets, contracts, or other long-lived commitments exceeds their market value. Restructuring threatens to turn these excess book values into losses. The natural gas industry's stranded costs were mainly the result of pipeline company take-or-pay liabilities to gas producers under high-cost, long-term gas supply contracts.²³ These contracts guaranteed payments to gas producers whether or not the gas was taken on the contract schedule. When the demand for natural gas fell (because of rising prices and conservation), pipeline companies reduced gas takes from producers and incurred liabilities for gas they did not take.

Over time, this gas supply situation developed into a dilemma. Faced with falling demand and growing take-or-pay liabilities, the pipeline companies could try to limit the growth of liabilities by taking delivery of more expensive gas first. But this raised consumers' prices, further decreasing consumption and raising a chorus of complaints about price gouging. Alternatively, the pipeline companies could concentrate on holding down their gas costs and thereby try to retain their markets. But this strategy resulted in ever larger accumulations of take-or-pay liabilities that threatened to drive the pipeline companies into bankruptcy.

In the physical market, gas production capacity exceeded gas demand, and producers, rich on paper, experienced

declining cash flows.²⁴ In order to generate more cash, producers turned to selling increasing amounts of gas on the spot market. Spot market prices, which are highly sensitive to the differences between gas supply and demand, fell. Producers tried to maintain cash flow to compensate for falling prices by pumping more gas and sending it to the market. This exacerbated the oversupply of gas and put more downward pressure on wellhead gas prices. Falling spot prices induced increasing numbers of gas traders and consumers to seek opportunities to buy gas in the spot market and undercut the pipeline companies.

In intrastate markets, traditionally many customers had bought gas supplies and transportation services separately. Now, the interstate pipeline companies came under pressure to provide separate transportation services. In the face of declining revenues, some pipeline companies, realizing that transportation sales could provide relief for their revenue problems, began to offer some customers limited transportation services. Over time these efforts caused traditional gas pipeline industry practices to unravel.

The gas industry's accumulated total take-or-pay liabilities are estimated to have amounted to about \$50 billion.²⁵ This amount is more than 60 percent of the 1985 value of final gas sales to final consumers (in 1995 dollars).²⁶ The stranded costs of the electric industry are, as yet, unknown,²⁷ but many experts have estimated a value of about \$135 billion with other estimates ranging from \$50 billion to \$300 billion. In 1995 as a percent of the value of final electric industry sales (\$208 billion), these amounts would be equivalent to 65, 24, or 144 percent, respectively. Thus, the upper end of the estimated range of electric industry stranded costs would be

²⁴The take-or-pay liabilities accumulated as debt owed by the pipeline companies to the producers.

²⁵Jeffrey Leitzinger, "Gas Experience Can Steer Power Away From Deregulation Snags," *Oil and Gas Journal*, Vol. 94, No. 33 (August 12, 1996). Estimates are based on the pipeline companies' claims to recover in regulated rates their cost of mitigating these liabilities.

²⁶The year 1985 was chosen for this comparison because it is probable that liabilities peaked at about this time. Revenues from the sale of gas to final consumers were approximately \$78 billion in 1985. Revenues from final sales by gas companies reporting to EIA on Form EIA-176 have declined significantly since 1985 because offsystem sales have grown as a share of final consumption. In 1985, approximately 12 percent of sales to final customers were offsystem sales to industrial users. The revenue impact of these sales is included in estimated total final-sales revenues by using the price paid by electric utilities in that year as a proxy for offsystem industrial prices; this estimate may understate total revenues; however, the impact is less than 1 percent.

²⁷Stranded costs in the electric power industry are expected to arise from high-cost generating plants, high-cost power purchase contracts, and regulatory assets that cannot be recovered in competitive power markets.

²³The high-cost, long-term gas supply contracts were negotiated under price ceiling schedules set out in the Natural Gas Policy Act of 1978, which placed high price ceilings (based on expectations of ever increasing oil prices) on categories of incremental gas production from certain types of wells, such as wells deeper than 15,000 feet. These price schedules were legislated in an effort to encourage gas production to meet shortages in interstate gas markets.

proportionately much larger than was the case in the gas industry. However, at the low point, relative impacts could actually be less than half those experienced in the gas industry. Using the widely used estimate for the electric industry stranded costs of \$135 billion, the proportionate impact would be about the same as that experienced by the gas industry measured against 1985 revenues.

The story of how take-or-pay liabilities were resolved is in some ways instructive. Basically, these liabilities were shared among the producers, pipeline companies, distribution companies, and gas consumers.²⁸ Rate filings at FERC show that the interstate pipeline companies have filed to recover about \$10.4 billion in take-or-pay related costs.²⁹ Approximately \$3.6 billion of these take-or-pay costs will be absorbed by the pipeline companies and their shareholders.³⁰ The bulk of the debt was negotiated away in settlements between the pipeline companies and the producers over a period of years. In some cases, pipeline companies were credited with releasing gas that the producers then sold to other buyers; in other cases, producers credited gas sales to third parties against pipeline company take obligations.³¹ But in many cases, the gas producers, or the parties who held the gas contracts as collateral, had to adjust their wealth by accepting lower values for the contracts they held. Some of this reduction in value may have been partially shifted to general taxpayers. This transfer would occur if losses are used as adjustments or credits for the purpose of calculating income taxes.

Although consumers eventually paid a share of the cost of the take-or-pay settlements along with higher gas bills for the high-cost gas that was delivered to them, they paid far less than if the high-cost contracts had run to maturity. Had the gas industry not been deeply divided and under intense financial pressure, negotiations to share the take-or-pay costs might not have worked out in

the same proportions. Moreover, no one will ever know if gas industry restructuring would have moved quicker (and its benefits been realized faster) if the take-or-pay problem had been settled in the same fashion that FERC has chosen to use for stranded wholesale costs in the electric industry.³² FERC has ruled that electric utilities should recover 100 percent of their legitimate and verifiable stranded wholesale costs.³³ It certainly is true that arms-length negotiations among diverse interests that were instrumental in arriving at take-or-pay settlements in the gas industry are not possible among most generation, transmission, and distribution entities in the electric industry because they are vertically integrated.

Dealing with the New

The second type of transition issues—developing new institutions and practices—involves a wide expanse of functions, at least some of which are dictated by the previous structure and operational characteristics of individual industries. The natural gas industry has been quite successful in developing new institutions and practices to enhance restructured industry performance without raising a barrier of prohibitive transaction costs. These innovations range from improvements in the physical efficiency of the industry based on better pipeline utilization and expansions of the market center concept to the development of a whole new set of financial instruments that have revolutionized trading in natural gas.

In the physical gas market, improvements have centered on expanding pipeline capacity and developing rapid cycling gas storage facilities. Growth in unbundled short-term and spot markets appeared as though it might threaten reliability because production often is located great distances from consumption markets. Especially during the winter heating season, gas markets sometimes need to be able to move products quickly. But traditional gas markets that had been organized to move dedicated, bundled products to preassigned locations lacked the flexibility needed to respond to short-term changes in the quantity of product needed when markets changed. As the value of greater flexibility became more apparent, pipeline junctures began to expand to offer new exchange services and expanded storage capacity. The increasing value of storage coincided with the

²⁸Initially FERC encouraged this negotiated approach by allowing pipeline companies to pass along to customers shares of the buy-down costs of gas contracts in proportion to the buy-down costs that the pipeline companies absorbed. Later, FERC augmented this approach by providing incentives for producers to settle contracts. Eventually, the courts rejected FERC's sharing approach and instructed the Commission to allow the pipeline companies to recover these settlement costs. By that time however, many write-downs had already been accomplished and competitive price pressures reduced the pipeline companies' ability to pass through these costs to customers.

²⁹United States of America 78 FERC ¶ 61,186, Federal Energy Regulatory Commission, Docket Nos. RM91-11-006 and RM87-34-072, Order 636 C (February 27, 1997).

³⁰This omits the outcome of some pipeline bankruptcies, which spread some of the cost to creditors of the pipeline companies.

³¹Energy Information Administration, "Take-or-Pay Settlements," *Natural Gas Monthly*, DOE/EIA-0130(91/01) (Washington, DC, January 1991).

³²In Order 636 (issued in 1992), FERC revised its approach to recovery of pipeline take-or-pay costs, allowing pipeline companies to recover 100 percent of costs, subject to market conditions.

³³See FERC Order 888 (issued April 24, 1996) for a summary and conclusion to this debate before the Commission.

development of new, rapid turnaround salt cavern storage—matching enhanced capability with new value.

As time passed, pipeline pooling points, exchange locations, and enhanced storage facilities expanded to include additional services at some locations. These services included aggregating and compensating for imbalances, parking, lending, and paper as well as physical exchanges.³⁴ An interesting observation about the growth of market centers in the gas business is the variety of centers that has developed.³⁵ One reasonably might have expected that all surviving market centers would offer nearly the same set of services. But this has not been the case, as instead a variety of market centers have developed. This evolution in the functions of market centers demonstrates the flexibility of the restructured gas industry.

Along with the greater capability of the gas industry to handle and direct gas flows has come the development of new gas marketing companies, which has contributed to the expansion of the gas industry under restructuring. Aggressive gas marketers sought opportunities to add new clients and in the process changed relationships in the gas industry. It was the determination of the gas marketers who pursued profits, breaking up old pipeline customer networks and demanding open access conditions, that really made the industry change. According to a directory compiled by Benjamin Schlesinger & Associates, the number of gas marketer firms rose from 51 in 1986 to 353 in 1994 before falling off to 264 in 1996.³⁶ The decline in numbers in recent years represents some shaking out in gas marketing as consolidation has occurred and profits have been squeezed.

One immediate and direct spillover for the electric power industry that stems from the success of gas marketers has been the rapid entry of gas marketers into the electric power industry. More than 100 marketers have registered with FERC to trade in electric power. To date, however, most of the trade in electric power continues to be among the established participants in the industry. It appears that the integrated ownership structure of the electric power industry may inhibit the development of spot and short-term power markets. Many observers have pointed to the emergence of dual-product marketer

firms along with the accelerating pace of gas-electric mergers and acquisitions to demonstrate the evolution of an integrated energy market that could displace the historically separate markets in natural gas and electric power.

In fact, it is the growth from collection points at pipeline junctures to market centers that underlies one of the biggest successes of the new gas industry—the gas financial instruments industry. The development of a futures contract to provide risk management depended on having sufficiently large, flexible product markets to handle deliveries for contracts should a contract holder wish to accept delivery of the gas. The volume of open contracts on futures markets last year averaged 150,000 daily, while the volume during November and December, the busiest times of the year, was considerably higher. Similarly options trading has expanded to large numbers during the past few years. These financial instruments enhance the liquidity of gas markets and, at the same time, offer means of risk management that make the commodity market an acceptable way to trade gas in energy markets.

One noticeable event in gas markets has been the development of considerable price volatility in both product and financial markets. Price volatility is not limited to energy markets, but the amount of price swing in natural gas markets has caused concern, especially among the many small consumers who continue to be captive customers of local distribution companies. These customers expect average-cost retail prices that vary little during the year. But as restructuring has progressed in the gas industry, high seasonal price volatility appears to have become a regular feature of the market. Some observers attribute the increased price volatility in commodity markets to industry efforts to reduce the cost of holding inventories by adopting just-in-time management systems. Most individual consumers can do little to avoid these price problems. Perhaps the periodicity of price volatility will present an opportunity for arbitrage that will encourage traders to correct undue volatility.

Thus far, electric power commodity and financial markets have been slow to develop. Attempts to introduce futures contracts in two West Coast markets have had only limited responses. More recent efforts to open trading on the East Coast are just beginning, but until active, liquid commodity markets develop, there will be little demand for liquidity and risk management financial instruments. Hence, the development of forward, options, futures, and other financial instruments will probably continue to lag in electricity markets.

³⁴Energy Information Administration, *The Value of Underground Storage in Today's Natural Gas Industry*, DOE/EIA-0591 (Washington, DC, March 1995).

³⁵Energy Information Administration, *Natural Gas 1996: Issues and Trends*, DOE/EIA-0560(96) (Washington, DC, December 1996), Chapter 3.

³⁶Daniel Macey, "Portrait of the Salesman as a Young Artist," *Gas Daily's NG* (December 1996/January 1997), p. 35.

It can be argued that the gas industry had some advantages in developing new practices that are lacking in the electric industry. Intrastate gas markets provided an early model for some broader market-based activities in the gas industry. These intrastate markets included active spot markets for gas and experience in externalizing supply and transportation arrangements through contracts.³⁷ The collapse of the market in long-term gas supply contracts encouraged development of larger spot and short-term commodity markets for gas and created an opportunity for the rapid growth in these markets. It also created opportunities for new entrants to the market—gas brokers and marketers. These developments, in turn, gave rise to the development of financial instruments, such as forward, futures, and options markets, that provide improved liquidity and risk management instruments for commodity markets.³⁸

Success in gas market development has not been limited to product markets; there has also been significant growth in secondary markets for pipeline capacity since FERC issued Order 636. However, gas transportation markets have expanded less rapidly than the commodity markets.³⁹ Tradable pipeline capacity rights have not developed sufficiently to allow an assessment of the potential for converting physical to financial rights in transportation. Furthermore, uncertainties about future transportation rate structures and developments in unbundling in retail markets are creating capacity turnback problems for the pipelines. Pipeline companies are finding that their traditional customers, the distribution companies, are reducing the amount of firm pipeline capacity they are willing to reserve as retail monopolies disappear. When transportation contracts come up for renewal, many distribution companies may "turn back" (decline to renew) large percentages of the capacity they once reserved. Under the current pricing formula for firm transportation services by interstate pipelines, reservation or demand fees are designed to recover pipeline companies' fixed costs.⁴⁰ Turnbacks may

erode a pipeline company's income and threaten the company's financial health.

Difficulties in establishing successful new practices and conventions for gas pipeline transportation probably indicate that the electric power industry also will find it difficult to design satisfactory new ways to address these issues. One approach that is being tried in the electric power industry, Regional Transmission Associations (RTAs) and Independent System Operators (ISOs), has not been tried in the gas industry. These agents would create regional governing bodies or empower third-party transmission operators to control transmission. This type of central governing body was not needed to oversee the operations of gas pipelines and therefore, has no parallel in the gas industry.

One area where the electric power industry may have had a head start on the gas industry is in establishing electronic trading, information, and monitoring systems. This is one restructuring requirement that the gas industry has been slow to develop.⁴¹ The electric power industry, with the benefit of observing the gas industry's problems in achieving standardization, has turned to the North American Electric Reliability Council (NERC) and the Electric Power Research Institute (EPRI) to develop industry-wide standards and systems. This move appears to have speeded up development of electronic communication services in the electric power industry and been an improvement over the individual company systems that the gas industry tried to develop. Developing electronic information and trading systems for products and transportation rights may be one instance where it was an advantage to be second and to learn from others' mistakes.

Issue: Defining New Boundaries

While restructuring may modify regulation, it does not necessarily do away with it. One basic concept of restructuring in both the natural gas and electric power industries is that regulation will still have a major role, at least, in the transportation and local distribution areas. Thus, both industries are engaged in seeking new ways to interface regulated and unregulated activities.

After some experimentation in the gas industry, FERC concluded (Order 636) that pipeline companies needed to separate their gas sales operations from their

³⁷When the interstate gas system relied on pipeline companies to supply bundled services to local distribution companies, many supply, transportation, storage and handling activities were handled informally within the same company or family of companies. Once unbundled service became the general practice, most of these activities had to be arranged through formal contracts. The arrangements were in effect externalized and treated as third-party, arms-length arrangements even when the parties remained under the same corporate umbrella.

³⁸Energy Information Administration, *Natural Gas 1994: Issues and Trends*, DOE/EIA-0560(94) (Washington, DC, July 1994).

³⁹Energy Information Administration, *Natural Gas 1996: Issues and Trends*, DOE/EIA-0560(96) (Washington, DC, December 1996), Chapter 2.

⁴⁰Energy Information Administration, *Natural Gas 1994: Issues and Trends*.

⁴¹Significant progress has occurred during the past 2 years through the efforts of the Gas Industry Standards Board (GISB). Beginning April 1, 1997, the industry and FERC began implementation of standards designed to resolve problems with earlier electronic bulletin boards.

transportation activities, create open trading and transportation information systems, and agree to adhere to a new industry-wide standard of conduct. At the Federal level, FERC has invited innovations in transportation rate design, incentive regulation, negotiation, and arbitration. But the gas industry does not appear to have been eager to take up these challenges, perhaps fearing costly legal battles. Some State utility commissions are also studying ways to change distribution company regulations.⁴²

The Federal initiatives in the electric power industry appear to be modeled, as far as possible, on lessons learned in experimenting with the gas industry. One example of how this learning process has worked is shown by the detailed instructions provided by FERC for the new open access same-time information system (OASIS) mandated for trading in electric transmission capacity.⁴³ Unlike the gas bulletin boards, the electric power system will be standardized from the beginning. This appears to have speeded the first stage of the information system process for the electric power industry.

Because of the difference in industry ownership structure and the jurisdiction of regulators, the gas industry may provide only limited insight into problems of regulatory interface for retail unbundling. The gas industry has proceeded slowly in addressing the problems of universal retail competition.⁴⁴ In general, unbundling in the gas industry has been limited to wholesale traders and large customers. Some recent progress has been made in extending market choices to moderately sized industrial and commercial customers; but competitive choices for most retail customers, especially residential consumers, are at best only in the experimental stage in most States. This lack of progress in designing and implementing retail unbundling may be contributing to the Congressional debate over legislating retail access in electric power.⁴⁵

Concluding Observations

The gas and electric power industries share features that caused them to be regulated as monopolies in the past. However, their sizes, production techniques, and operating constraints indicated that restructuring of the electric industry may not exactly parallel the gas industry. Furthermore, the fundamental differences in the nature of the two products, natural gas and electricity, have important implications for the comparison of industry restructuring. Common issues in industry restructuring—such as identifying the changes, laying to rest the leftovers of old regulatory systems, substituting new institutions for old, and finding ways to achieve promised efficiency improvement and flexibility—require much effort. This brief review of restructuring developments in the natural gas industry has pointed out both successes and potential pitfalls in the process.

Restructuring is not just about realigning an industry and adjusting regulations; it also requires that firms, regulators, and consumers undergo cultural change. These changes are not easily or quickly accomplished. For example, regulated firms have spent years trying to please regulators. Even Wall Street compiled indexes to measure how friendly or unfriendly public utility commissions were in an effort to predict what the best investments would be. But in the restructured industries, regulators' good will may no longer be a good index of profitability and new indicators will have to be developed.

Experience in the gas industry also suggests that regulators seeking to direct restructuring so as to get the best outcome for the public need to act judiciously. Traditional cost-of-service regulation may be incompatible with regulation of firms with competitive activities. At the very least, regulators probably should not create new classes of regulated, cost-of-service businesses for regulated firms as part of the restructuring. For example, by including expenditures for new information systems in cost-of-service activities, regulators lessened the incentives for gas pipeline companies to seek the most efficient methods of creating electronic bulletin boards and trading centers.

Profit-motivated firms seek market advantages. This quest is a natural drive and the basis of competitive market discipline. There is no reason to believe that firms in transition from sanctioned, regulated monopolies to competitive markets will bypass opportunities to seek market power. In fact, one could argue that seeking market power is, in some sense, a competitive firm's obligation. But, when firms are moving from

⁴²Energy Information Administration, *Natural Gas 1996: Issues and Trends 1996*, Chapter 5.

⁴³See FERC Order 889, issued April 24, 1996. This rule contains standards for an electric power industry real-time information system that will reside on the Internet and conform to communication protocols set by the Commission.

⁴⁴See Energy Information Administration, *Natural Gas 1996: Issues and Trends*, Chapter 5.

⁴⁵See Energy Information Administration, *Natural Gas 1996: Issues and Trends*, Chapter 6 for information on the status of retail programs in 25 selected States. More recent data may reflect significant progress in States such as New Jersey, New York, Pennsylvania, and Georgia.

comprehensive regulation to mixed competitive/regulated environments, regulation may need to become more sensitive. For example, in both the natural gas and electric power industries, transportation involves many complicated parameters in addition to price. Designing a regime of equitable, open transportation access under these circumstances is difficult. Any ill-defined area invites efforts to find ways to exercise market power. In the gas industry, the so-called "grey markets" wherein transportation and product are rebundled outside the public trading systems are examples of how ambiguity in transition regulations can create suggestions of opportunistic behavior. Open, comparable, fair rules are needed to address these issues.

Gas industry restructuring, even if incomplete, has delivered very large benefits for the economy. Prices of gas to final consumers measured in nominal as well as constant dollars are significantly lower than they would have been under the old regime. The cost of transporting and handling gas has also fallen. All these restructuring improvements can be attributed to a variety of sources. Applied changes in technology, greater industry flexibility, better matches between products and customers' needs and competitively driven reductions in economic rents are among the improvements that have contributed to these gains.

These improvements have worked to the advantage of all gas customers. Direct and indirect benefits from these gains are felt throughout the economy. But, the direct benefits from gas industry restructuring have not been shared equally among all final consumers of gas. Big users—industrial and electricity generating facilities—have experienced much larger price reductions than have other consumers. While it is true that the buying habits and usage patterns of large customers are different from those of smaller customers, there can be no question that part of the large customers' successes in achieving low gas costs can be attributed to the opportunities they have to choose among competitive suppliers.

There is no good way to model a comparison between the results under current restructuring and the outcome that might have been obtained had competitive gas supply choices been available to a larger number and variety of consumers. But, in many quarters, there is a suspicion that the benefits of restructuring might have been larger if more consumers had been allowed to participate sooner. This suggests that restructuring will be more beneficial when the maximum number of customers has the ability to switch away from unsatisfactory suppliers without paying large price premiums.

Highlights

Overview

This issue of the *Natural Gas Monthly* presents the most recent estimates of natural gas supply, consumption, and prices from the Energy Information Administration. Estimates for many of the data series run through May 1997.

Preceding this section is the feature article, "Restructuring Energy Industries: Lessons From Natural Gas." The article compares and contrasts the natural gas and electric power industries, providing background for an evaluation of the benefits that may result as the electricity sector of the economy is restructured.

Highlights of the most recent natural gas data are:

- The national average wellhead price fell sharply (24 percent) from January to February 1997, yet the February 1997 price of \$2.73 per thousand cubic feet was 44 percent higher than the February 1996 price.
- Natural gas supplies in May 1997 showed little change from April levels. Dry production was 1,612 billion cubic feet in May 1997, or 52.0 billion cubic feet per day, approximately 1 percent below the daily rate in April 1997.
- Total natural gas consumption declined by 240 billion cubic feet from April to May 1997, reaching 1,636 billion cubic feet. Offsetting the drop in consumption, net injections into storage rose by 256 billion cubic feet as refill activity increased. Working gas in storage at the end of May 1997 is estimated to be 1,369 billion cubic feet.

Supply

Dry natural gas production is estimated to be 1,612 billion cubic feet in May 1997, or 52.0 billion cubic feet per day (Table 1). Daily production in May 1997 is approximately 1 percent below the daily rate in April 1997, but 1.5 percent higher than in May 1996. Cumulative production through May 1997 is virtually unchanged from the level during the same period in 1996 (Figure HI1).

Net imports of natural gas in May 1997 are estimated to be 243 billion cubic feet, or 7.8 billion cubic feet per day (Table 2). Thus, the daily rate of net imports follows the trend in production and is slightly lower (2 percent) in

May 1997 than in April. However, cumulatively, net imports through May 1997 have reached 1,233 billion cubic feet, which is 12 percent higher than during the first 5 months of 1996.

Net injections of natural gas into underground storage increased by 256 billion cubic feet from April to May 1997, as the storage refill cycle proceeds. Corresponding increases in production and imports were not required to meet storage refill needs because of the 240-billion-cubic-foot decline in total consumption during the period. The estimate of net injections in May 1997 (negative net withdrawals in Table 9) is 320 billion cubic feet, bringing the level of working gas in storage at the end of May to 1,404 billion cubic feet (Figure HI2).

Monthly working gas levels have exceeded those of the prior year every month beginning in December 1996, yet they are still among the lowest ever recorded (complete monthly records began in 1976). The estimate for May 1997 exceeds that of May 1996 by 21 percent, but it is the second lowest level recorded for the month of May.

The most recent estimate for net injections in April 1997 is 64 billion cubic feet, about half of the estimate published in the previous issue of the *Natural Gas Monthly*. The adjustment was made to reflect weekly estimates of storage activity from the American Gas Association, which are now available through the end of the April. Cooler-than-normal temperatures in several regions of the country in April had increased the use of natural gas for space heating during the month. Since 1987, net injections of natural gas during the month of April have ranged from a low of 18 billion cubic feet in 1992 to a high of 218 billion cubic feet in 1994. Net injections in April 1996 were 114 billion cubic feet, following the month that saw the lowest level of working gas ever recorded (755 billion cubic feet in March 1996).

End-Use Consumption

End-use natural gas consumption declined 14 percent from April to May 1997 as warmer weather in May dramatically reduced the need for space heating in the residential and commercial sectors. Total end-use consumption is estimated to be 1,479 billion cubic feet in May 1997 (Table 3).

Figure HI1. Natural Gas Production and Consumption, January-May, 1995-1997

Source: Table 2.

Figure HI2. Working Gas in Underground Storage in the United States, 1995-1997

Note: The 5-year average is calculated using the latest available monthly data. For example, the December average is calculated from December storage levels for 1992 to 1996 while the January average is calculated from January levels for 1993 to 1997. Data are reported as of the end of the month, thus October data represent the beginning of the heating season.

Sources: Form EIA-191, "Underground Natural Gas Storage Report," Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition," and Short-Term Integrated Forecasting System.

Estimates of residential and commercial natural gas consumption in May 1997 are 279 and 199 billion cubic feet, respectively, or 41 and 32 percent lower than in April 1997. These levels are 3 and 6 percent higher, respectively, than in May 1996. As was the case for net storage injections, the latest estimates for residential and commercial consumption in April 1997 have been adjusted to reflect higher use of natural gas, as temperatures turned cooler-than-normal during the month.

Industrial consumption of natural gas is estimated to be 737 billion cubic feet in May 1997. While this is 1 percent below the level in April 1997, it is 6 percent higher than in May 1996. Cumulatively through May, industrial consumption in 1997 is nearly 3 percent higher than in 1996. This is the only end-use sector showing a cumulative increase in natural gas use compared with last year (Figure HI3).

Electric utilities consumed an estimated 143 billion cubic feet of natural gas in February 1997 (the latest month available). This is 3 percent higher than in January 1997 and is the first time that consumption has increased from one month to the next since June 1996. Cumulatively, however, electric utility consumption from January through February 1997 is 8 percent below that of the same period in 1996.

Prices

Estimates of natural gas prices for February 1997 show declines from January 1997 in both the wellhead and industrial end-use prices, with little change in the other end-use sectors. However, all February 1997 prices are higher than a year ago.

The national average wellhead price declined sharply from January to February 1997, falling 24 percent to \$2.73 per thousand cubic feet (Table 4). However, wellhead prices in early 1997 remain significantly higher than in early 1996. The average 1997 wellhead price for January through February is an estimated \$3.16 per

thousand cubic feet, 59 percent above the level for the same period in 1996.

The drop in price from January to February follows the pattern shown on the spot market as reported in the trade press. The average daily spot price at the Henry Hub (average of the daily low and high) was above \$3.00 per million Btu during much of January 1997, peaking at \$4.65. However, during February 1997, average spot prices were \$2.65 per million Btu or lower throughout the month, falling to \$1.78 on February 28 (Figure HI5).

Estimates of residential and commercial natural gas prices for February 1997 differ from those of January 1997 by only 1 percent, with the residential sector increasing and the commercial sector declining. The February 1997 residential price is estimated to be \$6.76 per thousand cubic feet while the commercial price is \$5.98 per thousand cubic feet.¹ Prices in both sectors are higher than a year ago—17 percent higher for residential customers and 14 percent for commercial.

Onsystem industrial customers paid an estimated \$4.21 per thousand cubic feet for natural gas in February 1997, down 8 percent from the January 1997 price, but higher than the level of a year ago. The average industrial price for January through February 1997 is \$4.41 per thousand cubic feet, 27 percent above the average for the same period in 1996 (Figure HI4).

Electric utilities are estimated to have paid \$4.04 per thousand cubic feet for natural gas in January 1997 (the most recent data available). This is only 2 percent higher than in December 1996, but, as with the other price series, substantially higher than the level 1 year ago. The January 1997 estimate is 40 percent above the level of January 1996.

More recent price data from the spot and futures markets show some increase in price in April and May 1997 compared with the levels during March 1997. The increases, in part, can be attributed to cooler-than-normal temperatures in April and increased demand for natural gas as storage facilities begin to be replenished.

¹End-use prices in the residential, commercial, and industrial sectors are for onsystem gas sales only. While monthly onsystem sales are nearly 100 percent of residential deliveries, in 1996 they were from 59 to 77 percent of commercial deliveries and only 15 to 22 percent of industrial deliveries. A similar pattern is developing for 1997 (Table 4).

Figure HI3. Natural Gas Delivered to Consumers, January-May, 1995-1997

Note: The reporting of electric utility deliveries is 3 months behind the reporting of other deliveries.
Source: Table 3.

Figure HI4. Average Delivered and Wellhead Natural Gas Prices, January-February 1995-1997

Note: Commercial and industrial average prices reflect onsystem sales only. The reporting of electric utility prices is 1 month behind the reporting of other prices..
Source: Table 4.

Figure H15. Futures and Spot Prices at the Henry Hub and Average Wellhead Price

Note: The futures price is for the contract that is to terminate trading next on the futures market. The spot price is the midpoint of the high and low daily prices at the Henry Hub.

Sources: **Futures Prices:** Commodity Futures Trading Commission, Division of Economic Analysis. **Spot Prices:** Pasha Publications, Inc., *Gas Daily*. **Wellhead Prices:** Table 4.

Table 1. Summary of Natural Gas Production in the United States, 1991-1997
(Billion Cubic Feet)

Year and Month	Gross Withdrawals	Repressuring	Nonhydrocarbon Gases Removed ^a	Vented and Flared	Marketed Production (Wet)	Extraction Loss ^b	Dry Gas Production ^c
1991 Total	21,750	2,772	276	170	18,532	835	17,698
1992 Total	22,132	2,973	280	168	18,712	872	17,840
1993 Total	22,726	3,103	414	227	18,982	886	18,095
1994 Total	23,581	3,231	412	228	19,710	889	18,821
1995							
January	2,043	311	34	21	1,677	78	1,599
February	1,822	276	30	20	1,495	70	1,426
March	2,026	314	32	20	1,660	77	1,582
April	1,945	287	32	21	1,604	75	1,530
May	1,997	291	33	24	1,649	77	1,572
June	1,910	264	31	28	1,587	74	1,513
July	1,960	264	31	26	1,639	76	1,563
August	1,965	284	30	22	1,628	76	1,552
September	1,914	276	33	25	1,581	74	1,507
October	1,988	319	34	25	1,610	75	1,535
November	2,045	331	33	24	1,657	77	1,580
December	2,128	348	35	26	1,719	80	1,639
Total	23,744	3,565	388	284	19,506	908	18,599
1996							
January	^E 2,083	^E 327	^E 31	^E 25	^E 1,700	79	1,621
February	^E 1,955	^E 310	^E 29	^E 23	^E 1,593	74	1,518
March	^E 2,064	^E 328	^E 30	^E 22	^E 1,684	78	1,605
April	^E 2,012	^E 305	^E 31	^E 23	^E 1,653	77	1,576
May	^E 2,001	^E 285	^E 30	^E 22	^E 1,665	78	1,588
June	^E 1,954	^E 291	^E 28	^E 19	^E 1,616	75	1,541
July	^E 2,009	^E 288	^E 31	^E 22	^E 1,668	78	1,590
August	^E 2,021	^E 299	^E 31	^E 22	^E 1,669	78	1,591
September	^E 1,967	^E 301	^E 29	^E 21	^E 1,615	75	1,540
October	^E 2,028	^E 324	^E 30	^E 21	^E 1,654	77	1,577
November	^{RE} 2,041	^E 318	^E 29	^E 21	^{RE} 1,673	^E 78	^{RE} 1,595
December	^{RE} 2,140	^E 331	^E 31	^E 22	^{RE} 1,757	^E 82	^{RE} 1,675
Total	^{RE} 24,277	^E 3,708	^E 359	^E 263	^{RE} 19,947	^E 930	^R 19,017
1997							
January	^{RE} 2,080	^{RE} 327	^{RE} 29	^{RE} 20	^{RE} 1,704	^R 79	^R 1,624
February	^{RE} 1,887	^{RE} 294	^E 27	^E 19	^E 1,547	^E 72	^E 1,475
March	^E 2,093	^E 326	^E 30	^E 21	^E 1,716	^E 80	^E 1,636
April(STIFS)	NA	NA	NA	NA	^E 1,650	^E 77	^E 1,573
May(STIFS)	NA	NA	NA	NA	^E 1,691	^E 79	^E 1,612
1997 YTD	NA	NA	NA	NA	^E 8,305	^E 387	^E 7,917
1996 YTD	^E 10,116	^E 1,556	^E 151	^E 115	^E 8,294	387	7,908
1995 YTD	9,832	1,480	161	107	8,085	376	7,708

^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.

^R = Revised Data.

^E = Estimated Data.

^{RE} = Revised Estimated Data.

NA = Not Available.

Notes: Data for 1991 through 1995 are final. All other data are preliminary unless otherwise indicated and contain estimates for selected States (see Table 7). Estimates for the most recent two months are derived from the Short-Term Integrated Forecasting System (STIFS). Geographic coverage is the 50 States and the District of Columbia. Totals may not equal sum of components because of independent rounding.

Sources: 1991-1994: Energy Information Administration (EIA), *Natural Gas Annual 1995*. January 1996 through current month: Form EIA-895, "Monthly Quantity of Natural Gas Report," STIFS, and EIA estimates. 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, 1991-1997
(Billion Cubic Feet)

Year and Month	Dry Gas Production	Supplemental Gaseous Fuels ^a	Net Imports	Net Storage Withdrawals ^b	Balancing Item ^c	Consumption ^d
1991 Total	17,698	113	1,644	80	-500	19,035
1992 Total	17,840	118	1,921	173	-508	19,544
1993 Total	18,095	119	2,210	-36	-110	20,279
1994 Total	18,821	111	2,462	-286	-400	20,708
1995						
January	1,599	12	240	613	-60	2,403
February	1,426	10	223	531	17	2,207
March	1,582	10	236	228	42	2,098
April	1,530	7	220	-51	74	1,780
May	1,572	8	216	-343	115	1,567
June	1,513	8	202	-380	52	1,395
July	1,563	8	208	-313	30	1,497
August	1,552	8	223	-212	-24	1,548
September	1,507	7	216	-321	-17	1,393
October	1,535	9	224	-210	-72	1,486
November	1,580	10	224	278	-206	1,886
December	1,639	12	256	595	-181	2,321
Total	18,599	110	2,687	415	-230	21,581
1996						
January	1,621	14	237	699	^R -7	^R 2,564
February	1,518	12	215	447	^R 132	^R 2,325
March	1,605	12	209	324	^R 41	^R 2,192
April	1,576	11	209	-114	^R 145	^R 1,826
May	1,588	8	235	-328	68	1,570
June	1,541	10	212	-375	^R 71	1,458
July	1,590	10	221	-369	^R -13	^R 1,440
August	1,591	10	222	-345	^R -2	1,476
September	1,540	9	225	-364	^R -18	^R 1,393
October	1,577	10	237	-204	-97	1,523
November	^{RE} 1,595	^{RE} 12	236	264	^R -209	^R 1,898
December	^{RE} 1,675	^{RE} 8	^R 258	376	^R -75	^{RE} 2,242
Total	^{RE} 19,017	^{RE} 125	^R 2,715	11	^R 36	^{RE} 21,905
1997						
January	^R 1,624	12	^{RE} 264	672	^R -52	^R 2,521
February	^R 1,475	^R 11	^{RE} 234	356	^R 195	^R 2,270
March	^R 1,636	^R 11	^{RE} 253	156	^R 92	^{RE} 2,148
April (STIFS)	^R 1,573	^R 10	^R 240	^{RE} -64	^{RE} 117	^{RE} 1,876
May (STIFS)	^R 1,612	^R 9	^R 243	^R -320	^R 92	^R 1,636
1997 YTD	^R 7,917	^R 52	^R 1,233	^R 800	^R 444	^R 10,450
1996 YTD	7,908	57	1,104	1,029	379	10,477
1995 YTD	7,708	48	1,134	978	187	10,055

^a 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 .0026 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.

^b Monthly and annual data for 1991 through 1995 include underground storage and liquefied natural gas storage. Data for January 1996 forward include underground storage only. See Appendix A, Explanatory Note 7 for discussion of computation procedures.

^c Represents quantities lost and imbalances in data due to differences among data sources. See Appendix A, Explanatory Note 9, for full discussion.

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

^R = Revised Data.

^E = Estimated Data.

^{RE} = Revised Estimated Data.

Notes: Data for 1991 through 1995 are final. All other data are preliminary unless otherwise indicated. Estimates for the most recent two months are derived from the Short-Term Integrated Forecasting System (STIFS). Geographic coverage is the 50 States and the District of Columbia. Totals may not equal sum of components because of independent rounding.

Sources: 1991-1994: Energy Information Administration (EIA), *Natural Gas Annual 1995*, 1994-1995: EIA: Form EIA-627, "Annual Quantity and Value of Natural Gas Report" (1995 data only), Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers," Form EIA-191, "Underground Natural Gas Storage Report," Form FPC-14, "Annual Report for Importers and Exporters of Natural Gas," Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers," EIA computations and *Natural Gas Annual 1995*. January 1996 through current month: EIA, Form EIA-895, "Monthly Quantity of Natural Gas Report," Form EIA-857, Form EIA-191, EIA computations and estimates, Short-Term Integrated Forecasting System (STIFS) computations, and Office of Fossil Energy, U.S. Department of Energy, Natural Gas Imports and Exports. See Appendix A for discussion of computation and estimation procedures and revision policies.

Figure 1. Production and Consumption of Natural Gas in the United States, 1994-1998

Sources: 1993 through the current month: Table 2. Projected data: Energy Information Administration, *Short-Term Energy Outlook* (October 1996).

Table 3. Natural Gas Consumption in the United States, 1991-1997
(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	
1991 Total	1,129	601	4,556	2,729	7,231	2,789	17,305	19,035
1992 Total	1,171	588	4,690	2,803	7,527	2,766	17,786	19,544
1993 Total	1,172	624	4,956	2,863	7,981	2,682	18,483	20,279
1994 Total	1,124	685	4,848	^c 2,897	8,167	2,987	18,899	20,708
1995								
January	105	79	816	427	777	199	2,218	2,403
February	94	73	754	411	707	168	2,040	2,207
March	104	69	600	342	738	245	1,926	2,098
April	100	58	419	254	720	229	1,622	1,780
May	103	50	260	184	711	258	1,414	1,567
June	99	45	159	133	663	297	1,252	1,395
July	101	48	131	133	677	407	1,347	1,497
August	101	50	114	130	684	468	1,397	1,548
September	99	45	134	130	670	316	1,250	1,393
October	102	48	216	171	709	240	1,336	1,486
November	105	61	489	297	736	198	1,720	1,886
December	109	76	758	420	786	172	2,136	2,321
Total	1,220	700	4,850	^c 3,034	8,580	3,197	19,660	21,581
1996								
January	106	83	931	^a 482	^a 793	168	^a 2,374	^a 2,564
February	100	75	829	^a 443	^a 742	137	^a 2,150	^a 2,325
March	105	71	705	^a 391	763	156	^a 2,015	^a 2,192
April	103	59	474	^a 286	734	170	^a 1,663	^a 1,826
May	104	51	270	187	694	264	1,415	1,570
June	101	47	162	138	710	299	^a 1,309	1,458
July	104	47	125	^a 128	678	358	^a 1,289	^a 1,440
August	104	48	118	^a 127	711	367	^a 1,323	1,476
September	101	45	137	130	^a 694	285	^a 1,246	^a 1,393
October	104	49	241	175	727	226	1,370	1,523
November	105	62	^a 500	298	^a 764	170	^a 1,731	^a 1,898
December	110	73	^a 738	^a 414	^a 775	132	^a 2,059	^a 2,242
Total	1,249	711	^a 5,228	^a 3,201	^a 8,785	2,732	^a 19,946	^a 21,905
1997								
January	^a 107	82	^a 910	^a 479	804	139	^a 2,333	^a 2,521
February	^a 97	^a 74	768	^a 425	^a 763	143	^a 2,099	^a 2,270
March (STIFS)	^a 109	^a 69	^a 644	^a 363	^a 779	NA	^a 1,970	^a 2,148
April (STIFS)	^a 101	^a 62	^a 476	^a 293	^a 747	NA	^a 1,713	^a 1,876
May (STIFS)	^a 104	^a 53	^a 279	^a 199	^a 737	NA	^a 1,479	^a 1,636
1997 YTD ^d	^a 518	^a 339	^a 3,076	^a 1,760	^a 3,830	282	^a 9,593	^a 10,450
1996 YTD	519	340	3,208	1,789	3,726	305	9,617	10,477
1995 YTD	505	328	2,849	1,619	3,653	367	9,220	10,055

^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.

^c Total may not equal sum of the twelve months because gas volumes delivered for use as vehicle fuel are included in the annual total but not in the monthly components. Vehicle fuel deliveries were 1.7 billion cubic feet in 1994 and 2.7 billion cubic feet in 1995.

^d Year-to-date volume represents months for which volume information is available in the current year.

^a = Revised Data.

^e = Estimated Data.

^{re} = Revised Estimated Data.

NA = Not Available.

Notes: Data for 1991 through 1995 are final. All other data are preliminary unless otherwise indicated. Estimates for the most recent three months are derived from the Short-Term Integrated Forecasting System (STIFS). Geographic coverage is the 50 States and the District of Columbia. Totals may not equal sum of components because of independent rounding.

Sources: 1991-1994: Energy Information Administration (EIA): Form EIA-627, "Annual Quantity and Value of Natural Gas Report," Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers," Form EIA-759, "Monthly Power Plant Report," EIA computations, and *Natural Gas Annual 1995*. January 1996 through the current month: EIA: Form 895, "Monthly Quantity of Natural Gas Report," Form EIA-857, Form EIA-759, and STIFS computations. See Appendix A, Explanatory Note 5, for computation procedures and revision policy.

Figure 2. Natural Gas Deliveries to Consumers in the United States, 1993-1997

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

Table 4. Selected National Average Natural Gas Prices, 1991-1997
(Dollars per Thousand Cubic Feet)

Year and Month	Wellhead Price ^a	City Gate Price	Delivered to Consumers					
			Residential Price	Commercial		Industrial		Electric Utilities Price
				Price	% of Total ^b	Price	% of Total ^b	
1991 Annual Average	1.64	2.90	5.82	4.81	85.1	2.69	32.7	2.18
1992 Annual Average	1.74	3.01	5.89	4.88	83.2	2.84	30.3	2.36
1993 Annual Average	2.04	3.21	6.16	5.22	83.9	3.07	29.7	2.61
1994 Annual Average	1.85	3.07	6.41	5.44	79.3	3.05	25.5	2.28
1995								
January	1.62	2.79	5.85	5.23	81.6	2.95	27.3	2.13
February	1.48	2.71	5.76	5.14	81.7	2.85	27.4	2.00
March	1.47	2.74	5.84	5.12	81.2	2.74	26.5	1.92
April	1.52	2.72	6.06	5.08	77.2	2.57	25.4	1.97
May	1.55	2.80	6.54	5.04	71.8	2.54	23.6	2.06
June	1.58	2.89	7.49	5.16	71.4	2.44	24.5	2.06
July	1.43	2.89	7.82	5.03	67.3	2.34	22.2	1.90
August	1.43	2.87	8.13	4.99	66.6	2.26	21.8	1.84
September	1.52	2.89	7.73	4.98	67.9	2.42	22.0	1.95
October	1.54	2.83	6.62	4.82	69.7	2.44	22.5	2.09
November	1.61	2.67	5.61	4.77	75.6	2.68	24.7	2.22
December	1.84	2.83	5.54	5.00	79.2	3.07	25.0	2.58
Annual Average	1.55	2.78	6.06	5.05	76.7	2.71	24.5	2.02
1996								
January	2.08	3.13	5.60	^R 5.30	^R 76.3	3.38	^R 21.6	2.88
February	1.90	3.16	5.78	5.24	^R 76.9	3.54	^R 20.5	^R 3.07
March	2.03	3.17	5.89	^R 5.31	^R 74.6	3.51	19.3	^R 2.74
April	2.13	3.22	6.22	^R 5.29	^R 72.3	3.35	18.7	2.68
May	2.04	3.18	6.80	^R 5.34	^R 67.1	3.07	17.5	2.52
June	2.13	3.39	7.75	^R 5.37	^R 62.6	3.12	15.6	2.59
July	2.33	3.48	8.55	5.43	^R 60.7	3.19	17.2	2.69
August	2.19	^R 3.48	8.62	^R 5.54	^R 58.8	3.06	14.8	2.57
September	1.87	3.03	7.94	^R 5.44	^R 59.1	2.83	14.6	^R 2.24
October	1.93	2.93	^R 7.00	5.29	62.0	2.86	15.8	2.37
November	2.70	^R 3.47	^R 6.30	5.37	^R 68.6	^R 3.57	16.6	^R 3.05
December	3.53	4.20	^R 6.38	5.74	^R 70.9	^R 4.21	^R 18.1	3.98
Annual Average	2.25	3.34	^R 6.29	^R 5.38	^R 70.5	3.34	17.6	^R 2.69
1997								
January	3.58	^R 4.31	6.69	^R 6.07	^R 72.1	4.58	17.9	4.04
February	^R 2.73	3.73	6.76	5.98	71.2	4.21	16.3	NA
1997 YTD ^c	^R 3.16	4.06	6.72	6.03	71.7	4.41	17.2	4.04
1996 YTD	1.99	3.14	5.68	5.27	76.6	3.46	21.1	2.88
1995 YTD	1.55	2.75	5.81	5.19	81.6	2.90	27.0	2.13

^a See Appendix A, Explanatory Note 8, of the *Natural Gas Monthly* (NGM) for discussion of wellhead prices.

^b Percentage of total deliveries represented by onsystem sales, see Figure 6. See Table 24 for breakdown by State.

^c Year-to-date price represents months for which price information is available in the current year.

^R = Revised Data.

^E = Estimated Data.

NA = Not Available.

Notes: Data for 1991 through 1995 are final. All other data are preliminary unless otherwise indicated. Geographic coverage is the 50 States and the District of Columbia.

Sources: 1990-1994: Energy Information Administration (EIA) *Natural Gas Annual* 1995. 1994-1995 Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers," Form FERC-423, "Monthly Report of Cost and Quality of Fuels for Electric Plants," and EIA estimates. January 1996 through current month: See Appendix A, Explanatory Note 8 for estimation procedures and revision policy.

Figure 3. Average Price of Natural Gas Delivered to Consumers in the United States, 1993-1997

Source: Table 4.

Figure 4. Average Price of Natural Gas in the United States, 1993-1997

Source: Table 4.

Table 5. U.S. Natural Gas Imports, by Country, 1991-1997

(Volumes in Million Cubic Feet, Prices in Dollars per Thousand Cubic Feet)

Year and Month	Pipeline				LNG				Total	
	Canada		Mexico		Algeria		United Arab Emirates		Volume	Average Price
	Volume	Average Price	Volume	Average Price	Volume	Average Price	Volume	Average Price		
1991 Total	1,709,716	1.81	—	—	63,596	2.36	—	—	1,773,313	1.83
1992 Total	2,094,387	1.84	—	—	43,116	2.54	—	—	2,137,504	1.85
1993 Total	2,266,751	2.02	1,678	1.94	81,685	2.20	—	—	2,350,115	2.03
1994 Total	2,566,049	1.86	7,013	1.99	50,778	2.28	—	—	2,623,839	1.87
1995										
January	250,666	1.59	158	1.38	2,511	2.40	—	—	253,335	1.60
February	233,404	1.45	0	—	2,573	1.81	—	—	235,977	1.46
March	247,578	1.39	150	1.50	2,621	2.45	—	—	250,349	1.40
April	231,745	1.37	0	—	0	—	—	—	231,745	1.37
May	225,682	1.45	0	—	2,576	1.89	—	—	228,259	1.46
June	217,456	1.47	0	—	0	—	—	—	217,456	1.47
July	222,652	1.40	0	—	0	—	—	—	222,652	1.40
August	233,419	1.33	824	1.53	2,648	2.42	—	—	236,891	1.34
September	223,836	1.43	3,872	1.53	0	—	—	—	227,708	1.43
October	234,284	1.48	1,718	1.56	0	—	—	—	236,003	1.48
November	233,857	1.60	0	—	2,487	2.47	—	—	236,344	1.61
December	261,828	1.79	0	—	2,502	2.65	—	—	264,329	1.80
Total	2,816,408	1.48	6,722	1.53	17,918	2.30	—	—	2,841,048	1.49
1996										
January	247,111	2.04	1,498	2.03	2,460	2.81	0	—	251,070	2.05
February	225,127	1.96	698	2.14	2,512	2.79	0	—	228,338	1.97
March	219,987	1.90	1,259	2.17	2,599	3.06	0	—	223,845	1.91
April	212,618	1.80	1,392	2.18	4,559	2.50	0	—	218,570	1.81
May	236,444	1.72	4,067	2.15	2,612	2.58	0	—	243,123	1.73
June	223,051	1.71	712	2.35	0	—	0	—	223,763	1.71
July	231,167	1.78	1,304	2.57	2,642	3.00	0	—	235,114	1.79
August	236,581	1.77	31	1.70	2,629	2.56	0	—	239,241	1.78
September	232,622	1.67	771	1.69	0	—	2,524	3.34	235,917	1.69
October	242,698	1.98	1,110	2.36	5,116	2.96	0	—	248,924	2.00
November	243,835	2.28	981	2.85	5,031	2.60	0	—	249,847	2.29
December	262,173	2.71	96	3.29	5,164	2.61	2,425	3.57	269,858	2.71
Total	2,813,415	1.95	13,919	2.24	35,325	2.73	4,949	3.45	2,867,608	1.97
1997										
January	^R 264,919	NA	^{RE} 1,046	NA	7,560	NA	2,417	NA	^{RE} 275,942	NA
February	^{RE} 236,191	NA	^{RE} 1,443	NA	7,667	NA	0	—	^{RE} 245,301	NA
March	^E 262,331	NA	^E 2,403	NA	2,530	NA	0	—	^E 267,264	NA
1997 YTD	763,441	—	4,892	—	17,757	—	2,417	—	788,508	—
1996 YTD	692,226	1.97	3,455	2.10	7,572	2.89	0	—	703,252	1.98
1995 YTD	731,648	1.48	308	1.44	7,704	2.22	—	—	739,661	1.49

^R = Revised Data.

^E = Estimated Data.

^{RE} = Revised Estimated Data.

NA = Not Available.

— = Not Applicable.

Sources: 1991-1995: Energy Information Administration, Form FPC-14, "Annual Report for Importers and Exporters of Natural Gas." January 1995 through the current month (except estimates): Office of Fossil Energy, U.S. Department of Energy, *Natural Gas Imports and Exports*. Estimated pipeline data (shown with an "E") are taken from data from the National Energy Board of Canada plus EIA estimates. LNG data: Industry reports.

Table 6. U.S. Natural Gas Exports, by Country, 1991-1997
(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		
1991 Total	14,791	1.91	60,448	1.76	54,005	3.71	129,244	2.59
1992 Total	67,777	1.83	95,973	1.90	52,532	3.43	216,282	2.25
1993 Total	44,518	2.14	39,676	2.02	55,989	3.34	140,183	2.59
1994 Total	52,556	2.42	46,500	1.68	62,682	3.18	161,738	2.50
1995								
January	2,518	2.00	5,576	1.54	5,541	3.35	13,635	2.36
February	2,016	2.02	5,542	1.32	5,557	3.38	13,115	2.30
March	2,387	1.92	6,670	1.36	5,573	3.39	14,630	2.22
April	2,457	1.84	5,941	1.49	3,741	3.47	12,138	2.17
May	1,931	2.01	6,848	1.58	3,698	3.54	12,477	2.23
June	2,106	1.91	7,945	1.59	5,556	3.59	15,606	2.34
July	2,446	1.82	6,526	1.39	5,581	3.58	14,552	2.30
August	2,558	1.77	3,431	1.29	7,531	3.47	13,520	2.60
September	3,336	2.03	2,378	1.47	5,656	3.36	11,370	2.58
October	2,929	1.91	5,588	1.63	3,733	3.30	12,250	2.21
November	1,627	2.21	3,535	1.65	7,518	3.29	12,679	2.69
December	1,244	2.43	1,303	1.82	5,599	3.31	8,146	2.94
Total	27,554	1.96	61,283	1.50	65,283	3.41	154,119	2.39
1996								
January	6,856	3.22	1,608	1.98	5,534	3.38	13,998	3.14
February	5,275	2.74	2,000	1.82	5,619	3.29	12,894	2.84
March	6,785	2.80	2,861	1.81	5,642	3.55	15,288	2.89
April	2,430	2.22	1,924	1.69	5,653	3.57	10,007	2.88
May	2,809	2.15	1,900	1.84	3,750	3.61	8,459	2.72
June	3,001	2.25	3,486	2.15	5,651	3.65	12,138	2.87
July	3,776	2.45	3,061	2.23	7,546	3.66	14,383	3.04
August	2,197	2.30	9,176	2.11	5,667	3.67	17,040	2.65
September	2,514	1.94	2,389	1.73	5,661	3.73	10,564	2.85
October	4,312	1.97	1,989	1.85	5,588	3.84	11,889	2.83
November	6,473	2.76	1,533	2.56	5,670	4.01	13,676	3.25
December	4,437	3.75	1,916	3.72	5,661	3.73	12,014	3.73
Total	50,865	2.67	33,843	2.11	67,642	3.64	152,350	2.98
1997								
January	RE4,436	NA	RE1,756	NA	5,604	NA	RE11,797	NA
February	RE4,670	NA	RE1,457	NA	5,596	NA	RE11,724	NA
March	E6,949	NA	E1,226	NA	5,675	NA	E13,850	NA
1997 YTD	E16,055	NA	E4,440	NA	16,876	NA	E37,371	NA
1996 YTD	18,916	2.94	6,469	1.86	16,795	3.41	42,180	2.96
1995 YTD	6,920	1.98	17,788	1.40	16,671	3.37	41,380	2.29

E = Estimated Data.

RE = Revised Estimated Data.

NA = Not Available.

Sources: 1991-1995: Energy Information Administration, Form FPC-14, "Annual Report for Importers and Exporters of Natural Gas." January 1995 through the current month (except estimates): Office of Fossil Energy, U.S. Department of Energy, *Natural Gas Imports and Exports*. Estimated pipeline data (shown with an "E") are taken from data from the National Energy Board of Canada plus EIA estimates. LNG data: Industry reports.

Table 7. Marketed Production of Natural Gas, by State, 1991-1997
(Million Cubic Feet)

Year and Month	Alabama ^b	Alaska	Arizona	California	Colorado	Florida	Kansas
1991 Total	170,847	437,822	1,225	378,384	285,961	4,884	628,459
1992 Total	355,099	443,597	771	365,632	323,041	6,657	658,007
1993 Total	388,024	430,350	597	315,851	400,985	7,085	686,347
1994 Total	515,272	555,402	752	309,427	453,207	7,486	712,730
1995							
January	43,456	43,391	43	24,674	47,253	559	64,211
February	39,652	38,966	40	22,028	41,958	570	60,635
March	43,734	43,037	43	23,829	45,291	598	59,382
April	42,727	39,714	42	22,819	45,021	578	59,555
May	44,169	39,308	44	23,055	45,187	604	61,639
June	42,737	35,781	40	22,145	42,589	535	58,686
July	45,521	36,246	50	22,545	43,042	537	59,830
August	45,244	35,724	58	22,584	43,105	502	58,451
September	37,523	36,488	53	22,276	41,295	508	53,756
October	45,123	39,695	52	24,100	45,563	475	58,743
November	44,954	39,324	48	24,188	45,440	497	60,691
December	44,820	41,874	44	25,312	37,338	502	65,856
Total	519,661	469,550	558	279,555	523,084	6,463	721,436
1996							
January	32,816	44,811	41	20,482	44,982	518	62,504
February	30,858	40,581	42	22,766	40,221	493	62,213
March	33,269	43,896	45	24,525	46,594	460	62,554
April	31,604	39,838	36	23,836	41,542	456	60,401
May	32,749	36,479	39	23,932	45,656	483	61,727
June	31,136	37,470	45	23,137	40,521	503	55,896
July	30,947	37,404	30	24,356	37,626	500	56,667
August	31,157	37,379	43	24,405	38,378	540	54,730
September	30,030	38,181	31	23,683	44,665	537	50,729
October	30,029	41,339	34	24,090	48,808	468	57,158
November	31,598	40,859	37	24,307	^a 49,394	517	^a 58,021
December	32,684	44,325	40	24,998	^a 50,578	531	^a 60,434
Total	378,877	482,563	463	284,518	^a 528,965	6,006	^a 703,034
1997							
January	32,136	45,409	46	24,427	47,843	525	^a 59,474

See footnotes at end of table.

Table 7. Marketed Production of Natural Gas, by State, 1991-1997

(Million Cubic Feet) — Continued

Year and Month	Louisiana	Michigan	Mississippi	Montana	New Mexico	North Dakota	Oklahoma
1991 Total	5,034,361	195,749	108,031	51,999	1,038,284	53,479	2,153,852
1992 Total	4,914,300	194,815	91,697	53,867	1,268,863	54,883	2,017,356
1993 Total	4,991,138	204,635	80,695	54,528	1,409,429	59,851	2,049,942
1994 Total	5,169,705	222,657	63,448	50,416	1,557,689	57,805	1,934,864
1995							
January	437,237	22,536	7,664	4,919	134,508	4,284	160,707
February	386,483	7,882	6,874	4,278	125,334	3,933	143,517
March	417,303	31,418	7,651	4,716	136,983	4,410	154,640
April	411,156	17,507	7,408	4,381	131,657	4,111	148,305
May	432,964	19,427	8,138	4,153	137,827	4,313	149,369
June	412,412	25,052	7,836	3,420	130,688	4,186	143,346
July	432,943	23,349	7,959	3,493	132,372	3,615	145,565
August	420,784	19,129	8,685	3,570	138,073	4,128	145,609
September	422,232	21,698	8,783	3,734	134,030	4,129	143,565
October	401,813	19,548	8,429	4,345	139,330	4,239	156,378
November	452,671	15,086	7,874	4,566	140,166	4,019	156,667
December	480,368	15,569	8,233	4,690	144,869	4,101	164,066
Total	5,108,366	238,203	95,533	50,264	1,625,837	49,468	1,811,734
1996							
January	^E 457,580	22,482	8,089	4,503	^E 143,656	4,109	^E 160,437
February	^E 427,338	19,173	7,386	4,266	^E 133,884	3,753	^E 147,253
March	^E 448,513	11,499	8,385	4,443	^E 146,302	4,048	^E 154,752
April	^E 435,818	32,907	8,225	4,098	^E 140,455	3,924	^E 148,412
May	^E 452,471	18,490	9,026	4,244	^E 147,208	4,106	^E 149,174
June	^E 437,816	24,185	8,983	3,496	^E 139,613	3,847	^E 144,004
July	^E 460,981	27,825	9,335	3,603	^E 132,637	3,894	^E 145,901
August	^E 459,033	23,866	9,193	4,050	^E 134,516	4,066	^E 146,102
September	^E 448,022	20,734	8,641	4,172	^E 129,296	4,153	^E 143,935
October	^E 435,727	20,904	8,996	4,625	^E 130,917	4,268	^E 155,859
November	^E 470,333	16,612	8,487	^E 4,714	^E 131,772	4,134	^E 156,333
December	^E 494,812	^R 13,930	8,518	^E 4,906	^E 136,236	4,178	^E 163,208
Total	^E 5,428,444	^R 252,606	103,263	^E 51,119	^E 1,646,492	48,479	^E 1,815,370
1997							
January	^E 448,338	35,849	8,089	^E 4,879	^E 134,562	4,035	^E 150,892

See footnotes at end of table.

Table 7. Marketed Production of Natural Gas, by State, 1991-1997
(Million Cubic Feet) — Continued

Year and Month	Oregon	Texas	Utah	Wyoming	Other ^a States	U.S. Total
1991 Total	2,741	6,280,654	144,817	776,528	^R 784,362	18,532,439
1992 Total	2,580	6,145,862	171,293	842,576	^R 800,913	18,711,808
1993 Total	4,003	6,249,624	225,401	634,957	^R 788,472	18,981,915
1994 Total	3,221	6,353,844	270,858	696,018	^R 774,724	19,709,525
1995						
January	279	528,857	22,354	62,919	^R 66,793	1,676,643
February	214	479,553	21,686	50,369	^R 61,412	1,495,384
March	208	538,515	25,813	57,602	^R 64,520	1,659,694
April	150	523,631	24,529	59,544	^R 61,326	1,604,162
May	137	539,311	22,498	54,039	^R 62,505	1,648,688
June	135	526,759	15,626	51,792	^R 63,229	1,586,994
July	150	548,617	17,120	55,403	^R 61,116	1,639,474
August	139	545,415	17,676	57,125	^R 62,212	1,628,213
September	128	520,687	18,447	51,741	^R 59,787	1,580,857
October	128	524,049	16,987	57,494	^R 63,766	1,610,256
November	126	522,744	18,062	56,956	^R 62,910	1,656,989
December	130	531,909	20,493	58,792	^R 70,151	1,719,118
Total	1,923	6,330,048	241,290	673,775	^R759,728	19,506,474
1996						
January	120	543,853	19,998	62,922	^{RE} 66,547	^{RE} 1,700,449
February	75	514,791	18,027	58,344	^{RE} 61,145	^{RE} 1,592,612
March	105	546,612	21,650	61,854	^{RE} 64,094	^{RE} 1,683,599
April	121	532,218	20,864	66,987	^{RE} 60,873	^{RE} 1,652,614
May	140	537,408	21,035	58,990	^{RE} 61,783	^{RE} 1,665,140
June	132	529,989	20,759	51,535	^{RE} 62,926	^{RE} 1,615,991
July	146	546,323	20,573	62,384	^{RE} 67,056	^{RE} 1,668,188
August	117	549,279	21,137	62,393	^{RE} 68,607	^{RE} 1,668,992
September	132	519,341	21,589	61,413	^{RE} 65,879	^{RE} 1,615,164
October	134	538,164	22,152	60,089	^{RE} 70,267	^{RE} 1,654,027
November	113	527,176	21,606	57,830	^{RE} 69,602	^{RE} 1,673,447
December	102	557,347	21,376	61,104	^{RE} 77,463	^{RE} 1,756,770
Total	1,439	6,442,501	250,767	725,845	^{RE}796,241	^{RE}19,946,992
1997						
January	105	560,683	^E 20,601	53,272	^E 72,637	^E 1,703,802

^a Includes Arkansas, Illinois, Indiana, Kentucky, Maryland, Missouri, Nebraska, Nevada, New York, Ohio, Pennsylvania, South Dakota, Tennessee, Virginia and West Virginia. The 1996 and 1997 monthly values for these States are estimated.

^b The 1992, 1993, 1994, and 1995 monthly and annual values include Federal Offshore production.

^R = Revised Data.

^E = Estimated Data.

^{RE} = Revised Estimated Data.

Notes: Data for 1990 through 1995 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: 1990-1993: Energy Information Administration (EIA), *Natural Gas Annual 1995* 1994 through current month: Form EIA-895, "Monthly Quantity of Natural Gas Report," Minerals Management Service reports, and EIA computations.

**Table 8. Gross Withdrawals and Marketed Production of Natural Gas by State,
January 1997**
(Million Cubic Feet)

State	Gross Withdrawals			Repressuring	Nonhydro- carbon Gases Removed ^a	Vented and Flared	Marketed Production
	From Gas Wells	From Oil Wells	Total				
Alabama	35,782	1,016	36,798	2,132	2,377	153	32,136
Alaska	17,455	287,852	305,307	259,335	0	563	45,409
Arizona	38	8	46	0	0	0	46
California	6,819	25,946	32,765	8,205	90	44	24,427
Colorado	41,273	7,184	48,457	543	0	72	47,843
Florida	0	593	593	0	69	0	525
Kansas	[£] 52,479	[£] 7,156	[£] 59,635	[£] 101	0	[£] 60	[£] 59,474
Louisiana	[£] 394,535	[£] 59,310	[£] 453,844	[£] 3,559	0	[£] 1,947	[£] 448,338
Michigan	29,057	7,264	36,321	195	0	277	35,849
Mississippi	9,510	491	10,000	865	829	217	8,089
Montana	[£] 4,332	[£] 588	[£] 4,920	[£] 6	0	[£] 35	[£] 4,879
New Mexico	[£] 116,081	[£] 19,676	[£] 135,757	[£] 784	[£] 271	[£] 139	[£] 134,562
North Dakota	1,459	2,973	4,432	110	6	282	4,035
Oklahoma	[£] 126,872	[£] 24,020	[£] 150,892	0	0	0	[£] 150,892
Oregon	122	0	122	3	15	0	105
Texas	497,144	120,275	617,420	39,951	14,189	2,597	580,683
Utah	[£] 18,351	[£] 3,718	[£] 22,069	[£] 132	0	[£] 1,336	[£] 20,601
Wyoming	77,928	8,505	86,433	10,472	11,337	11,352	53,272
Other States	[£] 69,954	[£] 3,980	[£] 73,934	[£] 658	0	[£] 638	[£] 72,637
Total	[£]1,499,189	[£]580,559	[£]2,079,747	[£]327,051	[£]29,182	[£]19,712	[£]1,703,802

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

[£] = Estimated Data.

Notes: All monthly data are considered preliminary until publication of the Natural Gas Annual for that year. 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.

Source: Form EIA-895, "Monthly Quantity of Natural Gas Report."

Table 9. Underground Natural Gas Storage - All Operators, 1991-1997
(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 Withdrawals ^c
1991 Total	3,954	2,824	6,778	-244	-8.0	2,608	2,689	80
1992 Total	4,044	2,597	6,641	-227	-8.0	2,555	2,724	168
1993 Total	4,327	2,322	6,649	-275	-10.6	2,760	2,717	-43
1994 Total	4,360	2,606	6,966	284	12.2	2,796	2,508	-288
1995								
January	4,365	2,045	6,410	466	29.5	45	644	599
February	4,368	1,542	5,910	451	41.4	44	564	519
March	4,362	1,332	5,694	374	39.0	104	327	223
April	4,360	1,379	5,740	207	17.7	177	127	-49
May	4,393	1,668	6,061	114	7.3	369	34	-335
June	4,406	2,014	6,420	118	6.2	410	40	-371
July	4,340	2,301	6,641	28	1.2	359	54	-306
August	4,339	2,495	6,834	-112	-4.3	293	86	-207
September	4,341	2,802	7,143	-110	-3.8	343	29	-313
October	4,338	2,996	7,334	-79	-2.6	274	68	-205
November	4,342	2,728	7,070	-249	-8.4	96	367	272
December	4,349	2,153	6,503	-453	-17.4	53	635	582
Total	—	—	—	—	—	2,566	2,974	408
1996								
January	4,348	1,461	5,809	-584	-28.6	48	746	699
February	4,342	1,019	5,361	-522	-33.9	95	542	447
March	4,284	755	5,039	-577	-43.3	77	401	324
April	4,306	851	5,156	-529	-38.3	225	111	-114
May	4,325	1,158	5,483	-511	-30.6	371	43	-328
June	4,334	1,525	5,860	-489	-24.3	408	33	-375
July	4,329	1,893	6,223	-408	-17.7	415	46	-369
August	4,326	2,240	6,566	-255	-10.2	396	50	-345
September	4,331	2,597	6,928	-205	-7.3	393	29	-364
October	4,329	2,800	7,128	-196	-6.6	272	68	-204
November	4,333	2,544	6,878	-184	-6.8	88	351	264
December	4,335	2,170	6,505	17	0.8	85	461	376
Total	—	—	—	—	—	2,872	2,883	11
1997								
January	4,334	1,497	5,831	36	2.4	59	732	672
February	4,336	1,154	5,491	135	13.3	49	405	356
March	^R 4,331	^R 985	^R 5,316	^R 230	^R 30.4	^R 124	^R 280	156
April(STIFS)	^{RE} 4,331	^{RE} 1,049	^{RE} 5,380	^{RE} 198	^{RE} 23.3	NA	NA	^{RE} 64
May(STIFS)	^E 4,331	^E 1,404	^E 5,700	^E 247	^E 21.3	NA	NA	^E 320

^b Total underground storage capacity at the end of each calendar year (in billion cubic feet): 1991 - 7,993; 1992 - 7,932; 1993 - 7,989; 1994 - 8,043; and 1995 - 7,927.

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

^R = Revised Data.

^E = Estimated Data.

^{RE} = Revised Estimated Data.

NA = Not Available.

— = Not Applicable.

Notes: Data for 1991 through 1995 are final. All other data are preliminary unless otherwise noted. Estimates for the most recent two months are derived from the Short-Term Integrated Forecasting System (STIFS). See Explanatory Note 7 of the *Natural Gas Monthly* 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. In January 1995, 2 billion cubic feet was added to base gas for two new respondents. Positive net withdrawals indicate the volume of withdrawals in excess of injections. Negative net withdrawals indicate the volume of injections in excess of withdrawals.

Sources: Form EIA-191, "Underground Natural Gas Storage Report," Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition," and STIFS.

Figure 5. Underground Natural Gas Storage in the United States, 1993-1997

Sources: Energy Information Administration, Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers" and Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition."

Table 10. Underground Natural Gas Storage - Interstate Operators of Storage Fields, 1991-1997

(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 Withdrawals
1991 Total ^a	2,571	1,985	4,556	-218	-9.9	1,904	2,015	111
1992 Total ^a	2,652	1,819	4,471	-166	-8.4	1,838	1,940	102
1993 Total ^a	2,939	1,531	4,470	-288	-15.8	1,911	1,894	-17
1994 Total ^a	2,960	1,743	4,703	212	13.8	1,913	1,701	-213
1995								
January	2,957	1,336	4,293	330	32.8	27	449	422
February	2,958	956	3,914	276	40.6	20	404	384
March	2,955	804	3,759	228	39.6	66	225	159
April	2,954	845	3,799	97	13.0	122	78	-43
May	2,956	1,067	4,024	43	4.2	250	17	-233
June	2,962	1,324	4,287	55	4.3	292	23	-268
July	2,896	1,543	4,438	3	0.2	257	28	-229
August	2,893	1,700	4,593	-90	-5.0	208	45	-163
September	2,894	1,906	4,800	-86	-4.3	225	16	-209
October	2,891	2,016	4,907	-78	-3.7	162	48	-114
November	2,895	1,785	4,680	-226	-11.3	38	272	234
December	2,899	1,372	4,271	-371	-21.3	25	442	417
Total	—	—	—	—	—	1,692	2,048	356
1996								
January	2,897	913	3,810	-423	-31.7	23	483	460
February	2,894	617	3,511	-339	-35.5	60	359	299
March	2,855	432	3,287	-371	-46.2	44	269	225
April	2,868	500	3,368	-345	-40.8	152	73	-79
May	2,885	706	3,590	-362	-33.9	250	27	-223
June	2,893	971	3,864	-354	-26.7	286	16	-270
July	2,892	1,273	4,164	-270	-17.5	313	17	-296
August	2,889	1,551	4,440	-149	-8.8	291	14	-277
September	2,893	1,803	4,696	-103	-5.4	269	12	-257
October	2,893	1,927	4,820	-89	-4.4	170	46	-124
November	2,893	1,704	4,596	-81	-4.6	40	264	224
December	2,894	1,449	4,343	78	5.7	47	304	257
Total	—	—	—	—	—	1,946	1,884	-62
1997								
January	2,893	990	3,883	77	8.4	38	498	461
February	2,895	760	3,655	143	23.2	32	276	245
March	2,885	627	3,512	195	45.0	72	195	123

^a Total as of December 31.

^b Total underground storage capacity at the end of each calendar year (in billion cubic feet): 1991 - 5,512; 1992 - 5,524; 1993 - 5,367; 1994 - 5,351; and 1995 - 5,314.

— = Not Applicable.

Notes: Data for 1991 through 1995 are final. All other data are preliminary unless otherwise noted. See Explanatory Note 7 of the *Natural Gas Monthly* 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. Positive net withdrawals indicate the volume of withdrawals in excess of injections. Negative net withdrawals indicate the volume of injections in excess of withdrawals.

Sources: Form EIA-191, "Underground Natural Gas Storage Report," and Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition."

Table 11. Underground Natural Gas Storage - Intrastate Operators and Independent Producers, 1991-1997
(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 Withdrawals
1991 Total ^a	1,383	839	2,221	-25	-2.9	705	674	-31
1992 Total ^a	1,392	778	2,170	-61	-7.3	717	784	67
1993 Total ^a	1,388	791	2,179	13	1.7	826	802	-24
1994 Total ^a	1,400	864	2,263	73	9.2	882	807	-75
1995								
January	1,409	709	2,118	136	23.7	17	195	177
February	1,410	586	1,995	175	42.6	24	160	136
March	1,407	528	1,935	146	38.2	38	102	64
April	1,406	535	1,941	111	26.1	55	49	-6
May	1,437	601	2,037	70	13.3	120	17	-103
June	1,443	690	2,133	83	10.0	119	16	-102
July	1,444	759	2,203	25	3.4	102	25	-77
August	1,446	795	2,241	-22	-2.7	85	41	-44
September	1,447	896	2,343	-24	-2.6	118	14	-104
October	1,446	980	2,427	-1	-0.1	112	20	-91
November	1,447	944	2,390	-23	-2.4	57	95	38
December	1,450	782	2,232	-82	-9.5	28	192	165
Total	—	—	—	—	—	874	926	52
1996								
January	1,451	548	1,999	-161	-22.7	24	263	239
February	1,448	403	1,851	-183	-31.2	34	183	148
March	1,429	323	1,752	-205	-38.8	33	133	99
April	1,438	351	1,788	-184	-34.4	73	39	-34
May	1,440	452	1,892	-149	-24.8	121	17	-104
June	1,441	555	1,996	-135	-19.6	122	17	-105
July	1,438	621	2,058	-138	-18.2	102	29	-73
August	1,437	689	2,126	-106	-13.3	104	36	-69
September	1,438	794	2,232	-102	-11.4	124	17	-107
October	1,436	873	2,308	-108	-11.0	102	22	-80
November	1,441	841	2,282	-103	-10.9	48	87	39
December	1,441	721	2,162	-61	-7.8	39	157	119
Total	—	—	—	—	—	926	999	73
1997								
January	1,441	507	1,948	-41	-7.5	22	234	212
February	1,441	395	1,836	-8	-1.9	17	128	111
March	1,446	358	1,804	35	10.8	53	85	33

^a Total as of December 31.

^b Total underground storage capacity at the end of each calendar year (in billion cubic feet): 1991 - 2,481; 1992 - 2,407; 1993 - 2,621; 1994 - 2,692.; and 1995 - 2,613.

— = Not Applicable.

Notes: Data for 1991 through 1995 are final. All other data are preliminary unless otherwise noted. See Explanatory Note 7 of the *Natural Gas Monthly* 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. Positive net withdrawals indicate the volume of withdrawals in excess of injections. Negative net withdrawals indicate the volume of injections in excess of withdrawals.

Sources: Form EIA-191, "Underground Natural Gas Storage Report," and Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition."

Table 12. Net Withdrawals from Underground Storage, by State, 1995-1997
(Volumes in Million Cubic Feet)

State	1997			1996			
	March	February	January	Total	December	November	October
Alabama	-25	184	531	-1,224	761	129	-117
Arkansas	342	1,006	1,978	64	644	562	-603
California	-442	19,742	38,477	49,108	15,529	-3,042	-8,542
Colorado	2,089	4,862	5,523	-414	2,998	130	-36
Illinois	23,189	39,781	63,857	-15,745	35,297	15,621	-28,518
Indiana	2,498	2,866	7,273	-1,644	3,270	-734	-2,706
Iowa	2,953	8,469	15,926	-293	18,525	5,704	-10,667
Kansas	3,832	8,745	13,031	18,232	13,179	13,662	-5,835
Kentucky	4,047	7,810	17,627	-7,269	8,090	4,872	-2,825
Louisiana	-17,898	20,365	45,668	14,718	32,188	29,787	-13,921
Maryland	1,903	2,662	5,873	-1,808	787	1,274	-1,580
Michigan	53,222	70,696	119,686	-36,637	82,503	60,584	-50,388
Minnesota	188	117	588	40	228	31	-33
Mississippi	-2,306	2,924	12,169	-12,715	4,664	5,736	-3,365
Missouri	1,174	-252	1,126	-67	74	305	-210
Montana	2,591	3,983	5,608	11,680	5,505	4,755	336
Nebraska	-241	504	867	-1,391	1,055	457	572
New Mexico	501	1,527	591	5,137	-856	552	488
New York	9,133	10,041	17,495	-13,453	8,062	6,286	-2,599
Ohio	21,557	28,120	58,528	-10,813	34,940	25,546	-13,826
Oklahoma	-8,092	8,255	27,666	26,130	21,887	17,277	-11,668
Oregon	920	1,078	1,341	1,405	1,240	552	207
Pennsylvania	50,202	52,191	94,224	-58,979	25,007	33,479	-15,457
Texas	-20,402	24,285	48,252	61,749	24,219	12,159	-22,471
Utah	-2,620	2,520	8,931	12,955	9,164	4,651	1,416
Washington	3,217	1,798	1,587	2,015	1,739	456	1,642
West Virginia	23,312	28,900	53,643	-34,526	21,796	19,966	-15,212
Wyoming	1,082	2,976	4,361	5,056	3,529	2,903	-272
Total	155,907	356,154	672,425	11,311	376,021	263,660	-203,992

See footnotes at end of table.

Table 12. Net Withdrawals from Underground Storage, by State, 1995-1997
(Volumes in Million Cubic Feet) — Continued

State	1996						
	September	August	July	June	May	April	March
Alabama	-440	-395	-205	-670	-367	-153	162
Arkansas	-1,153	-615	-744	-1,166	-1,302	-44	1,259
California	-6,976	15,137	6,837	-9,894	-23,726	-12,087	1,292
Colorado	-3,793	-3,703	-5,336	-5,026	-2,247	1,308	5,105
Illinois	-36,920	-35,442	-35,741	-32,391	-27,002	-3,163	23,029
Indiana	-3,932	-6,158	-4,335	-2,421	-161	990	3,541
Iowa	-12,673	-13,268	-12,464	-7,692	-1,625	2,012	6,372
Kansas	-8,542	-8,116	-7,168	-12,110	-7,724	-5,531	10,743
Kentucky	-8,596	-10,080	-13,360	-14,232	-6,228	395	7,956
Louisiana	-32,347	-32,118	-28,952	-15,803	-12,312	-1,310	24,547
Maryland	-1,699	-1,869	-1,912	-2,655	-2,189	71	1,500
Michigan	-79,575	-82,659	-80,378	-79,051	-58,348	-14,604	51,244
Minnesota	-202	-210	-287	-294	-366	-88	222
Mississippi	-7,335	-7,882	-8,093	-6,681	-2,478	-4,093	6,048
Missouri	-204	-206	-240	-261	-1,319	293	379
Montana	-3,519	-3,502	-3,261	-3,578	780	645	3,877
Nebraska	-744	-1,277	-1,132	-1,826	-1,535	-287	763
New Mexico	-1,850	366	812	49	32	496	2,160
New York	-7,346	-12,590	-12,965	-12,170	-13,343	-2,714	9,001
Ohio	-23,686	-29,401	-35,840	-36,903	-29,690	-8,654	29,036
Oklahoma	-18,436	-14,723	-7,777	-11,641	-18,357	-4,610	16,897
Oregon	-104	-437	-1,133	-1,173	-723	132	851
Pennsylvania	-37,736	-52,148	-69,635	-62,217	-46,405	-22,349	43,702
Texas	-34,375	-17,650	-2,753	-14,053	-28,106	-22,815	43,560
Utah	-2,204	-3,884	-6,821	-6,742	-5,533	-188	2,388
Washington	-599	-1,966	-936	-3,317	-1,974	-359	536
West Virginia	-28,076	-19,867	-32,607	-29,512	-32,729	-16,154	27,054
Wyoming	-613	-771	-2,160	-1,760	-2,704	-644	1,095
Total	-363,677	-345,434	-368,585	-375,191	-327,881	-113,507	324,117

See footnotes at end of table.

Table 12. Net Withdrawals from Underground Storage, by State, 1995-1997
(Volumes in Million Cubic Feet) — Continued

State	1996		1995				
	February	January	Total	December	November	October	September
Alabama	17	54	73	400	189	73	-592
Arkansas	1,115	2,112	709	2,149	618	80	-157
California	25,281	47,300	-27,358	25,933	-1,980	-18,197	-15,258
Colorado	1,486	8,699	-3,152	5,194	-1,616	-1,296	-2,943
Illinois	41,246	68,239	22,981	51,971	18,278	-38,814	-39,267
Indiana	3,831	7,170	711	4,401	-844	-4,448	-4,766
Iowa	8,820	16,663	6,443	17,220	12,827	-7,844	-13,599
Kansas	7,491	28,184	4,875	16,419	7,352	-10,864	-16,412
Kentucky	12,252	14,488	7,178	11,394	9,279	-2,526	-6,766
Louisiana	23,515	41,445	52,753	46,245	24,216	-14,079	-23,381
Maryland	2,677	3,787	4,049	3,350	689	-1,123	-2,041
Michigan	82,900	131,134	117,409	115,938	66,298	-32,377	-52,235
Minnesota	260	781	104	245	2	-6	-241
Mississippi	3,026	7,739	7,783	6,445	9,486	-2,596	-6,289
Missouri	-100	1,423	-197	330	-165	-124	-463
Montana	3,437	6,207	3,599	5,251	3,048	554	-1,096
Nebraska	718	1,845	5,844	1,597	1,602	745	-385
New Mexico	1,575	1,312	2,273	1,527	1,120	-20	-505
New York	12,727	14,199	14,746	17,605	9,671	-1,689	-8,910
Ohio	33,716	43,949	38,862	43,090	24,176	-8,835	-18,579
Oklahoma	23,857	33,424	19,264	24,431	8,327	-13,868	-7,816
Oregon	940	1,252	-880	822	58	0	-486
Pennsylvania	64,404	80,378	63,786	78,025	45,269	-22,123	-44,608
Texas	49,234	74,801	26,165	49,476	11,542	-9,871	-22,880
Utah	8,372	12,335	-118	9,829	-1,367	-528	-1,489
Washington	762	6,031	-2,363	1,015	-67	100	-2,494
West Virginia	30,565	40,250	41,129	39,382	23,047	-14,545	-17,855
Wyoming	3,044	3,410	1,552	2,100	768	-1,125	-1,841
Total	447,168	698,611	408,220	581,782	271,826	-205,344	-313,356

See footnotes at end of table.

Table 12. Net Withdrawals from Underground Storage, by State, 1995-1997
(Volumes in Million Cubic Feet) — Continued

State	1995					
	August	July	June	May	April	March
Alabama	-218	-35	-42	-27	0	264
Arkansas	-1,390	-1,494	-1,312	-211	130	539
California	1,565	-13,534	-26,115	-26,521	2,818	8,053
Colorado	-4,401	-6,280	-6,269	-2,314	4,568	4,798
Illinois	-39,596	-37,156	-35,273	-34,672	5,540	28,695
Indiana	-3,727	-2,861	-1,793	-310	682	2,374
Iowa	-17,800	-12,204	-9,889	-5,203	643	5,332
Kansas	-166	-4,798	-12,637	-9,576	-1,386	10,522
Kentucky	-3,846	-6,815	-7,626	-12,777	-3,476	4,501
Louisiana	-1,207	-20,851	-27,559	-18,801	-9,723	8,326
Maryland	-1,114	332	-2,042	-2,010	415	279
Michigan	-54,249	-74,318	-65,350	-53,113	718	50,375
Minnesota	-234	-306	-262	-331	44	246
Mississippi	-740	-4,190	-1,631	-7,164	-4,722	4,069
Missouri	-349	11	9	-621	271	42
Montana	-3,206	-2,917	-2,140	-1,280	-798	689
Nebraska	-177	-278	-866	-643	200	933
New Mexico	1,063	-41	-1,130	-1,245	-233	-451
New York	-8,274	-7,285	-11,189	-8,564	-600	5,507
Ohio	-23,432	-30,964	-31,750	-28,031	5,084	19,862
Oklahoma	2,877	-7,322	-14,113	-17,831	-4,739	10,026
Oregon	0	-695	-1,034	-1,179	-867	440
Pennsylvania	-41,423	-35,648	-54,283	-43,325	-12,857	29,726
Texas	6,956	-3,685	-22,690	-28,366	-24,870	10,188
Utah	-3,512	-7,217	-6,043	-3,519	-1,003	3,419
Washington	271	-1,413	-1,551	-2,570	-233	253
West Virginia	-8,978	-22,284	-24,564	-24,639	-5,825	12,156
Wyoming	-1,566	-1,580	-1,447	-416	817	1,449
Total	-206,873	-305,827	-370,592	-335,260	-49,401	222,612

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 1995 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, "Underground Natural Gas Storage Report."

**Table 13. Activities of Underground Natural Gas Storage Operators, by State,
March 1997**
(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
Alabama	3,280	1,190	429	1,619	226	111.7	63	38
Arkansas	31,871	12,096	1,543	13,639	1,502	0.0	148	490
California	469,696	247,419	82,051	329,469	-33,015	-28.7	9,182	8,740
Colorado	99,600	47,902	17,792	65,695	2,911	19.6	1,551	3,620
Illinois	898,239	651,468	75,078	726,546	18,859	33.5	4,392	27,580
Indiana	113,210	75,876	19,804	95,680	2,321	13.3	815	3,313
Iowa	270,200	200,700	9,659	210,359	4,194	76.8	202	3,155
Kansas	285,202	179,258	34,234	213,493	5,146	17.7	6,459	10,291
Kentucky	216,351	107,179	54,414	161,593	11,407	26.5	1,824	5,870
Louisiana	554,982	268,474	82,266	350,740	30,616	59.3	30,316	12,418
Maryland	62,000	46,677	2,490	49,167	-667	-21.1	292	2,195
Michigan	1,056,114	420,580	182,482	603,062	52,984	40.9	3,382	56,603
Minnesota	7,000	4,623	1,177	5,800	330	39.0	0	188
Mississippi	134,012	77,191	32,339	109,530	16,588	105.3	5,588	3,282
Missouri	31,126	21,600	6,945	28,545	-279	-3.9	88	1,263
Montana	375,010	167,389	45,791	213,180	-11,156	-19.6	690	3,281
Nebraska	39,469	31,507	819	32,326	819	0.0	716	475
New Mexico	96,600	25,225	4,274	29,499	24	0.6	336	836
New York	173,979	103,601	20,648	124,249	8,293	67.1	1,261	10,394
Ohio	557,452	349,902	15,406	365,308	9,565	163.8	2,340	23,898
Oklahoma	395,087	230,492	43,281	273,773	20,054	86.3	11,766	3,673
Oregon	11,623	4,896	1,628	6,524	-1,900	-53.9	0	920
Pennsylvania	680,006	356,832	104,172	461,004	48,090	85.8	7,094	57,296
Texas	672,534	253,527	95,434	348,961	27,432	40.3	28,624	8,221
Utah	121,980	62,100	8,941	71,041	296	3.4	4,246	1,627
Washington	37,300	22,096	3,207	25,303	-1,465	-31.4	100	3,317
West Virginia	484,597	300,862	27,488	328,350	22,243	424.1	2,847	26,160
Wyoming	105,869	60,613	10,920	71,533	-5,865	-34.9	45	1,127
Total	7,984,388	4,331,277	984,713	5,315,990	229,555	30.4	124,366	280,273

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, "Underground Natural Gas Storage Report."

Table 14. Natural Gas Deliveries to Residential Consumers, by State, 1995-1997
(Million Cubic Feet)

State	YTD 1997	YTD 1996	YTD 1995	1997		1996 Total
				February	January	
Alabama	18,425	22,446	17,537	9,116	9,309	56,666
Alaska	4,427	4,473	3,982	2,025	2,402	16,179
Arizona	11,313	9,769	10,107	5,250	6,063	28,056
Arkansas	16,030	17,754	14,498	7,749	8,281	46,354
California	141,778	124,800	130,123	66,682	75,096	473,940
Colorado	NA	37,330	30,711	NA	NA	111,045
Connecticut	12,793	15,306	12,766	6,538	6,255	43,764
Delaware	3,166	3,662	2,845	1,614	1,552	9,809
District of Columbia	5,363	6,456	5,380	2,655	2,708	17,482
Florida	4,229	5,421	4,692	2,065	2,164	16,381
Georgia	37,342	42,529	39,201	15,912	21,429	126,338
Hawaii	100	100	105	49	51	537
Idaho	5,101	4,878	4,135	2,541	2,560	14,936
Illinois	169,274	177,108	163,485	69,290	99,983	537,535
Indiana	59,156	62,191	55,832	26,330	32,825	181,822
Iowa	29,444	37,746	27,563	11,879	17,565	87,818
Kansas	27,904	31,585	25,344	12,125	15,778	85,074
Kentucky	22,418	25,366	23,208	8,918	13,500	71,193
Louisiana	18,900	22,364	18,450	9,065	^a 9,835	57,043
Maine	299	302	269	133	166	971
Maryland	NA	30,576	25,588	NA	NA	^b 85,401
Massachusetts	NA	37,960	33,312	17,611	NA	113,493
Michigan	124,287	131,955	118,857	57,485	66,801	399,531
Minnesota	45,733	48,116	41,062	19,977	25,755	140,631
Mississippi	NA	12,021	10,024	NA	5,049	^b 30,201
Missouri	48,868	78,845	45,804	23,399	25,469	137,214
Montana	6,930	6,789	5,470	3,037	3,893	22,602
Nebraska	17,366	15,922	15,302	7,830	9,536	46,714
Nevada	8,295	7,008	7,029	3,825	4,470	23,156
New Hampshire	2,197	2,340	2,037	1,136	1,061	7,015
New Jersey	66,686	76,152	64,099	34,709	31,977	209,080
New Mexico	13,191	12,399	9,303	5,739	7,451	35,932
New York	NA	131,016	117,374	NA	NA	NA
North Carolina	20,050	24,880	18,700	10,001	10,049	59,590
North Dakota	4,297	4,090	3,522	1,984	2,313	12,358
Ohio	118,749	123,552	118,989	52,418	66,331	375,884
Oklahoma	26,561	29,277	24,424	12,665	13,896	76,356
Oregon	11,166	10,563	8,773	5,308	5,857	33,224
Pennsylvania	87,324	95,737	86,476	41,308	46,015	275,013
Rhode Island	5,781	6,461	4,957	2,891	2,890	18,173
South Carolina	9,998	12,427	10,047	4,948	5,050	29,129
South Dakota	4,824	4,569	3,894	2,089	2,735	14,089
Tennessee	24,674	27,978	23,504	11,985	12,689	69,730
Texas	84,684	80,752	67,864	36,868	47,816	228,628
Utah	NA	17,126	13,777	NA	NA	54,344
Vermont	835	885	724	416	419	2,523
Virginia	24,550	28,613	24,102	11,396	13,154	76,818
Washington	NA	19,125	16,046	NA	10,885	62,652
West Virginia	NA	13,557	12,329	NA	5,925	37,175
Wisconsin	NA	47,874	42,883	19,840	NA	147,984
Wyoming	NA	NA	3,533	NA	^a 1,150	14,755
Total	1,677,290	1,759,550	1,570,038	767,644	^a909,646	^b5,227,823

See footnotes at end of table.

Table 14. Natural Gas Deliveries to Residential Consumers, by State, 1995-1997
(Million Cubic Feet) — Continued

State	1996					
	December	November	October	September	August	July
Alabama	6,687	3,421	1,652	1,325	1,231	1,300
Alaska	2,181	1,708	1,238	589	544	493
Arizona	4,101	2,351	1,096	911	845	928
Arkansas	6,294	3,773	1,427	1,045	956	931
California	62,990	43,757	30,502	26,139	21,785	18,672
Colorado	15,832	9,582	4,891	2,776	2,508	2,872
Connecticut	5,842	3,522	1,840	992	954	1,088
Delaware	1,180	628	294	183	177	198
District of Columbia	2,432	1,266	584	405	384	417
Florida	1,650	975	754	691	659	741
Georgia	18,438	14,572	5,740	3,081	2,956	3,166
Hawaii	44	41	39	41	40	42
Idaho	2,224	1,570	646	363	277	300
Illinois	80,827	63,646	28,056	13,127	9,539	11,341
Indiana	27,844	18,565	8,114	3,509	3,115	3,268
Iowa	14,101	9,753	3,606	1,950	1,606	1,657
Kansas	14,383	9,474	3,058	1,994	1,623	1,786
Kentucky	10,309	9,129	3,075	1,418	1,276	1,129
Louisiana	6,217	3,537	2,118	1,900	1,835	1,832
Maine	120	105	67	28	23	25
Maryland	11,460	^a 7,816	^a 3,674	2,244	1,979	2,054
Massachusetts	13,940	10,012	5,047	2,696	2,480	2,834
Michigan	52,719	38,855	18,527	9,069	7,303	7,660
Minnesota	21,857	14,969	6,616	2,929	2,401	2,549
Mississippi	^a 3,678	1,878	928	879	770	815
Missouri	20,538	11,686	4,321	2,749	2,447	2,687
Montana	3,351	2,511	1,306	648	439	470
Nebraska	7,347	4,079	2,192	974	884	937
Nevada	3,935	2,069	894	732	678	779
New Hampshire	855	667	312	169	155	159
New Jersey	26,651	16,213	8,423	4,811	4,634	5,016
New Mexico	6,025	3,925	1,415	898	889	1,727
New York	NA	NA	NA	NA	NA	10,183
North Carolina	8,722	4,520	1,724	918	874	901
North Dakota	1,855	1,087	469	227	209	213
Ohio	52,532	38,603	18,996	7,156	6,423	7,343
Oklahoma	11,256	5,700	2,259	1,699	1,509	1,622
Oregon	5,198	3,163	1,357	820	673	838
Pennsylvania	37,266	25,929	12,899	5,623	5,275	5,597
Rhode Island	2,350	1,416	738	509	450	484
South Carolina	4,295	2,148	792	472	415	421
South Dakota	2,243	1,414	578	320	231	239
Tennessee	9,897	5,889	1,969	1,185	1,098	1,158
Texas	33,800	17,731	9,406	7,454	6,493	7,173
Utah	8,203	5,749	4,215	2,540	1,416	1,533
Vermont	302	208	100	56	47	51
Virginia	11,007	7,430	2,895	1,422	1,432	1,510
Washington	9,780	6,191	2,923	1,568	1,270	1,624
West Virginia	5,136	3,371	1,600	692	534	586
Wisconsin	21,279	16,720	7,304	3,129	2,859	2,947
Wyoming	1,901	1,454	1,185	401	289	298
Total	^a 737,547	^a 499,551	^a 241,423	137,199	117,658	124,594

See footnotes at end of table.

Table 14. Natural Gas Deliveries to Residential Consumers, by State, 1995-1997
(Million Cubic Feet) — Continued

State	1996					
	June	May	April	March	February	January
Alabama	1,477	2,958	6,343	8,079	11,261	10,931
Alaska	647	964	1,424	1,918	2,419	2,054
Arizona	1,102	1,345	2,182	3,408	4,274	5,511
Arkansas	1,204	1,970	4,853	6,155	8,725	9,021
California	26,029	30,042	36,771	52,297	58,085	66,870
Colorado	4,320	6,909	11,539	14,701	17,499	17,616
Connecticut	1,274	2,303	4,399	6,245	7,147	8,159
Delaware	313	523	1,129	1,522	1,941	1,721
District of Columbia	588	816	1,731	2,402	3,117	3,339
Florida	787	1,016	1,640	2,062	2,575	2,832
Georgia	3,103	4,251	9,817	17,770	19,247	24,195
Hawaii	45	44	49	52	51	49
Idaho	542	976	1,314	1,847	2,509	2,368
Illinois	12,429	27,148	43,168	71,301	81,128	95,825
Indiana	4,511	8,914	16,810	24,959	28,883	33,330
Iowa	2,336	4,173	6,925	11,795	13,686	16,229
Kansas	1,739	3,050	6,272	11,160	13,709	16,827
Kentucky	1,523	2,278	5,612	10,268	11,352	13,824
Louisiana	1,980	2,579	5,193	7,557	10,352	11,944
Maine	29	53	81	137	143	159
Maryland	2,631	4,077	7,237	11,845	14,351	16,033
Massachusetts	3,958	6,796	11,645	16,649	18,583	18,852
Michigan	10,627	24,651	40,297	57,657	63,694	68,472
Minnesota	3,659	7,237	12,091	18,871	22,363	25,091
Mississippi	838	1,364	3,170	3,846	5,892	6,143
Missouri	3,404	6,251	13,132	18,851	24,496	26,652
Montana	753	1,438	2,087	2,701	3,568	3,330
Nebraska	1,373	2,434	4,435	6,165	8,165	7,729
Nevada	1,011	1,264	1,884	2,903	3,264	3,744
New Hampshire	233	429	698	998	1,147	1,193
New Jersey	5,832	10,716	20,214	30,417	35,838	40,315
New Mexico	1,812	654	2,763	3,300	4,941	7,581
New York	14,050	25,108	41,145	59,700	61,146	68,834
North Carolina	1,226	2,160	6,272	7,490	11,875	12,907
North Dakota	399	818	1,348	1,640	2,160	1,932
Ohio	10,325	17,688	34,545	54,282	58,678	69,313
Oklahoma	1,981	3,309	7,669	10,126	14,443	14,782
Oregon	1,386	2,299	2,820	4,041	5,584	5,046
Pennsylvania	7,833	13,620	25,579	39,695	45,391	50,305
Rhode Island	692	1,216	1,831	2,664	3,119	2,704
South Carolina	542	945	2,968	3,706	5,887	6,539
South Dakota	464	803	1,367	1,865	2,221	2,343
Tennessee	1,319	2,339	7,012	9,454	13,711	14,700
Texas	7,783	9,595	19,163	28,188	35,810	46,031
Utah	1,351	2,252	4,540	5,419	8,571	8,555
Vermont	85	167	268	354	418	467
Virginia	2,100	2,550	6,609	11,307	13,807	14,750
Washington	2,626	4,463	5,445	7,639	10,136	8,988
West Virginia	812	1,642	3,855	5,463	6,564	6,918
Wisconsin	4,584	8,023	12,785	20,340	22,584	25,431
Wyoming	556	1,005	1,409	1,703	2,373	2,182
Total	162,228	269,627	473,531	704,913	828,884	930,666

See footnotes at end of table.

Table 14. Natural Gas Deliveries to Residential Consumers, by State, 1995-1997
(Million Cubic Feet) — Continued

State	1995					
	Total	December	November	October	September	August
Alabama	49,570	7,563	3,902	1,542	1,279	1,299
Alaska	15,231	2,294	1,411	866	588	448
Arizona	26,893	3,154	1,554	1,027	878	859
Arkansas	41,107	7,034	3,522	1,295	1,042	930
California	477,495	56,731	33,646	24,743	22,148	21,306
Colorado	104,286	12,282	8,830	5,456	2,773	2,681
Connecticut	40,824	6,389	3,449	1,479	1,035	884
Delaware	8,505	1,231	601	230	176	177
District of Columbia	15,690	2,579	1,246	452	401	379
Florida	14,540	1,785	1,004	668	729	641
Georgia	114,670	21,351	14,965	6,067	3,319	3,000
Hawaii	574	45	43	44	45	43
Idaho	13,003	1,748	1,364	628	304	254
Illinois	500,796	81,457	64,407	26,650	13,730	9,950
Indiana	161,059	26,875	18,305	6,884	3,627	2,826
Iowa	82,238	14,248	11,222	3,803	1,814	1,252
Kansas	75,846	13,608	6,757	3,440	1,847	1,654
Kentucky	66,149	12,325	9,224	3,130	1,338	1,120
Louisiana	52,603	7,401	4,391	2,073	1,816	1,691
Maine	913	151	97	48	31	24
Maryland	76,552	12,985	7,601	2,927	2,094	1,882
Massachusetts	105,795	15,933	9,090	3,958	2,664	2,358
Michigan	380,025	61,290	39,707	17,636	9,901	7,101
Minnesota	128,736	21,117	14,915	6,969	3,271	2,395
Mississippi	26,960	4,212	2,326	631	476	811
Missouri	125,110	19,696	11,325	4,259	2,842	2,394
Montana	19,640	2,697	2,248	1,376	666	447
Nebraska	45,054	6,188	4,132	1,577	1,051	906
Nevada	20,686	2,357	1,349	817	677	655
New Hampshire	6,507	991	550	254	175	135
New Jersey	194,432	33,195	18,422	7,195	4,957	4,378
New Mexico	28,770	4,649	3,027	1,319	814	815
New York	375,005	56,841	32,655	13,159	9,330	7,834
North Carolina	49,379	8,581	4,445	1,402	938	799
North Dakota	11,209	1,695	1,095	424	252	183
Ohio	357,754	59,871	40,926	17,326	7,397	6,298
Oklahoma	68,702	9,769	5,029	2,526	1,715	1,552
Oregon	28,067	3,952	2,620	1,128	687	654
Pennsylvania	262,126	44,456	27,801	10,640	5,805	5,084
Rhode Island	17,342	2,634	1,336	672	474	448
South Carolina	25,164	4,422	2,262	648	475	397
South Dakota	12,610	1,828	1,332	705	307	206
Tennessee	59,994	9,171	7,624	1,801	1,065	1,054
Texas	206,415	30,741	17,917	8,860	7,378	6,707
Utah	48,975	7,214	4,684	3,857	1,970	1,422
Vermont	2,299	353	176	86	54	42
Virginia	68,712	12,753	7,059	2,245	1,383	1,459
Washington	52,763	7,611	5,683	2,444	1,411	1,251
West Virginia	35,379	5,867	3,626	1,441	740	560
Wisconsin	136,012	22,980	16,784	7,000	3,699	2,698
Wyoming	12,152	NA	NA	NA	NA	271
Total	4,850,318	757,844	488,812	216,412	133,951	114,415

^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, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers."

Table 15. Natural Gas Deliveries to Commercial Consumers, by State, 1995-1997
(Million Cubic Feet)

State	YTD 1997	YTD 1996	YTD 1995	1997		1996
				February	January	Total
Alabama	8,288	9,294	7,737	4,064	4,224	29,003
Alaska	5,530	6,688	5,139	2,488	3,042	24,990
Arizona	7,519	6,772	6,818	3,621	3,897	29,268
Arkansas	9,856	10,665	8,557	4,732	5,124	31,116
California	52,027	46,731	57,577	26,160	^a 25,868	233,665
Colorado	NA	20,845	18,698	NA	NA	69,252
Connecticut	11,141	11,465	10,376	5,347	5,794	39,730
Delaware	2,014	2,291	1,764	1,019	995	6,678
District of Columbia	4,613	4,108	4,863	2,299	2,314	16,219
Florida	7,945	8,928	8,634	3,841	4,104	41,667
Georgia	16,365	18,233	16,496	7,855	8,509	60,854
Hawaii	376	388	381	188	188	2,115
Idaho	3,603	3,523	3,072	1,786	1,817	11,526
Illinois	67,077	68,395	64,883	30,011	37,066	215,307
Indiana	28,402	29,877	26,596	12,753	15,648	91,872
Iowa	17,170	17,464	15,393	7,047	10,123	53,929
Kansas	15,448	16,499	13,763	8,255	7,193	^a 58,010
Kentucky	12,772	13,637	12,748	5,467	7,305	41,343
Louisiana	8,601	7,727	6,422	4,239	^a 4,362	^a 26,866
Maine	780	799	723	348	433	^a 2,566
Maryland	NA	14,474	14,570	NA	NA	47,734
Massachusetts	NA	25,580	21,826	13,903	NA	^a 95,814
Michigan	60,954	62,184	57,168	28,395	32,559	204,406
Minnesota	29,046	30,108	27,943	13,432	15,614	96,799
Mississippi	NA	6,845	5,754	NA	3,278	22,724
Missouri	25,396	24,617	21,956	12,834	12,562	73,164
Montana	4,502	4,463	3,677	1,948	2,554	14,943
Nebraska	14,048	NA	6,260	8,086	5,963	41,000
Nevada	5,371	4,689	4,690	2,644	2,727	^a 19,969
New Hampshire	2,152	2,269	1,978	1,079	1,073	6,954
New Jersey	34,184	45,940	39,966	14,211	19,973	143,212
New Mexico	8,414	7,483	6,352	4,095	4,319	27,775
New York	NA	NA	57,674	NA	NA	NA
North Carolina	11,931	14,406	11,870	5,861	6,070	41,811
North Dakota	3,864	3,712	3,470	1,881	1,984	12,098
Ohio	60,827	63,390	58,120	28,164	32,664	189,648
Oklahoma	14,789	15,154	12,360	7,126	7,663	43,285
Oregon	7,703	7,378	6,232	3,689	4,014	25,553
Pennsylvania	42,171	50,022	42,122	19,621	22,550	155,253
Rhode Island	3,439	3,911	2,756	1,745	1,695	11,734
South Carolina	5,443	5,787	5,226	2,667	2,776	20,652
South Dakota	3,654	3,509	3,110	1,608	2,046	11,604
Tennessee	18,442	18,697	16,673	9,422	9,020	56,806
Texas	NA	46,669	43,457	20,898	NA	NA
Utah	NA	9,155	7,568	NA	NA	29,544
Vermont	921	911	794	444	477	2,850
Virginia	16,513	16,230	16,320	7,878	8,636	58,649
Washington	NA	13,205	11,710	NA	7,492	48,167
West Virginia	NA	10,007	7,577	NA	3,874	29,288
Wisconsin	NA	29,932	25,337	12,679	NA	94,566
Wyoming	NA	NA	2,918	NA	^a 995	17,081
Total	904,950	924,658	838,072	425,498	^a479,452	^a3,200,585

See footnotes at end of table.

Table 15. Natural Gas Deliveries to Commercial Consumers, by State, 1995-1997
(Million Cubic Feet) — Continued

State	1996					
	December	November	October	September	August	July
Alabama	3,093	2,032	1,437	1,232	1,158	1,192
Alaska	2,873	2,405	2,016	1,368	1,177	1,125
Arizona	3,290	2,485	1,764	1,696	1,769	1,796
Arkansas	3,878	2,464	1,357	1,197	1,061	1,057
California	24,665	21,161	18,637	17,456	17,453	17,060
Colorado	9,071	5,821	3,431	2,224	2,141	2,393
Connecticut	4,900	3,110	2,397	1,817	1,711	1,967
Delaware	788	496	278	224	204	203
District of Columbia	2,322	1,190	798	768	746	800
Florida	3,972	3,162	2,942	2,827	2,703	2,822
Georgia	7,371	5,414	3,302	2,701	2,613	2,730
Hawaii	175	158	169	170	165	174
Idaho	1,625	1,110	598	422	355	347
Illinois	32,478	25,266	12,121	7,149	5,332	5,446
Indiana	13,655	9,723	4,238	2,602	2,440	2,307
Iowa	8,483	5,879	2,103	1,925	1,077	1,212
Kansas	9,333	4,839	2,000	^a 1,300	^a 3,762	^a 3,530
Kentucky	5,934	4,493	2,261	1,224	1,150	1,059
Louisiana	^a 2,836	^a 2,223	1,405	1,327	1,332	1,277
Maine	310	280	172	78	75	74
Maryland	6,148	4,987	2,580	1,969	1,823	1,728
Massachusetts	11,764	9,749	5,415	4,783	4,272	3,744
Michigan	26,447	19,774	9,695	6,345	5,574	5,858
Minnesota	14,546	10,462	5,093	2,726	2,283	2,346
Mississippi	2,376	1,753	1,111	1,099	1,221	1,179
Missouri	10,251	6,170	2,979	2,251	2,375	2,307
Montana	2,189	1,725	848	499	375	386
Nebraska	5,074	3,713	2,852	2,345	2,556	3,631
Nevada	^a 2,388	1,778	1,236	1,088	1,036	1,099
New Hampshire	873	661	344	196	186	172
New Jersey	17,168	11,152	6,829	5,325	5,490	5,454
New Mexico	3,682	2,547	1,429	1,140	1,457	1,514
New York	NA	NA	NA	NA	NA	NA
North Carolina	5,435	3,340	1,979	1,711	1,625	1,458
North Dakota	1,746	1,103	562	346	307	294
Ohio	26,180	18,193	8,717	4,129	4,490	4,662
Oklahoma	5,760	3,100	1,721	1,591	1,509	1,626
Oregon	3,589	2,310	1,303	1,021	904	966
Pennsylvania	21,487	14,218	7,701	4,297	5,633	4,271
Rhode Island	1,286	969	643	574	442	419
South Carolina	2,414	1,631	1,150	1,033	950	927
South Dakota	1,813	1,238	571	353	283	288
Tennessee	6,505	4,976	2,853	2,420	1,990	1,964
Texas	21,396	17,363	NA	13,418	NA	15,399
Utah	4,228	3,191	2,077	1,282	876	906
Vermont	351	279	164	91	69	68
Virginia	7,512	5,771	3,373	2,464	2,085	2,571
Washington	6,633	4,495	2,705	1,923	1,696	1,859
West Virginia	3,500	2,611	1,715	1,250	1,331	1,393
Wisconsin	13,530	11,157	4,538	2,556	2,363	2,016
Wyoming	3,889	2,457	1,395	351	279	271
Total	^a 414,095	^a 298,106	175,448	^a 130,066	^a 127,338	^a 128,396

See footnotes at end of table.

Table 15. Natural Gas Deliveries to Commercial Consumers, by State, 1995-1997
(Million Cubic Feet) — Continued

State	1996					
	June	May	April	March	February	January
Alabama	1,252	1,722	2,866	3,714	4,775	4,529
Alaska	1,247	1,558	2,084	2,778	3,264	3,096
Arizona	2,014	2,129	2,555	3,012	3,136	3,620
Arkansas	1,053	1,520	2,966	3,897	5,251	5,414
California	15,671	16,245	17,216	21,546	23,078	23,477
Colorado	3,057	4,431	6,997	8,908	10,393	10,385
Connecticut	1,745	2,247	3,528	4,844	5,472	5,992
Delaware	246	366	694	889	1,186	1,104
District of Columbia	824	1,233	1,893	1,537	1,952	2,156
Florida	3,015	3,321	3,899	4,142	4,248	4,613
Georgia	2,499	3,274	5,371	7,474	8,401	9,702
Hawaii	175	171	189	182	190	198
Idaho	479	711	996	1,363	1,785	1,735
Illinois	5,713	9,682	17,310	26,484	32,431	35,894
Indiana	2,789	4,497	7,988	11,920	13,850	15,863
Iowa	1,629	2,572	4,548	7,047	8,289	9,164
Kansas	^a 1,989	^a 3,232	^a 4,911	^a 6,616	^a 7,729	^a 8,771
Kentucky	1,080	1,544	3,341	5,578	6,364	7,315
Louisiana	1,511	1,682	2,401	3,039	3,876	3,956
Maine	82	^a 132	208	356	386	413
Maryland	1,843	2,529	3,912	5,753	6,627	7,835
Massachusetts	4,200	^a 6,576	8,952	11,127	12,640	12,591
Michigan	6,541	12,480	19,934	28,197	30,779	32,781
Minnesota	3,024	5,314	8,731	12,796	13,776	15,703
Mississippi	1,091	1,280	2,024	2,607	3,404	3,581
Missouri	2,395	3,583	6,656	9,543	11,719	12,936
Montana	508	861	1,330	1,761	2,276	2,185
Nebraska	1,499	1,958	3,223	4,055	4,681	5,413
Nevada	1,257	1,420	1,769	2,219	2,262	2,418
New Hampshire	237	399	654	963	1,118	1,151
New Jersey	5,697	8,016	14,342	17,802	22,520	23,419
New Mexico	1,721	1,549	2,569	2,617	3,427	4,123
New York	NA	NA	NA	NA	NA	NA
North Carolina	1,635	2,031	3,871	4,994	6,615	7,117
North Dakota	528	747	1,256	1,499	1,861	1,850
Ohio	7,635	8,922	16,758	26,529	29,596	33,837
Oklahoma	1,663	2,043	4,102	5,228	7,469	7,474
Oregon	1,302	1,781	2,056	2,895	3,900	3,526
Pennsylvania	5,389	7,903	13,699	20,751	23,598	26,306
Rhode Island	445	757	996	1,605	1,917	1,682
South Carolina	1,270	1,424	1,858	2,160	2,743	3,092
South Dakota	386	619	1,059	1,487	1,685	1,821
Tennessee	2,165	2,690	5,241	7,173	9,108	9,722
Texas	15,909	18,409	21,434	26,607	20,625	26,789
Utah	894	1,354	2,475	3,124	4,596	4,541
Vermont	98	155	282	384	449	462
Virginia	2,998	3,407	5,062	7,205	7,874	8,327
Washington	2,669	3,430	4,143	5,445	6,843	6,326
West Virginia	1,141	1,596	2,573	3,522	4,103	4,551
Wisconsin	3,092	5,100	7,921	12,341	13,930	16,022
Wyoming	504	1,348	1,724	1,465	1,714	1,685
Total	^a 137,999	^a 187,084	^a 286,171	^a 391,223	^a 442,864	^a 481,794

See footnotes at end of table.

Table 15. Natural Gas Deliveries to Commercial Consumers, by State, 1995-1997
(Million Cubic Feet) — Continued

State	1995					
	Total	December	November	October	September	August
Alabama	26,232	3,502	2,177	1,323	1,139	1,110
Alaska	24,979	3,190	2,461	1,846	1,366	1,301
Arizona	28,329	2,802	2,056	1,702	1,652	1,817
Arkansas	27,411	4,311	2,265	1,183	1,060	1,021
California	279,606	26,152	22,818	21,272	19,391	18,362
Colorado	66,657	7,282	5,703	3,787	2,210	2,314
Connecticut	37,890	4,491	2,808	1,850	1,762	1,869
Delaware	5,743	851	417	209	205	168
District of Columbia	17,045	2,194	1,116	794	766	744
Florida	40,459	3,883	3,171	2,840	2,818	2,751
Georgia	56,538	8,062	5,706	3,379	2,450	2,781
Hawaii	2,199	177	178	179	179	178
Idaho	10,380	1,300	997	591	392	346
Illinois	203,833	30,734	22,408	11,880	6,984	6,612
Indiana	82,825	13,009	9,142	4,181	2,645	2,328
Iowa	50,329	8,170	5,952	3,021	1,701	1,150
Kansas	53,124	9,850	4,066	2,903	2,921	3,564
Kentucky	38,613	6,426	4,746	1,892	1,247	1,099
Louisiana	23,854	2,613	1,823	1,410	1,327	1,307
Maine	2,426	389	254	129	86	71
Maryland	46,924	7,538	4,871	1,907	2,065	1,722
Massachusetts	82,282	11,594	7,597	4,026	3,525	3,344
Michigan	194,105	29,922	19,742	9,647	6,417	5,778
Minnesota	90,684	13,839	10,937	5,456	2,864	2,156
Mississippi	20,171	2,627	1,693	1,013	1,023	1,202
Missouri	65,092	9,698	5,747	2,756	2,119	2,019
Montana	13,497	1,898	1,454	899	520	376
Nebraska	40,044	NA	NA	NA	NA	2,997
Nevada	18,812	1,871	1,444	1,151	1,009	978
New Hampshire	6,515	989	620	285	197	166
New Jersey	138,971	20,914	10,830	6,263	5,734	5,307
New Mexico	24,007	2,920	2,149	1,330	1,193	1,119
New York	231,479	30,309	22,325	13,394	10,619	10,797
North Carolina	37,371	5,279	3,263	1,740	1,597	1,475
North Dakota	11,656	1,723	1,209	549	333	324
Ohio	175,347	27,649	18,650	7,916	4,623	4,406
Oklahoma	39,756	5,164	3,020	1,836	1,903	1,524
Oregon	22,437	2,837	2,010	1,166	979	879
Pennsylvania	143,744	22,596	19,918	6,583	4,210	3,935
Rhode Island	12,066	1,523	1,216	580	294	582
South Carolina	18,869	2,414	1,674	1,054	1,044	956
South Dakota	10,689	1,452	1,118	665	357	283
Tennessee	51,238	7,681	4,908	2,582	2,002	2,079
Texas	209,613	22,432	16,279	13,673	11,336	16,588
Utah	26,925	3,724	2,605	1,905	1,088	899
Vermont	2,672	410	242	130	95	72
Virginia	56,991	8,287	5,766	2,687	2,147	2,473
Washington	42,675	5,274	4,052	2,304	1,862	1,654
West Virginia	25,879	3,533	2,739	1,557	1,150	1,056
Wisconsin	84,920	13,817	10,676	4,968	2,943	2,214
Wyoming	9,849	NA	NA	NA	NA	258
Total	3,033,751	419,620	296,702	170,849	129,530	130,493

^R = Revised Data.

NA = Not Available.

Notes: Geographic coverage is the 50 States and the District of Columbia. Deliveries for total year 1995 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, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers."

Table 16. Natural Gas Deliveries to Industrial Consumers, by State, 1995-1997
(Million Cubic Feet)

State	YTD 1997	YTD 1996	YTD 1995	1997		1996
				February	January	Total
Alabama	34,470	34,221	34,552	16,628	17,842	205,175
Alaska	13,538	10,922	7,952	6,448	7,090	75,616
Arizona	3,989	4,055	4,600	1,949	2,041	25,726
Arkansas	25,067	25,230	24,434	12,093	12,974	122,324
California	111,461	102,382	106,667	55,950	55,512	681,527
Colorado	NA	16,503	14,051	NA	NA	84,273
Connecticut	6,119	4,936	6,005	3,031	3,088	32,706
Delaware	2,499	2,252	2,774	1,220	1,279	14,268
District of Columbia	0	0	0	0	0	0
Florida	24,126	21,702	22,191	11,564	12,562	^a 138,506
Georgia	30,910	25,143	29,483	16,131	14,779	179,015
Hawaii	0	0	0	0	0	0
Idaho	5,968	6,397	6,253	2,802	3,166	34,573
Illinois	67,895	72,896	66,395	32,917	34,978	334,839
Indiana	54,937	53,800	58,065	25,623	29,314	290,093
Iowa	20,530	20,865	19,830	9,788	10,742	113,032
Kansas	19,933	21,317	22,084	8,069	11,864	130,980
Kentucky	19,168	17,532	18,371	8,859	10,309	94,470
Louisiana	NA	160,399	176,386	NA	83,386	NA
Maine	342	335	273	162	180	^a 2,190
Maryland	NA	6,950	6,976	NA	NA	^a 50,614
Massachusetts	NA	16,785	19,799	10,338	NA	^a 99,801
Michigan	65,994	69,951	61,287	32,661	33,333	353,173
Minnesota	19,384	17,555	20,261	9,999	9,385	107,819
Mississippi	NA	13,492	15,452	NA	7,602	82,199
Missouri	16,892	15,185	14,737	9,633	7,259	69,929
Montana	4,109	3,428	2,883	2,197	1,913	17,362
Nebraska	6,121	5,540	7,436	3,087	3,033	28,994
Nevada	5,137	5,244	5,084	2,462	2,675	32,435
New Hampshire	822	687	598	411	411	^a 4,979
New Jersey	32,977	34,656	38,889	15,694	17,283	^a 192,267
New Mexico	4,232	3,835	4,537	1,897	2,335	20,464
New York	NA	45,909	50,524	NA	NA	268,329
North Carolina	19,102	14,235	17,665	9,942	9,160	106,381
North Dakota	2,058	1,159	1,250	1,128	930	7,565
Ohio	67,507	72,576	69,110	32,615	34,892	^a 348,266
Oklahoma	37,629	35,922	36,178	18,742	18,887	202,255
Oregon	14,928	13,595	11,664	6,525	8,402	88,842
Pennsylvania	46,442	58,538	48,248	23,150	23,292	^a 257,884
Rhode Island	4,124	5,085	5,379	1,993	2,131	26,985
South Carolina	16,062	12,204	14,013	7,983	8,080	93,933
South Dakota	1,668	1,327	1,217	792	877	8,148
Tennessee	24,767	22,559	22,432	12,935	11,832	128,418
Texas	367,728	362,058	295,372	175,662	192,068	2,071,780
Utah	NA	7,649	9,403	NA	NA	42,335
Vermont	377	267	379	197	181	1,926
Virginia	16,375	14,564	13,997	7,950	8,425	84,864
Washington	NA	19,843	19,877	NA	9,112	114,620
West Virginia	NA	9,389	9,189	NA	4,501	51,432
Wisconsin	NA	32,088	31,162	14,670	NA	149,696
Wyoming	NA	NA	8,496	NA	NA	43,925
Total	1,567,496	1,535,041	1,483,858	763,188	804,308	^a8,785,020

See footnotes at end of table.

Table 16. Natural Gas Deliveries to Industrial Consumers, by State, 1995-1997
(Million Cubic Feet) — Continued

State	1996					
	December	November	October	September	August	July
Alabama	17,247	17,651	18,646	17,183	16,496	16,794
Alaska	7,034	6,450	6,421	6,288	6,961	6,577
Arizona	2,555	2,304	2,361	2,279	2,172	2,220
Arkansas	11,396	12,010	12,470	7,896	8,990	7,390
California	63,374	61,298	59,429	59,349	64,670	60,431
Colorado	7,618	7,290	6,037	6,107	6,630	5,807
Connecticut	2,989	3,337	3,060	2,548	2,781	2,286
Delaware	1,213	1,218	1,338	1,138	1,117	1,122
District of Columbia	0	0	0	0	0	0
Florida	11,512	12,071	11,303	11,770	11,552	11,552
Georgia	15,597	15,990	15,321	14,813	15,983	14,011
Hawaii	0	0	0	0	0	0
Idaho ^a	2,890	2,747	3,023	2,802	2,408	2,697
Illinois	37,247	32,295	25,278	20,140	21,041	19,178
Indiana	24,424	25,343	24,136	20,413	19,676	20,037
Iowa	10,739	11,266	9,530	7,552	8,875	8,305
Kansas	9,681	11,581	8,438	9,960	11,693	11,254
Kentucky	9,695	8,841	7,704	6,743	6,430	6,045
Louisiana	90,905	NA	NA	92,337	89,426	87,374
Maine	171	234	239	^a 185	^a 177	^a 144
Maryland	5,002	^a 4,046	4,261	4,121	4,402	4,262
Massachusetts	9,345	8,613	9,307	8,116	8,889	7,274
Michigan	32,225	30,623	25,882	25,020	24,539	24,946
Minnesota	10,004	10,609	9,041	7,792	7,566	7,989
Mississippi	6,764	6,812	7,271	6,642	6,532	6,839
Missouri	6,394	6,018	4,833	4,469	5,765	4,070
Montana	1,850	1,545	1,502	1,335	1,380	1,224
Nebraska	3,063	2,596	2,612	1,857	1,928	1,976
Nevada	2,843	2,691	2,532	2,714	2,773	2,847
New Hampshire	391	527	^a 486	^a 404	^a 405	^a 382
New Jersey	15,630	14,900	14,057	^a 16,094	15,593	16,756
New Mexico	1,995	1,699	1,622	1,570	1,563	1,600
New York	24,948	24,861	21,118	20,727	22,197	21,237
North Carolina	8,860	10,882	10,781	9,211	8,952	8,169
North Dakota	1,018	1,030	760	561	409	434
Ohio	^a 31,607	31,586	28,023	23,475	23,938	22,619
Oklahoma	19,290	16,009	16,798	16,821	17,167	16,923
Oregon	8,500	8,527	8,658	7,933	7,887	7,327
Pennsylvania	^a 20,225	22,305	18,980	17,633	19,207	17,214
Rhode Island	2,166	2,355	2,501	2,296	2,362	1,914
South Carolina	8,462	8,603	8,800	7,925	7,991	7,710
South Dakota	819	798	557	443	496	489
Tennessee	12,872	13,066	11,146	10,558	10,115	9,710
Texas	166,935	159,473	167,443	170,430	174,691	165,822
Utah	3,705	3,674	3,603	3,445	3,382	3,261
Vermont	189	208	172	149	153	106
Virginia	9,500	7,510	6,510	5,368	7,286	7,089
Washington	9,782	10,903	10,712	10,209	9,965	8,949
West Virginia	4,572	4,541	4,418	4,781	4,033	4,033
Wisconsin	15,515	14,706	11,628	9,591	9,206	8,540
Wyoming	4,057	4,214	4,156	3,205	3,337	3,112
Total	^a 774,817	^a 763,908	^a 727,203	^a 694,397	^a 711,187	^a 678,049

See footnotes at end of table.

Table 16. Natural Gas Deliveries to Industrial Consumers, by State, 1995-1997
(Million Cubic Feet) — Continued

State	1996					
	June	May	April	March	February	January
Alabama	15,727	16,863	17,310	17,354	16,957	16,946
Alaska	6,268	5,808	6,123	6,764	6,115	4,807
Arizona	2,180	1,453	2,042	2,112	1,897	2,152
Arkansas	7,565	7,760	9,395	12,224	12,109	13,120
California	53,941	53,833	52,449	49,361	51,616	51,774
Colorado	6,309	6,597	8,185	7,182	9,397	7,112
Connecticut	2,457	2,467	2,809	3,036	2,777	2,159
Delaware	1,303	1,207	1,046	1,314	1,082	1,170
District of Columbia	0	0	0	0	0	0
Florida	10,988	12,826	11,552	11,679	10,963	^a 10,739
Georgia	14,632	15,449	15,477	15,227	12,024	14,490
Hawaii	0	0	0	0	0	0
Idaho	2,698	2,850	2,856	3,206	3,062	3,335
Illinois	21,336	25,635	27,988	32,566	33,454	38,681
Indiana	42,147	9,883	22,984	26,207	25,615	29,228
Iowa	8,419	7,462	9,701	10,401	9,701	11,082
Kansas	11,669	9,541	10,308	10,938	11,844	14,074
Kentucky	8,704	6,403	7,246	8,414	8,194	10,051
Louisiana	90,176	87,567	91,694	88,725	82,114	79,416
Maine	^a 186	^a 181	^a 155	^a 182	164	171
Maryland	3,970	4,064	4,983	4,673	3,251	3,579
Massachusetts	7,212	7,165	8,260	8,835	^a 8,005	8,780
Michigan	26,087	28,405	30,792	35,200	35,214	34,241
Minnesota	8,586	8,510	9,983	10,346	7,846	9,548
Mississippi	6,590	6,733	7,012	7,373	7,151	6,481
Missouri	4,644	5,311	6,382	6,973	7,163	7,906
Montana	1,174	1,286	1,311	1,435	1,512	1,807
Nebraska	1,922	2,114	2,576	2,857	2,666	2,828
Nevada	2,710	2,858	2,524	2,649	2,545	2,750
New Hampshire	^a 390	424	^a 450	^a 432	330	357
New Jersey	15,540	16,175	17,426	15,442	16,487	18,169
New Mexico	1,632	1,420	1,749	1,609	1,960	2,044
New York	21,379	19,349	22,857	19,921	22,936	26,799
North Carolina	8,361	9,110	8,777	9,025	6,955	7,299
North Dakota	353	605	608	630	577	581
Ohio	29,133	26,206	28,680	31,069	33,410	38,520
Oklahoma	14,670	15,962	15,052	17,717	16,794	19,054
Oregon	6,795	7,792	5,970	6,376	6,164	6,913
Pennsylvania	18,560	19,897	21,123	23,168	22,258	37,314
Rhode Island	2,114	2,210	2,087	1,833	1,647	3,499
South Carolina	7,826	8,236	8,275	7,668	6,330	6,107
South Dakota	478	509	550	1,684	698	629
Tennessee	9,995	9,460	9,591	9,912	10,208	11,785
Texas	170,788	179,149	178,591	183,201	176,101	179,155
Utah	3,171	3,374	3,435	3,636	3,721	3,928
Vermont	152	175	133	223	148	119
Virginia	4,478	6,649	5,953	9,957	7,239	7,326
Washington	7,684	8,630	8,821	9,105	9,810	10,049
West Virginia	3,815	4,020	4,070	4,458	4,176	4,516
Wisconsin	9,186	10,790	13,184	15,050	15,019	17,283
Wyoming	3,545	3,462	3,610	3,464	4,317	3,446
Total	^a 709,646	^a 693,833	^a 734,134	^a 762,807	^a 741,719	^a 793,321

See footnotes at end of table.

Table 16. Natural Gas Deliveries to Industrial Consumers, by State, 1995-1997
(Million Cubic Feet) — Continued

State	1995					
	Total	December	November	October	September	August
Alabama	204,060	17,790	17,076	16,919	16,065	17,446
Alaska	64,977	4,714	3,999	4,128	6,889	10,375
Arizona	27,663	2,296	2,248	2,248	2,131	2,127
Arkansas	138,803	11,998	12,094	12,026	10,697	11,524
California	687,921	56,444	54,388	62,097	59,153	59,907
Colorado	72,439	5,739	5,243	3,766	6,262	5,931
Connecticut	33,106	3,028	3,158	2,538	2,179	2,220
Delaware	19,399	1,287	1,669	1,683	1,619	1,656
District of Columbia	0	0	0	0	0	0
Florida	133,477	15,661	10,973	10,332	9,602	10,242
Georgia	183,692	16,401	16,694	17,455	12,994	14,253
Hawaii	0	0	0	0	0	0
Idaho *	34,024	3,129	2,943	3,109	2,468	2,291
Illinois	321,465	35,704	32,284	25,162	21,899	21,509
Indiana	275,487	26,872	24,695	21,086	19,205	19,212
Iowa	115,080	12,216	9,887	10,106	8,625	8,816
Kansas	129,515	12,193	10,508	9,357	10,203	13,141
Kentucky	90,764	8,834	8,071	7,545	6,461	6,285
Louisiana	1,044,136	85,024	83,880	87,298	85,727	87,079
Maine	1,993	169	242	199	155	161
Maryland	48,963	3,106	3,881	4,694	3,377	4,443
Massachusetts	107,730	9,656	9,132	7,483	7,740	8,532
Michigan	326,551	32,701	27,912	24,493	22,997	23,632
Minnesota	106,189	10,889	9,114	8,724	7,894	8,426
Mississippi	84,526	7,352	7,334	6,649	5,840	6,856
Missouri	68,924	7,185	6,164	5,389	4,862	4,719
Montana	18,135	1,821	1,753	1,645	1,315	1,331
Nebraska	44,767	3,141	4,125	3,084	4,337	3,915
Nevada	30,641	2,702	2,612	2,371	2,643	2,692
New Hampshire	4,607	348	450	416	350	353
New Jersey	209,014	19,886	18,318	14,764	15,953	16,057
New Mexico	21,095	2,469	2,100	989	1,716	1,999
New York	278,576	26,167	24,647	22,686	19,886	22,529
North Carolina	106,731	8,684	9,303	9,306	8,824	9,087
North Dakota	6,505	627	600	549	411	391
Ohio	336,552	35,635	30,953	26,516	23,938	23,159
Oklahoma	194,101	15,082	16,493	16,186	15,262	17,580
Oregon	68,904	6,418	5,836	6,158	5,246	5,941
Pennsylvania	249,928	22,158	24,198	19,361	17,922	18,075
Rhode Island	35,109	4,305	3,048	1,846	2,563	2,944
South Carolina	98,332	6,928	8,251	8,301	8,081	8,460
South Dakota	6,933	702	730	542	474	531
Tennessee	125,814	11,360	10,937	10,358	10,680	9,378
Texas	1,923,763	179,078	163,975	168,086	156,909	147,607
Utah	42,373	3,805	3,378	3,396	3,116	2,995
Vermont	2,159	254	221	181	115	150
Virginia	97,499	9,819	7,113	7,333	8,569	11,546
Washington	109,997	9,389	9,594	10,139	9,314	9,447
West Virginia	52,239	4,576	4,834	4,576	4,043	4,111
Wisconsin	146,070	15,931	14,483	11,474	9,663	9,313
Wyoming	48,856	NA	NA	NA	NA	3,738
Total	8,579,585	786,266	736,229	709,183	670,153	684,111

* 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 1995 in Idaho do not equal the sum of the twelve months.

NA = 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, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers."

**Table 17. Natural Gas Deliveries to Electric Utility Consumers,
by State, 1995-1997**
(Million Cubic Feet)

State	YTD 1997	YTD 1996	YTD 1995	1997		1996 Total
				February	January	
Alabama	281	217	528	156	125	6,146
Alaska	5,659	5,412	5,073	2,439	3,220	31,767
Arizona	677	1,576	1,908	358	319	19,248
Arkansas	843	691	542	217	626	33,988
California	31,754	39,684	64,083	14,231	17,524	318,035
Colorado	659	498	540	261	398	5,511
Connecticut	1,400	53	2,870	1,208	192	10,456
Delaware	3,815	3,596	3,543	2,069	1,746	23,370
District of Columbia	0	0	0	0	0	0
Florida	27,486	30,089	26,237	17,001	10,485	283,557
Georgia	59	29	161	18	42	4,674
Hawaii	0	0	0	0	0	0
Idaho	0	0	0	0	0	0
Illinois	2,881	1,717	4,087	1,679	1,201	25,863
Indiana	284	710	1,099	137	147	4,330
Iowa	492	338	192	231	261	3,491
Kansas	956	2,269	2,448	409	547	22,607
Kentucky	191	242	157	80	111	1,836
Louisiana	28,355	29,009	36,543	13,608	14,747	252,139
Maine	0	0	0	0	0	0
Maryland	232	178	1,852	47	185	8,455
Massachusetts	4,355	2,387	1,777	2,785	1,570	45,037
Michigan	4,292	5,195	3,371	2,375	1,916	32,559
Minnesota	782	428	1,050	124	658	5,301
Mississippi	5,923	6,705	15,267	2,717	3,207	83,251
Missouri	138	280	557	53	86	5,223
Montana	91	66	16	27	64	470
Nebraska	109	203	152	78	31	2,351
Nevada	2,831	5,601	4,908	1,363	1,468	46,766
New Hampshire	1	1	17	0	0	3
New Jersey	1,769	3,462	4,507	1,023	746	25,825
New Mexico	4,050	2,744	5,115	1,991	2,059	29,969
New York	16,940	6,907	26,893	12,117	4,823	142,688
North Carolina	9	44	13	9	0	2,381
North Dakota	0	0	0	0	0	3
Ohio	195	277	312	71	124	2,867
Oklahoma	11,128	15,520	15,931	4,867	6,260	136,436
Oregon	295	0	4,384	0	295	14,015
Pennsylvania	598	464	2,892	316	281	7,239
Rhode Island	4,109	3,197	0	2,021	2,088	25,071
South Carolina	15	10	10	4	11	1,206
South Dakota	46	11	22	19	26	725
Tennessee	0	0	0	0	0	572
Texas	114,889	132,567	120,017	54,897	59,992	1,039,155
Utah	256	289	1,715	118	138	3,428
Vermont	4	1	37	2	2	24
Virginia	221	1,504	4,259	44	178	10,275
Washington	8	91	1,093	2	6	6,590
West Virginia	36	49	57	23	12	205
Wisconsin	2,956	707	688	1,782	1,174	7,303
Wyoming	16	12	20	7	9	87
Total	282,088	305,027	366,942	142,984	139,104	2,732,496

See footnotes at end of table.

**Table 17. Natural Gas Deliveries to Electric Utility Consumers,
by State, 1995-1997**
(Million Cubic Feet) — Continued

State	1996					
	December	November	October	September	August	July
Alabama	291	480	384	593	708	1,457
Alaska	3,078	2,683	2,637	2,449	2,595	2,514
Arizona	443	296	2,242	2,145	4,797	3,286
Arkansas	1,226	297	201	4,215	5,421	7,029
California	17,182	22,900	32,454	35,564	53,941	42,047
Colorado	454	319	506	724	798	665
Connecticut	131	912	1,643	2,168	2,269	1,409
Delaware	1,048	2,129	2,330	2,562	2,416	2,342
District of Columbia	0	0	0	0	0	0
Florida	13,124	17,908	28,677	33,595	33,376	29,468
Georgia	43	80	9	243	588	1,514
Hawaii	0	0	0	0	0	0
Idaho	0	0	0	0	0	0
Illinois	550	1,859	1,046	2,309	4,289	4,369
Indiana	236	256	144	197	570	483
Iowa	236	232	211	277	298	355
Kansas	672	578	808	1,959	4,148	4,884
Kentucky	82	104	65	83	281	249
Louisiana	12,921	14,958	18,877	21,484	32,455	35,959
Maine	0	0	0	0	0	0
Maryland	211	263	485	1,521	1,920	1,273
Massachusetts	1,562	3,081	8,648	9,009	7,190	3,508
Michigan	2,888	3,151	2,705	3,320	2,746	2,767
Minnesota	419	403	469	602	624	690
Mississippi	3,671	6,561	5,392	9,812	12,074	10,509
Missouri	69	238	193	287	896	1,152
Montana	72	85	42	35	23	45
Nebraska	82	94	122	161	213	348
Nevada	2,311	2,458	4,266	4,900	6,394	6,552
New Hampshire	0	1	0	0	0	0
New Jersey	445	1,038	1,481	3,575	4,064	4,441
New Mexico	2,244	2,423	2,787	2,492	3,456	3,480
New York	5,108	10,715	14,459	21,421	24,086	18,789
North Carolina	1	1	112	75	196	766
North Dakota	0	0	0	1	1	0
Ohio	106	259	56	257	593	312
Oklahoma	6,107	8,068	9,395	13,201	19,557	19,747
Oregon	334	1,289	3,049	3,801	3,202	2,339
Pennsylvania	282	654	650	1,150	1,778	676
Rhode Island	2,167	2,449	2,424	2,236	2,417	2,031
South Carolina	20	16	23	350	64	239
South Dakota	35	80	5	76	178	155
Tennessee	0	1	0	79	240	130
Texas	51,332	59,062	75,410	90,570	119,967	136,109
Utah	142	130	133	554	870	810
Vermont	3	3	3	3	2	3
Virginia	333	193	473	1,677	1,578	1,704
Washington	21	358	801	2,251	2,558	451
West Virginia	43	3	1	26	15	11
Wisconsin	702	803	572	739	1,198	532
Wyoming	6	6	7	8	9	4
Total	132,434	169,879	226,394	284,758	367,059	357,604

See footnotes at end of table.

**Table 17. Natural Gas Deliveries to Electric Utility Consumers,
by State, 1995-1997**
(Million Cubic Feet) — Continued

State	1996					
	June	May	April	March	February	January
Alabama	931	840	112	134	125	92
Alaska	2,611	2,592	2,434	2,763	2,573	2,839
Arizona	1,940	1,047	828	649	550	1,025
Arkansas	5,722	4,342	3,663	1,181	433	258
California	23,684	18,648	18,202	13,728	15,742	23,942
Colorado	400	584	246	317	305	193
Connecticut	951	595	298	28	27	26
Delaware	2,724	1,189	1,291	1,742	939	2,657
District of Columbia	0	0	0	0	0	0
Florida	28,311	31,435	21,801	15,773	13,992	16,097
Georgia	1,010	1,000	61	98	15	13
Hawaii	0	0	0	0	0	0
Idaho	0	0	0	0	0	0
Illinois	4,205	2,562	2,103	856	421	1,296
Indiana	746	506	248	233	337	373
Iowa	545	435	289	274	162	176
Kansas	4,175	1,661	728	726	701	1,568
Kentucky	235	236	139	119	56	186
Louisiana	31,317	26,523	13,556	15,080	14,146	14,863
Maine	0	0	0	0	0	0
Maryland	1,278	980	220	126	69	109
Massachusetts	3,616	2,443	2,108	1,485	1,435	952
Michigan	3,062	2,613	2,011	2,100	2,214	2,981
Minnesota	699	273	342	351	200	229
Mississippi	11,998	8,484	4,734	3,311	2,838	3,868
Missouri	1,011	802	184	111	134	146
Montana	52	8	4	37	23	43
Nebraska	466	320	202	139	80	123
Nevada	4,802	4,271	2,737	2,474	2,488	3,113
New Hampshire	0	0	0	0	0	0
New Jersey	4,207	1,984	647	483	1,291	2,171
New Mexico	2,895	3,067	1,997	2,383	861	1,883
New York	16,773	13,132	5,595	5,703	3,392	3,514
North Carolina	802	377	3	3	9	35
North Dakota	1	0	0	0	0	0
Ohio	477	426	46	58	90	187
Oklahoma	17,701	12,313	7,340	7,490	6,910	8,610
Oregon	0	0	0	0	0	0
Pennsylvania	591	506	262	225	120	344
Rhode Island	2,045	2,011	1,700	2,395	1,523	1,674
South Carolina	278	188	9	9	5	4
South Dakota	174	2	3	6	10	1
Tennessee	78	15	0	29	0	0
Texas	114,370	114,229	72,920	72,619	61,382	71,184
Utah	227	8	128	137	151	138
Vermont	4	0	2	0	0	1
Virginia	1,532	860	107	314	505	998
Washington	0	1	0	57	26	65
West Virginia	21	9	16	13	16	33
Wisconsin	772	696	229	353	271	436
Wyoming	17	5	5	8	5	7
Total	299,454	264,216	169,550	156,120	136,572	168,455

See footnotes at end of table.

**Table 17. Natural Gas Deliveries to Electric Utility Consumers,
by State, 1995-1997**
(Million Cubic Feet) — Continued

State	1995					
	Total	December	November	October	September	August
Alabama	7,377	107	226	260	418	2,562
Alaska	29,809	2,528	2,436	2,350	2,536	2,706
Arizona	18,846	510	502	375	2,738	5,286
Arkansas	32,750	813	622	2,059	4,391	7,508
California	394,698	23,944	30,266	34,916	50,120	58,660
Colorado	3,798	259	230	341	377	358
Connecticut	19,310	44	928	1,000	1,077	2,352
Delaware	27,010	1,964	2,478	2,356	2,341	3,165
District of Columbia	0	0	0	0	0	0
Florida	318,854	17,056	25,857	30,486	33,168	32,954
Georgia	7,834	17	63	184	235	3,049
Hawaii	0	0	0	0	0	0
Idaho	0	0	0	0	0	0
Illinois	39,143	2,782	3,216	1,456	1,228	8,989
Indiana	8,349	671	623	246	166	2,386
Iowa	3,614	145	129	215	278	1,196
Kansas	27,945	1,090	1,050	629	2,281	8,016
Kentucky	866	170	124	30	23	87
Louisiana	322,923	16,716	21,614	26,302	31,977	41,725
Maine	0	0	0	0	0	0
Maryland	18,833	140	435	632	2,163	5,936
Massachusetts	64,623	1,732	3,431	5,658	7,340	9,537
Michigan	35,784	3,540	3,217	2,521	2,961	5,909
Minnesota	8,292	255	456	562	719	1,700
Mississippi	111,229	6,426	5,181	6,374	10,892	16,129
Missouri	12,830	234	500	416	808	3,949
Montana	388	27	32	16	26	141
Nebraska	3,059	265	269	246	198	782
Nevada	40,134	2,686	2,463	3,138	4,522	5,977
New Hampshire	2,248	0	9	2	122	547
New Jersey	45,897	2,199	2,576	2,133	3,362	10,598
New Mexico	31,924	1,842	2,025	1,917	2,286	3,692
New York	246,265	8,774	16,690	19,517	22,888	35,249
North Carolina	3,146	66	114	194	123	1,509
North Dakota	1	0	0	0	0	0
Ohio	7,459	315	402	179	555	2,794
Oklahoma	154,114	9,251	7,826	8,438	13,154	25,658
Oregon	19,136	455	1,700	2,940	2,940	2,932
Pennsylvania	24,697	267	380	1,527	2,953	5,002
Rhode Island	5,002	2,061	1,571	426	545	284
South Carolina	6,615	12	10	1,064	1,441	1,897
South Dakota	931	26	35	32	26	449
Tennessee	2,055	0	0	0	49	1,251
Texas	1,047,274	61,416	55,785	75,055	97,312	137,556
Utah	8,707	188	452	865	1,245	1,270
Vermont	138	48	13	3	2	2
Virginia	16,414	761	1,209	1,191	1,223	2,171
Washington	6,356	12	268	1,134	2,554	1,062
West Virginia	410	23	40	45	18	29
Wisconsin	9,289	610	465	243	304	3,004
Wyoming	128	8	11	8	10	8
Total	3,196,507	172,457	197,926	239,680	316,096	468,021

* 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, "Monthly Power Plant Report."

Table 18. Natural Gas Deliveries to All Consumers, by State, 1995-1997
(Million Cubic Feet)

State	YTD 1997	YTD 1996	YTD 1995	1997		1996
				February	January	Total
Alabama	61,465	65,617	60,354	29,964	31,500	296,990
Alaska	29,154	27,166	22,146	13,399	15,754	148,552
Arizona	23,499	22,167	23,433	11,178	12,320	102,298
Arkansas	51,796	54,331	48,031	24,791	27,006	233,781
California	337,021	314,587	358,450	163,023	^a 173,999	1,707,167
Colorado	NA	72,901	64,000	NA	37,006	270,081
Connecticut	31,453	31,759	32,017	16,125	15,328	126,655
Delaware	11,494	11,800	10,927	5,923	5,571	54,125
District of Columbia	9,975	10,565	10,243	4,954	5,022	33,701
Florida	63,785	66,060	61,754	34,471	29,314	^a 480,111
Georgia	84,675	88,088	85,341	39,917	44,759	370,880
Hawaii	475	486	486	237	238	2,652
Idaho	14,672	14,798	13,461	7,129	7,543	61,034
Illinois	307,127	319,130	298,850	133,897	173,229	1,113,544
Indiana	142,778	147,478	141,592	64,843	77,935	568,117
Iowa	67,636	68,489	62,978	28,945	38,692	258,269
Kansas	64,241	75,222	63,639	28,858	35,382	^a 296,671
Kentucky	54,550	57,343	54,484	23,324	31,225	208,841
Louisiana	NA	220,667	237,800	NA	^a 112,329	^a 1,404,133
Maine	1,421	1,436	1,265	643	778	^a 5,726
Maryland	NA	51,854	48,986	NA	28,214	^a 192,203
Massachusetts	84,240	81,837	78,714	44,637	39,603	^a 354,145
Michigan	255,527	270,376	240,683	120,917	134,610	989,668
Minnesota	94,945	94,754	90,317	43,532	51,412	350,550
Mississippi	NA	39,357	46,496	NA	19,136	^a 128,375
Missouri	91,295	91,151	83,053	45,919	45,376	285,530
Montana	15,633	14,745	12,045	7,209	8,424	55,377
Nebraska	37,644	31,685	29,150	19,080	18,564	119,060
Nevada	21,634	22,584	21,710	10,293	11,340	^a 122,326
New Hampshire	5,171	5,296	4,630	2,626	2,545	^a 18,951
New Jersey	135,616	160,208	147,461	65,638	69,978	^a 570,383
New Mexico	29,886	26,821	25,307	13,722	16,164	114,140
New York	NA	NA	252,464	NA	142,444	NA
North Carolina	51,091	52,811	48,249	25,812	25,279	210,163
North Dakota	10,219	8,960	8,242	4,992	5,227	32,024
Ohio	247,278	263,632	246,531	113,267	134,011	^a 916,665
Oklahoma	90,108	95,535	88,893	43,401	46,707	458,333
Oregon	34,091	31,537	31,052	15,522	18,569	161,633
Pennsylvania	176,535	205,635	179,739	84,396	92,139	^a 695,388
Rhode Island	17,453	17,766	13,092	8,649	8,804	81,964
South Carolina	31,519	30,709	29,296	15,601	15,917	144,920
South Dakota	10,192	9,416	8,243	4,507	5,685	34,566
Tennessee	67,883	69,234	62,609	34,342	33,541	255,525
Texas	616,284	617,078	526,709	288,325	327,959	3,566,301
Utah	NA	34,201	32,463	NA	NA	129,651
Vermont	2,137	2,064	1,934	1,059	1,078	7,324
Virginia	57,660	60,826	58,678	27,267	30,393	230,607
Washington	NA	52,263	48,726	NA	27,497	232,030
West Virginia	NA	30,877	29,151	NA	14,312	118,099
Wisconsin	110,439	110,975	100,070	48,970	61,469	399,549
Wyoming	NA	15,727	14,968	NA	^a 6,193	75,849
Total	4,431,825	4,524,276	4,258,910	2,099,314	^a2,332,511	^a19,945,923

See footnotes at end of table.

Table 18. Natural Gas Deliveries to All Consumers, by State, 1995-1997
(Million Cubic Feet) — Continued

State	1996					
	December	November	October	September	August	July
Alabama	27,319	23,583	22,119	20,332	19,593	20,743
Alaska	15,166	13,247	12,312	10,693	11,277	10,709
Arizona	10,389	7,436	7,463	7,031	9,583	8,229
Arkansas	22,795	18,544	15,455	14,353	16,427	16,407
California	168,211	149,115	141,022	138,509	157,850	138,209
Colorado	32,976	23,011	14,865	11,832	12,078	11,736
Connecticut	13,863	10,880	8,940	7,524	7,714	6,750
Delaware	4,229	4,471	4,241	4,108	3,913	3,865
District of Columbia	4,755	2,456	1,382	1,173	1,129	1,216
Florida	30,258	34,115	43,675	48,884	48,289	44,583
Georgia	41,449	36,056	24,373	20,839	22,140	21,421
Hawaii	219	199	208	211	204	216
Idaho	6,739	5,427	4,266	3,587	3,040	3,344
Illinois	151,102	123,066	66,501	42,724	40,200	40,334
Indiana	66,160	53,888	36,632	26,721	25,801	26,095
Iowa	33,559	27,130	15,451	11,705	11,855	11,529
Kansas	34,068	26,472	14,303	^a 15,213	^a 21,226	^a 21,453
Kentucky	26,021	22,567	13,104	9,468	9,138	8,482
Louisiana	^a 112,878	^a 116,769	114,700	117,049	125,047	126,442
Maine	601	619	478	^a 291	^a 274	^a 242
Maryland	22,821	^a 17,112	^a 11,000	9,856	10,124	9,317
Massachusetts	36,611	31,456	28,417	24,605	22,832	17,360
Michigan	114,278	92,403	56,809	43,754	40,163	41,232
Minnesota	46,826	36,442	21,218	14,049	12,873	13,574
Mississippi	^a 16,490	17,003	14,701	18,432	20,596	19,342
Missouri	37,252	24,113	12,326	9,756	11,484	10,217
Montana	7,463	5,865	3,699	2,517	2,217	2,125
Nebraska	15,566	10,482	7,778	5,337	5,580	6,892
Nevada	^a 11,476	8,996	8,928	9,434	10,882	11,277
New Hampshire	2,120	1,856	^a 1,143	^a 769	^a 747	^a 714
New Jersey	59,894	43,302	30,790	^a 29,805	29,780	31,667
New Mexico	13,947	10,595	7,253	6,099	7,366	8,320
New York	117,412	91,875	66,767	61,672	63,917	59,261
North Carolina	23,018	18,744	14,596	11,915	11,647	11,294
North Dakota	4,619	3,219	1,791	1,135	925	942
Ohio	^a 110,426	88,642	55,791	35,016	35,443	34,936
Oklahoma	42,413	32,877	30,172	33,312	39,743	39,918
Oregon	17,620	15,290	14,366	13,575	12,666	11,471
Pennsylvania	^a 79,260	63,106	40,230	28,704	31,894	27,758
Rhode Island	7,968	7,190	6,306	5,616	5,671	4,849
South Carolina	15,190	12,398	10,765	9,779	9,420	9,297
South Dakota	4,910	3,529	1,711	1,192	1,188	1,171
Tennessee	29,273	23,932	15,968	14,241	13,443	12,963
Texas	273,464	253,629	267,075	281,873	315,725	324,503
Utah	16,278	12,744	10,028	7,821	6,544	6,510
Vermont	844	697	439	299	272	227
Virginia	28,351	20,904	13,251	10,930	12,380	12,873
Washington	26,216	21,948	17,141	15,951	15,489	12,883
West Virginia	13,251	10,525	7,734	6,749	5,913	6,024
Wisconsin	51,027	43,385	24,041	16,015	15,625	14,035
Wyoming	9,853	8,132	6,744	3,965	3,913	3,685
Total	^a2,058,894	^a1,731,444	^a1,370,468	^a1,246,421	^a1,323,243	^a1,288,643

See footnotes at end of table.

Table 18. Natural Gas Deliveries to All Consumers, by State, 1995-1997
(Million Cubic Feet) — Continued

State	1996					
	June	May	April	March	February	January
Alabama	19,388	22,384	26,632	29,281	33,118	32,499
Alaska	10,773	10,922	12,065	14,222	14,370	12,796
Arizona	7,237	5,974	7,607	9,180	9,858	12,308
Arkansas	15,543	15,591	20,877	23,458	26,518	27,813
California	119,325	118,768	124,638	136,932	148,523	166,064
Colorado	14,087	18,521	26,966	31,107	37,595	35,307
Connecticut	6,427	7,612	11,035	14,152	15,422	16,336
Delaware	4,587	3,285	4,160	5,467	5,148	6,651
District of Columbia	1,412	2,050	3,623	3,939	5,070	5,495
Florida	43,102	48,597	38,893	33,656	31,778	^a 34,281
Georgia	21,244	23,975	30,727	40,569	39,687	48,401
Hawaii	220	215	238	234	241	247
Idaho	3,719	4,536	5,166	6,416	7,356	7,439
Illinois	43,682	65,026	90,570	131,207	147,434	171,695
Indiana	50,192	23,800	48,030	63,320	68,685	78,793
Iowa	12,929	14,642	21,463	29,517	31,838	36,652
Kansas	^a 19,572	^a 17,483	^a 22,219	^a 29,440	^a 33,982	^a 41,240
Kentucky	11,542	10,460	16,338	24,378	25,967	31,376
Louisiana	124,985	118,351	112,844	114,401	110,488	110,179
Maine	^a 297	^a 366	^a 444	^a 676	693	743
Maryland	9,722	11,650	16,352	22,396	24,298	27,557
Massachusetts	18,985	^a 22,980	30,966	38,096	^a 40,663	41,174
Michigan	46,318	68,149	93,033	123,153	131,901	138,475
Minnesota	15,967	21,334	31,147	42,365	44,184	50,570
Mississippi	20,516	17,860	16,940	17,137	19,284	20,073
Missouri	11,454	15,946	26,353	35,478	43,511	47,640
Montana	2,487	3,594	4,732	5,934	7,379	7,365
Nebraska	5,260	6,827	10,437	13,215	15,592	16,093
Nevada	9,779	9,812	8,913	10,245	10,560	12,024
New Hampshire	^a 861	1,252	^a 1,801	^a 2,393	2,595	2,701
New Jersey	31,275	36,891	52,628	64,143	76,135	84,073
New Mexico	8,060	6,690	9,079	9,909	11,189	15,632
New York	62,398	72,723	93,201	117,367	NA	NA
North Carolina	12,024	13,678	18,923	21,512	25,453	27,358
North Dakota	1,281	2,170	3,212	3,769	4,599	4,362
Ohio	47,570	53,242	80,030	111,938	121,775	141,857
Oklahoma	36,014	33,626	34,163	40,561	45,614	49,920
Oregon	9,482	11,872	10,846	13,312	15,649	15,484
Pennsylvania	32,373	41,927	60,662	83,838	91,367	114,269
Rhode Island	5,296	6,192	6,613	8,498	8,208	9,559
South Carolina	9,916	10,794	13,110	13,543	14,966	15,743
South Dakota	1,502	1,932	2,978	5,043	4,614	4,795
Tennessee	13,556	14,505	21,844	26,568	33,026	36,206
Texas	308,851	321,382	292,108	310,615	293,918	323,160
Utah	5,643	6,988	10,578	12,315	17,039	17,162
Vermont	339	497	685	962	1,015	1,049
Virginia	11,109	13,466	17,731	28,783	29,425	31,401
Washington	12,980	16,524	18,409	22,245	26,815	25,428
West Virginia	5,790	7,267	10,514	13,456	14,859	16,018
Wisconsin	17,634	24,608	34,119	48,084	51,803	59,172
Wyoming	4,622	5,819	6,747	6,641	8,408	7,319
Total	^a 1,309,327	^a 1,414,759	^a 1,663,386	^a 2,015,063	^a 2,150,040	^a 2,374,236

See footnotes at end of table.

Table 18. Natural Gas Deliveries to All Consumers, by State, 1995-1997
(Million Cubic Feet) — Continued

State	1995					
	Total	December	November	October	September	August
Alabama	287,239	28,963	23,381	20,043	18,901	22,417
Alaska	134,996	12,726	10,307	9,190	11,378	14,831
Arizona	101,731	8,762	6,361	5,351	7,399	10,089
Arkansas	240,071	24,157	18,503	16,563	17,190	20,983
California	1,839,721	163,271	141,117	143,028	150,812	158,235
Colorado	247,180	25,542	20,007	13,350	11,621	11,284
Connecticut	131,130	13,952	10,343	6,867	6,053	7,325
Delaware	60,658	5,333	5,165	4,478	4,341	5,167
District of Columbia	32,735	4,773	2,362	1,247	1,166	1,123
Florida	507,329	38,384	41,005	44,326	46,317	46,589
Georgia	362,734	45,832	37,428	27,085	18,998	23,083
Hawaii	2,773	223	221	223	224	221
Idaho	57,407	6,178	5,305	4,328	3,164	2,891
Illinois	1,065,238	150,677	122,315	65,148	43,840	47,059
Indiana	527,719	67,428	52,765	32,397	25,643	26,751
Iowa	251,262	34,779	27,190	17,145	12,417	12,414
Kansas	286,430	36,741	22,381	16,329	17,252	26,376
Kentucky	196,392	27,754	22,164	12,598	9,069	8,591
Louisiana	1,443,515	111,753	111,708	117,082	120,846	131,803
Maine	5,333	709	593	376	272	256
Maryland	191,272	23,769	16,788	10,160	9,699	13,982
Massachusetts	360,429	38,915	29,250	21,124	21,269	23,772
Michigan	936,466	127,454	90,578	54,297	42,277	42,421
Minnesota	333,900	46,101	35,421	21,711	14,748	14,677
Mississippi	242,887	20,617	16,534	14,668	18,231	24,998
Missouri	271,956	36,814	23,737	12,821	10,631	13,080
Montana	51,660	6,443	5,486	3,935	2,527	2,295
Nebraska	132,923	NA	NA	NA	NA	8,600
Nevada	110,273	9,616	7,869	7,477	8,850	10,303
New Hampshire	19,877	2,329	1,629	957	844	1,201
New Jersey	588,315	76,194	50,145	30,355	30,005	36,339
New Mexico	105,796	11,879	9,301	5,555	6,008	7,625
New York	1,131,325	122,091	96,317	68,756	62,723	76,209
North Carolina	196,626	22,610	17,125	12,641	11,481	12,870
North Dakota	29,371	4,046	2,905	1,522	996	898
Ohio	877,112	123,470	90,931	51,937	36,514	36,657
Oklahoma	456,674	39,265	32,367	28,987	32,034	46,313
Oregon	138,545	13,661	12,166	11,392	9,853	10,405
Pennsylvania	680,495	89,477	72,297	38,110	30,890	32,096
Rhode Island	69,520	10,522	7,171	3,525	3,877	4,258
South Carolina	148,980	13,776	12,196	11,065	11,040	11,710
South Dakota	31,164	4,008	3,215	1,943	1,164	1,448
Tennessee	239,100	28,212	23,469	14,742	13,796	13,761
Texas	3,387,065	293,668	253,956	265,673	272,935	308,457
Utah	126,981	14,931	11,120	10,024	7,419	6,586
Vermont	7,268	1,065	653	400	266	267
Virginia	239,616	31,620	21,147	13,455	13,321	17,649
Washington	211,791	22,286	19,597	16,021	15,141	13,415
West Virginia	113,908	13,999	11,239	7,619	5,952	5,757
Wisconsin	376,291	53,338	42,409	23,685	16,609	17,229
Wyoming	70,986	NA	NA	NA	NA	4,275
Total	19,657,487	2,136,187	1,719,670	1,336,124	1,249,730	1,397,041

^R = Revised Data.

NA = Not Available.

Notes: Geographic coverage is the 50 States and the District of Columbia. 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.

Source: Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers" and Form EIA-759, "Monthly Power Plant Report."

Table 19. Average City Gate Price, by State, 1995-1997
(Dollars per Thousand Cubic Feet)

State	YTD 1997	YTD 1996	YTD 1995	1997		1996		
				February	January	Total	December	November
Alabama	4.23	3.23	2.59	4.02	4.44	3.48	4.07	3.63
Alaska	1.85	1.58	1.69	1.80	^R 1.88	1.58	1.59	1.60
Arizona	3.60	2.20	2.28	2.85	4.21	2.78	4.14	3.29
Arkansas	3.81	2.51	2.37	3.16	4.18	2.76	3.68	3.04
California	3.71	2.27	1.95	3.21	4.15	2.59	3.81	3.00
Colorado	NA	2.12	2.66	NA	NA	2.71	4.91	3.13
Connecticut	5.91	5.46	4.57	6.00	5.82	5.11	6.15	4.60
Delaware	5.97	3.32	2.57	5.09	6.92	3.59	4.82	3.42
District of Columbia	—	—	—	—	—	—	—	—
Florida	4.59	3.73	2.40	4.56	4.61	3.69	4.49	3.90
Georgia	4.54	3.39	2.79	4.16	4.80	3.76	4.66	3.71
Hawaii	6.93	5.55	4.99	7.73	6.16	6.05	6.67	6.30
Idaho	2.26	2.03	2.16	2.13	2.37	2.24	2.30	2.10
Illinois	3.60	3.15	2.38	3.30	3.79	3.27	4.05	3.25
Indiana	3.71	3.21	2.52	3.20	4.08	NA	NA	3.16
Iowa	3.85	3.11	2.54	3.66	3.99	3.47	4.09	3.46
Kansas	4.08	2.73	2.17	3.67	4.43	3.07	3.77	3.38
Kentucky	3.88	3.14	2.76	3.47	4.20	3.41	4.40	3.59
Louisiana	3.69	3.42	2.15	3.49	3.84	3.13	4.30	3.24
Maine	4.33	3.92	3.36	3.52	4.96	4.29	4.34	3.64
Maryland	NA	NA	2.56	NA	NA	NA	4.65	3.71
Massachusetts	NA	3.33	2.97	4.12	NA	4.01	4.82	3.72
Michigan	3.68	3.03	2.82	3.28	3.98	2.90	3.73	3.07
Minnesota	4.05	2.83	2.41	3.48	4.51	3.07	3.78	3.19
Mississippi	NA	3.30	2.30	NA	4.25	3.29	4.34	3.14
Missouri	3.82	2.59	2.34	3.50	4.05	3.25	4.03	3.20
Montana	3.65	2.89	3.42	3.50	3.74	3.03	3.46	3.04
Nebraska	4.08	2.56	2.30	3.65	4.43	3.06	3.99	3.11
Nevada	3.81	2.61	2.94	3.37	4.13	^R 3.17	3.97	3.46
New Hampshire	4.71	4.07	3.47	4.42	4.93	4.20	5.01	4.15
New Jersey	4.48	3.79	3.11	4.20	4.70	3.82	4.90	3.84
New Mexico	1.83	1.60	1.50	0.86	3.86	1.99	3.60	2.68
New York	NA	3.32	2.49	NA	NA	3.29	4.38	3.03
North Carolina	4.35	3.64	2.81	4.34	4.36	3.74	4.26	3.48
North Dakota	3.96	2.88	2.95	3.59	4.22	2.94	3.80	3.10
Ohio	5.55	3.94	3.97	5.41	5.68	4.37	4.79	4.95
Oklahoma	3.61	2.54	2.78	3.68	3.52	^R 2.56	2.84	^R 2.44
Oregon	2.68	2.11	2.47	2.35	2.95	2.42	2.95	2.41
Pennsylvania	4.18	3.28	3.11	4.12	4.22	3.97	4.43	4.11
Rhode Island	NA	3.88	2.84	4.26	^R 4.85	4.41	5.20	4.04
South Carolina	4.10	3.95	3.12	3.97	4.20	3.90	4.60	3.76
South Dakota	3.75	2.81	2.81	3.22	4.11	3.19	3.98	3.37
Tennessee	3.90	3.24	2.55	3.73	4.03	4.04	6.64	3.71
Texas	4.52	3.24	3.03	4.23	4.73	3.23	4.21	3.49
Utah	NA	2.19	3.70	NA	NA	2.25	2.39	3.32
Vermont	NA	2.88	2.42	2.16	NA	2.74	2.67	2.49
Virginia	4.62	3.63	2.93	3.92	5.14	3.89	5.13	3.69
Washington	NA	2.05	2.43	NA	3.45	2.44	3.14	2.50
West Virginia	NA	3.38	2.71	NA	3.70	3.33	3.53	3.25
Wisconsin	NA	2.83	2.62	3.54	NA	3.37	4.12	3.61
Wyoming	NA	NA	2.82	NA	NA	NA	2.55	2.18
Total	4.06	3.14	2.75	3.73	^R4.31	3.34	4.20	^R3.47

See footnotes at end of table.

Table 19. Average City Gate Price, by State, 1995-1997
(Dollars per Thousand Cubic Feet) — Continued

State	1996							
	October	September	August	July	June	May	April	March
Alabama	3.44	3.62	4.11	4.04	3.78	3.52	3.27	3.15
Alaska	1.55	1.57	1.54	1.54	1.57	1.58	1.58	1.60
Arizona	2.66	3.02	3.58	2.94	2.57	2.46	2.05	1.97
Arkansas	2.46	2.29	2.59	2.76	2.82	2.59	2.50	2.57
California	2.38	2.35	2.78	2.43	2.56	2.14	2.22	2.42
Colorado	2.65	2.28	2.29	2.29	2.40	2.50	2.93	2.16
Connecticut	4.46	4.65	4.42	4.75	5.03	4.94	5.22	4.66
Delaware	2.85	3.03	3.80	4.22	3.44	3.18	3.75	4.20
District of Columbia	—	—	—	—	—	—	—	—
Florida	3.28	3.03	3.57	3.58	3.31	3.39	3.97	3.83
Georgia	3.14	3.32	4.00	4.20	3.66	3.74	3.51	3.82
Hawaii	6.33	6.00	6.05	6.34	6.27	6.32	5.74	5.53
Idaho	2.11	2.72	2.48	5.26	3.39	2.28	2.21	2.12
Illinois	2.65	2.80	3.25	3.69	3.12	2.83	2.93	3.49
Indiana	2.49	2.04	2.70	3.30	3.10	2.56	2.90	3.06
Iowa	3.12	4.28	7.96	7.45	4.61	4.19	3.13	2.82
Kansas	2.91	2.65	3.08	3.57	3.51	3.22	3.23	2.70
Kentucky	2.94	3.16	3.04	3.07	3.08	3.83	3.50	3.29
Louisiana	2.20	2.26	2.69	3.01	2.71	2.65	3.06	3.29
Maine	3.93	3.91	4.35	5.04	5.51	5.32	5.34	4.01
Maryland	3.44	5.20	^a 5.85	6.04	5.63	4.35	4.01	3.70
Massachusetts	3.60	5.36	5.68	5.53	6.05	4.40	3.97	3.32
Michigan	2.49	2.31	2.98	2.87	2.64	2.69	2.80	3.11
Minnesota	2.65	2.91	3.32	4.13	2.88	2.81	2.72	2.79
Mississippi	2.83	2.59	2.89	3.10	2.90	2.70	3.37	3.36
Missouri	3.47	4.14	5.12	4.82	4.51	3.86	3.20	2.61
Montana	3.08	3.24	4.11	3.60	3.05	2.81	3.18	2.52
Nebraska	2.93	2.69	4.83	3.30	3.50	3.41	3.04	2.71
Nevada	2.96	3.22	3.80	3.44	3.37	^a 3.17	^a 2.90	2.64
New Hampshire	3.19	3.86	4.47	5.03	4.64	4.09	4.09	4.06
New Jersey	3.12	3.51	3.71	3.77	3.82	4.61	3.75	3.15
New Mexico	1.88	1.66	2.07	1.60	1.40	1.22	1.18	1.40
New York	2.86	2.61	3.15	3.13	3.17	3.18	3.40	3.34
North Carolina	3.22	3.67	3.94	3.75	3.75	3.69	3.95	3.60
North Dakota	2.49	2.54	3.44	2.90	2.78	2.64	2.62	2.45
Ohio	5.06	6.11	5.58	4.53	8.17	4.87	4.06	3.90
Oklahoma	1.99	2.53	2.65	2.51	2.40	2.61	2.53	2.58
Oregon	2.24	2.98	3.15	3.89	2.11	2.40	2.27	2.19
Pennsylvania	4.03	4.25	5.07	5.40	4.96	3.94	4.66	3.62
Rhode Island	3.91	5.94	6.51	7.46	6.42	5.06	3.53	3.85
South Carolina	3.26	3.53	3.87	4.01	3.49	3.96	3.96	3.94
South Dakota	2.87	3.42	6.37	4.74	3.96	2.92	2.63	2.84
Tennessee	2.92	3.39	3.67	3.48	3.67	3.72	3.28	3.29
Texas	2.73	2.95	3.06	3.04	2.91	2.81	3.13	3.05
Utah	1.66	2.22	2.08	2.15	2.12	1.93	1.98	2.34
Vermont	2.18	2.36	2.69	3.68	3.01	2.66	3.10	2.83
Virginia	3.34	3.40	4.42	4.52	4.93	4.00	3.38	3.58
Washington	1.94	2.71	3.21	3.57	3.39	2.30	2.23	1.99
West Virginia	3.57	3.77	4.29	3.66	3.28	3.89	3.26	3.24
Wisconsin	3.00	3.87	4.71	4.65	4.81	3.42	3.48	2.88
Wyoming	1.91	2.84	2.92	2.44	NA	NA	NA	NA
Total	2.93	3.03	^a 3.48	3.48	3.39	3.18	3.22	3.17

See footnotes at end of table.

Table 19. Average City Gate Price, by State, 1995-1997

(Dollars per Thousand Cubic Feet) — Continued

State	1996		1995					
	February	January	Total	December	November	October	September	August
Alabama	3.35	3.13	2.89	2.83	2.84	3.52	3.50	3.20
Alaska	1.60	1.56	1.67	1.67	1.66	1.63	1.64	1.57
Arizona	2.36	2.08	2.10	1.86	2.19	2.24	2.44	2.36
Arkansas	2.52	2.52	2.32	2.46	2.28	2.19	2.01	1.91
California	2.25	2.29	2.03	1.90	2.15	2.14	2.06	2.25
Colorado	2.18	2.08	2.65	2.60	2.56	2.41	2.89	3.84
Connecticut	5.37	5.55	4.70	4.60	4.13	4.27	4.80	5.30
Delaware	3.43	3.27	2.70	3.01	2.89	2.81	2.85	2.48
District of Columbia	—	—	—	—	—	—	—	—
Florida	3.60	3.84	2.74	3.32	3.05	2.75	2.75	2.47
Georgia	3.36	3.71	2.96	2.95	2.80	3.00	3.49	2.81
Hawaii	5.49	5.60	5.20	4.65	5.43	5.90	5.78	4.25
Idaho	2.08	1.98	2.18	1.98	2.14	1.83	2.79	2.72
Illinois	3.73	2.66	2.59	2.53	2.32	2.94	3.58	3.02
Indiana	3.32	3.11	2.84	2.82	2.67	2.96	3.57	3.18
Iowa	3.03	2.62	2.82	2.73	2.63	2.84	3.41	3.48
Kansas	2.67	2.66	2.36	2.44	2.38	2.82	2.80	2.52
Kentucky	3.05	3.19	2.80	2.87	2.45	2.61	2.51	2.80
Louisiana	3.24	3.58	2.21	2.78	2.44	2.23	2.05	1.90
Maine	3.89	3.95	3.35	3.08	3.03	2.72	3.54	5.13
Maryland	NA	3.82	2.87	2.68	2.71	3.44	3.95	3.25
Massachusetts	3.17	3.65	3.53	3.35	3.14	4.13	4.78	4.57
Michigan	2.91	3.14	2.61	2.81	2.56	2.54	2.61	2.50
Minnesota	2.78	2.90	2.52	2.65	2.50	2.43	2.63	2.84
Mississippi	3.07	3.49	2.53	3.23	2.71	2.77	2.43	2.21
Missouri	2.59	2.52	2.73	2.57	2.55	3.21	3.85	3.97
Montana	2.98	2.83	3.01	2.72	2.65	2.68	3.01	2.06
Nebraska	2.45	2.66	2.49	2.34	2.43	2.80	2.97	3.11
Nevada	2.75	2.51	2.73	2.20	2.62	2.64	3.23	3.06
New Hampshire	3.99	4.14	3.39	3.60	3.44	2.89	3.33	3.70
New Jersey	3.49	4.09	3.34	3.40	3.45	3.74	3.40	3.72
New Mexico	1.69	1.53	1.46	1.44	1.58	1.42	1.40	1.11
New York	3.19	3.42	2.47	2.98	2.61	2.53	2.32	2.12
North Carolina	3.66	3.65	2.95	2.95	2.77	2.98	3.59	3.24
North Dakota	2.82	2.94	2.58	2.55	2.25	2.31	2.49	1.95
Ohio	3.80	3.81	3.84	3.46	3.34	4.01	3.85	4.87
Oklahoma	2.60	2.46	2.52	2.27	2.24	1.97	1.93	2.39
Oregon	1.96	2.06	2.42	1.71	2.36	2.41	2.96	2.82
Pennsylvania	3.28	3.26	3.09	2.95	2.63	3.22	3.34	3.97
Rhode Island	3.92	3.28	3.57	3.34	3.13	4.54	5.28	5.85
South Carolina	3.77	4.01	3.25	3.27	3.16	3.04	3.63	3.43
South Dakota	2.79	2.54	2.88	2.68	2.62	2.73	3.51	3.93
Tennessee	4.56	4.50	2.71	3.01	2.68	2.69	2.72	2.64
Texas	3.13	3.20	2.95	3.06	2.97	2.75	2.74	2.62
Utah	2.10	2.27	2.88	2.43	2.46	2.18	3.16	2.40
Vermont	2.82	2.93	2.61	2.38	2.19	2.89	3.16	3.04
Virginia	3.36	3.88	2.92	3.10	2.57	3.40	2.22	3.08
Washington	2.12	1.98	2.18	2.07	2.14	2.02	2.06	1.98
West Virginia	3.48	2.60	2.85	3.04	2.26	3.48	3.46	3.13
Wisconsin	2.78	2.87	2.83	2.75	2.48	2.99	3.37	3.71
Wyoming	NA	NA	2.72	NA	NA	NA	NA	2.67
Total	3.16	3.13	2.78	2.83	2.67	2.83	2.89	2.87

^R = Revised Data.

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, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers."

Table 20. Average Price of Natural Gas Delivered to Residential Consumers, by State, 1995-1997
(Dollars per Thousand Cubic Feet)

State	YTD 1997	YTD 1996	YTD 1995	1997		1996		
				February	January	Total	December	November
Alabama	7.62	6.15	6.37	7.61	7.62	7.20	7.34	7.82
Alaska	3.64	3.31	3.52	3.66	3.63	3.42	3.32	3.37
Arizona	6.66	6.69	7.08	6.71	6.62	7.50	6.83	7.41
Arkansas	6.29	5.24	5.15	6.09	6.48	5.90	6.62	6.03
California	6.27	6.39	6.47	6.27	6.27	6.43	6.19	6.40
Colorado	NA	4.02	4.53	NA	NA	4.32	3.88	4.24
Connecticut	10.69	9.93	9.90	10.96	10.41	10.08	10.49	10.26
Delaware	7.64	6.28	6.22	7.74	7.53	7.10	7.71	7.98
District of Columbia	9.59	7.88	7.84	9.36	9.81	8.84	9.83	8.83
Florida	10.63	9.76	8.30	10.69	10.57	11.41	11.27	12.72
Georgia	6.93	5.92	6.00	7.47	6.53	6.66	6.72	5.81
Hawaii	23.32	18.52	16.73	25.55	21.15	19.91	19.60	20.81
Idaho	4.81	4.98	5.45	4.80	4.81	5.18	4.88	5.21
Illinois	6.29	4.38	4.58	6.50	6.15	5.27	5.13	5.05
Indiana	5.93	4.76	5.30	6.06	5.82	5.49	5.25	5.54
Iowa	5.75	4.66	4.59	6.01	5.57	5.56	5.78	5.37
Kansas	6.44	5.07	4.44	6.58	6.34	5.66	5.83	5.52
Kentucky	5.93	4.77	4.79	6.02	5.87	5.57	6.13	5.76
Louisiana	7.11	5.70	5.18	6.86	^a 7.34	6.75	7.29	7.74
Maine	8.35	7.38	7.25	8.66	8.10	7.88	8.53	8.05
Maryland	NA	6.64	6.14	NA	NA	^a 7.45	7.64	^a 7.14
Massachusetts	NA	8.92	9.13	9.62	NA	8.93	9.47	9.46
Michigan	4.99	4.49	4.39	4.94	5.04	4.89	4.99	4.94
Minnesota	6.20	4.90	4.60	5.81	6.50	5.46	6.17	5.46
Mississippi	NA	5.01	4.85	NA	6.17	^a 5.54	^a 6.37	6.08
Missouri	6.59	5.20	4.51	6.50	6.67	5.97	6.02	5.94
Montana	4.48	4.62	4.97	4.49	4.47	4.89	4.62	4.92
Nebraska	6.01	4.75	4.46	5.75	6.23	5.34	5.78	5.42
Nevada	5.64	5.70	6.30	5.76	5.54	6.19	5.69	6.05
New Hampshire	9.17	7.11	7.32	9.24	9.10	7.34	8.34	8.60
New Jersey	7.55	7.03	6.86	7.47	7.62	7.37	7.10	7.37
New Mexico	5.47	3.71	4.84	5.06	5.79	4.30	3.58	3.66
New York	NA	7.97	7.87	NA	NA	NA	NA	NA
North Carolina	8.77	6.46	6.40	8.76	8.77	7.57	7.88	8.19
North Dakota	4.38	4.24	4.29	4.32	4.43	4.56	4.36	4.37
Ohio	6.75	5.13	5.38	6.83	6.68	5.88	6.26	6.53
Oklahoma	6.13	4.75	4.86	5.79	6.44	5.57	5.25	5.91
Oregon	5.74	5.73	6.47	5.76	5.73	6.25	5.90	6.24
Pennsylvania	7.83	6.55	7.21	8.05	7.64	7.39	7.60	7.73
Rhode Island	8.99	7.55	8.27	9.18	8.79	8.60	8.68	9.36
South Carolina	8.68	7.16	7.60	8.69	8.67	7.62	8.07	7.71
South Dakota	5.32	4.55	4.57	5.09	5.50	5.25	5.39	5.41
Tennessee	6.92	5.74	5.50	7.00	6.84	6.33	6.18	6.00
Texas	6.22	5.10	5.27	6.05	6.35	5.77	6.04	5.24
Utah	NA	4.24	4.83	NA	NA	4.47	4.75	4.81
Vermont	6.04	6.00	6.50	6.04	6.04	6.40	6.19	6.42
Virginia	8.68	7.02	6.97	8.46	8.87	7.94	8.48	8.26
Washington	NA	5.39	5.68	NA	5.39	5.63	5.43	5.59
West Virginia	NA	6.87	6.68	NA	6.68	7.05	6.83	7.04
Wisconsin	NA	5.83	5.87	6.66	NA	6.00	6.86	6.24
Wyoming	NA	NA	4.69	NA	3.96	4.16	3.87	3.66
Total	6.72	5.68	5.81	6.76	6.69	^a 6.29	^a 6.38	^a 6.30

See footnotes at end of table.

Table 20. Average Price of Natural Gas Delivered to Residential Consumers, by State, 1995-1997

(Dollars per Thousand Cubic Feet) — Continued

State	1996							
	October	September	August	July	June	May	April	March
Alabama	9.68	10.60	10.95	10.74	10.53	8.08	6.87	6.82
Alaska	3.46	3.77	3.82	3.87	3.71	3.53	3.40	3.34
Arizona	9.25	10.03	10.37	9.99	9.32	8.67	7.57	6.97
Arkansas	7.03	7.72	8.27	8.41	7.85	6.72	5.44	5.40
California	6.66	5.93	6.84	8.27	6.98	6.38	6.00	6.20
Colorado	4.91	6.28	6.64	6.13	5.10	4.42	4.20	4.10
Connecticut	10.58	10.65	10.69	10.34	9.94	9.62	10.06	9.80
Delaware	9.02	10.51	10.12	10.20	8.86	7.78	6.70	6.38
District of Columbia	9.86	10.37	7.52	7.80	9.02	9.83	10.18	8.96
Florida	13.80	14.22	14.49	13.77	13.63	12.55	10.95	10.55
Georgia	8.49	10.28	10.46	10.93	11.34	10.43	7.30	5.54
Hawaii	21.05	20.57	20.60	20.91	20.22	20.54	19.29	19.21
Idaho	5.59	6.09	6.45	6.33	5.70	5.38	5.28	5.06
Illinois	5.93	8.13	9.25	8.42	8.20	6.76	5.51	4.91
Indiana	6.57	8.47	8.71	8.45	7.83	6.52	5.73	5.07
Iowa	6.74	9.26	12.82	8.98	7.96	6.26	5.13	4.82
Kansas	6.52	7.15	8.46	7.28	7.70	6.87	5.77	5.31
Kentucky	6.65	7.88	8.43	8.14	7.53	7.24	5.13	5.11
Louisiana	8.30	8.33	8.70	9.29	8.52	8.18	7.00	5.64
Maine	7.04	8.23	8.90	8.57	8.06	8.27	8.27	7.88
Maryland	^R 8.26	10.48	10.70	10.63	9.69	8.38	7.19	6.99
Massachusetts	7.49	9.24	9.50	9.04	7.84	6.95	9.42	9.02
Michigan	5.50	6.45	7.21	7.07	6.45	5.12	4.72	4.37
Minnesota	5.47	6.65	7.66	7.49	6.69	5.76	5.37	4.96
Mississippi	6.14	6.06	6.19	6.26	6.15	5.96	5.46	5.36
Missouri	7.58	9.53	10.20	9.53	8.45	6.87	5.71	5.47
Montana	5.56	6.22	6.67	6.34	5.32	4.94	4.71	4.65
Nebraska	6.04	7.33	7.56	7.24	6.36	5.65	5.12	4.94
Nevada	7.40	7.91	8.13	7.66	7.04	6.68	6.22	5.86
New Hampshire	6.99	8.19	8.51	8.38	7.23	6.29	5.89	7.31
New Jersey	8.05	8.80	8.95	9.20	8.81	7.16	7.58	7.12
New Mexico	5.58	8.21	7.08	4.44	4.21	11.39	4.60	4.54
New York	NA	NA	NA	10.86	9.83	8.64	8.22	7.93
North Carolina	9.90	12.48	12.77	11.10	11.45	9.04	7.29	7.52
North Dakota	5.42	6.88	7.33	7.10	5.78	4.46	4.43	4.31
Ohio	7.26	8.38	8.94	8.07	7.04	6.31	5.37	5.33
Oklahoma	8.02	9.06	9.46	9.18	8.43	6.87	5.21	5.09
Oregon	6.95	7.78	8.20	7.74	6.93	6.50	6.34	6.17
Pennsylvania	8.59	10.72	10.31	10.24	9.08	8.21	7.38	6.73
Rhode Island	9.90	11.33	11.29	11.05	9.82	8.39	7.92	8.06
South Carolina	8.44	9.52	9.99	9.84	9.09	8.12	6.97	7.68
South Dakota	5.94	7.74	11.79	8.33	6.65	5.65	5.21	4.36
Tennessee	7.17	8.54	8.87	8.54	8.40	7.34	6.70	6.51
Texas	6.97	7.73	8.24	7.87	7.21	6.81	5.98	5.32
Utah	3.79	4.15	5.19	4.99	5.40	4.59	3.90	4.94
Vermont	7.21	8.41	8.92	8.73	7.49	6.59	6.24	6.09
Virginia	9.78	11.94	12.50	12.40	10.73	8.78	7.53	6.88
Washington	6.08	6.86	7.17	6.71	6.06	5.71	5.59	5.44
West Virginia	7.58	9.26	10.28	9.77	9.21	7.55	6.94	6.74
Wisconsin	5.07	6.00	6.34	6.26	5.81	5.56	5.90	5.87
Wyoming	3.85	5.16	5.54	5.57	4.90	4.47	4.31	4.19
Total	^R 7.00	7.94	8.62	8.55	7.75	6.80	6.22	5.89

See footnotes at end of table.

Table 20. Average Price of Natural Gas Delivered to Residential Consumers, by State, 1995-1997
(Dollars per Thousand Cubic Feet) — Continued

State	1996		1995					
	February	January	Total	December	November	October	September	August
Alabama	6.33	5.97	6.86	5.97	6.61	8.86	9.41	9.34
Alaska	3.30	3.32	3.63	3.51	3.60	3.76	3.96	4.14
Arizona	6.80	6.60	7.82	7.04	8.18	9.33	10.04	10.51
Arkansas	5.25	5.22	5.48	4.46	5.65	6.99	7.51	8.01
California	6.32	6.47	6.42	5.92	5.78	6.66	6.90	6.76
Colorado	4.02	4.02	4.80	4.29	4.52	5.24	6.62	6.71
Connecticut	9.85	10.00	10.00	9.46	9.96	11.06	11.11	11.34
Delaware	6.25	6.32	6.60	6.09	6.83	8.27	8.95	8.86
District of Columbia	8.42	7.37	8.03	7.26	7.74	9.62	10.18	7.48
Florida	9.93	9.61	9.85	9.19	10.60	12.16	11.61	12.22
Georgia	5.97	5.06	6.18	4.98	4.79	6.72	7.95	8.70
Hawaii	18.82	18.20	17.55	18.80	17.92	17.89	17.84	17.91
Idaho	4.98	4.97	5.59	5.29	5.46	5.77	6.42	6.69
Illinois	4.55	4.24	4.86	4.18	4.10	4.82	6.07	6.97
Indiana	4.85	4.68	5.37	4.55	4.67	5.67	7.09	7.89
Iowa	4.86	4.51	5.09	4.89	4.56	5.53	7.46	8.85
Kansas	5.17	4.99	4.91	5.04	5.22	5.73	6.46	6.96
Kentucky	4.71	4.82	5.05	4.52	4.27	5.94	7.78	8.30
Louisiana	5.44	6.11	6.01	6.14	6.33	7.68	7.70	7.61
Maine	7.78	7.02	7.32	7.01	7.21	7.17	7.78	8.37
Maryland	6.83	6.47	6.62	6.19	6.50	7.72	8.64	9.23
Massachusetts	9.01	9.00	9.04	8.86	9.53	8.24	9.33	9.85
Michigan	4.53	4.45	4.72	4.49	4.64	5.23	6.16	7.08
Minnesota	4.87	4.94	4.80	4.80	4.82	5.28	6.07	6.57
Mississippi	4.75	5.26	5.28	5.18	5.47	6.43	6.74	6.15
Missouri	5.31	5.11	5.16	5.10	5.45	6.71	8.20	9.03
Montana	4.59	4.66	5.15	4.80	4.93	5.48	6.13	6.57
Nebraska	4.73	4.78	4.83	4.74	4.96	5.84	6.32	6.59
Nevada	5.76	5.64	6.76	5.97	6.92	8.05	8.53	8.57
New Hampshire	7.19	7.03	7.16	7.18	7.77	7.24	7.96	8.73
New Jersey	7.06	7.01	7.27	7.03	7.20	8.29	9.84	9.55
New Mexico	4.16	3.42	5.04	3.55	3.86	5.51	7.26	7.43
New York	8.01	7.73	8.42	7.77	8.70	11.09	11.81	12.00
North Carolina	6.81	6.13	6.93	6.21	6.50	8.94	10.65	11.61
North Dakota	4.20	4.28	4.66	4.29	4.50	6.32	6.69	7.55
Ohio	5.38	4.92	5.46	4.97	5.01	6.10	7.15	7.64
Oklahoma	4.76	4.74	5.56	5.04	5.84	7.32	8.46	8.80
Oregon	5.67	6.05	6.74	6.32	6.75	7.57	8.37	8.57
Pennsylvania	6.68	6.42	7.16	5.60	6.42	8.00	10.11	10.63
Rhode Island	7.88	7.97	8.02	7.89	8.70	9.41	10.45	10.65
South Carolina	7.40	7.02	7.54	6.76	6.84	8.27	8.96	9.48
South Dakota	4.67	4.43	5.05	4.86	5.07	5.05	7.09	8.57
Tennessee	6.04	5.53	5.77	6.26	4.31	6.92	8.26	8.10
Texas	5.06	4.84	5.92	5.23	5.77	7.08	7.71	8.04
Utah	3.97	4.51	4.74	4.72	4.99	4.09	4.68	5.28
Vermont	6.02	5.98	6.82	6.09	6.88	7.92	9.03	9.81
Virginia	7.23	6.83	7.18	6.44	5.55	9.33	10.86	10.94
Washington	5.38	5.41	5.89	5.57	5.68	6.26	7.04	7.26
West Virginia	6.69	6.67	7.05	6.67	6.91	7.77	9.11	10.02
Wisconsin	5.75	5.90	5.82	5.88	5.74	5.14	5.83	6.36
Wyoming	3.94	4.14	4.83	NA	NA	NA	NA	6.16
Total	5.78	5.60	6.06	5.54	5.61	6.62	7.73	8.13

^a = Revised Data.

NA = Not Available.

Notes: Data for 1995 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, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers."

**Table 21. Average Price of Natural Gas Sold to Commercial Consumers, by State,
1995-1997**
(Dollars per Thousand Cubic Feet)

State	YTD 1997	YTD 1996	YTD 1995	1997		1996		
				February	January	Total	December	November
Alabama	6.95	5.70	5.88	6.92	6.97	6.18	6.49	6.30
Alaska	2.63	2.34	2.37	2.62	2.63	2.29	2.36	2.31
Arizona	5.02	4.92	5.37	5.03	5.01	4.98	4.95	4.98
Arkansas	5.25	4.34	4.10	5.07	5.42	4.68	5.58	5.01
California	7.08	6.54	6.95	6.98	7.18	6.02	6.43	5.55
Colorado	NA	3.60	4.23	NA	NA	3.57	3.23	3.32
Connecticut	8.26	7.81	7.79	8.45	8.09	7.37	7.86	7.80
Delaware	6.38	5.30	5.22	6.49	6.27	5.77	6.14	5.95
District of Columbia	8.17	7.18	6.01	8.03	8.30	7.09	7.71	7.72
Florida	6.70	6.29	5.24	6.84	6.56	6.47	6.49	6.44
Georgia	6.54	5.37	5.56	6.66	6.44	5.82	6.26	5.66
Hawaii	14.93	13.20	12.54	15.07	14.79	14.52	15.25	15.43
Idaho	4.29	4.43	4.75	4.29	4.30	4.55	4.33	4.62
Illinois	5.80	4.18	4.41	5.68	5.89	4.91	5.19	4.82
Indiana	5.27	4.11	4.60	5.43	5.14	4.58	4.56	4.63
Iowa	5.11	4.04	3.87	5.32	4.96	4.62	5.19	5.13
Kansas	6.10	4.92	3.97	6.25	5.98	^a 5.13	5.45	5.07
Kentucky	5.71	4.47	4.72	5.80	5.64	5.04	5.62	5.45
Louisiana	6.79	5.65	4.96	6.49	^a 7.09	^a 6.08	^a 6.86	6.57
Maine	7.91	6.90	6.69	8.12	7.75	^a 7.09	7.87	7.58
Maryland	NA	5.79	4.96	NA	NA	5.90	6.42	5.53
Massachusetts	NA	7.43	7.33	8.28	NA	^a 6.71	7.85	7.25
Michigan	4.90	4.44	4.30	4.80	4.99	4.69	4.91	4.79
Minnesota	5.65	4.38	4.05	5.23	6.02	4.62	5.66	4.58
Mississippi	NA	4.65	4.53	NA	5.61	5.11	5.61	4.76
Missouri	6.53	5.06	4.28	6.47	6.58	5.34	5.81	5.30
Montana	4.46	4.60	4.88	4.45	4.46	4.72	4.56	4.76
Nebraska	3.84	NA	4.15	2.54	6.00	4.47	5.38	4.03
Nevada	4.91	4.82	5.36	4.86	4.97	4.91	4.88	4.89
New Hampshire	8.61	6.80	6.85	8.81	8.41	6.76	7.75	7.78
New Jersey	6.90	8.59	5.93	7.10	6.70	7.04	7.26	6.47
New Mexico	4.86	3.16	4.14	4.35	5.34	3.18	3.18	2.99
New York	NA	NA	6.34	NA	NA	NA	NA	NA
North Carolina	7.59	5.73	5.28	7.67	7.52	6.15	6.71	6.65
North Dakota	4.17	3.86	3.82	4.09	4.24	3.96	4.08	3.58
Ohio	6.56	4.86	5.05	6.74	6.41	5.38	5.81	6.14
Oklahoma	6.09	4.47	4.51	5.75	6.40	4.65	5.00	4.76
Oregon	4.56	4.88	5.22	4.55	4.56	4.86	4.67	4.84
Pennsylvania	7.29	5.97	6.43	7.55	7.07	6.38	6.75	6.46
Rhode Island	8.04	6.94	7.19	8.20	7.88	7.28	7.71	7.60
South Carolina	7.50	6.38	6.52	7.54	7.46	6.18	7.01	6.37
South Dakota	4.47	3.78	3.73	4.28	4.61	4.21	4.34	4.20
Tennessee	6.35	5.47	5.25	6.19	6.51	5.75	5.72	5.34
Texas	NA	4.43	4.48	5.31	NA	NA	5.47	4.65
Utah	NA	3.32	3.74	NA	NA	3.38	3.69	3.80
Vermont	5.23	5.25	5.49	5.21	5.24	5.23	5.19	5.10
Virginia	6.90	5.62	5.32	6.81	6.97	5.85	6.65	5.86
Washington	NA	4.74	5.03	NA	4.65	4.79	4.74	4.77
West Virginia	NA	6.13	6.06	NA	6.09	6.02	5.84	6.24
Wisconsin	NA	4.72	4.70	5.62	NA	4.77	5.71	4.97
Wyoming	NA	NA	4.37	NA	3.38	3.44	2.89	2.44
Total	6.03	5.27	5.19	5.98	^a6.07	^a5.38	5.74	5.37

See footnotes at end of table.

Table 21. Average Price of Natural Gas Sold to Commercial Consumers, by State, 1995-1997

(Dollars per Thousand Cubic Feet) — Continued

State	1996							
	October	September	August	July	June	May	April	March
Alabama	6.59	6.80	6.87	6.81	6.98	6.40	6.07	6.20
Alaska	2.20	2.00	1.87	2.13	2.19	2.24	2.37	2.34
Arizona	5.12	5.15	5.11	5.06	4.96	4.92	4.97	4.94
Arkansas	4.71	4.86	4.85	4.97	5.11	4.84	4.47	4.34
California	5.75	5.52	5.31	5.56	5.48	5.61	6.05	6.68
Colorado	3.66	3.82	3.92	3.80	3.69	3.54	3.59	3.73
Connecticut	6.17	5.90	5.67	5.86	6.45	7.25	7.72	7.69
Delaware	6.34	6.40	6.83	6.88	6.77	6.02	5.48	5.60
District of Columbia	7.63	7.07	5.65	5.60	6.08	6.04	6.63	8.41
Florida	6.42	6.39	6.40	6.46	6.54	6.63	6.62	6.68
Georgia	6.01	5.80	5.81	6.50	6.99	7.00	5.90	5.41
Hawaii	15.48	14.74	15.06	15.46	14.76	14.53	13.69	13.95
Idaho	4.85	4.90	4.91	4.92	4.77	4.77	4.66	4.42
Illinois	5.22	6.24	7.64	7.07	6.66	6.18	4.99	4.74
Indiana	4.98	5.87	5.84	5.84	5.69	5.27	4.94	4.36
Iowa	5.36	5.65	8.76	6.02	5.15	4.48	3.87	4.13
Kansas	5.21	^a 6.05	^a 6.65	^a 4.14	^a 5.15	^a 5.26	^a 4.85	^a 5.16
Kentucky	5.74	5.89	6.28	5.76	5.57	5.72	4.87	4.54
Louisiana	6.14	5.88	6.10	6.62	6.09	6.53	6.39	5.45
Maine	6.17	6.55	6.57	7.96	6.44	^a 6.31	7.22	7.32
Maryland	5.71	6.09	6.46	6.16	6.16	5.95	5.54	5.97
Massachusetts	4.75	4.84	4.83	5.02	4.74	^a 4.27	7.35	7.39
Michigan	5.18	5.45	6.02	5.85	5.52	4.72	4.51	4.46
Minnesota	3.98	4.26	4.95	4.88	4.67	4.52	4.43	4.37
Mississippi	4.22	4.16	4.05	4.23	4.24	12.58	4.74	4.73
Missouri	5.34	5.92	6.35	6.00	5.61	5.39	5.13	5.26
Montana	5.15	5.36	5.41	5.26	4.83	4.74	4.60	4.61
Nebraska	4.93	3.35	4.37	4.16	4.26	5.40	4.34	4.37
Nevada	5.13	5.14	5.10	4.92	4.92	4.93	4.90	4.86
New Hampshire	5.86	6.14	6.23	6.29	5.91	5.76	5.79	7.00
New Jersey	5.11	4.90	5.12	5.16	5.24	5.59	6.19	6.75
New Mexico	3.23	3.96	3.24	2.67	2.60	3.93	3.19	3.38
New York	NA	NA	NA	NA	NA	NA	NA	NA
North Carolina	6.33	6.37	6.35	7.11	5.65	6.22	5.83	6.34
North Dakota	3.80	4.22	4.93	6.39	4.49	3.88	3.89	3.78
Ohio	6.42	6.66	6.87	6.28	5.94	5.60	5.00	5.02
Oklahoma	5.03	5.06	5.07	4.65	4.95	4.93	4.24	4.60
Oregon	5.11	5.13	5.11	5.11	4.85	4.83	4.94	4.83
Pennsylvania	6.78	7.39	7.26	7.24	6.91	6.62	6.62	6.07
Rhode Island	8.04	7.76	7.76	7.92	7.53	7.12	6.07	7.29
South Carolina	5.66	5.76	5.74	5.69	5.27	5.38	6.05	6.49
South Dakota	4.07	5.22	8.54	5.68	5.55	4.72	4.36	3.47
Tennessee	5.55	6.10	6.45	5.96	6.13	6.03	6.02	5.99
Texas	NA	4.44	NA	3.92	3.90	3.90	3.98	4.32
Utah	2.96	3.07	3.32	3.25	3.34	3.01	2.86	3.69
Vermont	5.10	5.18	5.43	5.44	5.55	5.37	5.23	5.18
Virginia	6.00	6.38	6.56	6.64	6.17	5.10	5.58	5.37
Washington	4.86	5.01	5.08	5.14	4.75	4.76	4.78	4.74
West Virginia	5.81	6.25	4.84	4.66	8.05	6.81	6.32	6.09
Wisconsin	3.72	4.01	4.38	4.71	4.25	4.12	4.79	4.73
Wyoming	3.50	3.81	3.66	3.87	3.85	3.73	3.78	3.83
Total	5.29	^a5.44	^a5.54	5.43	^a5.37	^a5.34	^a5.29	^a5.31

See footnotes at end of table.

Table 21. Average Price of Natural Gas Sold to Commercial Consumers, by State, 1995-1997

(Dollars per Thousand Cubic Feet) — Continued

State	1996		1995					
	February	January	Total	December	November	October	September	August
Alabama	5.77	5.62	5.80	5.48	5.53	5.90	5.93	5.96
Alaska	2.43	2.33	2.27	2.34	2.23	2.08	2.13	2.04
Arizona	4.95	4.90	5.25	4.91	5.10	5.09	5.04	5.23
Arkansas	4.37	4.31	4.09	3.89	4.27	4.32	4.24	4.18
California	6.26	6.82	6.21	7.01	4.67	6.04	6.00	6.20
Colorado	3.59	3.61	4.23	3.78	3.87	4.27	4.76	4.70
Connecticut	8.29	7.37	7.57	8.53	7.48	6.37	6.50	6.20
Delaware	5.30	5.29	5.28	4.97	5.64	5.38	5.64	5.86
District of Columbia	7.83	6.57	6.04	6.01	6.40	5.96	6.03	5.47
Florida	6.39	6.20	5.33	5.66	5.43	5.35	5.30	5.34
Georgia	5.62	5.16	5.20	4.72	4.21	4.96	4.97	4.98
Hawaii	13.50	12.92	13.00	13.46	13.19	13.17	13.22	12.99
Idaho	4.41	4.45	4.87	4.69	5.22	4.96	5.01	5.06
Illinois	4.30	4.06	4.42	4.00	4.11	4.23	5.23	5.01
Indiana	4.18	4.04	4.39	3.93	3.75	4.08	4.60	4.90
Iowa	4.07	4.01	4.14	4.05	4.10	4.04	4.84	5.56
Kansas	^R 5.04	^R 4.81	3.93	4.12	4.07	3.56	3.61	3.70
Kentucky	4.49	4.45	4.60	4.38	4.13	4.55	4.69	5.25
Louisiana	5.33	6.07	5.14	5.85	5.50	5.45	5.21	4.82
Maine	7.32	6.51	6.51	6.48	6.58	5.92	6.05	6.17
Maryland	6.03	5.57	5.06	5.16	5.00	5.18	4.85	5.23
Massachusetts	7.50	7.51	6.59	7.25	6.57	4.73	5.08	5.09
Michigan	4.46	4.41	4.46	4.39	4.49	4.71	5.26	5.59
Minnesota	4.37	4.44	3.98	4.24	3.95	3.94	3.91	3.98
Mississippi	4.43	4.87	4.25	4.68	4.50	2.83	2.61	3.80
Missouri	5.17	4.96	4.39	4.76	4.69	4.52	4.75	4.87
Montana	4.58	4.63	4.92	4.65	4.78	5.09	5.45	5.50
Nebraska	4.53	4.20	3.96	NA	NA	NA	NA	3.74
Nevada	4.84	4.80	5.39	4.88	5.31	5.59	5.63	5.70
New Hampshire	6.94	6.67	6.44	6.70	6.48	5.66	5.95	6.21
New Jersey	6.87	10.42	5.76	6.12	6.81	5.57	4.86	5.22
New Mexico	3.40	2.99	3.74	2.94	3.00	3.39	3.54	3.46
New York	NA	NA	6.09	6.16	5.51	5.46	5.73	5.74
North Carolina	6.10	5.39	5.24	5.19	5.18	5.11	5.11	5.15
North Dakota	3.87	3.84	3.90	3.77	3.74	4.42	4.49	4.72
Ohio	5.07	4.68	4.92	4.69	4.66	5.05	5.33	5.27
Oklahoma	4.46	4.48	4.47	4.47	4.33	4.25	4.31	4.44
Oregon	4.82	4.83	5.23	4.98	5.34	5.42	5.55	5.55
Pennsylvania	6.05	5.89	6.28	5.60	5.62	6.22	6.98	7.07
Rhode Island	7.26	7.04	6.41	6.94	5.94	6.35	5.99	6.32
South Carolina	6.66	6.22	6.09	5.78	5.77	5.67	5.60	5.64
South Dakota	4.04	3.54	3.99	3.91	3.85	3.68	5.01	6.24
Tennessee	5.81	5.26	5.18	5.02	4.88	5.16	5.30	5.21
Texas	4.32	4.45	4.09	4.31	4.17	3.99	3.94	3.51
Utah	3.06	3.59	3.65	3.92	3.91	3.24	3.40	3.52
Vermont	5.23	5.27	5.43	5.13	5.23	5.39	5.45	5.70
Virginia	5.86	5.46	5.08	4.92	4.52	5.24	5.18	5.08
Washington	4.74	4.73	5.00	4.89	4.89	4.95	4.91	4.95
West Virginia	6.02	6.00	6.08	6.09	6.04	5.98	6.07	6.08
Wisconsin	4.65	4.78	4.50	4.72	4.43	3.75	3.56	4.13
Wyoming	3.56	3.80	4.23	NA	NA	NA	NA	4.34
Total	5.24	^R5.30	5.05	5.00	4.77	4.82	4.98	4.99

^R = Revised Data.

NA = Not Available.

Notes: Data for 1995 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 24 for data on onsystem sales expressed as a percentage of both total commercial and total industrial deliveries.

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

**Table 22. Average Price of Natural Gas Sold to Industrial Consumers, by State,
1995-1997**
(Dollars per Thousand Cubic Feet)

State	YTD 1997	YTD 1996	YTD 1995	1997		1996		
				February	January	Total	December	November
Alabama	4.28	4.03	3.13	3.91	4.73	3.72	4.56	3.76
Alaska	1.56	1.50	1.43	1.57	1.55	1.52	1.54	1.50
Arizona	3.99	3.92	4.28	3.71	4.32	3.86	3.87	3.86
Arkansas	3.71	3.02	3.05	3.38	4.01	3.06	3.93	3.39
California	5.35	3.93	4.27	5.30	5.40	3.69	4.26	3.92
Colorado	NA	1.76	NA	NA	NA	2.04	3.63	2.90
Connecticut	5.93	6.04	5.25	5.76	6.11	4.80	5.81	4.95
Delaware	5.19	3.96	3.39	5.09	5.29	4.38	5.00	4.77
District of Columbia	—	—	—	—	—	—	—	—
Florida	4.69	4.34	3.17	4.68	4.69	4.30	4.66	4.39
Georgia	6.04	4.65	3.70	5.69	6.45	4.59	5.09	3.93
Hawaii	—	—	—	—	—	—	—	—
Idaho *	2.77	3.31	3.87	2.76	2.78	3.02	2.63	2.73
Illinois	6.24	3.75	4.01	5.86	6.49	4.14	4.18	4.12
Indiana	4.20	3.27	2.80	4.21	4.19	3.42	3.71	3.48
Iowa	4.26	3.27	3.16	4.73	3.94	3.61	3.94	3.79
Kansas	3.88	2.49	2.31	3.45	4.36	2.32	4.23	3.28
Kentucky	4.80	3.77	3.54	4.67	4.89	3.87	4.66	3.89
Louisiana	NA	2.58	1.81	NA	4.19	NA	3.58	NA
Maine	7.02	6.04	5.74	7.10	6.95	5.31	6.71	6.67
Maryland	NA	4.95	2.62	NA	NA	^R 5.43	4.66	^R 6.09
Massachusetts	NA	6.94	5.99	8.35	NA	5.45	7.10	5.62
Michigan	4.09	4.05	3.58	4.02	4.16	4.10	4.17	4.18
Minnesota	4.15	3.05	2.93	3.73	4.69	2.95	4.23	3.18
Mississippi	NA	3.49	2.95	NA	4.45	3.44	4.38	3.52
Missouri	5.63	4.46	3.68	5.94	5.35	4.35	4.86	4.03
Montana	1.02	4.83	4.80	0.51	4.79	4.88	4.87	4.95
Nebraska	4.66	3.20	2.98	4.14	5.16	3.30	4.32	3.63
Nevada	6.33	4.95	5.50	4.64	9.50	4.90	4.67	4.68
New Hampshire	7.96	5.63	6.21	7.97	7.94	4.87	6.93	5.20
New Jersey	4.95	4.45	3.56	5.03	4.89	^R 3.76	4.47	3.38
New Mexico	3.16	2.67	4.10	4.02	3.01	2.63	2.50	2.63
New York	NA	5.27	4.98	NA	NA	4.92	5.07	4.69
North Carolina	5.56	4.67	4.08	5.41	5.63	4.35	5.13	4.63
North Dakota	4.71	3.40	2.99	4.94	4.39	3.07	3.96	2.40
Ohio	6.15	4.44	4.26	6.71	5.52	^R 4.90	^R 5.38	5.58
Oklahoma	4.93	2.87	2.38	4.53	5.41	3.11	3.66	3.13
Oregon	3.25	3.27	3.47	3.24	3.25	3.23	3.31	3.38
Pennsylvania	5.25	4.40	3.91	5.25	5.25	^R 4.24	^R 4.55	4.32
Rhode Island	5.57	5.34	5.17	5.52	5.64	4.61	9.56	4.58
South Carolina	4.50	4.29	3.60	4.22	4.74	3.74	4.52	3.98
South Dakota	4.53	3.19	3.27	4.00	4.99	2.68	4.51	3.52
Tennessee	4.78	3.76	4.04	4.75	4.80	3.80	4.23	3.63
Texas	3.74	2.51	1.67	3.28	4.11	2.61	4.03	3.06
Utah	NA	2.00	2.57	NA	NA	2.03	2.20	2.14
Vermont	3.23	3.54	3.49	3.14	3.32	3.43	3.17	3.19
Virginia	4.39	4.56	4.26	6.00	3.56	4.28	4.43	3.77
Washington	NA	2.49	2.88	NA	4.36	2.70	3.85	2.81
West Virginia	NA	2.67	2.70	NA	3.44	2.87	3.06	3.17
Wisconsin	NA	3.84	3.19	4.26	NA	3.75	5.10	4.37
Wyoming	NA	NA	3.33	NA	NA	3.01	3.12	3.19
Total	4.41	3.46	2.90	4.21	4.58	3.34	^R 4.21	^R 3.57

See footnotes at end of table.

Table 22. Average Price of Natural Gas Sold to Industrial Consumers, by State, 1995-1997

(Dollars per Thousand Cubic Feet) — Continued

State	1996							
	October	September	August	July	June	May	April	March
Alabama	3.30	3.12	3.62	3.57	3.44	3.38	3.68	3.84
Alaska	1.51	1.48	1.54	1.55	1.54	1.52	1.51	1.52
Arizona	3.84	3.82	3.74	3.64	3.90	3.90	3.90	3.92
Arkansas	2.75	2.74	2.77	3.03	2.92	2.93	2.95	3.04
California	3.29	3.53	3.48	3.54	3.29	3.28	3.61	3.69
Colorado	1.92	1.70	1.76	1.72	1.71	1.75	1.70	1.91
Connecticut	4.00	3.98	3.83	4.02	4.07	4.21	4.69	5.21
Delaware	4.68	4.64	4.77	4.73	4.35	4.85	4.04	3.93
District of Columbia	—	—	—	—	—	—	—	—
Florida	4.05	3.96	4.19	4.22	4.24	4.17	4.62	4.26
Georgia	4.33	2.86	4.24	6.99	5.67	4.68	4.28	4.72
Hawaii	—	—	—	—	—	—	—	—
Idaho *	3.00	2.99	2.98	3.18	3.04	3.09	3.00	3.18
Illinois	4.20	5.07	5.01	4.84	5.37	4.58	3.27	4.66
Indiana	3.51	3.94	3.94	3.68	3.85	2.49	3.66	3.37
Iowa	3.43	3.91	3.54	4.41	4.26	3.55	3.08	3.35
Kansas	2.28	2.86	2.51	2.56	2.65	2.52	2.27	2.82
Kentucky	3.68	3.61	3.85	3.71	3.59	3.73	3.75	3.82
Louisiana	NA	2.20	2.35	2.76	2.69	2.54	2.82	3.01
Maine	4.11	4.03	4.03	4.22	4.02	^a 5.12	6.27	6.38
Maryland	7.92	6.28	7.50	6.45	6.17	6.15	5.47	5.19
Massachusetts	4.22	3.81	3.77	4.05	3.80	4.15	5.91	6.52
Michigan	4.34	4.30	4.47	4.57	4.12	3.93	3.92	4.06
Minnesota	2.43	2.35	2.96	2.72	2.55	2.77	2.72	2.90
Mississippi	3.53	2.98	3.15	3.37	3.17	3.09	3.41	3.51
Missouri	3.76	4.14	4.29	4.25	3.89	3.98	4.22	4.92
Montana	5.02	5.04	5.16	5.09	5.01	4.65	4.84	4.74
Nebraska	2.76	2.87	3.41	3.21	3.09	2.93	3.14	3.11
Nevada	5.01	5.10	5.15	4.80	4.86	4.90	4.91	4.96
New Hampshire	7.74	3.53	3.39	3.51	3.43	3.62	4.27	5.43
New Jersey	2.99	^a 3.38	3.09	3.44	3.42	3.66	4.13	4.19
New Mexico	2.75	3.36	2.55	1.66	2.06	7.53	3.30	5.53
New York	4.36	4.31	4.61	4.64	4.54	4.81	5.29	5.14
North Carolina	4.04	4.02	3.81	3.86	3.63	3.83	3.89	4.60
North Dakota	2.32	2.75	3.02	3.38	3.05	3.22	3.34	3.14
Ohio	5.43	5.06	5.33	5.56	4.55	4.73	4.78	4.70
Oklahoma	3.00	3.32	3.10	3.21	3.37	2.90	3.21	2.90
Oregon	3.10	3.18	3.23	3.32	3.25	3.21	3.14	3.27
Pennsylvania	4.09	4.08	3.98	3.93	4.08	4.05	4.24	4.24
Rhode Island	3.67	3.69	3.79	4.26	3.86	4.08	4.42	5.58
South Carolina	3.25	3.26	3.44	3.53	3.35	3.39	3.74	3.97
South Dakota	3.46	4.05	3.85	3.52	3.98	3.39	3.33	1.48
Tennessee	3.30	3.77	3.90	3.58	3.69	3.76	3.98	3.93
Texas	2.07	2.09	2.55	2.77	2.63	2.40	2.54	2.36
Utah	1.90	1.93	1.96	1.90	1.95	1.98	2.00	2.27
Vermont	3.43	3.16	3.30	3.36	3.54	3.73	3.74	3.53
Virginia	4.05	4.33	4.42	3.96	4.13	3.81	5.13	4.31
Washington	2.55	1.95	3.88	2.38	2.82	2.50	2.49	2.56
West Virginia	2.80	2.92	2.50	2.70	2.82	2.75	2.97	2.99
Wisconsin	2.94	3.02	3.36	3.52	3.34	3.29	3.74	3.69
Wyoming	3.16	3.06	3.02	2.97	2.85	3.15	3.09	3.11
Total	2.86	2.83	3.06	3.19	3.12	3.07	3.35	3.51

See footnotes at end of table.

Table 22. Average Price of Natural Gas Sold to Industrial Consumers, by State, 1995-1997

(Dollars per Thousand Cubic Feet) — Continued

State	1996		1995					
	February	January	Total	December	November	October	September	August
Alabama	4.10	3.90	2.96	3.16	3.05	2.83	2.99	2.72
Alaska	1.50	1.50	1.45	1.42	1.43	1.44	1.43	1.45
Arizona	3.94	3.91	3.81	4.68	3.99	3.95	3.97	4.17
Arkansas	2.95	3.09	2.78	2.99	2.84	2.52	2.38	2.47
California	3.89	4.35	3.70	3.89	2.71	3.94	3.59	3.63
Colorado	1.72	1.80	2.86	NA	NA	NA	NA	NA
Connecticut	5.68	6.52	4.39	5.41	4.41	3.79	3.62	3.72
Delaware	4.15	3.79	2.94	3.78	2.88	2.85	2.74	2.60
District of Columbia	—	—	—	—	—	—	—	—
Florida	4.57	4.16	3.28	2.94	3.44	3.37	3.34	3.16
Georgia	4.79	4.84	3.55	3.73	3.27	2.60	3.71	4.94
Hawaii	—	—	—	—	—	—	—	—
Idaho ^a	3.17	3.47	3.67	3.93	3.82	3.34	2.79	3.51
Illinois	3.84	3.59	3.57	3.32	3.22	3.39	3.60	3.80
Indiana	3.53	3.04	3.41	3.54	3.28	3.32	3.54	3.43
Iowa	3.39	3.20	3.23	1.77	3.12	3.25	3.57	3.84
Kansas	2.49	0.78	2.23	2.55	2.39	2.21	2.21	2.05
Kentucky	3.85	3.93	3.26	3.51	3.18	3.11	3.03	2.85
Louisiana	2.75	2.77	1.82	2.27	1.90	1.82	1.69	1.66
Maine	6.50	5.60	4.46	5.43	4.54	3.74	3.70	3.79
Maryland	5.89	4.17	3.21	1.24	4.83	2.61	2.97	2.97
Massachusetts	7.00	6.89	4.43	5.05	4.70	3.80	3.52	3.12
Michigan	4.05	4.04	3.62	3.58	3.63	3.71	3.75	3.99
Minnesota	3.11	2.98	2.45	2.55	2.48	2.41	2.13	2.21
Mississippi	3.20	3.75	2.71	3.46	3.01	1.50	1.47	2.64
Missouri	4.58	4.31	3.48	4.19	3.58	3.02	3.07	3.14
Montana	4.72	4.94	4.87	4.86	4.88	4.98	4.99	5.06
Nebraska	3.20	3.20	2.79	2.91	2.38	2.54	2.79	2.96
Nevada	4.98	4.93	5.34	4.92	5.15	5.23	5.29	5.30
New Hampshire	6.08	5.23	3.80	4.97	3.79	2.99	2.94	2.82
New Jersey	4.83	4.11	3.11	3.53	3.22	2.78	2.60	2.45
New Mexico	3.74	2.30	2.83	1.71	2.21	2.05	2.34	2.46
New York	5.54	5.07	4.69	4.94	4.62	4.08	3.95	3.80
North Carolina	5.02	4.40	3.56	4.03	3.66	3.11	3.29	3.16
North Dakota	3.34	3.44	2.90	3.18	2.94	2.79	2.69	2.68
Ohio	4.38	4.51	3.93	3.91	3.99	3.36	3.80	3.79
Oklahoma	2.87	2.82	2.27	2.67	2.50	1.91	1.81	2.04
Oregon	3.25	3.19	3.41	3.25	3.46	3.31	3.43	3.39
Pennsylvania	4.37	4.41	3.90	3.56	3.44	3.56	9.31	3.29
Rhode Island	5.40	4.68	4.09	4.83	3.33	3.85	3.54	3.39
South Carolina	4.20	4.35	3.11	3.64	3.26	2.96	2.87	2.87
South Dakota	3.28	3.08	3.44	3.20	2.76	4.05	4.28	5.45
Tennessee	4.29	3.48	3.34	3.38	3.16	3.08	3.01	3.13
Texas	2.60	2.45	1.89	2.17	1.81	1.72	1.67	1.43
Utah	1.75	2.26	2.34	2.07	2.20	2.04	2.08	2.03
Vermont	3.62	3.45	3.39	2.98	3.27	3.34	3.72	3.42
Virginia	4.61	4.52	3.35	3.50	2.83	4.00	2.43	1.89
Washington	2.66	2.41	2.74	2.98	2.84	2.57	2.79	2.33
West Virginia	2.93	2.70	2.60	2.77	2.92	2.60	2.43	2.32
Wisconsin	3.64	3.83	2.96	3.57	3.16	2.40	2.24	2.34
Wyoming	2.54	3.14	3.18	NA	NA	NA	NA	2.96
Total	3.54	3.38	2.71	3.07	2.68	2.44	2.42	2.26

^a = Revised Data.

NA = Not Available.

— = Not Applicable.

Notes: Data for 1995 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 24 for data on onsystem sales expressed as a percentage of both total commercial and total industrial deliveries.

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

Table 23. Average Price of Natural Gas Delivered to Electric Utility* Consumers, by State, 1995-1997

(Dollars per Thousand Cubic Feet)

State	1997	1996						
	January	Total	December	November	October	September	August	July
Alabama	4.37	2.95	4.32	3.16	2.27	2.14	2.66	3.04
Alaska	1.68	^a 1.45	1.64	1.63	1.73	1.71	1.66	1.58
Arizona	5.70	3.03	7.53	4.76	2.53	2.98	2.61	3.09
Arkansas	4.18	2.52	3.88	2.62	1.36	1.89	2.47	2.57
California	4.67	^a 2.75	4.55	^a 3.40	^a 2.60	^a 2.51	^a 2.63	^a 2.32
Colorado	3.76	^a 2.09	4.30	2.93	2.47	1.54	1.72	2.32
Connecticut	3.97	^a 2.76	4.97	^a 3.26	2.78	2.30	2.78	3.01
Delaware	4.87	3.13	4.06	3.65	2.32	2.32	2.35	3.39
District of Columbia	—	—	—	—	—	—	—	—
Florida	4.60	3.12	4.75	3.38	2.56	2.59	2.99	3.28
Georgia	2.08	2.88	6.28	2.50	3.08	2.72	2.51	2.23
Hawaii	—	—	—	—	—	—	—	—
Idaho	—	—	—	—	—	—	—	—
Illinois	3.34	2.62	3.82	3.10	2.12	1.98	2.25	2.70
Indiana	5.04	3.48	4.80	3.86	3.38	2.99	2.95	3.14
Iowa	5.11	3.23	3.77	3.45	2.95	1.80	2.87	2.83
Kansas	4.56	2.25	4.10	2.62	1.88	1.81	2.35	2.19
Kentucky	4.85	3.49	4.64	3.51	2.82	2.59	3.05	3.36
Louisiana	4.35	2.94	4.37	3.12	2.25	2.16	2.64	2.96
Maine	—	—	—	—	—	—	—	—
Maryland	5.04	3.11	5.92	4.02	2.65	2.85	2.49	3.25
Massachusetts	5.37	^a 3.07	4.85	3.85	^a 2.69	2.33	2.71	3.37
Michigan	0.56	^a 0.74	0.55	0.73	0.55	^a 0.59	^a 0.91	0.73
Minnesota	2.26	2.18	2.32	2.19	2.14	2.14	2.10	2.14
Mississippi	4.15	2.78	4.27	3.23	2.10	2.00	2.52	2.85
Missouri	5.41	2.58	4.90	2.61	2.38	2.24	2.41	2.63
Montana	3.54	2.89	1.81	1.66	0.65	6.59	6.79	3.49
Nebraska	3.22	2.07	4.37	2.85	1.85	1.81	2.16	2.27
Nevada	2.14	^a 2.12	2.19	2.37	^a 2.71	1.96	2.20	1.83
New Hampshire	—	—	—	—	—	—	—	—
New Jersey	4.65	^a 2.96	^a 4.39	3.16	2.36	2.42	2.79	3.15
New Mexico	4.07	2.31	3.80	2.94	2.17	1.94	2.33	2.01
New York	4.36	^a 2.96	4.22	^a 3.39	2.37	2.26	2.74	3.06
North Carolina	6.89	^a 3.11	4.41	4.20	2.55	^a 2.80	3.31	3.51
North Dakota	—	2.93	2.81	3.92	2.94	—	3.32	2.71
Ohio	3.87	3.44	4.27	3.92	2.96	^a 2.80	2.70	3.18
Oklahoma	4.21	^a 2.98	4.43	3.61	^a 2.93	^a 2.38	2.64	2.70
Oregon	1.96	1.33	2.01	1.42	1.42	1.27	1.24	1.25
Pennsylvania	4.65	2.85	4.57	3.31	2.70	1.67	2.63	3.52
Rhode Island	3.18	2.29	3.14	2.34	1.81	1.78	2.32	2.27
South Carolina	6.95	4.56	5.08	4.47	5.32	4.01	4.67	3.94
South Dakota	—	—	—	—	—	—	—	2.36
Tennessee	—	—	—	—	—	—	—	—
Texas	3.89	2.51	3.80	2.82	2.23	2.10	2.45	2.63
Utah	—	—	—	—	—	1.50	1.67	1.57
Vermont	5.05	3.22	4.42	3.37	2.68	2.70	3.15	3.45
Virginia	3.13	2.98	3.42	2.04	3.77	2.93	2.83	3.36
Washington	5.11	4.98	4.75	5.03	4.35	4.01	4.98	6.14
West Virginia	3.15	2.99	2.94	2.87	3.69	—	3.28	3.35
Wisconsin	4.74	3.04	4.29	3.48	2.55	2.38	2.87	2.97
Wyoming	13.99	12.59	26.41	17.57	17.64	3.19	7.72	3.19
Total	4.04	^a2.69	3.98	^a3.05	2.37	^a2.24	2.57	2.69

See footnotes at end of table.

Table 23. Average Price of Natural Gas Delivered to Electric Utility Consumers, by State, 1995-1997
(Dollars per Thousand Cubic Feet) — Continued

State	1996						1995	
	June	May	April	March	February	January	Total	December
Alabama	2.71	2.59	3.10	3.29	2.82	3.71	2.01	2.68
Alaska	1.47	1.04	1.16	^a 1.30	1.29	1.32	1.29	1.24
Arizona	3.33	4.43	2.30	2.31	3.19	2.71	1.77	2.35
Arkansas	2.40	2.30	2.54	2.71	7.11	2.02	1.74	2.68
California	^a 2.41	^a 2.59	^a 2.49	^a 2.83	^a 3.16	^a 2.68	2.28	2.57
Colorado	1.52	1.85	2.06	1.79	^a 1.83	1.80	1.74	1.90
Connecticut	2.69	2.62	2.79	—	—	—	2.01	—
Delaware	3.01	3.19	4.14	2.89	4.63	4.63	2.34	3.70
District of Columbia	—	—	—	—	—	—	—	—
Florida	3.09	2.91	3.18	3.50	2.83	3.87	2.26	3.07
Georgia	3.25	3.80	5.05	5.18	4.90	7.30	2.79	4.55
Hawaii	—	—	—	—	—	—	—	—
Idaho	—	—	—	—	—	—	—	—
Illinois	2.60	2.43	3.03	3.12	3.24	3.19	1.71	2.48
Indiana	3.32	3.21	3.40	3.85	3.98	3.39	2.49	3.01
Iowa	2.55	2.64	3.82	5.45	3.44	3.36	2.72	2.94
Kansas	2.16	2.13	2.45	2.18	2.46	2.28	1.58	2.06
Kentucky	3.15	3.78	3.40	3.72	3.57	3.96	3.01	3.14
Louisiana	2.72	2.63	2.99	3.25	4.04	3.72	1.88	2.72
Maine	—	—	—	—	—	—	—	—
Maryland	3.12	3.13	3.97	5.72	6.54	6.01	2.24	5.16
Massachusetts	3.03	3.08	3.62	4.17	3.70	6.47	2.06	3.92
Michigan	0.88	0.90	0.71	0.83	0.90	0.65	0.73	0.61
Minnesota	2.09	2.36	2.63	2.43	2.13	2.10	1.77	2.11
Mississippi	2.64	2.49	2.95	3.50	8.16	4.08	1.78	2.76
Missouri	2.50	2.42	2.20	3.37	3.12	3.11	1.69	2.38
Montana	4.69	5.95	8.98	20.05	3.68	1.86	3.84	3.84
Nebraska	1.74	1.58	1.94	2.39	2.19	1.96	1.65	1.91
Nevada	^a 2.06	1.90	2.08	2.14	2.22	1.99	1.71	2.02
New Hampshire	—	—	—	—	—	—	1.86	—
New Jersey	3.14	3.37	3.50	3.67	2.85	2.76	2.18	3.12
New Mexico	1.99	2.04	2.17	2.23	2.16	2.07	1.57	1.83
New York	2.89	2.80	3.35	^a 3.72	3.91	4.49	2.13	3.10
North Carolina	2.93	2.66	3.23	—	—	3.07	2.40	—
North Dakota	2.81	2.91	—	—	—	3.58	3.71	3.58
Ohio	3.51	2.99	3.48	3.74	3.54	3.94	2.34	3.04
Oklahoma	2.72	2.95	3.15	3.35	4.13	3.13	2.34	2.88
Oregon	—	—	—	—	—	—	1.31	1.53
Pennsylvania	2.74	3.38	2.64	3.61	5.41	4.57	2.04	2.63
Rhode Island	2.13	2.10	2.36	2.37	2.45	2.38	1.90	2.06
South Carolina	3.69	4.75	4.44	4.72	4.35	4.23	1.64	3.70
South Dakota	—	—	—	—	—	—	1.58	2.39
Tennessee	—	—	—	—	—	—	—	—
Texas	2.46	2.35	2.48	2.35	2.60	2.48	1.93	2.42
Utah	2.39	—	—	—	20.25	—	2.26	—
Vermont	3.17	—	2.72	—	—	3.06	1.95	1.96
Virginia	3.14	3.81	1.51	3.09	1.99	2.41	2.67	3.32
Washington	5.52	4.05	4.22	5.51	4.90	4.98	4.60	4.21
West Virginia	3.31	2.82	3.00	2.70	2.75	5.00	3.58	3.09
Wisconsin	2.56	2.71	3.01	4.19	2.88	2.64	2.23	2.65
Wyoming	6.99	3.44	30.24	18.59	23.99	6.80	8.32	16.25
Total	2.59	2.52	2.68	^a2.74	^a3.07	2.88	2.02	2.58

See footnotes at end of table.

Table 23. Average Price of Natural Gas Delivered to Electric Utility* Consumers, by State, 1995-1997

(Dollars per Thousand Cubic Feet) — Continued

State	1995							
	November	October	September	August	July	June	May	April
Alabama	2.19	2.02	1.94	1.75	1.86	2.07	2.05	1.95
Alaska	1.30	1.28	1.29	1.13	1.22	1.33	1.43	1.28
Arizona	1.94	1.84	1.92	1.59	1.63	2.31	2.48	1.56
Arkansas	1.80	1.83	1.68	1.63	1.62	2.01	1.88	1.63
California	2.32	2.37	2.08	2.02	2.18	2.56	2.45	2.28
Colorado	1.73	1.82	1.90	1.72	1.48	1.91	1.79	1.68
Connecticut	2.10	1.85	1.80	1.82	1.95	2.11	2.10	2.07
Delaware	2.64	2.13	2.06	2.00	2.00	2.40	2.42	2.18
District of Columbia	—	—	—	—	—	—	—	—
Florida	2.43	2.29	2.22	2.11	2.20	2.39	2.36	2.16
Georgia	3.67	3.14	3.06	2.76	2.62	2.78	2.92	2.99
Hawaii	—	—	—	—	—	—	—	—
Idaho	—	—	—	—	—	—	—	—
Illinois	2.04	1.78	1.68	1.59	1.53	1.64	1.71	1.64
Indiana	2.72	2.78	2.49	2.31	2.36	2.38	2.33	2.88
Iowa	3.02	2.73	2.71	2.52	2.38	2.61	3.31	2.73
Kansas	1.58	1.50	1.57	1.49	1.43	1.70	1.85	1.64
Kentucky	2.57	2.87	2.50	2.42	2.54	2.90	4.08	3.89
Louisiana	2.08	1.93	1.85	1.67	1.78	1.95	1.91	1.78
Maine	—	—	—	—	—	—	—	—
Maryland	2.80	2.51	2.03	2.10	2.16	2.38	2.64	2.64
Massachusetts	2.59	2.02	1.93	1.81	1.88	1.97	2.09	2.07
Michigan	0.71	0.43	0.77	1.09	0.79	0.48	0.48	0.55
Minnesota	2.19	1.60	1.67	1.69	1.65	1.72	1.78	1.62
Mississippi	1.96	1.90	1.73	1.60	1.64	1.85	1.84	1.74
Missouri	2.10	1.88	1.91	1.71	1.64	1.62	1.62	1.56
Montana	1.40	7.42	2.07	1.55	7.37	2.30	4.66	25.80
Nebraska	1.67	1.50	1.51	1.54	1.50	1.96	1.94	1.60
Nevada	1.80	1.82	1.75	1.53	1.56	1.77	1.80	1.85
New Hampshire	—	1.93	1.81	1.71	1.79	1.98	1.98	1.98
New Jersey	2.83	2.26	2.12	2.09	2.03	2.54	2.44	1.90
New Mexico	1.74	1.65	1.64	1.44	1.41	1.53	1.57	1.50
New York	2.58	2.03	1.93	1.89	1.94	2.12	2.20	2.14
North Carolina	3.04	2.07	2.00	2.45	2.43	2.16	2.17	2.50
North Dakota	3.59	—	4.07	—	3.95	3.89	—	3.77
Ohio	2.28	2.66	2.16	2.38	2.09	2.13	2.18	2.47
Oklahoma	2.78	2.95	2.16	2.07	2.09	2.42	2.46	2.28
Oregon	1.73	1.42	1.01	0.94	0.93	—	1.13	1.25
Pennsylvania	2.72	1.90	1.80	1.77	1.99	2.05	2.29	1.86
Rhode Island	1.70	1.76	2.05	2.00	—	1.93	—	—
South Carolina	3.55	1.55	1.59	1.56	1.90	1.96	2.50	2.73
South Dakota	2.02	—	1.64	1.37	1.43	2.13	—	—
Tennessee	—	—	—	—	—	—	—	—
Texas	2.09	1.96	1.89	1.79	1.85	1.93	1.92	1.86
Utah	2.40	1.80	1.52	1.43	3.65	6.27	2.69	2.70
Vermont	1.85	2.13	2.31	2.29	2.33	2.31	2.31	2.23
Virginia	2.44	2.58	2.36	2.24	3.12	7.84	2.41	2.60
Washington	3.99	5.97	3.54	4.37	4.37	3.87	5.83	29.07
West Virginia	4.92	2.57	3.30	1.86	3.68	3.89	4.08	4.09
Wisconsin	2.51	2.30	2.37	2.06	1.89	2.17	2.25	2.22
Wyoming	12.28	4.15	4.56	14.93	3.25	15.69	11.58	10.51
Total	2.22	2.09	1.95	1.84	1.90	2.06	2.06	1.97

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

^R = Revised Data.

— = Not Applicable.

Notes: Data for 1995 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, "Monthly Report of Cost and Quality of Fuels for Electric Plants," and Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition."

Table 24. Percentage of Total Deliveries Represented by Onsystem Sales, by State, 1995-1997

State	YTD 1997		YTD 1996		YTD 1995		1997	
	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial	February	
							Commercial	Industrial
Alabama	78.7	16.9	83.7	17.9	84.2	28.7	79.7	19.5
Alaska	70.2	97.5	72.7	97.4	91.5	72.9	71.1	97.9
Arizona	87.7	22.3	89.6	25.6	92.2	23.1	88.0	24.9
Arkansas	96.3	15.4	96.7	16.0	97.6	16.4	96.6	15.5
California	58.2	11.5	58.9	13.5	60.1	15.7	58.5	11.1
Colorado	NA	NA	95.5	20.8	95.9	24.6	NA	NA
Connecticut	90.1	76.2	93.3	94.9	87.4	88.1	90.2	78.8
Delaware	100.0	33.1	100.0	58.0	100.0	64.3	100.0	35.5
District of Columbia	65.1	—	82.1	—	84.2	—	62.5	—
Florida	96.3	7.7	97.3	14.4	97.0	17.6	96.6	8.0
Georgia	93.0	19.8	96.9	35.4	96.6	46.9	92.5	20.2
Hawaii	100.0	—	100.0	—	100.0	—	100.0	—
Idaho	88.7	2.0	89.3	1.2	89.4	2.3	89.7	2.2
Illinois	58.5	11.6	58.6	15.5	54.1	15.3	54.3	9.4
Indiana	93.4	20.0	95.7	25.5	89.8	22.6	93.0	19.8
Iowa	89.9	8.5	90.8	9.5	91.9	10.7	89.4	7.2
Kansas	76.4	10.3	81.5	25.1	80.9	10.2	65.7	13.2
Kentucky	91.5	20.8	92.1	34.1	91.0	27.7	90.8	19.4
Louisiana	81.4	NA	100.4	19.9	98.0	33.0	82.9	NA
Maine	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Maryland	NA	NA	95.6	19.6	98.2	20.2	NA	NA
Massachusetts	NA	NA	82.4	31.4	88.7	32.2	67.3	36.8
Michigan	69.3	10.5	73.0	10.6	72.3	14.4	69.4	14.2
Minnesota	98.6	41.4	94.6	37.4	93.4	32.2	98.7	45.5
Mississippi	NA	NA	99.8	43.4	96.9	45.2	NA	NA
Missouri	83.1	22.8	88.6	29.1	87.9	28.0	79.9	19.1
Montana	91.8	17.4	92.7	4.9	92.7	3.6	93.0	28.6
Nebraska	85.5	27.6	NA	30.1	81.0	23.2	92.8	27.0
Nevada	78.4	3.0	80.2	2.1	82.3	2.3	79.7	15.2
New Hampshire	98.9	48.1	99.3	62.6	99.8	60.0	99.1	52.1
New Jersey	79.2	53.3	79.5	49.8	93.0	57.6	93.5	36.0
New Mexico	73.3	13.9	66.3	1.8	65.6	3.3	72.6	2.1
New York	NA	NA	NA	18.0	81.8	17.0	NA	NA
North Carolina	98.0	63.8	95.2	80.6	95.9	49.4	95.9	39.6
North Dakota	93.6	46.7	91.6	28.3	85.0	25.4	93.9	49.5
Ohio	70.9	5.1	76.7	8.6	80.5	10.9	68.5	5.6
Oklahoma	90.6	8.0	91.0	9.8	90.2	20.8	90.5	8.7
Oregon	98.8	18.4	99.2	25.5	98.5	28.9	98.9	20.2
Pennsylvania	69.5	16.9	76.9	18.8	74.8	19.1	69.8	14.9
Rhode Island	90.6	13.2	91.7	7.9	100.0	9.6	91.7	45.9
South Carolina	99.1	82.5	100.9	83.2	97.7	76.2	98.2	78.2
South Dakota	86.4	30.9	88.8	31.8	91.5	38.2	85.7	30.4
Tennessee	93.2	32.1	97.4	38.1	95.7	47.0	92.5	28.7
Texas	NA	17.0	74.6	22.2	72.1	29.4	67.7	16.0
Utah	NA	NA	84.6	9.7	85.5	11.6	NA	NA
Vermont	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Virginia	84.8	14.2	96.5	14.3	90.4	20.1	81.9	6.8
Washington	NA	NA	89.2	32.1	94.2	38.6	NA	NA
West Virginia	NA	NA	53.0	16.6	57.6	14.3	NA	NA
Wisconsin	NA	NA	95.8	42.0	93.7	51.5	93.4	31.0
Wyoming	NA	NA	NA	NA	92.6	3.0	NA	NA
Total	71.7	17.2	76.6	21.1	81.6	27.0	71.2	16.3

See footnotes at end of table.

Table 24. Percentage of Total Deliveries Represented by Onsystem Sales, by State, 1995-1997 — Continued

State	1997		1996					
	January		Total		December		November	
	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial
Alabama	77.7	14.6	64.9	13.5	76.7	14.6	68.7	14.4
Alaska	69.5	97.1	70.3	96.2	70.6	97.3	67.3	97.7
Arizona	87.4	19.9	83.7	20.6	84.0	22.6	84.1	20.7
Arkansas	96.1	15.4	94.2	16.4	95.7	16.8	94.0	15.2
California	^a 58.0	11.7	53.9	10.7	55.7	9.4	57.5	10.4
Colorado	NA	NA	87.7	21.0	95.2	20.5	93.9	23.3
Connecticut	90.1	76.0	87.1	84.0	88.1	81.8	84.2	76.9
Delaware	100.0	30.8	100.0	37.7	100.0	34.5	100.0	34.6
District of Columbia	67.6	—	71.8	—	66.1	—	56.0	—
Florida	96.1	8.2	79.1	^a 8.9	96.3	9.2	97.1	8.0
Georgia	93.4	19.3	84.9	20.8	92.4	23.5	91.4	19.4
Hawaii	100.0	—	100.0	—	100.0	—	100.0	—
Idaho	87.8	1.9	86.6	1.4	87.6	2.5	84.9	0.5
Illinois	62.0	13.7	53.2	11.4	55.8	19.0	52.7	11.5
Indiana	93.7	20.1	85.6	15.9	93.8	22.0	89.5	15.4
Iowa	90.3	9.6	85.6	9.0	86.8	11.7	86.1	18.3
Kansas	88.8	8.2	^a 58.0	11.8	67.8	9.8	79.8	8.2
Kentucky	92.0	22.0	82.2	20.9	90.7	19.7	87.3	17.9
Louisiana	^a 80.1	9.5	^a 88.0	NA	^a 84.9	11.1	^a 74.9	NA
Maine	100.0	100.0	100.0	^a 91.0	100.0	90.2	100.0	91.5
Maryland	NA	NA	89.4	11.1	84.1	19.1	88.7	^a 2.0
Massachusetts	NA	NA	^a 72.2	^a 24.4	68.7	29.5	62.1	40.2
Michigan	69.2	14.7	60.6	5.9	68.6	12.2	65.5	9.1
Minnesota	98.6	37.1	91.8	36.4	97.3	42.5	97.2	41.2
Mississippi	96.9	38.4	84.7	34.0	96.5	38.1	91.3	38.9
Missouri	86.3	27.7	80.3	23.0	84.4	32.5	78.4	27.4
Montana	90.9	4.4	90.3	3.6	89.5	4.6	87.7	4.7
Nebraska	75.6	28.2	68.5	24.7	76.3	27.9	68.3	28.0
Nevada	77.2	8.3	^a 74.9	1.6	^a 75.3	8.0	71.5	7.6
New Hampshire	98.8	44.2	99.0	^a 58.6	98.5	50.3	98.9	63.8
New Jersey	69.0	40.8	72.1	^a 52.2	68.4	39.2	66.8	39.1
New Mexico	74.1	19.4	56.4	2.8	69.8	15.1	66.4	5.5
New York	NA	NA	NA	9.8	NA	13.6	NA	10.6
North Carolina	100.0	90.1	92.0	49.4	99.0	90.4	91.9	43.0
North Dakota	93.4	43.3	86.3	28.3	88.6	40.6	88.7	46.9
Ohio	72.9	4.7	69.5	^a 5.2	74.0	^a 4.2	72.4	10.5
Oklahoma	90.7	7.4	83.5	7.0	89.8	7.4	85.2	7.9
Oregon	98.8	17.0	98.3	19.0	98.6	16.0	98.3	14.4
Pennsylvania	69.3	18.9	69.3	^a 15.6	63.4	^a 20.3	66.3	16.7
Rhode Island	89.6	38.1	91.6	16.4	89.4	45.8	87.6	55.7
South Carolina	100.0	86.8	81.4	64.7	100.0	86.5	96.8	82.2
South Dakota	86.9	31.4	82.7	33.6	82.8	33.3	80.7	34.1
Tennessee	94.0	35.9	77.4	28.2	92.4	32.2	91.6	30.9
Texas	NA	17.9	NA	18.6	72.7	17.6	61.7	17.2
Utah	NA	NA	81.9	9.2	84.4	10.0	81.2	9.6
Vermont	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Virginia	87.5	15.5	73.0	13.1	85.9	14.9	83.0	14.4
Washington	87.8	26.7	85.9	23.8	87.4	26.5	84.6	21.6
West Virginia	67.0	14.4	45.2	13.4	69.2	13.9	52.0	14.4
Wisconsin	NA	NA	75.1	30.9	93.7	30.5	93.0	30.6
Wyoming	^a 76.1	NA	52.4	0.6	42.4	0.7	58.8	0.2
Total	^a 72.1	17.9	^a 70.5	17.6	^a 70.9	^a 18.1	^a 68.6	16.6

See footnotes at end of table.

Table 24. Percentage of Total Deliveries Represented by Onsystem Sales, by State, 1995-1997 — Continued

State	1996							
	October		September		August		July	
	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial
Alabama	66.4	12.6	68.5	12.8	67.8	12.4	69.2	13.3
Alaska	63.7	97.8	60.8	100.0	64.1	91.0	61.8	88.7
Arizona	83.2	19.1	83.5	19.1	78.4	20.5	82.1	19.6
Arkansas	90.2	14.5	88.9	21.3	91.5	16.3	88.5	18.3
California	43.7	9.1	44.9	9.6	44.3	8.8	48.0	11.5
Colorado	91.0	27.9	92.0	25.7	89.0	21.9	89.8	25.3
Connecticut	81.5	74.1	69.2	73.5	77.8	73.0	81.3	82.0
Delaware	100.0	30.7	100.0	27.5	100.0	26.1	100.0	26.2
District of Columbia	48.8	—	47.8	—	53.0	—	62.6	—
Florida	97.5	8.8	97.7	7.2	97.3	8.0	97.6	8.2
Georgia	89.6	21.3	85.4	26.7	87.0	21.2	87.6	13.5
Hawaii	100.0	—	100.0	—	100.0	—	100.0	—
Idaho	77.3	1.6	80.0	1.3	82.0	1.7	82.4	1.1
Illinois	48.5	7.3	42.8	5.5	42.7	5.0	39.3	4.9
Indiana	87.9	12.9	70.7	8.1	74.3	9.1	79.1	8.6
Iowa	81.0	9.8	76.3	5.6	91.9	8.2	76.5	4.8
Kansas	69.3	11.4	^a 69.3	10.2	^a 34.1	10.3	^a 43.3	10.0
Kentucky	87.5	17.4	81.8	15.4	82.9	15.2	83.2	21.4
Louisiana	98.6	NA	98.8	9.0	97.4	10.5	99.1	10.2
Maine	100.0	91.3	100.0	^a 89.1	100.0	^a 88.0	100.0	^a 88.7
Maryland	83.9	3.5	86.8	1.6	79.5	3.5	77.4	6.0
Massachusetts	69.5	34.8	55.0	30.2	61.1	34.8	68.0	36.8
Michigan	54.0	5.2	42.7	3.1	39.5	3.4	42.3	3.3
Minnesota	98.1	35.7	93.8	34.4	93.3	37.6	94.4	38.3
Mississippi	95.3	27.9	96.7	34.4	97.5	35.9	96.9	33.0
Missouri	69.0	16.8	67.0	17.8	57.7	13.0	61.7	19.4
Montana	87.1	2.9	85.6	2.2	86.9	1.5	87.4	1.8
Nebraska	39.4	19.2	64.4	22.0	52.9	21.7	50.8	21.7
Nevada	64.9	5.4	68.4	5.5	67.6	5.8	71.1	6.0
New Hampshire	98.6	^a 55.9	98.2	^a 55.9	98.2	^a 53.6	98.0	^a 54.9
New Jersey	65.8	36.9	60.3	^a 34.4	60.3	38.8	61.3	38.4
New Mexico	61.3	2.7	59.4	1.6	61.1	1.8	64.2	0.7
New York	NA	10.7	NA	11.1	NA	11.0	NA	11.1
North Carolina	85.4	24.3	85.9	21.4	88.3	30.6	95.9	61.4
North Dakota	77.2	33.3	72.4	21.7	73.1	9.2	72.2	8.5
Ohio	68.4	2.8	65.0	3.1	53.8	2.7	56.3	2.1
Oklahoma	78.2	5.2	78.3	5.2	74.5	5.9	76.4	5.3
Oregon	97.0	14.2	97.5	14.0	98.0	13.6	98.1	13.6
Pennsylvania	63.5	13.1	66.3	13.7	49.0	14.4	63.8	15.8
Rhode Island	67.0	57.2	50.5	51.4	87.1	50.4	84.4	42.2
South Carolina	95.6	79.3	96.6	80.6	96.6	80.7	100.0	87.2
South Dakota	72.9	15.8	68.6	12.3	66.9	13.5	67.1	15.1
Tennessee	83.5	33.8	75.9	23.6	83.6	30.4	91.1	39.5
Texas	NA	20.6	50.3	16.7	NA	17.2	65.0	24.7
Utah	79.5	9.7	78.4	8.6	71.9	7.7	73.3	7.4
Vermont	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Virginia	72.5	7.0	62.4	7.7	72.2	6.6	65.8	7.2
Washington	82.7	19.3	81.5	19.9	80.1	11.7	80.0	21.1
West Virginia	41.0	13.0	32.5	11.6	41.9	12.5	41.5	12.8
Wisconsin	96.3	28.4	96.8	24.9	97.5	25.0	85.7	25.9
Wyoming	44.2	0.2	96.1	0.9	95.1	0.9	98.8	0.7
Total	62.0	15.8	^a 59.1	14.6	^a 58.8	14.8	^a 60.7	17.2

See footnotes at end of table.

Table 24. Percentage of Total Deliveries Represented by Onsystem Sales, by State, 1995-1997 — Continued

State	1996							
	June		May		April		March	
	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial
Alabama	71.0	13.6	76.4	15.0	80.5	16.6	80.8	17.3
Alaska	65.2	93.7	68.9	98.5	71.9	98.5	76.3	97.7
Arizona	83.6	21.1	84.8	29.2	83.7	22.5	86.9	24.2
Arkansas	94.2	19.1	92.4	18.8	96.3	17.9	95.6	15.0
California	53.0	10.4	52.2	11.6	63.7	12.4	63.3	12.5
Colorado	93.6	20.4	93.6	18.5	94.2	17.9	94.8	16.8
Connecticut	79.2	90.3	78.6	92.4	89.9	94.5	93.1	96.6
Delaware	100.0	38.2	100.0	31.7	100.0	28.5	100.0	56.9
District of Columbia	71.2	—	71.1	—	87.8	—	84.6	—
Florida	97.7	9.1	97.8	10.8	97.7	11.6	96.9	11.5
Georgia	87.8	17.4	91.4	23.5	94.3	26.8	96.5	30.4
Hawaii	100.0	—	100.0	—	100.0	—	100.0	—
Idaho	86.0	1.7	85.7	1.3	87.2	1.3	88.2	1.4
Illinois	43.8	4.4	49.3	7.9	53.4	12.4	59.3	16.5
Indiana	78.0	4.9	86.8	40.5	94.4	19.6	95.4	24.0
Iowa	87.6	5.4	90.4	6.8	89.4	7.3	88.2	8.2
Kansas	^a 53.5	12.1	^a 50.6	17.9	^a 64.7	15.8	^a 73.9	14.4
Kentucky	88.6	13.8	81.6	19.4	88.8	27.9	91.2	32.3
Louisiana	96.7	10.5	94.4	9.6	98.9	10.0	97.6	9.4
Maine	100.0	^a 89.8	100.0	^a 90.1	100.0	^a 86.5	100.0	^a 87.1
Maryland	87.4	8.1	93.0	10.7	90.9	17.5	91.1	21.8
Massachusetts	70.6	39.4	^a 78.7	38.2	80.0	43.3	82.2	37.3
Michigan	44.2	4.6	62.6	7.1	66.8	11.1	71.6	11.7
Minnesota	95.6	33.8	97.2	32.4	97.0	50.0	96.9	36.8
Mississippi	96.3	34.9	97.0	35.1	96.9	36.9	96.6	38.2
Missouri	72.0	23.4	78.5	24.6	84.4	25.8	85.4	23.9
Montana	90.5	1.8	90.5	2.8	92.4	4.0	91.6	5.0
Nebraska	64.5	19.8	71.5	23.4	74.7	24.3	82.0	25.9
Nevada	73.7	6.8	75.1	6.7	77.3	8.5	78.9	8.7
New Hampshire	98.5	^a 58.3	98.9	66.9	99.1	^a 60.6	99.2	^a 57.4
New Jersey	64.4	30.7	67.6	39.9	72.2	34.8	77.3	41.8
New Mexico	64.1	1.7	45.8	0.3	56.4	0.9	57.9	0.4
New York	NA	12.4	NA	13.2	NA	14.5	NA	23.8
North Carolina	90.5	44.7	91.2	35.9	99.7	77.1	99.9	88.4
North Dakota	62.2	12.5	88.4	20.1	84.6	27.0	90.5	21.9
Ohio	42.0	2.8	63.1	4.3	72.2	5.9	76.0	7.2
Oklahoma	78.7	5.2	82.8	3.7	93.0	8.9	91.4	9.0
Oregon	98.3	16.3	98.1	18.1	98.1	23.7	98.6	25.5
Pennsylvania	63.6	14.4	68.2	15.9	72.2	18.5	76.5	25.5
Rhode Island	92.1	57.0	97.9	62.0	97.8	59.4	98.5	90.7
South Carolina	97.1	77.3	97.5	78.0	100.0	86.4	100.0	83.6
South Dakota	74.5	11.9	78.7	18.3	85.0	25.0	84.7	71.4
Tennessee	86.9	35.0	89.1	32.8	94.9	43.8	91.6	44.5
Texas	60.4	20.8	61.7	20.5	66.6	19.5	63.1	17.7
Utah	72.9	9.5	77.7	9.0	82.3	10.2	82.8	9.4
Vermont	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Virginia	63.9	9.6	78.0	15.4	83.7	14.6	90.8	13.0
Washington	82.0	21.8	84.5	23.2	84.4	26.0	87.6	31.3
West Virginia	25.2	12.2	42.9	12.6	51.4	12.8	60.7	14.7
Wisconsin	92.9	26.2	93.3	31.0	93.7	35.6	95.6	46.1
Wyoming	89.4	0.8	58.5	0.8	60.2	0.7	94.2	0.7
Total	^a 62.6	15.6	^a 67.1	17.5	^a 72.3	18.7	^a 74.6	19.3

See footnotes at end of table.

Table 24. Percentage of Total Deliveries Represented by Onsystem Sales, by State, 1995-1997 — Continued

State	1996				1995			
	February		January		Total		December	
	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial
Alabama	85.6	18.5	81.5	17.7	80.1	23.4	81.1	25.8
Alaska	79.1	98.4	73.7	96.3	79.9	52.1	77.9	60.6
Arizona	90.2	27.0	89.5	24.4	88.4	24.7	87.2	25.1
Arkansas	96.9	16.5	96.4	15.6	96.0	14.2	100.0	9.7
California	58.7	15.3	59.5	13.9	52.1	13.2	50.9	11.2
Colorado	96.2	17.6	95.3	24.9	94.2	8.5	93.8	9.0
Connecticut	93.2	98.2	93.4	95.1	82.0	90.1	91.7	96.1
Delaware	100.0	57.6	100.0	58.3	100.0	67.6	100.0	57.4
District of Columbia	83.8	—	80.5	—	76.8	—	77.4	—
Florida	97.1	11.7	98.8	^a 15.4	97.6	16.2	96.7	17.7
Georgia	97.9	33.0	97.4	34.0	93.5	35.7	97.2	46.2
Hawaii	100.0	—	100.0	—	100.0	—	100.0	—
Idaho	90.1	1.3	88.8	1.1	86.0	2.2	85.5	1.1
Illinois	59.3	16.3	58.0	15.2	50.4	11.0	53.3	14.5
Indiana	96.8	25.6	95.7	24.5	87.8	14.2	93.4	18.2
Iowa	91.6	8.1	90.2	10.9	89.3	8.2	91.2	9.9
Kansas	^a 83.7	14.7	^a 79.6	25.7	73.6	12.9	70.7	15.6
Kentucky	90.8	32.9	92.7	32.6	89.2	27.7	92.7	34.6
Louisiana	98.4	10.1	99.7	29.7	98.1	31.0	97.6	30.7
Maine	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Maryland	96.9	19.0	94.7	20.7	96.9	13.3	97.0	12.0
Massachusetts	83.2	^a 41.0	83.9	44.0	84.9	53.4	79.5	48.1
Michigan	70.6	13.7	72.2	13.7	66.4	12.2	72.5	16.2
Minnesota	97.6	37.6	95.9	38.0	93.7	34.6	94.6	36.3
Mississippi	97.8	38.8	97.9	47.8	97.0	42.4	95.5	40.3
Missouri	89.7	32.9	87.4	26.1	83.3	22.4	85.7	24.3
Montana	93.5	5.6	92.0	4.5	91.6	3.1	91.9	4.6
Nebraska	82.3	29.5	83.7	31.2	77.1	16.5	NA	25.7
Nevada	81.1	10.0	79.7	10.0	76.5	7.7	75.2	8.1
New Hampshire	99.3	61.1	99.3	64.0	99.2	64.4	99.1	64.6
New Jersey	79.1	35.1	79.9	36.8	86.3	52.9	82.9	55.0
New Mexico	60.2	0.5	70.2	2.8	60.3	6.6	64.4	14.2
New York	NA	18.4	NA	18.3	76.2	17.4	79.9	22.2
North Carolina	99.8	66.9	99.9	93.4	92.4	46.9	99.9	94.2
North Dakota	92.9	25.0	90.4	31.7	80.9	18.2	86.5	26.4
Ohio	76.0	9.8	77.3	8.3	76.3	7.4	79.2	8.8
Oklahoma	93.2	11.1	91.5	8.7	85.2	15.2	86.0	9.5
Oregon	98.8	26.6	98.4	26.5	98.1	25.5	98.4	25.2
Pennsylvania	77.8	23.6	76.4	15.5	68.4	16.3	70.6	23.0
Rhode Island	99.3	84.1	100.0	39.4	100.0	11.1	100.0	4.9
South Carolina	100.0	81.4	100.0	81.9	96.4	81.4	100.0	90.0
South Dakota	87.9	32.6	89.9	31.0	86.9	27.6	88.5	31.4
Tennessee	96.8	38.2	96.7	39.8	93.8	47.6	97.2	56.2
Texas	75.9	23.7	71.4	21.5	68.6	25.5	67.9	22.7
Utah	85.6	10.0	84.0	9.4	81.8	11.0	82.8	8.9
Vermont	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Virginia	96.5	13.8	96.9	14.8	84.1	14.8	91.4	17.0
Washington	89.8	31.2	89.1	33.0	91.8	32.9	89.7	29.2
West Virginia	62.3	16.6	60.3	19.2	51.6	14.4	60.8	16.3
Wisconsin	96.1	42.8	95.4	40.8	92.0	46.6	93.6	42.9
Wyoming	94.1	0.6	93.3	0.7	93.6	2.8	NA	NA
Total	^a 76.9	^a 20.5	^a 76.3	^a 21.6	76.7	24.5	79.2	25.0

See footnotes at end of table.

Table 24. Percentage of Total Deliveries Represented by Onsystem Sales, by State, 1995-1997 — Continued

State	1995							
	November		October		September		August	
	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial
Alabama	72.8	21.6	72.0	22.2	73.1	20.6	74.2	20.1
Alaska	72.9	64.3	69.2	57.8	72.1	31.0	71.3	26.6
Arizona	87.9	21.3	88.4	19.2	86.5	19.5	84.8	19.8
Arkansas	92.6	15.5	91.8	15.3	92.3	13.7	93.4	12.9
California	48.7	11.1	43.4	9.4	39.9	9.8	44.1	11.0
Colorado	93.5	11.3	89.8	11.2	89.3	8.9	89.7	7.0
Connecticut	87.7	99.5	81.6	94.7	72.1	93.0	63.7	85.2
Delaware	100.0	66.6	100.0	69.2	100.0	67.8	100.0	65.3
District of Columbia	74.6	—	64.8	—	61.6	—	66.2	—
Florida	97.4	18.0	97.8	15.2	98.1	14.3	97.8	13.6
Georgia	94.8	37.8	91.1	38.4	87.9	26.9	88.4	20.2
Hawaii	100.0	—	100.0	—	100.0	—	100.0	—
Idaho	85.9	1.3	77.1	0.6	80.4	2.8	82.5	2.5
Illinois	51.8	13.3	46.6	8.4	39.6	6.3	38.2	4.6
Indiana	90.7	16.8	80.9	11.3	77.9	8.9	72.7	9.1
Iowa	89.6	12.0	86.9	10.0	80.7	6.2	77.7	5.7
Kansas	88.7	14.9	76.3	16.1	62.5	14.6	51.3	12.5
Kentucky	91.0	30.6	85.7	28.3	81.7	31.7	81.5	24.5
Louisiana	97.3	32.6	98.6	29.8	98.3	29.9	98.4	27.5
Maine	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Maryland	95.6	6.5	94.7	8.7	95.6	9.8	94.9	8.8
Massachusetts	81.6	53.7	81.0	54.4	77.5	46.1	77.3	51.4
Michigan	68.0	12.1	57.1	7.3	46.9	7.8	39.0	5.9
Minnesota	90.4	40.2	93.8	36.7	93.8	37.6	92.7	27.7
Mississippi	95.6	41.9	98.0	42.8	98.3	44.9	98.9	41.0
Missouri	78.7	20.1	71.8	17.2	71.4	19.7	71.6	17.8
Montana	91.8	3.4	88.8	2.5	88.2	2.1	88.9	1.4
Nebraska	NA	17.2	NA	19.5	NA	10.9	68.4	12.8
Nevada	70.8	7.5	67.8	6.2	71.3	6.5	70.0	6.7
New Hampshire	98.9	69.8	98.5	67.8	98.3	66.2	98.1	64.9
New Jersey	81.9	49.7	72.6	51.2	83.8	45.6	75.1	47.9
New Mexico	62.3	16.2	54.6	12.9	51.2	7.5	57.9	5.2
New York	77.2	20.4	72.3	15.8	68.1	14.5	64.1	13.0
North Carolina	93.6	51.4	88.2	41.4	87.5	31.0	87.1	28.6
North Dakota	80.3	21.8	64.2	12.8	70.9	11.6	58.9	10.9
Ohio	77.9	7.1	69.9	5.2	58.3	4.3	59.0	4.2
Oklahoma	79.8	7.6	74.6	7.0	76.7	12.6	74.1	7.4
Oregon	97.9	24.3	96.7	23.5	98.1	24.1	97.9	22.8
Pennsylvania	48.3	14.0	66.9	12.2	62.8	12.8	64.1	12.7
Rhode Island	100.0	13.7	100.0	17.9	100.0	12.7	100.0	12.0
South Carolina	95.9	78.5	95.3	79.8	95.3	82.5	95.1	81.0
South Dakota	85.8	35.0	82.3	21.4	75.8	20.0	75.5	14.4
Tennessee	96.5	61.0	89.1	47.6	87.7	39.3	87.2	39.2
Texas	70.7	24.9	55.8	23.1	71.2	24.1	69.1	27.3
Utah	80.2	10.4	79.4	11.1	75.2	10.9	71.3	11.2
Vermont	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Virginia	84.4	19.1	71.5	11.0	70.9	13.9	73.5	13.0
Washington	88.7	28.1	87.9	26.4	87.4	24.8	90.7	29.5
West Virginia	51.6	16.0	42.0	14.2	38.9	13.0	38.1	13.4
Wisconsin	93.4	43.7	88.9	44.2	87.3	44.1	84.8	42.3
Wyoming	NA	NA	NA	NA	NA	NA	98.4	3.0
Total	75.6	24.7	69.7	22.5	67.9	22.0	66.6	21.8

^R = Revised Data.

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, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers."

Figure 6. Percentage of Total Deliveries Represented by Onsystem Sales, 1993-1997

Sources: Energy Information Administration, Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers" and Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition."

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* (NGM). The information in this Appendix is provided to assist users in evaluating the monthly data. There is a brief description of what data are estimated and what data are taken from submitted reports, followed by ten technical notes that provide important information for individual data series.

The monthly data are preliminary when initially published. Data shown in this report for the most current

months are taken from the EIA Short-Term Integrated Forecasting System (STIFS) model computations. Each month, EIA staff review the STIFS model estimates and adjust them, if necessary, based on their knowledge of new developments in the natural gas industry. Data for prior months are estimated or taken from submitted reports.

For data that are not taken from STIFS computations, Table A1 below lists the methodologies for deriving the monthly data to be published.

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

Components	Reporting Methodology
Supply and Disposition	
Marketed Production	Reported on Form EIA-895 and 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
Consumption by Sector	
Lease and Plant Fuel	Derived from Marketed Production
Pipeline Fuel	Derived from Estimates for Lease and Plant Fuel and 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

The STIFS model contains a series of calculations that produce forecasts for all of the energy industry. It is driven primarily by three sets of inputs or assumptions: estimates of key macroeconomic variables, world oil price assumptions, and assumptions about the severity of weather. The natural gas estimates also reflect other key inputs or assumptions including gas wellhead prices, electric power generation by other energy sources, and U.S. gas import capacity. The macroeconomic variable estimates are produced by DRI/McGraw-Hill but are adjusted by EIA to reflect EIA assumptions about the world price of oil, energy product prices, and other assumptions which may affect the macroeconomic outlook. The EIA publishes forecasts for the energy industry each quarter in the *Short-Term Energy Outlook*.

For production, total supply and disposition, and storage data (Tables 1, 2, and 9), the most current two months shown are estimates produced from STIFS computations, and data that are two months or more prior to the date of publication are estimated or taken from submitted reports. For example, in the March issue of the NGM, February and March data are taken from the STIFS model computations while January and prior months data are estimated from available data sources or reported directly on EIA forms. For consumption data by sector (Table 3), the most current three months shown are estimates produced from STIFS computations while data that are three months prior to date of publication are taken from EIA forms.

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 1995, of the 33 producing States, 22 reported data on nonhydrocarbon gases removed. The 22 States accounted for 60 percent

of total 1995 gross withdrawals. Of the 22 States reporting nonhydrocarbon gases removed, 11 reported zero values: Alaska, Arizona, Arkansas, Colorado, Illinois, Maryland, Missouri, Nevada, New York, South Dakota, and Virginia. The ten States reporting volumes greater than zero are Alabama, California, Florida, Kentucky, Mississippi, Nebraska, New Mexico, North Dakota, Texas, and Wyoming. In addition, Kansas, Louisiana, Montana, and Oklahoma, which together accounted for 40 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 non-hydrocarbon gas removed, gas used for repressuring, and gas vented and flared are based on the ratio of the 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 non-hydrocarbon 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 Form EIA-895 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 1993, 1994, and 1995 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 Office of Fossil Energy, U.S. Department of Energy, *Natural Gas Imports and Exports*, which requires data to be reported each quarter 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 Office of Fossil Energy, U.S. Department of Energy, *Natural Gas Imports and Exports*, informal industry contacts, and information gathered from natural gas industry trade publications. Preliminary monthly data are revised after publication of "U.S. Imports and Exports of Natural Gas" for the calendar year in which the report month falls.

Note 5. Consumption

All Annual Data

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

Monthly Data

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

Total Consumption

Preliminary Monthly Data

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

Final Monthly Data

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

Residential, Commercial, and Industrial Sector Consumption

Preliminary Monthly Data

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

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.

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.

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 plant fuel 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 plant fuel consumption estimates. Final monthly lease data are collected on the Form EIA-627 and estimates from the Form EIA-176. See the *Natural Gas Annual* for a complete discussion of this process.

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 1994. 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 1990 through 1995 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 five States: Kansas, Mississippi, New Mexico, Oklahoma, and Texas. Gas prices for these five 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 five 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 Kansas, 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 five States and adjusted to match the U.S. gas price published in the *Natural Gas Annual*.

Note 9. 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.

Note 10. Heating Degree-Days

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 temper-

ature 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 *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.

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 four monthly surveys.

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 two 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, 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 four 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.

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

Survey Design

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

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

In 1988, the Form EIA-176 was revised to include data collection for deliveries of natural gas to commercial and industrial consumers for the account of others. 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, the Form EIA-176 was revised to include more detailed information for gas withdrawn from storage facilities, gas added to storage facilities, deliveries of company-owned natural gas and natural gas transported for the account of others. The revised form was approved for use beginning with report year 1990.

Upon the Office of Management and Budget's approval in 1993, the Form EIA-176 was again revised. All deliveries to consumers are now categorized as firm or interruptible. Commercial and industrial consumers are further categorized as nonutility power producers or as those excluding nonutility power producers.

Data reported on this form are no longer considered proprietary. Response to the form continues to be mandatory.

Survey Universe and Response Statistics

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

Each company and its parent company or subsidiaries were required to file if they met the survey specifications. The original mailing in 1996 for report year 1995 totaled 1,991 questionnaire packages. To this original mailing, 11 names were added and 61 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 1,941 responses from approximately 1,800 companies.

Following the original mailing, second request mailing, and nonrespondents followup, 1,911 responses were entered into the data base, and there were 30 nonrespondents.

Summary of Form EIA-176 Data Reporting Requirements

The EIA-176 is a multiline schedule for reporting all supplies of natural gas and supplemental gaseous fuels

and their disposition within the State indicated. Respondents file completed forms with EIA in Washington, DC. Data for the report year are due by April 1 of the following year. Extensions of the filing deadline for up to 45 days are granted to any respondent on request.

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

Routine Form EIA-176 Edit Checks

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

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

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

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

Other EIA Publications Referencing Form EIA-176

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

Form EIA-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. In 1993, value and associated volume of marketed production by month was added to the EIA-627.

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 1995, data on the quantities of nonhydrocarbon gases removed were reported by the appropriate agencies of 22 of the 33 States. These 22 States accounted for 63 percent of total 1995 gross withdrawals. In addition, gross withdrawal data from Kansas, Louisiana, Montana, and Oklahoma, which together accounted for 40 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*.

Form EIA-895, "Monthly Quantity of Natural Gas Report"

Survey Design

Data collection on the Form EIA-895 began in January 1995. This form was designed to replace the Interstate Oil and Gas Compact Commission (IOGCC) form, "Monthly Report of Natural Gas Production." In 1994, the IOGCC decided to discontinue collection of their form. All gas producing States are requested to report on the Form EIA-895; a voluntary report. Data are reported by State agencies. The form was designed to provide a standard reporting system, to the extent possible, for the natural gas data reported by the States. Data are not considered proprietary.

Survey Universe and Response Statistics

Reports on State production are due 20 days after the end of the report month. (In most cases, the data are not available to the States until after this time period. Therefore, States are requested to send the report within 80 days after the end of the report month.)

Summary of Data Requirements

The Form EIA-895 consists of seven questions on one page, and requires volumetric information on gross production (gas and oil wells individually), gas used for repressuring, gas vented and flared, non-hydrocarbon gases removed, natural gas used as fuel on leases, and marketed production.

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

The Form EIA-191, "Underground Natural Gas Storage Report," was revised effective January 1994. Among the changes from the form used from 1991 through 1993 are a distinction between a monthly and annual survey. Prior to 1991, data on the storage of natural gas were 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 form was previously revised in 1991 to include storage data by State, field, and reservoir.

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. In September 1995, the FERC discontinued the reporting requirements of Form FERC-8. FERC jurisdictional firms will continue to file Form EIA-191.

Survey Universe and Response Statistics

The 103 companies that operate underground facilities will file the Form EIA-191. Of these companies, 42 are subject to the jurisdiction of FERC and are required to report data on Form EIA-191.

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 monthly schedule contains current month and prior month's data on the total quantities of gas in storage, injections and withdrawals, the location (including State and county, field, reservoir) and peak day withdrawals during the reporting period. Prior month's data are required only when data are revised. Information on co-owners of storage fields has been eliminated. The annual schedule contains type of facility, storage field capacity, maximum deliverability and pipelines to which each field is connected. The annual schedule is filed with the January submission.

Collection of the survey is on a custody basis. Information requested must be provided within 20 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. For most of the estimated filings, the actual data or necessary revisions are reflected in the prior month section of the monthly form. 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, 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* and *Winter Fuels Report* contain data from the EIA-191 survey.

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

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). From 1979 to 1994, the Energy Information Administration (EIA) has had the responsibility for collecting Form FPC-14, "Annual Report for Importers and Exporters of Natural Gas." Data are not considered proprietary. The Form FPC-14 was discontinued in 1995.

Beginning in 1995, import and export data are taken from the "Quarterly Natural Gas Import and Export Sales and Price Report." This report is prepared by the Office of Fossil Energy, U.S. Department of Energy, based on information submitted by all firms having authorization to import or export natural gas.

Survey Universe and Response Statistics

All companies are required, as a condition of their authorizations to import or export natural gas, to file quarterly reports with the Office of Fossil Energy. These data are collected as part of its regulatory responsibilities. The data are reported at a monthly level of detail. Data reported on the Form FPC-14 represented physical movements of natural gas. Data collected by the Office of Fossil Energy are reported on an equity (sales) basis. For 1994 and earlier years, comparisons of the data from the two sources may show differences because reporting requirements were different.

Prior to 1995, the Form FPC-14 was filed annually by each organization or individual having authority to import and export natural gas regardless of whether any activity took place during the reporting year. Authorizations to import and export was originally granted by the FPC. In 1977, the authority to grant authorizations transferred to the Economic Regulatory Administration (ERA). It now resides with the Office of Fossil Energy, U.S. Department of Energy.

Routine Edit Checks

Respondents are required to certify the accuracy of all data reported. The data are checked for reasonableness and accuracy. If errors are found, the companies are required to file corrected data. The data are compared with data reported by the National Energy Board of Canada and are published quarterly. 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 import and export prices are in U.S. dollars and, except for LNG exports, are those paid at the U.S. border. LNG export prices are those paid at the point of sale and delivery in Yokohama, Japan.

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 382 natural gas companies, including interstate pipelines, intrastate pipelines, and local distribution companies, report to the survey. The sample was selected independently for each of the 50 States and the District of Columbia 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 on a monthly basis 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.

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 inter- and intrastate companies, and producers, as well as local distribution companies. The survey provides data that are used each month to estimate the volume of natural gas delivered and the price for onsystem sales of natural gas 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 1,563 companies. These companies were respondents to the Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition," for reporting year 1994 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 1994. 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 390 respondent companies. Unlike previous years, no mergers or acquisitions were uncovered as a result of the initial mail-out. Therefore there was no need for either substitution of respondent companies or a reduction in the total number of respondents.

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 cumulative measure of size greater than $R + I$. $R + I$ was increased again by I to determine the third company to be selected. This procedure was repeated until the entire sample was drawn.

Subgroups. In 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.

Iowa: 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).

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

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 28 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.

See the section on consumer price calculations in this Appendix for further price information.

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:

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

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:

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

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.

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.

Table C-1. Standard Error for Natural Gas Deliveries and Price to Consumers by State, February 1997

State	Volume Million Cubic Feet				Price Dollars per Thousand Cubic Feet		
	Residential	Commercial	Industrial	Total	Residential	Commercial	Industrial
Alabama	781	120	560	969	0.50	1.40	0.99
Alaska	0	0	0	0	—	—	—
Arizona	50	129	0	138	0.14	0.21	—
Arkansas	0	0	0	0	—	—	—
California	630	265	574	893	0.02	0.09	0.22
Colorado	NA	NA	NA	NA	NA	NA	NA
Connecticut	0	0	0	0	—	—	—
Delaware	0	0	0	0	—	—	—
District of Columbia	0	0	0	0	—	—	—
Florida	579	564	76	812	2.73	0.87	1.30
Georgia	720	156	233	773	0.10	0.12	0.68
Hawaii	0	0	0	0	—	—	—
Idaho	0	0	0	0	—	—	—
Illinois	5,680	4,917	1,949	7,761	0.69	0.18	0.66
Indiana	2,956	806	2,686	4,074	0.21	0.48	0.51
Iowa	136	131	115	221	0.13	0.08	0.22
Kansas	825	442	32,112	32,126	0.77	0.72	14.27
Kentucky	402	374	267	611	0.18	0.40	2.53
Louisiana	2,565	231	NA	NA	0.11	0.45	NA
Maine	0	0	0	0	—	—	—
Maryland	NA	NA	NA	NA	NA	NA	NA
Massachusetts	1,424	754	6,939	7,124	0.09	0.64	1.97
Michigan	590	511	4,392	4,461	0.15	0.19	0.40
Minnesota	49	709	1,174	1,372	0.17	0.51	0.41
Mississippi	NA	NA	NA	NA	NA	NA	NA
Missouri	4,311	971	1,175	4,573	1.21	0.30	1.73
Montana	20	7	0	22	—	0.01	—
Nebraska	79	113	211	252	0.14	0.16	0.73
Nevada	0	0	0	0	—	—	—
New Hampshire	0	0	0	0	—	—	—
New Jersey	0	0	0	0	—	—	—
New Mexico	249	502	627	841	0.75	1.52	NA
New York	NA	NA	NA	NA	NA	NA	NA
North Carolina	50	94	584	594	0.05	0.11	0.13
North Dakota	0	0	0	0	—	—	—
Ohio	0	0	0	0	—	—	—
Oklahoma	264	2,684	1,309	2,998	0.03	0.56	0.27
Oregon	0	0	0	0	—	—	—
Pennsylvania	1,608	124	2,018	2,683	0.14	0.40	5.56
Rhode Island	0	0	0	0	—	—	—
South Carolina	425	226	456	663	0.36	0.38	0.22
South Dakota	0	0	0	0	—	—	—
Tennessee	625	901	1,045	1,515	0.39	0.29	1.03
Texas	2,167	2,996	4,203	5,598	0.36	0.54	0.03
Utah	NA	NA	NA	NA	NA	NA	NA
Vermont	0	0	0	0	—	—	—
Virginia	454	197	1,657	1,730	0.52	1.59	0.91
Washington	NA	NA	NA	NA	NA	NA	NA
West Virginia	NA	NA	NA	NA	NA	NA	NA
Wisconsin	133	429	1,015	1,110	0.21	0.07	0.92
Wyoming	NA	NA	NA	NA	NA	NA	NA
Total	9,995	7,247	34,028	36,198	0.13	0.19	0.74

NA = Not Available.

— = Not Applicable.

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

Natural Gas Reports and Feature Articles

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

- *Natural Gas Annual 1995*, DOE/EIA-0131(95), November 1996.
- *Natural Gas Annual 1993 Supplement: Company Profiles*, DOE/EIA-0131(93/S), February 1995.

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

- *Monthly Energy Review*, DOE/EIA-0035. Published monthly. Provides national aggregate data for natural gas, natural gas liquids, and other energy sources.
- *Short-Term Energy Outlook*, DOE/EIA-0202. Published quarterly. Provides forecasts for next six quarters for natural gas and other energy sources.
- *Natural Gas 1995: Issues and Trends*, DOE/EIA-0560(95), November 1995.
- *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves - 1995 Annual Report*, DOE/EIA-0216(95)/Advance Summary, October 1996.
- *Annual Energy Review 1995*, DOE/EIA-0384(95), July 1996. Published annually.
- *Annual Report to Congress 1995* DOE/EIA-01733(95), July 1996. Published annually.

- *Annual Energy Outlook 1996*, DOE/EIA-0383(96), January 1996. Published annually.

Selected One-Time Natural Gas and Related Reports

- *The Value of Underground Storage in Today's Natural Gas Industry*, DOE/EIA-0591, March 1995.
- *Natural Gas Productive Capacity for the Lower 48 States, 1980 through 1995*, DOE/EIA-0542(95), July 1994.
- *Largest U.S. Oil and Gas Fields*, DOE/EIA-TR-0567, August 1993.
- *Energy Policy Act Transportation Rate Study*, DOE/EIA-0571, October 1993.
- *Energy Policy Act Transportation Study: Interim Report of Natural Gas Flows and Rates*, DOE/EIA-0602, October 1995.

Selected and Recurring Natural Gas and Related Data Reference Reports

- *Directory of Energy Data Collection Forms*, DOE/EIA-0249(95), January 1996.
- *Oil and Gas Field Code Master List, 1995*, EIA-0370(95), December 1996.

NGM Feature Articles

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.)

February 1994

Contracting for Natural Gas Supplies

(Addresses the contractual relationships of producers with end users and distributors for the natural gas that is shipped along the interstate pipeline systems.)

May 1994

Opportunities with Fuel Cells

(Discusses the uses of fuel cells in today's market.)

Revisions to Monthly Natural Gas Data

(Discusses the revision errors for natural gas data.)

June 1994

Natural Gas 1994: Issues and Trends - Executive Summary

(Provides an overview of the natural gas industry in 1993 focusing on trends in production, consumption, and pricing of natural gas.)

August 1994

U.S. Natural Gas Imports and Exports - 1993

(Contains final 1993 data on all U.S. imports and exports of natural gas.)

March 1995

The Comparability of Resource and Reserve Data for Crude Oil, Natural Gas, Coal, and Uranium

(Clarifies which terms are equivalent among the four major energy minerals in the United States.)

July 1995

Revisions to Monthly Natural Gas Data

(Discusses the revision errors for natural gas data.)

June 1996

Natural Gas Industry Restructuring and Data Collection

(Discusses how restructuring of the natural gas industry has impacted the natural gas data collection efforts.)

July 1996

Revisions to Monthly Natural Gas Data

(Discusses the revision errors for natural gas data.)

November 1996

U.S. Natural Gas Imports and Exports - 1995

(Contains final 1995 data on all U.S. imports and exports of natural gas.)

December 1996

Crosswell Seismology -- A View from Aside

(Discusses crosswell seismology and its geologic and economic implications for the domestic oil and gas industry.)

Appendix E

Technical Contacts

Section	Tables		Principal Data Sources	Technical Contact
Summary Statistics: Natural Gas Production	1, 2, 3	Monthly:	EIA-895, "Monthly Quantity of Natural Gas Report"	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) 426-1318
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:	Office of Fossil Energy, U.S. Department of Energy, "Natural Gas Import and Exports"	
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) 426-1318
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) 426-1318
Summary of Natural Gas Imports and Exports	5,6	Monthly:	Quarterly Natural Gas Import and Export Sales and Price Report	Norman Crabtree (202) 586-6180
Producer Related Activities: Natural Gas Production	7,8	Monthly:	EIA-895, "Monthly Quantity of Natural Gas Report"	Audrey Corley (202) 426-1159

Underground Storage:	9, 10, 11 12, 13	Monthly:	Forms FERC-8 and EIA-191, "Underground Gas Storage Report"	Roy Kass (202) 426-1318
Distribution and Consumption:				
Deliveries to:				
Residential,	14	Monthly:	Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers"	Roy Kass (202) 426-1318
Commercial,	15			
Industrial,	16			
Electric Utility,	17		Form FERC-423, "Cost and Quality of Fuels for Electric Power Plants"	
All Consumers	18			
Average Price to:				
City Gate,	19	Monthly:	Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers"	Roy Kass (202) 426-1318
Residential,	20			
Commercial,	21			
Industrial,	22		Form FERC-423, "Cost and Quality of Fuels for Electric Power Plants"	
Electric Utility	23			
Onsystem Sales	24	Monthly:	Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers"	Roy Kass (202) 426-1318
Heating Degree Days	25	Seasonal:	National Oceanic and Atmospheric Administration	James Keeling (202) 586-6107
Highlights				Mary Carlson (202) 586-4749

Natural Gas Electronic Products

In addition to printed publications, the Energy Information Administration distributes information concerning the natural gas industry in a variety of electronic formats through several media. Two main types of products are available electronically: *viewable documents* that may be read or printed; and *post-processable files* that may be directly used as input to a computer application without additional keying and checking of data.

Viewable documents represent complete or selected sections of publications including text, tables and graphs. They may be as specific as single tables or as general as an entire publication. Post-processable documents on the other hand are either macro-level representations of

information in published tables or micro-level respondent information representing responses on a specific nonconfidential survey.

The media used to distribute these electronic publications include: (1) The Energy Information Administration's Internet site (<http://www.eia.doe.gov> or <ftp://ftp.eia.doe.gov>); (2) Dial-in access through the Energy Information Administration's EPUB electronic bulletin board or through the Economic Bulletin Board of the Department of Commerce and the COGIS system; (3) The Energy Information Administration's quarterly CD-ROM(Info-Disk); (4) The Energy Information Administration's Fax on Demand System; and (5) diskettes.

	Internet	Dial-In	InfoDisk	Fax	Diskette
ANNUAL PUBLICATIONS					
Natural Gas Annual, Volume 1, 1994 Provides information on supply, and disposition of natural gas in the United States. Information is provided nationally, regionally, and by State for 1994.	V P		V P		P
Natural Gas Annual, Volume 2, 1994 Contains historical information about supply and disposition of natural gas at the national, regional, and State level as well as prices at selected points in the flow of gas from wellhead to burnertip.	P		P		P
Natural Gas 1995: Issues and Trends Addresses current issues affecting the natural gas industry and markets, and analyzes trends in the most recent natural gas data.	V		V		
Natural Gas 1994: Issues and Trends Provides an overview of the natural gas industry in 1993 and early 1994, focusing on the overall ability to deliver gas under the new regulatory mandates of the Federal Energy Regulatory Commission's Order 636.	V		V		
Oil and Gas Products List 1994-1995 Brief descriptions of the various information products prepared by the Office of Oil and Gas.	V		V		
U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves Annual Report 1994 1994 national and State estimates of reserves, reserve changes, and production, plus industry highlights.	V		V		
MONTHLY PUBLICATIONS					
Natural Gas Monthly, from September 1995 forward. Entire Publication in viewable format	V		V		

V=Viewable

P=Post-Processable

	Internet	Dial-In	InfoDisk	Fax	Diskette
OTHER PUBLICATIONS					
Natural Gas 1995: Preliminary Highlights This Special Focus, which was featured in the April 1996 issue of the <i>Natural Gas Monthly</i> , presents events that affected the natural gas industry during 1995.	V	P		V	
Energy Policy Act Transportation Study: Interim Report on Natural Gas Flow and Rates (EPACT) Analysis of natural gas transportation rates and distribution patterns for the period from 1988 through 1994.	V		V		
Oil Production Capacity Expansion Cost for the Persian Gulf Quantifies the cost of expanding oil production capacity for the Persian Gulf based on geologic plays and fields rather than country-level economics. Development costs and volumes are estimated for the next 15 years.	V		V		
Costs and Indices for Domestic Oil and Gas Field Equipment and Production Operations 1990-1993 Cost of equipment and operation of oil and gas wells in the lower 48 States.	V		V		
Drilling Sideways- A Review of Horizontal Well Technology and the Domestic Application April 1993 report presenting salient aspects of current and near-future horizontal drilling and completion technology.	V		V		
International Oil and Gas Exploration and Development Compilation of country-level data and assessment of regional trends relating to upstream aspects of global oil and gas supply.	V		V		
Natural Gas Productive Capacity for the Lower 48 States 1984-1996 Analysis of monthly natural gas wellhead productive capacity.	V		V		
Natural Gas Productive Capacity for the Lower 48 States 1980-1995 Analysis of monthly natural gas wellhead productive capacity.	V		V		
Oil and Gas Field Code Master List Comprehensive listing of U.S. oil and gas field names as of November 1995.	V		V		
Oil and Gas Resources of the Fergana Basin (Uzbekistan, Tadjikistan, and Kyrgyzstan) Reservoir level assessments of oil and gas ultimate recovery in the former Soviet Union area.	V		V		
The Value of Underground Storage in Today's Natural Gas Industry Explores the significant and changing role of storage in the industry.	V		V		
U.S. Oil and Gas Development in the Early 1990's Analyses of the growing prominence of smaller energy companies in U.S. oil and gas production	V		V		
ANNUAL DATA					
Natural Gas Supply and Disposition, by State 1994	V P	V P		V	

V=Viewable

P=Post-Processable

	Internet	Dial-In	InfoDisk	Fax	Diskette
Natural Gas Summary, United States by Year 1990-1994	V P	V P		V	
1994 Natural Gas Annual Volume 1 data Self-extracting file containing data (in comma-delimited format) that appear in the tables in Volume I of the 1994 <i>Natural Gas Annual</i> .	P		P		P
1994 Natural Gas Annual Volume 2 data Self-extracting file containing historical information (in comma-delimited format) found in the tables in Volume II of the 1994 <i>Natural Gas Annual</i> . Annual historical data at the national level are presented for 1930-1994. Annual information by State and region is presented for 1967-1994.	P		P		P
1993 Data reported on Form EIA-176 A self-extracting compressed file containing data reported on Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition" for 1993.	P				P
1994 Data reported on Form EIA-176 A self-extracting compressed file containing data reported on Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition" for 1994.	P				P
Data archive of historical reserves estimates for U.S. Crude Oil, Natural Gas, and Natural Gas Liquids. National, State, and State subregion data published in the reserves balance tables of <i>U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves</i> from 1977 forward.	P				P
MONTHLY DATA					
Natural Gas Production, United States by Month 1989-forward	P	P		V	
Natural Gas Supply and Disposition, 1989-forward	P	P		V	
Natural Gas Imports and Exports 1989-forward	P	P		V	
Natural Gas Underground Storage: United States Total by Month 1989-forward	P	P		V	
Natural Gas Prices: United States Total by Month 1989-forward	P	P		V	
Natural Gas Consumption by Sector: United States Total by Month, 1989-forward	P	P		V	
SELF-EXTRACTING COMPRESSED DATA FILE ARCHIVES					
Natural Gas Consumption and Prices, for most recent 2-3 years	P	P			
Natural Gas Consumption and Prices, for 1984-1992	P	P			
OTHER REPORTS					
Natural Gas Weekly Market Update Analysis of current price, supply and storage data along with a two week snapshot of the weather in four distinct metropolitan areas.	V			V	

V=Viewable

P=Post-Processable

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.

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.

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.

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.