

# Natural Gas Monthly

## October 1999

**Energy Information Administration**  
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## Natural Gas Publications and Databases Available Electronically

All of the natural gas publications are available electronically on the EIA website. Certain natural gas data are also provided in database formats on the web site. The table below is a guide to the major natural gas products.

| Product   | Format | Contents  |
|---|--------|---|
| <b>Publications</b>   |        |   |
| <i>Natural Gas Weekly Market Update</i>                             | PDF    | Analysis of current price, supply and storage data  |
| <i>Natural Gas Monthly</i>  | PDF    | Monthly supply, disposition, and price data   |
| <i>Natural Gas Annual</i>   | PDF    | Annual supply, disposition, and price data  |
| <i>Historical Natural Gas Annual</i>                                | PDF    | Historical annual supply, disposition, and price data from 1930 - 1997                                      |
| <i>Issues and Trends</i>  | PDF    | Comprehensive analysis of growth and change in the natural gas industry                                     |
| <i>U.S. Crude Oil, Natural Gas and Natural Gas Liquids Reserves</i> | PDF    | Proved reserves in the United States  |
| <i>Oil and Gas Field Code Master List</i>                           | PDF    | Listing of U.S. oil and gas field names   |
| <b>Databases</b>  |        |   |
| Monthly Data  | TXT    | Tables 1-6, and 9 from the <i>Natural Gas Monthly</i>   |
| Historical Monthly Data   | EXE    | Consumption and price data, 1984-1994; 1995-present   |
| Annual Data   | TXT    | Tables from the <i>Natural Gas Annual</i>   |
| Historical Annual Data  | TXT    | Tables from the <i>Historical Natural Gas Annual</i>  |
| Field Codes   | EXE    | Oil & Gas Field Code Master List  |
| <b>Applications</b>   |        |   |
| EIA-176 Query System  | EXE    | Company filings to the Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition" |
| EIAGIS  | EXE    | Periodic updates for users of the EIAGIS-NG Geographic Information System                                   |

PDF files are image files that can be viewed through Adobe Acrobat.

TXT files are ASCII text. They may be replications of published tables, including table titles, column and row identification, or they may be flat files with a minimum of content description suitable for input to spreadsheets or other programs.

EXE files are executables that can be downloaded then opened. Databases are distributed as self-executing Zipped archives which spawn numerous data files and documentation. Applications are distributed as self-executing Zipped archives which initially generate numerous files and then form an application which is installed on the user's PC.

# Preface

The *Natural Gas Monthly (NGM)* is prepared in the Natural Gas Division, Office of Oil and Gas, Energy Information Administration (EIA), U.S. Department of Energy (DOE), under the direction of Joan E. Heinkel.

General questions and comments regarding the *NGM* may be referred to Ann M. Ducca (202) 586-6137. 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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# **Corporate Realignments and Investments in the Interstate Natural Gas Transmission System**

By Susanne Johnson, Jon Rasmussen, and James Tobin

This article is adapted from the Energy Information Administration (EIA) report *Corporate Realignments and Investments in the Interstate Natural Gas Transmission System* published on the EIA web site at: <<http://www.eia.doe.gov>>. The report examines the financial characteristics of current ownership in the natural gas pipeline industry and of the major U.S. interstate pipeline companies that transported the bulk of the natural gas consumed in the United States between 1992 and 1997, focusing on 14 parent corporations. It also examines the near-term investment needs of the industry and the anticipated growth in demand for natural gas during the next decade.

Corporate ownership of interstate natural gas pipeline companies has changed substantially since the Federal Energy Regulatory Commission's (FERC) issuance of Order 636 in 1992. Corporations with strong ties to the electric power industry have gained significant ownership of natural gas pipelines while corporations heavily engaged in natural gas exploration and production have made some of the largest divestitures of pipeline assets. Fourteen corporations currently account for over 85 percent of interstate natural gas pipeline activity. Although some changes in pipeline ownership may be expected in the future, these 14 corporations will be the source of a substantial portion of the future capital expenditures for interstate natural gas pipelines and associated facilities.

The 14 parent corporations discussed in this report are: Coastal Corporation; Columbia Energy Group; Consolidated Natural Gas; Duke Energy Corporation; El Paso Energy; Enron Corporation; KN Energy Corporation; MDU Resources Group; Northern States Power Company; PG&E Corporation; Reliant Energy Corporation; Questar Corporation; Sonat Corporation; and The Williams Companies, Incorporated.

This report reviews the financial characteristics of current ownership within the natural gas pipeline industry and of the major interstate pipelines that transport the bulk of natural gas consumed in the United States between 1992 and 1997. It looks at how these corporations have changed in recent years and how they have reformed themselves to meet the demands of doing business in today's marketplace. It also includes an analysis of the near-term investment needs of the industry and the anticipated growth in demand for natural gas over the next decade. The potential natural gas transmission investment capabilities in the near term for the 14 parent

corporations relative to the investment potential of large U.S. corporations are examined.

Main points and findings of the report include:

- ! Companies with significant involvement in electric power have been generally making the largest investments in interstate natural gas pipelines.
- ! Energy marketing (natural gas and electric) is an important enterprise within the 14 pipeline parent corporations.
- ! Within the 14 parent corporations, the lines of business that include natural gas pipelines have been more profitable than the parent corporations' other lines of business on average.
- ! As measured by revenue and assets, the 14 parent corporations grew nearly twice as fast as other large U.S. corporations (represented by the Standard & Poor's Industrials) between 1992 and 1997. However, earnings growth and stock market valuations of the 14 parent corporations have been well below those of other U.S. corporations overall.

## **Regulatory and Market Developments**

In the 1990's, a number of regulatory and energy market developments profoundly affected the operations and structure of the natural gas transmission industry. Primary among these developments was the issuance of the Federal Energy Regulatory Commission's Order 636 in April 1992 which became effective on November 1, 1993. Order 636 required interstate pipeline companies to unbundle their sales and transportation services and revised how rates are determined for transportation services. While the Order had the effect of reducing pipeline revenues (although not necessarily profitability) because interstate pipelines

no longer were sellers of natural gas, the revised rate design allowed them to collect most of their costs in fixed demand charges, which reduced the risk of recovering these costs. Order 636 also established a release (reseller) market for transportation and storage capacity, which provided a mechanism for the marketing of unused or underutilized pipeline capacity.<sup>1</sup>

These measures, among others, fostered competition in the natural gas commodity market, paved the way for the gradual introduction of competition into the retail purchase of natural gas, and permitted the creation of new transportation and marketing services that have improved the efficiency of the overall natural gas transportation process. Consequently, the interstate pipeline segment of the natural gas industry in the United States has instituted a number of major changes in its operational and business practices over the past decade. In particular, the pipeline industry has significantly changed the transaction processes and mechanisms for transportation services.<sup>2</sup> FERC Order 636 restructuring has also had a major impact upon the financial and investment profiles of almost all of the major interstate natural gas pipeline operating in the United States today. The restructuring of the transportation industry prompted some pipeline companies to revise their marketing strategy, which probably accounts, in part, for the increased level of mergers and acquisitions within the industry in recent years.

Additionally, the outlook for further and substantial growth in U.S. natural gas demand became more optimistic in the 1990's, lending support to new investments in gas transmission and related facilities to meet expected demand growth in the near-term. The pace of deregulation in U.S. electricity markets is also pushing the gas transmission industry into new operational and ownership configurations. This recent development has created expectations of complementarities and new efficiency gains between electric generation and marketing, on the one hand, and natural gas transport and marketing, on the other.

## Demand Growth and Investment

### Recent Trends

Between 1992 and 1997, natural gas consumption grew 12 percent, from 19.5 trillion cubic feet (Tcf) to 22.0 Tcf. In 1992, the interstate natural gas pipelines that were owned by the 14 parent corporations (in 1997) delivered 33.3 Tcf of gas through their systems while in 1997 that

total was 22 percent higher, reaching 40.7 Tcf.<sup>3</sup> Revenues, however, fell dramatically as pipeline services no longer included revenues from the sale of natural gas, but only transportation revenues, due to Order 636. For a select group of major interstate pipeline companies (representing 88 percent of industry revenues), overall pipeline revenues fell \$7.3 billion (a 41-percent decline) while volumes delivered increased by 5 Tcf (Table SF1).<sup>4</sup>

Since 1992, the last year before the effects of FERC Order 636 were felt on the industry, the investment base in natural gas transmission for the parent corporations increased 85 percent (Table SF2). (As Table SF2 shows, this growth was mainly due to pipeline acquisitions and mergers.) However, the investment base for natural gas pipelines overall, regardless of changes in ownership, declined a slight 3 percent. Despite this lack of growth, investment in complementary facilities grew. Between 1992 and 1997, more than 35 natural gas market centers/hubs were set up across North America to offer trading, transhipment and other services to customers demanding more flexible access to supplies and/or markets. In addition, during the same period, the underground storage market also expanded substantially, as 27 new sites were developed (many in association with market centers) and overall underground storage working gas capacity increased about 6 percent.

### Near-Term Developments

While at least 76 new and expansion pipeline projects have been proposed for development in 1999 and 2000, calling for an investment of more than \$8 billion, regulatory authorities had not yet approved all of these projects as of mid-year 1999. It is likely that some proposed projects will eventually be withdrawn due to competitive market pressures. In some instances, several projects are competing for the same markets or the same supply sources.

An example of this latter situation is the drive to provide new pipeline capacity between the Midwestern and the Northeastern United States.<sup>5</sup> At least three major new routes have been proposed. If all three proposed routes were approved and completed, by 2001 as much as 2.1 billion cubic feet per day of additional natural gas pipeline capacity could enter the Northeast region from sources originating in the Midwestern United States. Much of this new development is premised on the anticipated increase in the demand for natural gas from planned new gas-fired electrical generation plants.<sup>6</sup> However, while a substantial number of new gas-fired electric plants have

**Table SF1. Revenue, Expenses, and Deliveries of Selected Major Interstate Natural Gas Pipelines, 1997 and 1992**

| Parent/Pipeline Name   | Fortune<br>500<br>Ranking | Revenue<br>(Million Dollars) |                     |                   | Expenses<br>(Million Dollars) |                     |                   | Total Gas Deliveries<br>(Billion Cubic Feet) |                     |                   |
|--|---------------------------|------------------------------|---------------------|-------------------|-------------------------------|---------------------|-------------------|--|---------------------|-------------------|
|  |                           | 1997                         | 1992                | Percent<br>Change | 1997                          | 1992                | Percent<br>Change | 1997   | 1992                | Percent<br>Change |
| <b>Coastal Corporation</b>                                       | 158                       |                              |                     |                   |                               |                     |                   |  |                     |                   |
| ANR Pipeline Co  |                           | 660                          | 1,176               | -44               | 370                           | 787                 | -53               | 4,172  | 2,374               | 76                |
| Colorado Interstate Gas Co                                       |                           | 275                          | 449                 | -39               | 153                           | 289                 | -47               | 907  | 677                 | 34                |
| Great Lakes Gas Transmission Co<br>(50% ownership)               |                           | 270                          | 244                 | 11                | 42                            | 34                  | 22                | 987  | 900                 | 10                |
| High Island Offshore Pipeline Co                                 |                           | 45                           | 51                  | -12               | 17                            | 28                  | -40               | 343  | 390                 | -12               |
| U-T Offshore Pipeline Co   |                           | 4                            | 7                   | -47               | 2                             | 3                   | -18               | 123  | 191                 | -35               |
| Wyoming Interstate Co Ltd  |                           | 19                           | 16                  | 19                | 3                             | 2                   | 57                | 214  | 96                  | 123               |
| <b>Columbia Energy Group Inc</b>                                 |                           |                              |                     |                   |                               |                     |                   |  |                     |                   |
| Columbia Gas Transmission Corp                                   |                           | 677                          | 1,305               | -48               | 333                           | 1,001               | -67               | 3,529  | 1,603               | 120               |
| Columbia Gulf Transmission Co                                    |                           | 136                          | 185                 | -26               | 79                            | 122                 | -35               | 3,929  | 1,447               | 171               |
| <b>Consolidated Natural Gas Co</b>                               | 278                       |                              |                     |                   |                               |                     |                   |  |                     |                   |
| CNG Transmission Co  |                           | 525                          | 684                 | -23               | 218                           | 465                 | -53               | 1,309  | 868                 | 57                |
| <b>Duke Energy Corporation</b>                                   | 81                        |                              |                     |                   |                               |                     |                   |  |                     |                   |
| Algonquin Gas Transmission Co <sup>a</sup>                       |                           | 152                          |                     | --                | 52                            |                     | --                | 346  |                     | --                |
| Panhandle Eastern Pipeline Co <sup>a,b</sup>                     |                           | 348                          |                     | --                | 201                           |                     | --                | 747  |                     | --                |
| Texas Eastern Transmission Corp <sup>b</sup>                     |                           | 928                          |                     | --                | 460                           |                     | --                | 1,568  |                     | --                |
| Trunkline Gas Co <sup>a,b</sup>                                  |                           | 168                          |                     | --                | 75                            |                     | --                | 984  |                     | --                |
| <b>El Paso Energy Co</b>   | 281                       |                              |                     |                   |                               |                     |                   |  |                     |                   |
| East Tennessee Gas Co <sup>a</sup>                               |                           | 52                           |                     | --                | 15                            |                     | --                | 121  |                     | --                |
| El Paso Natural Gas Co   |                           | 493                          | 971                 | -49               | 181                           | 711                 | -74               | 1,373  | 1,547               | 11                |
| Midwestern Gas Transmission Co <sup>a</sup>                      |                           | 18                           |                     | --                | 8                             |                     | --                | 163  |                     | --                |
| Mojave Pipeline Co   |                           | 48                           | 31                  | 5                 | 9                             | 52                  | 63                | 110  | 61                  | 80                |
| Tennessee Gas Pipeline Co <sup>a</sup>                           |                           | 774                          |                     | --                | 413                           |                     | --                | 2,362  |                     | --                |
| <b>Enron Corporation</b>   | 57                        |                              |                     |                   |                               |                     |                   |  |                     |                   |
| Florida Gas Transmission Co<br>(50% ownership)                   |                           | 310                          | 259                 | 20                | 85                            | 198                 | -57               | 538  | 371                 | 45                |
| Northern Natural Gas Co  |                           | 508                          | 1,038               | -51               | 187                           | 770                 | -76               | 1,805  | 1,954               | -8                |
| Transwestern Gas Pipeline Co                                     |                           | 157                          | 211                 | -25               | 50                            | 96                  | -48               | 535  |                     | --                |
| <b>KN Energy Corporation</b>                                     | --                        |                              |                     |                   |                               |                     |                   |  |                     |                   |
| KN Interstate Gas Co   |                           | 80                           | 319                 | -75               | 29                            | 254                 | -89               | 226  | 238                 | 5                 |
| KN Wattenberg Transmission Ltd                                   |                           | 14                           | N/A                 | --                | 10                            | N/A                 | --                | 64   | N/A                 | --                |
| <b>MDU Resources Group Inc</b>                                   | --                        |                              |                     |                   |                               |                     |                   |  |                     |                   |
| Williston Basin Interstate Pipeline Co                           |                           | 72                           | 99                  | -27               | 34                            | 67                  | -49               | 108  | 104                 | 4                 |
| <b>Northern States Power Co</b>                                  | 498                       |                              |                     |                   |                               |                     |                   |  |                     |                   |
| Viking Gas Transmission Co                                       |                           | 20                           | 61                  | -69               | 9                             | 55                  | -84               | 172  | 141                 | 22                |
| <b>PG&amp;E Corporation</b>                                      | 85                        |                              |                     |                   |                               |                     |                   |  |                     |                   |
| PG&E Gas Transmission Co - NW                                    |                           | 233                          | 680                 | -66               | 59                            | 679                 | -91               | 992  | 516                 | 92                |
| <b>Reliant Energy Corp</b>                                       | 230                       |                              |                     |                   |                               |                     |                   |  |                     |                   |
| Mississippi River Transmission Co                                |                           | 65                           | 230                 | -72               | 30                            | 189                 | -84               | 393  | 407                 | -3                |
| Reliant Energy Gas Transmission Co                               |                           | 225                          | 315                 | -29               | 109                           | 239                 | -54               | 875  | 698                 | 25                |
| <b>Questar Corporation</b>                                       | --                        |                              |                     |                   |                               |                     |                   |  |                     |                   |
| Questar Pipeline Co  |                           | 107                          | 211                 | -49               | 39                            | 146                 | -73               | 331  | 485                 | -32               |
| Overthrust Pipeline Co   |                           | 4                            | 5                   | -23               | 1                             | 1                   | -5                | 45   | 29                  | 55                |
| <b>Sonat Corporation</b>   | 352                       |                              |                     |                   |                               |                     |                   |  |                     |                   |
| Sea Robin Pipeline Co  |                           | 25                           | 32                  | -22               | 13                            | 15                  | -10               | 285  | 290                 | 2                 |
| Southern Natural Gas Co  |                           | 521                          | 689                 | -24               | 328                           | 504                 | -35               | 928  | 1,284               | -28               |
| <b>Williams Companies, Inc</b>                                   | 337                       |                              |                     |                   |                               |                     |                   |  |                     |                   |
| Kern River Transmission Co                                       |                           | 189                          | 128                 | 49                | 23                            | 18                  | 31                | 290  | 185                 | 57                |
| Northwest Pipeline Co  |                           | 275                          | 398                 | -31               | 89                            | 230                 | -61               | 722  | 1,838               | -61               |
| Texas Gas Transmission Co <sup>a</sup>                           |                           | 318                          |                     | --                | 181                           |                     | --                | 2,663  |                     | --                |
| Transcontinental Gas Pipeline Co <sup>a</sup>                    |                           | 1,445                        |                     | --                | 1,018                         |                     | --                | 3,601  |                     | --                |
| Williams Gas Pipeline - Central                                  |                           | 181                          | 333                 | -52               | 100                           | 260                 | -61               | 374  | 740                 | 49                |
| <b>Subtotal: Pipelines owned by parent in both 1992 and 1997</b> |                           | 10,597                       | 10,127              | 5                 | 5,025                         | 7,168               | -30               | 38,234                                       | 19,434              | 97                |
| <b>Subtotal: Pipelines acquired 1992-1997</b>                    |                           | 0                            | 7,729               | --                | 0                             | 5,901               | --                | 0  | 13,838              | --                |
| <b>Total</b>   |                           | 10,597                       | 17,856 <sup>c</sup> | -41               | 5,025                         | 13,069 <sup>c</sup> | -62               | 38,234                                       | 33,272 <sup>c</sup> | 15                |

<sup>a</sup> Pipeline was not part of the parent corporation in 1992.

<sup>b</sup> Pipeline was sold or spun off after 1997 and is no longer a part of the parent corporation.

<sup>c</sup> The data show that the majority of the growth in natural gas pipeline's revenue, expenses, and total gas deliveries were due almost entirely to acquisitions and mergers by parent corporations between 1992 and 1997. Revenue including acquisitions and mergers actually declined 41 percent compared to a 5-percent increase when these same transactions were excluded.

Notes: Table is not inclusive of all U.S. interstate pipelines operating in 1992 and 1997. N/A denotes not applicable. -- denotes not meaningful.

Sources: **Fortune 500 Ranking, Revenue and Expenses:** Compustat PC Plus, a service of Standard & Poor's, Inc. **Total Gas Deliveries:** Federal Energy Regulatory Commission Forms 2 & 2A, "Annual Report of Major/Minor Natural Gas Companies" (1992 and 1997).

**Table SF2. Operating Income, Capital Expenditures, and Assets of Selected Major Interstate Natural Gas Pipelines, 1997 and 1992**  
 (Million Dollars)

| Parent/Pipeline Name  | Operating Income |                          |          | Capital Expenditures |                          |                | Assets        |                           |           |
|---|------------------|--------------------------|----------|----------------------|--------------------------|----------------|---------------|---------------------------|-----------|
|   | 1997             | 1992                     | Percent  | 1997                 | 1992                     | Percent Change | 1997          | 1992                      | Percent   |
| <b>Coastal Corporation</b>  |                  |                          |          |                      |                          |                |               |                           |           |
| ANR Pipeline Co   | 153              | 191                      | -20      | 66                   | 42                       | 56             | 2,951         | 2,937                     | 1         |
| Colorado Interstate Gas Co  | 68               | 87                       | -22      | 13                   | 33                       | -60            | 885           | 855                       | 4         |
| Great Lakes Gas Transmission Co (50% ownership)                               | 109              | 103                      | 6        | 33                   | 48                       | -32            | 1,658         | 1,335                     | 24        |
| High Island Offshore Pipeline Co  | 15               | 12                       | 31       | 2                    | c                        | 115            | 369           | 369                       | 0         |
| U-T Offshore Pipeline Co  | 1                | 1                        | -68      | c                    | 1                        | -11            | 62            | 62                        | 0         |
| Wyoming Interstate Co Ltd   | 7                | 5                        | 33       | c                    | 1                        | -93            | 227           | 177                       | 28        |
| <b>Columbia Energy Group Inc</b>  |                  |                          |          |                      |                          |                |               |                           |           |
| Columbia Gas Transmission Corp  | 164              | 196                      | -16      | 35                   | 29                       | 23             | 3,002         | 2,614                     | 15        |
| Columbia Gulf Transmission Co   | 18               | 26                       | -31      | 8                    | 2                        | 234            | 1,237         | 1,157                     | 7         |
| <b>Consolidated Natural Gas Co</b>  |                  |                          |          |                      |                          |                |               |                           |           |
| CNG Transmission Co   | 142              | 99                       | 43       | 9                    | 30                       | -71            | 2,202         | 1,886                     | 17        |
| <b>Duke Energy Corporation</b>  |                  |                          |          |                      |                          |                |               |                           |           |
| Algonquin Gas Transmission Co <sup>a</sup>                                    | 49               |                          | --       | 13                   |                          | --             | 754           |                           | --        |
| Panhandle Eastern Pipeline Co <sup>a,b</sup>                                  | 92               |                          | --       | 9                    |                          | --             | 1,135         |                           |           |
| Texas Eastern Transmission Corp <sup>a,b</sup>                                | 223              |                          | --       | 42                   |                          | --             | 4,441         |                           | --        |
| Trunkline Gas Co <sup>a,b</sup>   | 34               |                          | --       | 49                   |                          | --             | 1,139         |                           | --        |
| <b>EI Paso Energy Co</b>  |                  |                          |          |                      |                          |                |               |                           |           |
| East Tennessee Gas Co <sup>a</sup>  | 16               |                          | --       | 7                    |                          | --             | 239           |                           | --        |
| EI Paso Natural Gas Co  | 172              | 123                      | 40       | 67                   | 86                       | -22            | 2,041         | 2,395                     | -15       |
| Midwestern Gas Transmission Co <sup>a</sup>                                   | 4                |                          | --       | 2                    | c                        | --             | 105           |                           | --        |
| Mojave Pipeline Co  | 23               | 17                       | 33       | c                    | 0                        | --             | 241           | 241                       | 0         |
| Tennessee Gas Pipeline Co <sup>a</sup>  | 122              |                          | --       | 91                   |                          | --             | 4,643         |                           | --        |
| <b>Enron Corporation</b>  |                  |                          |          |                      |                          |                |               |                           |           |
| Florida Gas Transmission Co (50%)   | 109              | 23                       | 282      | 22                   | 7                        | 212            | 1,846         | 728                       | 153       |
| Northern Natural Gas Co   | 74               | 73                       | 1        | 250                  | 18                       | 1,318          | 2,280         | 2,510                     | -9        |
| Transwestern Gas Pipeline Co  | 56               | 54                       | 4        | 41                   | 4                        | 1,028          | 794           | 1,019                     | -22       |
| <b>KN Energy Corporation</b>  |                  |                          |          |                      |                          |                |               |                           |           |
| KN Interstate Gas Co  | 25               | 28                       | 11       | 160                  | 26                       | 517            | 516           | 548                       | 6         |
| KN Wattenberg Transmission Ltd  | 2                | N/A                      | N/A      | 1                    | N/A                      | N/A            | 51            | N/A                       | N/A       |
| <b>MDU Resources Group Inc</b>  |                  |                          |          |                      |                          |                |               |                           |           |
| Williston Basin Interstate PI Co  | 17               | 16                       | 10       | 1                    | 3                        | -68            | 241           | 224                       | 8         |
| <b>Northern States Power Co</b>   |                  |                          |          |                      |                          |                |               |                           |           |
| Viking Gas Transmission Co  | 5                | 3                        | 59       | 1                    | 1                        | 19             | 116           | 80                        | 45        |
| <b>PG&amp;E Corporation</b>   |                  |                          |          |                      |                          |                |               |                           |           |
| PG&E Gas Transmission Co - NW   | 73               | -9                       | --       | 14                   | 550                      | -97            | 1,479         | 449                       | 229       |
| <b>Reliant Energy Corp</b>  |                  |                          |          |                      |                          |                |               |                           |           |
| Mississippi River Transmission Co   | 13               | 19                       | -31      | 2                    | 1                        | 71             | 495           | 470                       | 5         |
| Reliant Energy Gas Transmission Co  | 56               | 55                       | 1        | 13                   | 16                       | -19            | 1,083         | 1,270                     | -15       |
| <b>Questar Corporation</b>  |                  |                          |          |                      |                          |                |               |                           |           |
| Questar Pipeline Co   | 35               | 35                       | 3        | 23                   | 16                       | 53             | 459           | 444                       | 3         |
| Overthrust Pipeline Co  | 1                | 1                        | -68      | 0                    | 0                        | --             | 64            | 63                        | 2         |
| <b>Sonat Corporation</b>  |                  |                          |          |                      |                          |                |               |                           |           |
| Sea Robin Pipeline Co   | 6                | 10                       | -39      | 1                    | 1                        | 38             | 283           | 252                       | 12        |
| Southern Natural Gas Co   | 83               | 88                       | -5       | 57                   | 3                        | 1,619          | 1,745         | 1,530                     | 14        |
| <b>Williams Companies, Inc</b>  |                  |                          |          |                      |                          |                |               |                           |           |
| Kern River Transmission Co  | 92               | 78                       | 17       | 1                    | 17                       | -91            | 1,041         | 983                       | 6         |
| Northwest Pipeline Co   | 92               | 81                       | 13       | 19                   | 315                      | -94            | 1,461         | 758                       | 93        |
| Texas Gas Transmission Co <sup>a</sup>  | 61               |                          | --       | 8                    |                          | --             | 1,318         |                           | --        |
| Transcontinental Gas Pipeline Co <sup>a</sup>                                 | 190              |                          | --       | 17                   |                          | --             | 4,815         |                           | --        |
| Williams Gas Pipeline - Central   | 34               | 36                       | -6       | 26                   | 14                       | 84             | 834           | 790                       | 6         |
| <b>Subtotal: Pipelines owned by parent corporations in both 1992 and 1997</b> |                  |                          |          |                      |                          |                |               |                           |           |
|   | 2,436            | 1,451                    | 68       | 1,103                | 1,264                    | -13            | 48,252        | 26,146                    | 85        |
| <b>Subtotal: Pipelines acquired 1992-1997</b>                                 |                  |                          |          |                      |                          |                |               |                           |           |
|   | 0                | 1,212                    | --       | 0                    | 273                      | --             | 0             | 23,456                    | --        |
| <b>Total</b>  | <b>2,436</b>     | <b>2,663<sup>d</sup></b> | <b>0</b> | <b>1,103</b>         | <b>1,537<sup>d</sup></b> | <b>-28</b>     | <b>48,252</b> | <b>49,602<sup>d</sup></b> | <b>-3</b> |

<sup>a</sup> Pipeline was not a part of the parent corporation in 1992.

<sup>b</sup> Pipeline was sold or spun off after 1997 and is no longer a part of the parent corporation.

<sup>c</sup> Less than half of a million dollars.

<sup>d</sup> The data show that the majority of the growth in natural gas pipeline's operating income, capital expenditures, and assets were due almost entirely to acquisitions and mergers by parent corporations between 1992 and 1997. In particular, assets including acquisitions and mergers declined 3 percent compared to an 85-percent increase when these same transactions were excluded.

Notes: Table is not inclusive of all U.S. interstate pipelines operating in 1992 and 1997. N/A denotes not applicable. -- denotes not meaningful.

Sources: Federal Energy Regulatory Commission, FERC Forms 2 & 2A, "Annual Report of Major/Minor Natural Gas Companies" (1992 and 1997).

been proposed to be built between 2000 and 2003 in the Northeastern region of the United States,<sup>7</sup> it is impossible to predict how many of the currently proposed plants will actually be built. The changing nature of power generation economics under restructuring, and changes in the economy itself over this period, will certainly bring about some revisions to current plans.

## Long-Range Outlook

Projections of natural gas demand growth in the first two decades of the 21st century (between 2001 and 2020) suggest that gas consumption could reach between 30 and 35 Tcf by the end of the period.<sup>8</sup> To meet this potential level of demand, it is estimated that an investment of between \$40 and \$80 billion in new pipeline and/or expansion of current transmission infrastructure would need to occur.<sup>9</sup> Indeed, the Energy Information Administration (EIA) estimates that natural gas pipeline investments in the United States could exceed a combined total of \$8 billion during 1999 and 2000 (Figure SF1). The largest growth in capacity is expected to occur primarily due to the increased use of natural gas in the generation of electrical power. In addition, the growth in industrial demand is expected to be a secondary contributor to the growth in capacity.<sup>10</sup>

## Corporate Changes in the Natural Gas Transmission Sector

### Mergers and Acquisitions

The corporate makeup of the natural gas pipeline industry, subsequent to Order 636, has changed. A number of pipeline companies were involved in acquisitions or mergers as major natural gas industry players developed new marketing strategies and/or corporately aligned themselves to better respond to the possible outcomes of Order 636 restructuring. In several cases, for example, El Paso Energy Corporation and The Williams Companies, one of the apparent primary aims of the merger was to extend the natural gas business unit nationwide.<sup>11</sup> In others, for example, PG&E Corporation, the apparent aim was to set up an integrated energy business (Figure SF2) which would extend the marketing of energy as a commodity, regardless of fuel type or method of production.<sup>12</sup>

Most of the growth in the natural gas pipelines operations of the 14 parent corporations included in this review was accomplished through mergers and acquisitions. The total natural gas transmission assets

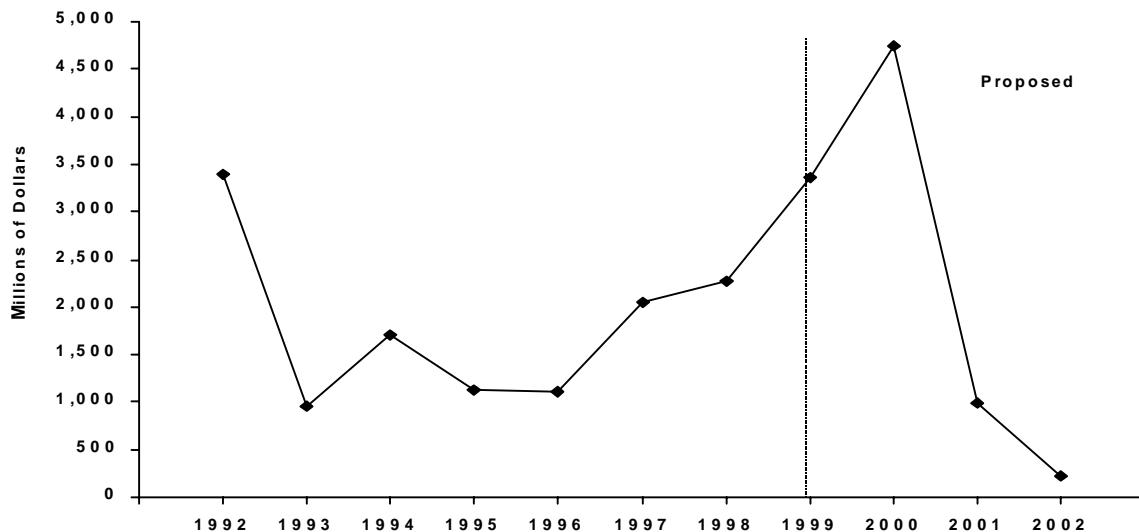
owned by the 14 parent corporations increased by 85 percent between 1992 and 1997 (Table SF2). Nearly 90 percent of this growth is attributable to the acquisition of natural gas pipeline assets not owned by the parent corporations in 1992, the last year before full implementation of Order 636. Three parent corporations were primarily responsible for most of these acquisitions: Duke Energy, El Paso Energy, and The Williams Companies.

Acquisition of additional interstate pipeline operations allowed these parent corporations in particular (who controlled one or more pipelines already) to expand into new service territories or to strategically complement other parts of the corporate enterprise. For example, El Paso Energy Corporation's acquisition of Tenneco Energy Corporation in December 1996 brought three more interstate pipelines (Tennessee Gas Pipeline, Midwestern Gas Transmission and East Tennessee Gas Company) under its umbrella. This action extended its traditional service territory, located in the southwestern and western United States, to include the midwestern and eastern part of the United States. Transportation access to these markets also provided El Paso Energy's gas marketing subsidiary a vehicle to complement their national natural gas trading business and their delivery of natural gas to customers in these regions.

Likewise, The Williams Companies' purchase of Transco Energy Company (Transcontinental Gas Pipeline Company and Texas Gas Transmission Company) in May 1995 also expanded its transportation services to the midwestern and eastern parts of the United States. This merger also made The Williams Companies the largest transporter of natural gas in the nation. Duke Energy's acquisition of Pan-Energy Inc. in June of 1997 also brought with it a nationwide interstate system. In November 1998, however, Duke announced it was selling two of the former Pan-Energy interstate pipelines, Panhandle Eastern and Trunkline, to CMS Energy Corporation. Nevertheless, even with that sale, Duke Energy will still retain access to interstate natural gas transportation within its primary service territory, the east coast and the southeast region.

PG&E Corporation, which owns Pacific Gas and Electric Company, one of the largest distributors of electricity and natural gas in the United States, and a major pipeline serving California, extended its reach by acquiring Valero Energy's natural gas transmission assets in August 1997, along with several natural gas market centers located in west Texas. This action was undertaken to complement the growing presence of PG&E in the electric power generation sector in the

**Figure SF1. National Levels of Interstate Natural Gas Pipeline Construction Expenditures, 1992-2002**



Note: Estimated expenditures for several pipeline projects that extend between the U.S. and Canada only reflect that portion of project cost that is expected to be spent within the United States.

Source: **Estimated Capacity Additions 1999-2000:** Energy Information Administration, EIAGIS-NG Geographic Information System, **Natural Gas Pipeline Construction Database: Construction Expenditures:** Federal Energy Regulatory Commission, FERC Forms 2 & 2A, Annual Report of Major/Minor Natural Gas Companies, 1992-1997 and filings under CFR 157:20(c)(4); Energy Information Administration, EIAGIS-Ng Geographic Information System, Natural Gas Pipeline Construction Database.

Southwest, particularly in the development of gas-fired generating capacity. Pacific Gas Transmission Company, a wholly owned subsidiary of PG&E (renamed PG&E Transmission - Northwest effective January 1, 1998) links the PG&E California market to gas supplies located in Canada.

## Energy Marketing

As the interstate natural gas pipeline companies went from being sellers of gas to primarily transporters of the commodity during the latter 1980's and early 1990's,<sup>13</sup> they had to reorganize their business operations. In many instances, parent corporations set up affiliated marketing subsidiaries (which were usually the pipeline's prior marketing unit) to manage the buying and selling of natural gas for customers who previously purchased gas directly from the pipeline (Figure SF2).

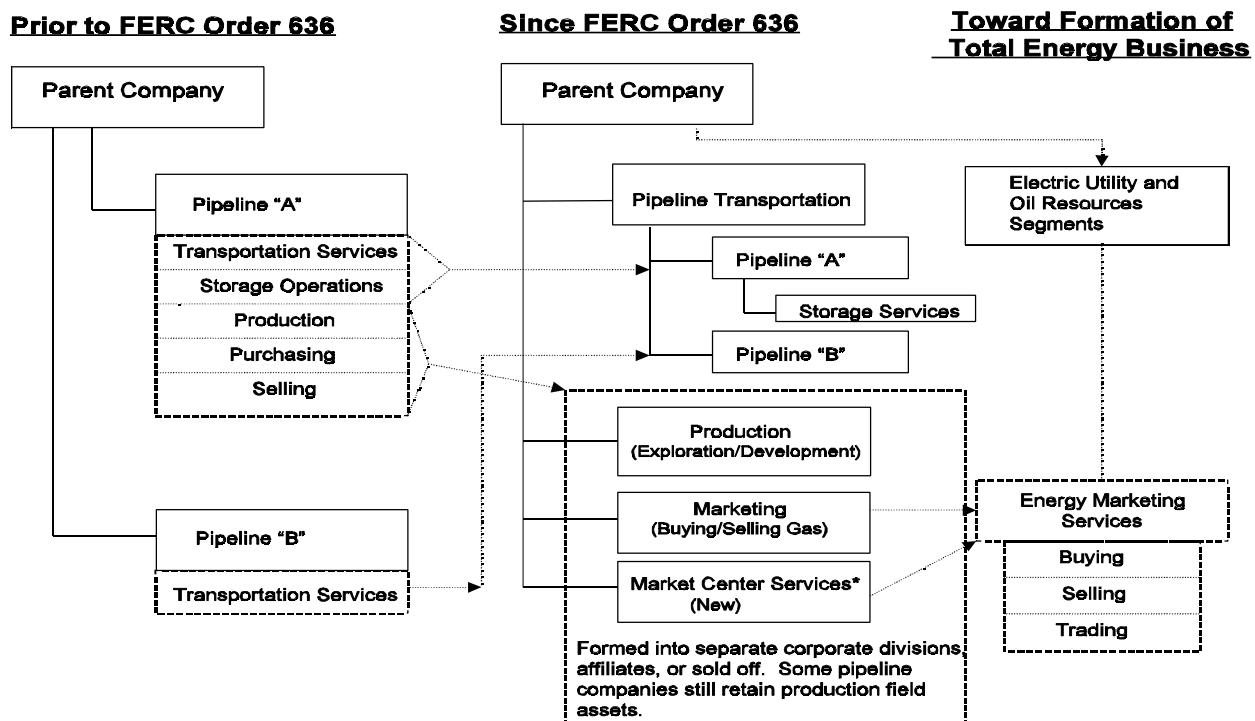
Today, these marketers have become major operations in their own right, many doing business well beyond the service territories of their pipeline affiliates. Enron Capital and Marketing Inc. (affiliated pipelines - Northern Natural Gas Company, Transwestern Pipeline Company, and Mid-Louisiana Gas Company), for instance, has become the largest natural gas marketer in

North America, transacting more than \$11 billion in business in 1997, and accounting for about 58 percent of Enron Corporation's total operating revenues. Similarly, Duke Energy Company (Texas Eastern Gas Transmission Corporation, Algonquin Gas Transmission Company) and El Paso Marketing Company (El Paso Energy Company, Tennessee Gas Pipeline Company, Midwestern Gas Transmission) today rank 5th and 16th, respectively, among *Natural Gas Intelligence*'s list of major U.S. energy marketers.<sup>14</sup>

## Parent Corporation Profiles

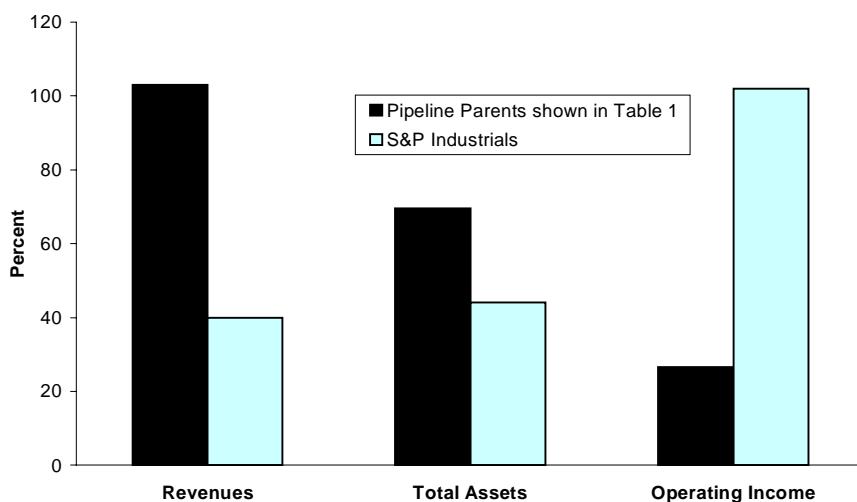
In contrast to the decline of interstate pipeline companies' revenue shown at the bottom of Table SF1 (the total including acquisitions and mergers), both the revenue and total assets (pipeline assets and other assets) of the 14 parent corporations owning these pipelines have been growing more rapidly in general since 1992 (parent corporations listed in bold on Table SF1). Further, these parent corporations' revenue and total assets have outpaced other large U.S. industrial companies' revenue and total assets from 1992 to 1997. Revenue growth for the 14 parent corporations was 104 percent (Figure SF3) compared to 40 percent for the

**Figure SF2. Corporate Restructuring in the Natural Gas Interstate Pipeline Industry**



Note: Some market center services may remain under the jurisdiction of the Federal Energy Regulatory Commission (FERC).  
Source: Energy Information Administration, Office of Oil and Gas.

**Figure SF3. Growth Rates (from 1992 to 1997) for Pipeline Parent Corporations and the S&P Industrials**



Source: Compustat PC Plus, a service of Standard & Poor's.

**Table SF3. Parent Corporation Main Lines of Business**

| Parent Corporation           | Primary SIC Code | Natural Gas and Related Natural Gas Operations |                      |                        |          |                             | Electric & Related Electric Service Operations |                             |               |                          |
|------------------------------|------------------|--|----------------------|------------------------|----------|-----------------------------|--|-----------------------------|---------------|--------------------------|
|                              |                  | Natural Gas                                    |                      |                        | Other    |                             | Electric Services                              |                             | Other Energy  |                          |
|                              |                  | Transmission & Storage <sup>a</sup>            | Oil & Gas Production | Gathering & Processing | LDCs     | Energy Marketing & Services | Generation, Transmission & Distribution        | Energy Marketing & Services | Cogen-eration | Independent Power Plants |
| Coastal Corp.                | 4922             | X  | X                    | X                      |          | X                           |  |                             | X             |                          |
| Columbia Energy Group        | 4923             | X  | X                    | X                      | X        | X                           |  | X                           | X             |                          |
| Consolidated Natural Gas Co. | 4923             | X  | X                    |                        | X        | X                           |  | X                           |               |                          |
| Duke Energy Corp.            | 4911             | X  |                      | X                      |          | X                           | X  | X                           |               | X                        |
| EI Paso Energy Corp.         | 4922             | X  |                      |                        |          | X                           |  |                             | X             |                          |
| Enron Corp.                  | 5172             | X  | X                    |                        |          | X                           | X  | X                           |               |                          |
| KN Energy Inc.               | 4923             | X  |                      | X                      | X        | X                           |  |                             | X             |                          |
| MDU Resources Group Inc.     | 4931             | X  | X                    | X                      | X        |                             | X  |                             |               |                          |
| Northern States Power        | 4931             | X  |                      |                        | X        |                             | X  |                             |               |                          |
| PG&E Corp.                   | 4931             | X  |                      | X                      | X        | X                           | X  | X                           |               | X                        |
| Questar Corp.                | 4923             | X  | X                    | X                      | X        | X                           |  |                             | X             |                          |
| Reliant Energy Inc.          | 4911             | X  |                      | X                      | X        | X                           | X  | X                           |               | X                        |
| Sonat Inc.                   | 4922             | X  | X                    |                        |          | X                           |  |                             | X             |                          |
| Williams Companies Inc.      | 4922             | X  | X                    | X                      |          | X                           |  |                             | X             |                          |
| <b>Total</b>                 |                  | <b>14</b>                                      | <b>8</b>             | <b>9</b>               | <b>8</b> | <b>12</b>                   | <b>6</b>                                       | <b>11</b>                   | <b>2</b>      | <b>3</b>                 |

<sup>a</sup>The parent companies in this category have separate operations in transmission and in storage.

Notes: The following SIC Codes denote primary business operations: SIC Code 4911, electric services; SIC Code 4922, natural gas transmission; SIC Code 4923, natural gas transmission and distribution; SIC Code 4931, electric and other services combined; and SIC Code 5172, wholesale-petroleum and petroleum products (no bulk stations). Four companies have natural gas liquid plants: Coastal, KN Energy, PG&E, and Williams Company. Other lines of operations include chemical operations, coal operations, construction, downstream petroleum, and real estate.

Source: Lines of Business were compiled from companies' individual *Securities and Exchange Commission Form 10-K, 1997*.

S&P Industrials.<sup>15</sup> Total asset growth for these parent corporations was 76 percent compared to 44 percent for the S&P Industrials. However, rapid corporate growth may have come at the expense of profits, as operating income for the parent corporations grew at 20 percent versus 102 percent for the S&P Industrials (Figure SF3). In 1997, eleven of the parents were listed on the Fortune 500, based on annual revenue.<sup>16</sup> There were three parent corporations discussed in this review that were ranked in the top 100. Enron ranked 57th, followed by Duke Energy at 81st and PG&E at 85th (Table SF1).

## Lines of Business

Operations of the parent corporations range from vertically integrated natural gas operations to electric services (Table SF3). Following natural gas transmission and storage operations, energy marketing and services was the most frequently occurring line of business activity for the parent corporations. Other lines of business that the parent corporations have are (listed in terms of frequency): natural gas gathering and

processing, oil and gas production, natural gas distribution, and integrated electric services (operations in generation, transmission, distribution). Five of the fourteen corporations have electricity supply and distribution as their primary industry.

Each of the parent corporations owns both interstate natural gas transmission and storage operations. The pipelines owned by the parent corporations are significant contributors to the natural gas pipeline industry. According to data reported to FERC, the revenue generated by these pipelines accounted for more than 88 percent of the total revenue generated by the interstate natural gas pipeline industry. In addition, their deliveries accounted for 86 percent of the total gas delivered in the United States in 1997.

Energy marketing and services is the second most frequent line of business engaged in by the 14 parent corporations. Twelve of these corporations have energy marketing and services operations. Of these twelve parent corporations, four engage in integrated electric

services (operations in generation, transmission, and distribution).

Why are these parent corporations involved in integrated electric services? Through electricity restructuring and natural gas deregulation, energy marketing and services have become more dominant as consumers now have greater flexibility to choose their provider of energy services. Corporations have begun to sell both electricity and natural gas interchangeably to attract new customers, or to retain previous customers. Consequently, these parent corporations (with both energy marketing and services and integrated electric services) have strategically acquired assets to increase their competitiveness through lowered operating costs, diversified operations, increased marketing areas, and larger customer bases. This trend, the combination of natural gas assets and electric services and marketing, can be expected to progress as corporations realize potential synergies and complementaries gained from marketing both sources of energy.<sup>17</sup>

A number of recent mergers combined downstream natural gas operations with integrated electricity operations. In 1997, Enron purchased Portland General Corporation, a wholly owned subsidiary of Portland General Electric, resulting in Enron becoming the largest wholesaler of gas and electricity in North America. As a result of this transaction, Enron also became the largest investor-owned electric utility company in 1997 based on revenue, primarily due to its wholesale energy marketing activities. Duke Energy acquired PanEnergy, and then sold a 40-percent interest in its marketing division to Mobil, a major producer of natural gas. Houston Energy merged with Noram Energy in 1997 and renamed the company Reliant in 1998. Pacific Gas and Electric acquired Valero Energy's natural gas transmission assets.<sup>18</sup> A recent merger proposal between Dominion Resources and Consolidated Natural Gas in 1999<sup>19</sup> indicates a continued movement toward this trend. Other corporations, such as Sonat,<sup>20</sup> have created marketing divisions to take advantage of the opportunities in wholesale power marketing.

This recent trend has resulted in more parent corporations shifting from traditional vertically integrated operationsCoperations from natural gas production through local distributionCto electricity-related operations. Although eight parent corporations report oil and gas production, only two of these

corporations that have operations in electric services (MDU Resources and Enron) also have natural gas production operations (Table SF3). Recently, Enron announced its intention to sell its oil and gas exploration assets, but later ended negotiations citing the company will continue to explore opportunities to maximize the value of this investment.<sup>21</sup>

The pattern of recent large divestitures of interstate natural gas pipeline assets reinforces the view that the focus of synergies and complementaries has tended to shift away from vertically integrated wellhead-to-citygate corporate structures. Burlington Resources, a major U.S. oil and gas producer, spun off their interstate natural gas operations in the form of El Paso Energy in 1992. Occidental Petroleum, a major international oil and gas producer with sizable chemical operations, sold their MidCon subsidiary and associated natural gas transmission assets in 1998.<sup>22</sup> Tenneco, a former major integrated petroleum company, sold their natural gas transmission assets to El Paso Energy in 1996.

In 1997, eight of the fourteen parent corporations owned local distribution companies (LDCs). Of these eight, four had interstate natural gas transmission operations as their primary industry while the remaining four corporations had electric services and other related services as their primary industry (Table SF3). Prior to Order 636, five of the corporations owned local natural gas sales and distribution services. LDCs are generally not core assets but rather a line of business that corporations acquire in conjunction with natural gas pipeline assets through acquisitions/mergers. However, it appears that parent corporations that have LDC systems and/or engage in retail natural gas marketing services retain this line of business primarily because it is expected to complement future or expanded marketing of overall energy services such as electricity.

## Investment Targets

Total capital expenditures by the 14 parent corporations varied based on lines of business (Table SF4). However, capital expenditures for the line of business containing natural gas transmission represented the largest share of their total investment outlays in 1997, at 23 percent.<sup>23</sup> Expenditures in both oil and gas production and electric services were almost equal percentages of

**Table SF4. Parent Company Financial Position in Lines of Business**

| <b>Company / Line of Business</b>               | <b>Percent of Total Revenue</b> | <b>Percent of Total Operating Income</b> | <b>Percent of Total</b> | <b>Percent of Total Assets</b> |
|---|---------------------------------|--|-------------------------|--------------------------------|
| <b>Coastal Corporation</b>                      |                                 |  |                         |                                |
| Natural Gas Transmission <sup>a</sup>           | 21                              | 61                                       | 23                      | 47                             |
| Refining & Marketing                            | 70                              | 11                                       | 17                      | 34                             |
| Oil & Gas - Production                          | 6                               | 23                                       | 58                      | 14                             |
| Other   | 3                               | 5  | 2                       | 5                              |
| <b>Columbia Energy Group</b>                    |                                 |  |                         |                                |
| Natural Gas Transmission                        | 10                              | 51                                       | 42                      | 41                             |
| Natural Gas Distribution                        | 45                              | 43                                       | 28                      | 41                             |
| Energy Marketing/Services                       | 44                              | -1                                       | 3                       | 9                              |
| Other   | 1                               | 7  | 27                      | 9                              |
| <b>Consolidated Natural Gas</b>                 |                                 |  |                         |                                |
| Natural Gas Transmission                        | 6                               | 32                                       | 8                       | 22                             |
| Natural Gas Distribution                        | 35                              | 47                                       | 25                      | 43                             |
| Oil & Gas - Production                          | 6                               | 25                                       | 49                      | 20                             |
| Energy Marketing/Services                       | 51                              | -3                                       | 2                       | 11                             |
| Other   | 2                               | -1                                       | 16                      | 4                              |
| <b>Duke Energy Corporation</b>                  |                                 |  |                         |                                |
| Electric Service                                | 27                              | 60                                       | 37                      | 54                             |
| Natural Gas Transmission                        | 9                               | 31                                       | 12                      | 21                             |
| Energy Marketing/Services                       | 45                              | 2  | 1                       | 8                              |
| Other   | 19                              | 7  | 50                      | 17                             |
| <b>EI Paso Energy Corp/DE</b>                   |                                 |  |                         |                                |
| Natural Gas Transmission                        | 23                              | 107                                      | 67                      | 74                             |
| Energy Marketing/Services                       | 76                              | 7  | 24                      | 18                             |
| Other   | 1                               | -14                                      | 9                       | 8                              |
| <b>Enron Corp</b>                               |                                 |  |                         |                                |
| Natural Gas Transmission                        | 7                               | --                                       | 24                      | 33                             |
| Oil & Gas - Production                          | 4                               | --                                       | 44                      | 11                             |
| Energy Marketing/Services                       | 86                              | --                                       | 24                      | 49                             |
| Other   | 3                               | --                                       | 8                       | 7                              |
| <b>KN Energy Inc</b>                            |                                 |  |                         |                                |
| Natural Gas Transmission                        | 1                               | 25                                       | 41                      | 23                             |
| Gathering Processing & Marketing Services       | 87                              | 52                                       | 51                      | 54                             |
| Retail Natural Gas Services                     | 12                              | 23                                       | 8                       | 23                             |
| Other   | 0                               | 0  | 0                       | 0                              |
| <b>MDU Resources Group Inc</b>                  |                                 |  |                         |                                |
| Natural Gas Transmission                        | 33                              | 35                                       | 20                      | 33                             |
| Electric  | 27                              | 30                                       | 17                      | 30                             |
| Oil & Gas - Production                          | 11                              | 22                                       | 27                      | 15                             |
| Construction Materials & Mining                 | 29                              | 13                                       | 36                      | 22                             |
| <b>Northern States Power/MN</b>                 |                                 |  |                         |                                |
| Natural Gas                                     | 19                              | 10                                       | 19                      | 12                             |
| Electric Operations                             | 81                              | 90                                       | 81                      | 88                             |
| Other   | 0                               | 0  | 0                       | 0                              |
| <b>PG&amp;E Corp</b>                            |                                 |  |                         |                                |
| Natural Gas Transmission                        | 12                              | 18                                       | 18                      | 18                             |
| Electric Operations                             | 50                              | 86                                       | 64                      | 62                             |
| Other   | 38                              | -4                                       | 18                      | 20                             |
| <b>Questar Corp</b>                             |                                 |  |                         |                                |
| Natural Gas Transmission                        | 4                               | 30                                       | 15                      | 21                             |
| Natural Gas Distribution                        | 48                              | 34                                       | 31                      | 31                             |
| Market Resources                                | 48                              | 34                                       | 43                      | 33                             |
| Other   | 0                               | 2  | 11                      | 15                             |
| <b>Reliant Energy, Inc</b>                      |                                 |  |                         |                                |
| Natural Gas Transmission                        | 2                               | 3  | 3                       | 10                             |
| Natural Gas Distribution                        | 13                              | 5  | 10                      | 10                             |
| Electric Operations                             | 61                              | 93                                       | 41                      | 33                             |
| Energy Marketing/Services                       | 23                              | 2  | 2                       | 4                              |
| International Operations                        | 1                               | 2  | 40                      | 3                              |
| Other   | 0                               | -5                                       | 4                       | 40                             |
| <b>Sonat Inc</b>                                |                                 |  |                         |                                |
| Natural Gas Transmission                        | 8                               | 60                                       | 21                      |                                |
| Oil & Gas Production                            | 12                              | 35                                       | 77                      | 44                             |
| Energy Marketing/Services                       | 79                              | 4  | 2                       | 17                             |
| Other   | 1                               | 1  | 0                       | 1                              |
| <b>Williams Cos Inc</b>                         |                                 |  |                         |                                |
| Natural Gas Transmission                        | 37                              | 66                                       | 36                      | 56                             |
| Oil and Gas Production                          | 0                               | 3  | 5                       | 2                              |
| Field Services                                  | 15                              | 18                                       | 14                      | 15                             |
| Petroleum Services                              | 11                              | 10                                       | 4                       | 7                              |
| Energy Marketing Services                       | 4                               | 8  | 3                       | 5                              |
| Other   | 33                              | -5                                       | 38                      | 15                             |
| <b>Percentage of Total Capital Expenditures</b> |                                 |  |                         |                                |
| Natural Gas Transmission                        |                                 |  | 23                      |                                |
| Natural Gas Distribution                        |                                 |  | 4                       |                                |
| Oil and Gas Production                          |                                 |  | 20                      |                                |
| Electric Operations                             |                                 |  | 21                      |                                |
| Energy Marketing/Services                       |                                 |  | 11                      |                                |
| Other   |                                 |  | 21                      |                                |

Source: Compustat PC Plus, a service of Standard &amp; Poor's, Inc

overall capital expenditures, 20 percent and 21 percent, respectively, while expenditures in energy and marketing services accounted for 11 percent.

According to FERC regulations, interstate natural gas pipelines are allowed a rate of return on interstate transmission operations that permits them to minimize their risks in a regulated business environment (see the box entitled, "Regulating Pipeline Construction"). Based on the Energy Information Administration's forecasted demand growth for natural gas (reported in the *Annual Energy Outlook 1999*) new and/or expansions of the current pipeline infrastructure will be required. One question for the industry is to what extent will the regulated rate of return designated by FERC for the proposed pipelines be sufficiently lucrative for current owners to invest in new pipeline projects instead of other lines of business?

At least two conditions will make investment in rate-regulated natural gas pipelines attractive to a company. First, if the other lines of business in a corporation can generate complementaries, such as new marketing strategies designed to increase business volumes, or synergies, such as lower-cost provision of energy services when combined with midstream (the intermediate stages between natural gas wellhead production to the consumer burner tip) natural gas operations, then a corporation's effective rate of return on natural gas transmission assets will exceed the regulated rate of return on natural gas transmission assets. In fact, it appears that the recent pattern of mergers, acquisitions, and divestitures involving interstate natural gas transmission facilities were premised on achieving synergies in the combination of midstream natural gas operations with electricity operations.

Second, if the rate of return to natural gas pipeline assets, though regulated, is generally higher than the rate of return to investment in a company's other lines of business, then natural gas pipeline investment will be relatively attractive. As Figure SF4 shows, 12 of the 14 parent corporations reviewed in this report have a higher return on investment (ROI) for pipeline investments when compared to the composite ROI for all other lines of business, at least for 1997. (Due to data availability, the return on investment for natural gas transmission shown in Figures SF4 and SF5 is for the

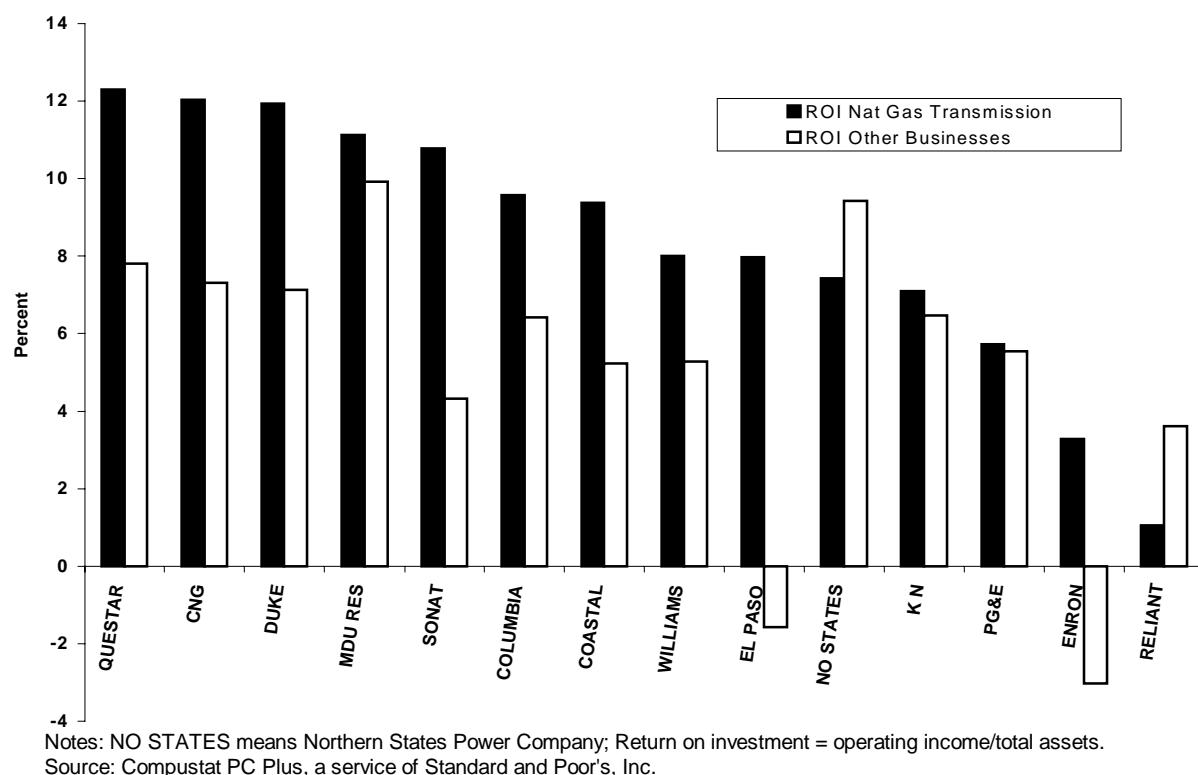
## Regulating Pipeline Construction

In most cases, interstate natural gas pipeline companies are required under Section 7c of the Natural Gas Act of 1938 to obtain a certificate of public convenience and necessity before constructing pipeline facilities. Besides review of operational aspects of the system, other legislation requires extensive review of the financial and environmental aspects of the projects. These requirements have resulted in a sometimes lengthy and complex process.

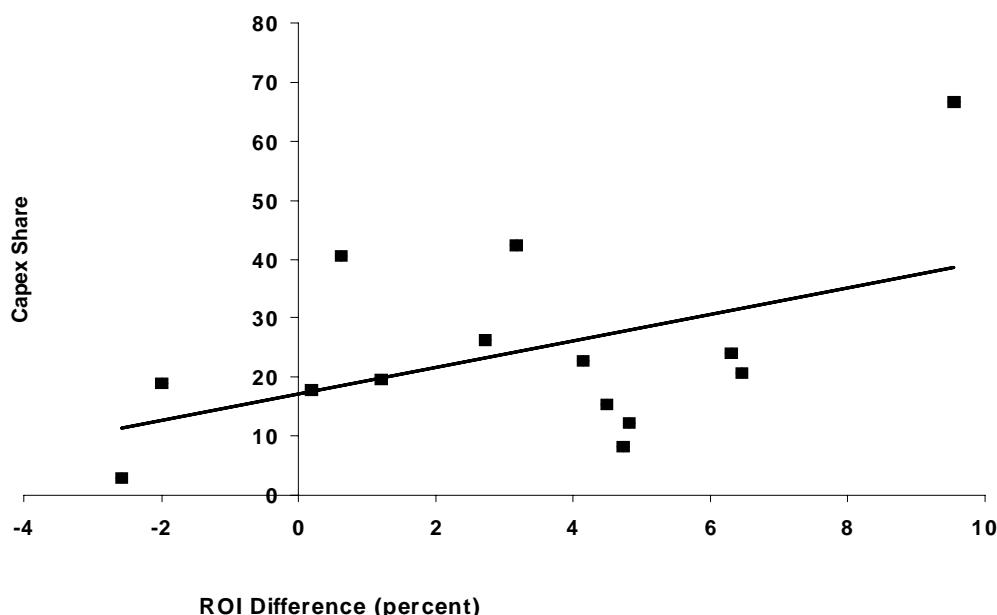
Once a project is approved and constructed under a Section 7c certificate, the costs of the facilities are eligible for inclusion in the pipeline company rate base (when the company files its next general rate case) and the risks associated with recovery of those costs are minimized. Other options are also available to pipeline companies for capacity expansion, depending on the size of the project and the amount of risk the company is willing to assume. These options include:

- ! **Blanket Certificate.** Blanket certification can be used for relatively small projects. A blanket certificate approves a series of similar actions in one authorization. For instance, construction of small additions to a natural gas pipeline may be authorized by a blanket certificate, provided the total cost does not exceed some threshold level and other eligibility criteria are met.
- ! **Optional Certificate** (formerly known as Optional Expedited Certificate). In 1985, under Order 436, FERC introduced optional certificates whereby construction could be approved without assessment of its financial soundness. In return, the pipeline company would agree to bear the majority of the risk of the project.
- ! **NGPA Section 311.** Section 311 of the Natural Gas Policy Act (NGPA) of 1978 allows an interstate pipeline company to sell or transport gas "on behalf of" any intrastate pipeline or local distribution company. FERC has exempted the construction of facilities used solely for Section 311 transportation from certificate requirements.

**Figure SF4. Return on Investment for Natural Gas Transmission Segment and All Other Businesses for Pipeline Parent Corporations, 1997**



**Figure SF5. Pipeline Capital Expenditure Share vs. Pipeline ROI Minus Other ROI, 1997**



Notes: Capex share means capital expenditure share. ROI means return on investment. ROI = Operating income/total assets. Data represent values for the parent corporation's pipeline capital expenditures and their pipeline return on investment minus return on investment for other lines of business.

Source: Compustat PC Plus, a service of Standard and Poor's, Inc.

line of business segment that includes natural gas transmission. Return on investment is measured by segmental operating income divided by segmental total assets rather than stockholder's equity.) Northern States Power and Reliant, the two corporations that have a higher composite ROI for all other lines of business when compared to the ROI for pipeline investments, each has at least 90 percent of its earnings from electric operations. The average return on investment for natural gas pipelines was 7.6 percent compared to 4.2 percent for all other lines of business, about 81 percent higher.

Will parent corporations earmark more capital expenditures to pipeline operations if the return on these assets is higher? Figure SF5 shows a positive correlation between capital expenditures for the natural gas transmission segment as a percent of total company capital expenditures and the difference between the natural gas pipeline ROI and the ROI for all other lines of business.<sup>24</sup> That is, parent corporations for whom pipeline investments have yielded higher returns than their other businesses will tend to allocate relatively more capital expenditures to natural gas transmission operations.

## Financial Performance

Past financial performance of a corporation is often used to analyze its future performance and its ability to attract investors. Various stakeholders such as stockholders and creditors have different concerns with regard to the company's financial performance. For example, stockholders are concerned with the effectiveness of management, and long-term profitability and dividends, whereas creditors are concerned with the company's ability to repay debt.

The profitability of a corporation, as measured by the return on equity (net income as a percent of stockholders' equity) is often used as an indicator of management's performance. Although the period between 1992 and 1997 has been analyzed in this report thus far, to look at the past profitability of the 14 parent corporations before and after Order 636, the years 1990 to 1997 will be examined. During the 1990 to 1997 period, the return on equity (ROE) for the parent corporations of interstate pipeline companies was less favorable when compared to the S&P Industrials (Figure SF6). The parent corporations' ROE averaged 6

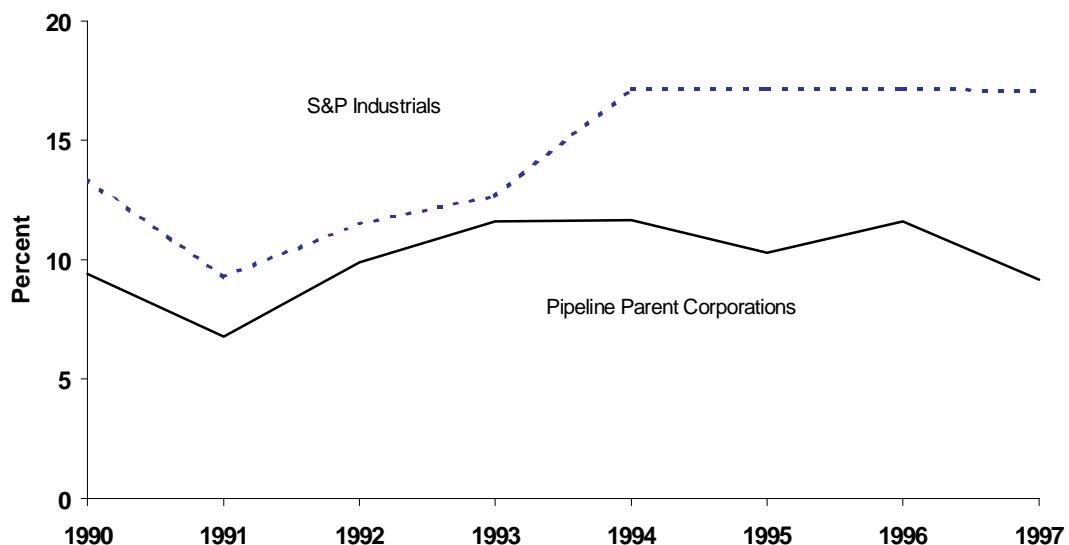
percentage points less than the ROE of the S&P Industrials over the period. However, the parent corporations' ROEs are lower in part because pipeline rates of return are regulated by FERC. Conversely, competitive forces drive the returns for the S&P Industrial's, yielding higher risks and higher returns. Nonetheless, the parent corporations' odds of attracting potential investors over the S&P industrial's group are less favorable based on their ROE. To overcome this obstacle and attract investors, they are much more generous in their dividend payouts to shareholders. In 1997, the dividend yield (i.e., dividends per dollar of share price) to investors was 3.4 percent for the parent corporations, which was more than double the 1.5-percent yield for the S&P Industrials. In 1996, the dividend yield was 4.2 percent compared to a 1.8-percent dividend yield for the S&P Industrials.

The perception of management's ability to operate the firm and to create wealth for its stockholders can affect the company's ability to attract potential investors. The price-earnings ratio, which is an indication of investor expectations of earnings growth, for the parent corporations over the last 7 years was relatively low compared to the S&P Industrials (Figure SF7). The annual growth in the parents' price-earnings ratio was 5.1 percent compared to 8.7 percent for the S&P Industrials over the 1990 to 1997 period.

In 1990 and 1991, the price-earnings ratios for the two groups were nearly equal. However, in the following year, the price-earnings ratio for the parent corporations dropped 7 percentage points relative to the S&P Industrials, reflecting a decline in the market's perception of the corporations' earnings potential. This decline in 1992 coincided with FERC's announcement of Order 636. Because Order 636 would dramatically change the operational and financial structure of the industry, market concerns were heightening. Market speculations of whether the industry would rebound from major adjustments brought about by Order 636 were prevalent.

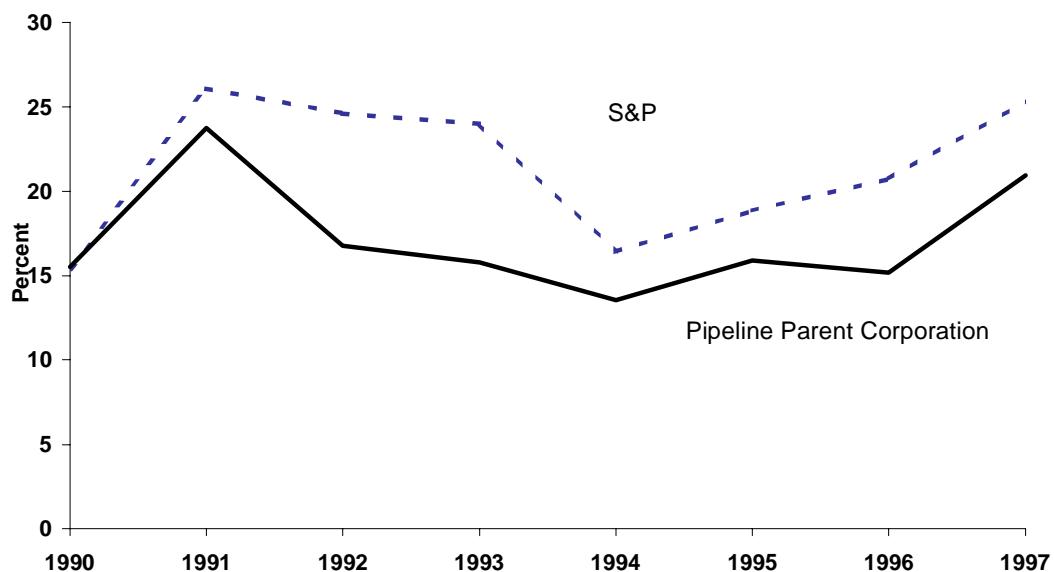
Between 1992 and 1994, the period marking the announcement of the Order and the first year of full compliance, the price-earnings ratio declined sharply, perhaps indicating the market's perception of uncertainty and caution with regard to the impact of Order 636 on the natural gas industry. Although other economic considerations could have affected the

**Figure SF6. Weighted Average Return on Equity for Pipeline Parent Corporations and the S&P Industrials, 1990-1997**



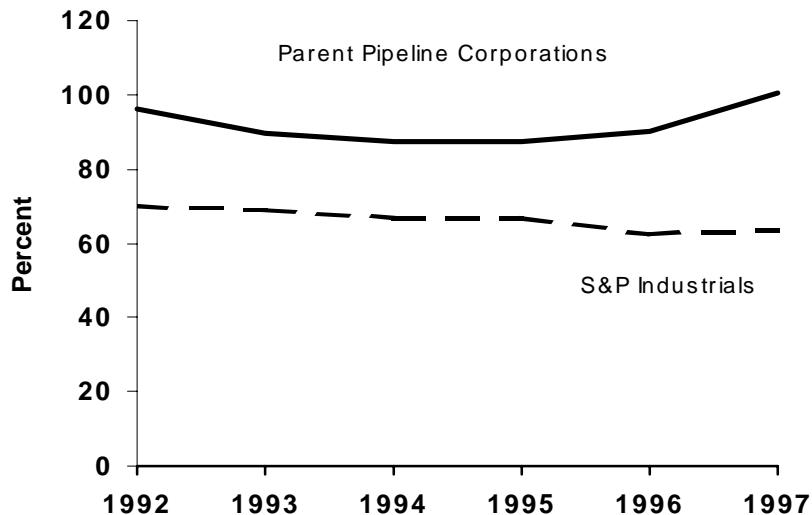
Note: Return on equity = net income/stockholder's equity.  
Source: Compustat PC Plus, a service of Standard and Poor's, Inc.

**Figure SF7. Weighted Average Price-Earnings Ratio for Pipeline Parent Corporations and the S&P Industrials, 1990-1997**



Note: Price earnings = market price per share of common stock/annual earnings per share.  
Source: Compustat PC Plus, a service of Standard and Poor's, Inc.

**Figure SF8. Long-Term Debt/Equity Ratio for Pipeline Parent Corporations and the S&P Industrials, 1992-1997**



Source: Compustat PC Plus, a service of Standard & Poor's.

difference in the price-earnings ratios of parent corporations and the S&P Industrials over this period, the onset of Order 636 clearly appears to be an important contributing factor.

Corporations generally utilize internal cash flow from operations, issue stock, and issue debt to raise capital for their business operations. However, parent corporations of interstate natural gas pipelines strongly favor debt over equity financing compared to U.S. industry generally (Figure SF8). During the 1990's, the ratio of long-term debt to shareholders' equity for parent corporations ranged from 90 percent to 100 percent. When compared to the long-term debt/equity ratio for the S&P Industrials, their leverage ratio was over 60 percent higher in 1997. In theory, a higher debt/equity ratio may hamper the ability of the firm to borrow funds. However, since the rates of return for pipelines are regulated by FERC, creditors are reasonably certain that their ability to repay the debt will not be hindered by their high debt.

To date, the 14 parent corporations with interstate natural gas transmission operations have had no major difficulties in raising the necessary capital to build and expand existing pipelines to meet the recent increases in natural gas demand. The parents finance their lines of business through internal cash flow, stocks, and debt, although they utilize debt financing over equity financing. Parent corporations' return on equity is less attractive compared to the S&P Industrials; however, they have been able to attract investors through the payment of higher dividend yield. The dividend yield to the parent corporation's stockholders was more than double that of the S&P Industrials in 1997.

These parent corporations will continue to allocate capital expenditures toward natural gas transmission operations as long as the return on investment remains favorable compared to the return on investment for their other lines of business.

## Endnotes

1. For a more detailed explanation and review of Order 636, see Chapter 2 of Energy Information Administration, *Natural Gas 1994: Issues and Trends*, DOE/EIA-0560(94)(Washington, DC, July 1994). (pdf format)
2. For more information on interstate pipeline expansion during the early 1990's, see Energy Information Administration, *Deliverability on the Interstate Natural Gas Pipeline System*, DOE/EIA-068(98) (Washington, DC, May 1998). (pdf format)
3. The total volume of natural gas delivered by the individual pipeline companies included in this review, 40.7 trillion cubic feet in 1997, includes volumes that may be transshipped via several other interstate pipeline companies prior to reaching their final destination. In addition, total deliveries also include volumes delivered to and from storage sites, gas exchange, and gas delivered for operational use. As a result, there is double and sometimes triple counting of throughput volumes. This accounts for the large difference between the 1997 national natural gas consumption level of 22 trillion cubic feet of gas (Tcf) and the 38 Tcf of deliveries reported by the 37 pipeline companies under review.
4. The interstate natural gas pipelines included in this portion of the analysis (see Table SF1) accounted for nearly 88 percent of the revenues reported by the 100 interstate pipelines that reported to the FERC in 1997 and nearly 86 percent of the total gas deliveries by those reporting.
5. As used in this report, the Northeastern region includes Census Region 1, the New England States (NH, VT, ME, MA, CT, and RI), and Census Region 2, the Middle Atlantic States (NY, NJ, and PA). The Midwestern region consists of Census Region 3, the East North Central States (IN, IL, MI, OH, and WI).
6. A 125-percent increase in natural gas use for electric power generation in the Northeast region is projected between 1998 and 2003 (from 0.401 quadrillion Btu per year in 1998 to 0.901 quadrillion Btu in 2003). Source: The Energy Information Administration, *National Energy Modeling System, AEO99b.d100198a (run October 14, 1998)*, Table 2.
7. Energy Information Administration, *Inventory of Power Plants in the United States as of January 1998* (Washington, D.C., December 1998) for proposed electric utility power plant additions and Form EIA-867, *Annual Nonutility Power Producer Report* for proposed independent power producer plant additions. Online, [http://www.eia.doe.gov/cneaf/electricity/ipp/ipp\\_sum.html](http://www.eia.doe.gov/cneaf/electricity/ipp/ipp_sum.html)
8. Energy Information Administration, *Annual Energy Outlook 1999* (Washington, D.C., December 1998). Online, <http://www.eia.doe.gov/oiaf/aoe99/overview.html>
9. Energy Information Administration, *Natural Gas 1998: Issues and Trends* (Washington, D.C., May 1999), Chapter 5. (pdf format)
10. Energy Information Administration, *Annual Energy Outlook, 1999* (Washington, D.C., December 1998). Online, <http://www.eia.doe.gov/oiaf/aoe99/overview.html>
11. El Paso Energy Corporation, "Company Profile," Online, <http://www.epenergy.com/about/profile.htm> and The Williams Companies, "Natural Gas Services," Online, <http://www.williamsenergy.com/Energy/ngs/frameset/naturalgas.htm>
12. PG&E Corporation, "About PG&E Energy Trading." Online, <http://www.pge-energy.com/about/default.htm>
13. FERC Order 436, issued in 1987, was the first attempt by FERC to address the growing use of transportation-only gas transactions that developed as the pipeline companies tried to relieve their gas contract take-or-pay problem. One way they were doing this was by arranging direct deals between producers and end users for the gas that they were unable to buy for resale. Order 636, issued in 1992, formerly addressed the contract and operational problems that developed under Order 436, and made all interstate pipelines transporters and opened underground storage capacity to third-parties.
14. *NGI's Daily Gas Price Index*, Natural Gas Intelligence Press (Arlington, VA, February 8, 1999).
15. The Standard and Poor's (S&P) Industrials is a well-recognized database that includes nearly 400 of the largest U.S. industrial companies. Financial statistics for the pipeline parents and the S&P Industrials were obtained by accessing Compustat PC Plus, a service of Standard & Poor's, Inc.

16. The Fortune 500 is a list that combines industrial and service companies ranked in size based on revenue. Source: Standard and Poor's Industrials.
17. For a more in-depth discussion on synergies and complementaries gained through the combination of natural gas assets and electric services see "Special Topic: Electricity Restructuring Attracts the U.S. Majors," in Energy Information Administration, *Performance Profiles of Major Energy Producers 1997*, DOE/EIA-0206(97) (Washington, DC, January 1999), pp. 56-58. Online, [http://www.eia.doe.gov/emeu/perfpro/chapter4.html#elec\\_restr](http://www.eia.doe.gov/emeu/perfpro/chapter4.html#elec_restr)
18. "Consolidated Natural Gas Announces Amended Merger Agreement with Dominion Resources" (May 11, 1999).
19. Sonat Corporation, *1997 Securities and Exchange Commission Form 10-K*, p. I-21. Online, <http://www.sec.gov/Archives/edgar/data/92236/0000950144-97-002708.txt>
20. Sonat Corporation, *1997 Securities and Exchange Commission Form 10-K*, p. I-21. Online, <http://www.sec.gov/Archives/edgar/data/92236/0000950144-97-002708.txt>
21. "Enron Withdraws Proposal to Sell Interest in Enron Oil & Gas Company." Online, <http://www.enron.com/pressrel/1999/ene/13DEOG.html> (May 7, 1999).
22. "KN Energy Completes MidCon Corp. Acquisition." Online, <http://www.knenergy.com/pages/news/complete.html> (January 30, 1998).
23. The data in Table SF4, Figure SF3, and Figure SF4 are based on business segment financial data reported by the companies in their 1997 filings of Securities and Exchange Commission *Form 10-K*, as compiled by Compustat PC Plus, a service of Standard & Poor's, Inc. Data labeled as natural gas transmission in Table SF4 and Figures SF3 and SF4 are for the business segment that contains interstate natural gas transmission operations.
24. The t-statistic of the coefficient of the difference in ROI is 1.84.

# Natural Gas Winter Outlook 1999-2000

By James M. Todaro

This article is based on the Winter Fuels Outlook published in the 4<sup>th</sup> Quarter *Short-Term Energy Outlook* and discusses the supply and demand outlook from October 1999 through March 2000. For a more complete picture of the situation facing other heating fuels (heating oil and propane), see *Short-Term Energy Outlook* (October 1999, pages 1-16).

This winter is expected to have both higher space-heating demand and natural gas prices than those seen during the previous winter season. Prices at the wellhead and on the spot market in October are estimated to be 35 to 60 percent higher than last year, respectively. In addition, compared to last year the NYMEX futures contract for November delivery was trading at prices that were over 40 percent higher this October. Coupled with the prospect of a more normal winter season bringing colder temperatures than last winter, consumers are likely to incur higher natural gas

heating bills this winter compared to their bills in the previous heating season. Nonetheless, supplies of natural gas are expected to be more than adequate to meet winter demand. The incremental requirements of a severe winter should be met without serious difficulty as well, but, in that event, consumer prices could be much higher than those of a normal winter season.<sup>2</sup>

Mainly because of the likelihood of higher natural gas prices this winter, expenditures by residential consumers for heating (or other energy uses) this winter are likely to be relatively large, especially in comparison to costs seen in the past two winters (1997-1998 and 1998-1999). Table SR1 illustrates the impact of these higher natural gas costs and different weather conditions on winter heating bills for a typical household in the Midwest. It summarizes three scenarios: a base case assuming normal weather; a cold weather (10 percent colder-than-normal) scenario; and a warm weather (10

**Table SR1. Illustrative Midwest Consumer Prices<sup>2</sup> and Expenditures per Household, for Natural Gas in Winter**

|  | 1999-2000 Projections |                     |                     |      |                 |                 |
|--|-----------------------|---------------------|---------------------|------|-----------------|-----------------|
|  | 1996-1997<br>Actual   | 1997-1998<br>Actual | 1998-1999<br>Actual | Base | Warm<br>Weather | Cold<br>Weather |
| <b>Natural Gas (Midwest)</b>             |                       |                     |                     |      |                 |                 |
| Consumption (Mcf)                        | 91.4                  | 82.4                | 83.5                | 90.2 | 82.5            | 97.9            |
| Expenditures (\$)                        | 606                   | 546                 | 524                 | 625  | 568             | 687             |
| Average Price (\$/Mcf)                   | 6.63                  | 6.62                | 6.28                | 6.93 | 6.89            | 7.02            |
| \$/Mcf = Dollars per Thousand Cubic Feet |                       |                     |                     |      |                 |                 |

<sup>1</sup> Normal degree-days, as defined for this analysis, are calculated by EIA on a month-to-month basis in such a way as to incorporate temperature trends identified through research done by the National Oceanographic and Atmospheric Administration. The methodology is discussed in an EIA analysis paper titled "The Impact of Temperature Trends on Short-Term Energy Demand," which may be accessed on the EIA web site at [www.eia.doe.gov/emeu/steo/pub/special/weather/temptrnd.html](http://www.eia.doe.gov/emeu/steo/pub/special/weather/temptrnd.html). The new methodology for identifying expected degree-days, which replaced the practice of assuming standard 30-year degree-day normals based on 1961-1990 monthly population-weighted averages, has been used as the basis for EIA's *Short-Term Energy Outlook* forecasts since September 1999.

<sup>2</sup> These calculations focus on the Midwest region of the country with respect to per-household consumption and projected weather factors (i.e., changes in heating degree-days) but utilize the national average consumer prices for natural gas presented in the 4<sup>th</sup> Quarter *Short-Term Energy Outlook*. Thus, heating bill calculations are illustrative of the magnitude of the expected changes in natural gas heating bills but are not necessarily indicative of the absolute expenditure levels to be anticipated by individual consumers.

percent warmer-than-normal) scenario case. The higher and lower cases are not particularly likely (the probability of winter weather deviating from normal by at least 10 percent is estimated to be about 5 percent). However, these ranges for weather variation yield realistic upper and lower bounds for energy market behavior over the upcoming heating season.

For Midwest households that primarily use natural gas, heating fuel bills could be about 19 percent higher if the region experiences a more normal winter weather pattern than last year. (For residential consumers in the Midwest who heat with heating oil or propane, the ***Short-Term Energy Outlook*** (STEO) forecast calls for expenditure increases of 44 and 36 percent, respectively, during the 1999-2000 winter.) On the other hand, the base case for the upcoming winter would not be very different from the experience of the 1996-1997 winter, in terms of fuel demand levels and cost. During that period, winter temperatures were close to normal.

## Demand

### A return to normal weather will see demand increase

Total natural gas demand is expected to move higher this winter, averaging 70.4 billion cubic feet (Bcf) per day, an increase of 5.9 percent compared with last year's

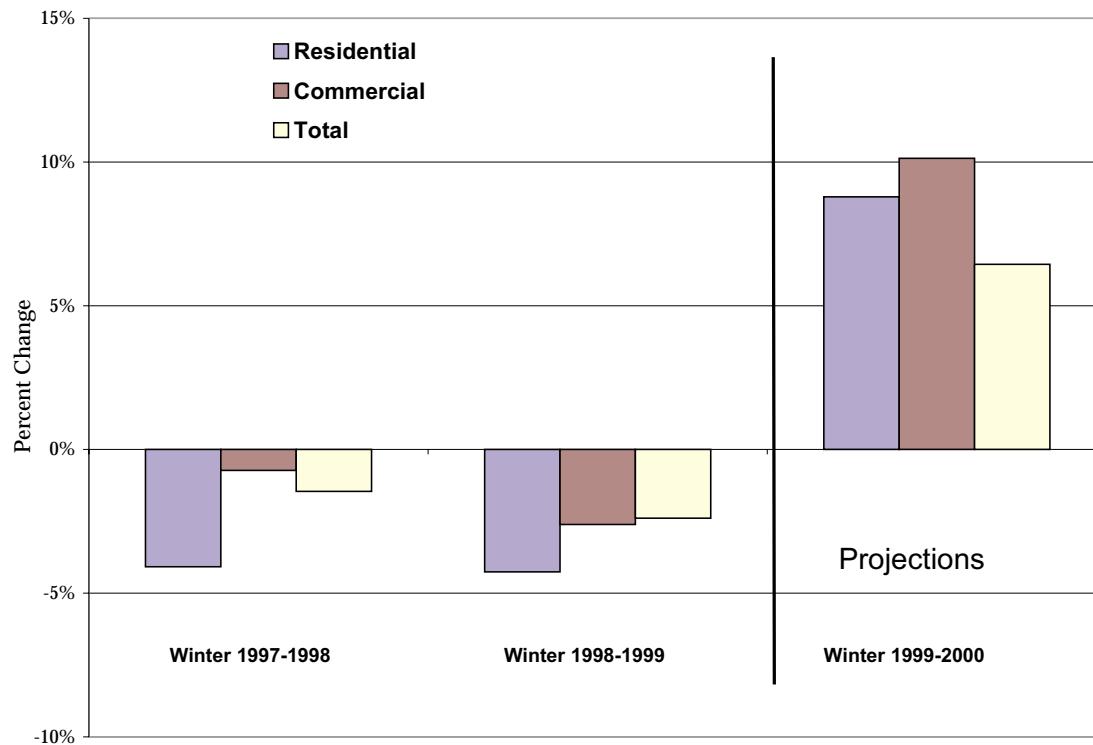
daily average of 66.5 Bcf per day. Contributing to the growth in winter demand is the increase in gas space-heating customers (about 1 percent). Most of the increase is related to assumptions of a return to more normal weather patterns. Milder weather last winter resulted in gas-weighted heating degree-days that were 3.5 percent below normal, although several Midwestern areas experienced weather as much as 6.5 percent warmer than normal. As a result, winter consumption in residential and commercial markets is expected to average 20.7 and 12.6 Bcf per day, respectively, up about 9 percent and 10 percent from the previous winter's consumption (Figure SR1).

## Supply

### Stock levels are about the same as last year's 5-year high

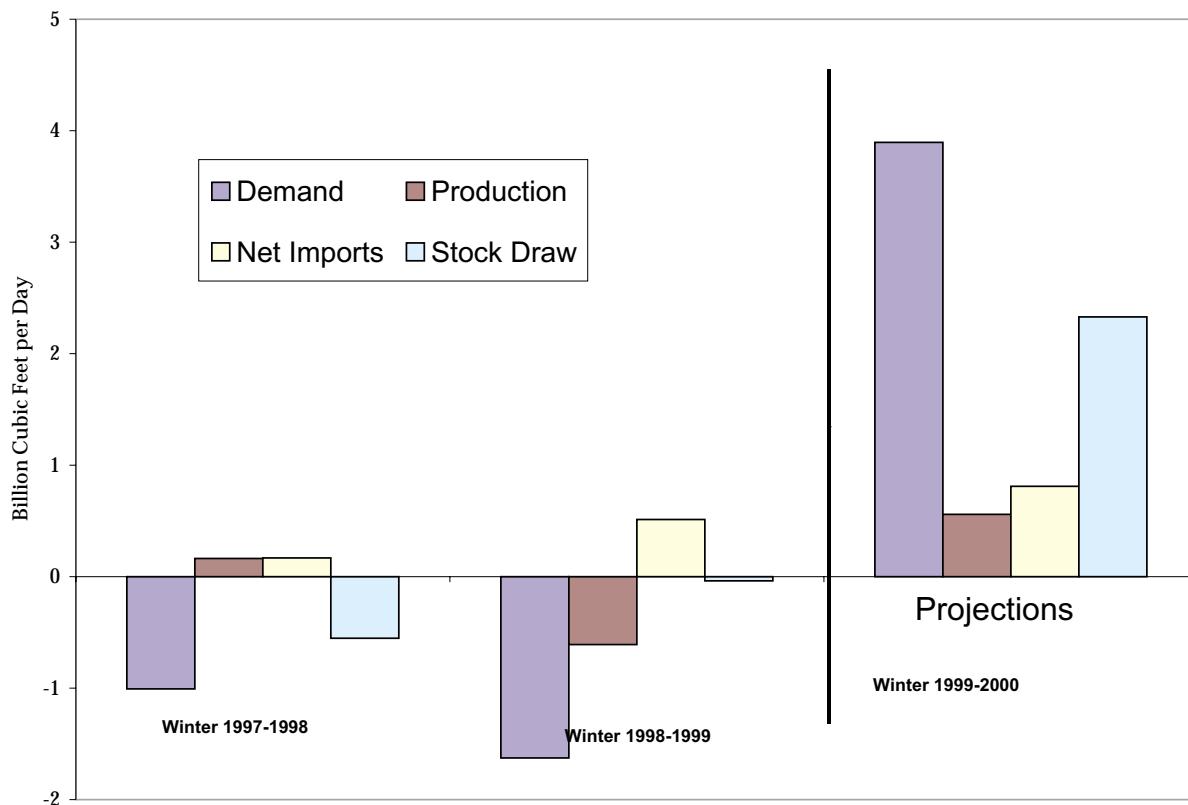
Domestic gas production is expected to average 51.8 Bcf per day during the heating season, up slightly from the 51.2 Bcf per day during the previous winter (Figure SR2). Drilling activity for both oil and gas had dropped sharply in the first quarter of 1999 in reaction to the decline in the price of oil. The total rig count reached a low of 496 in April—44 percent below last April's rig count of 886. Since then, rig counts

**Figure SR1. Change in Winter Natural Gas Demand**



Sources: Energy Information Administration *Natural Gas Monthly* (September 1999), and the *Short-Term Energy Outlook* (October 1999).

**Figure SR2. Change in Natural Gas Supply**



Sources: Energy Information Administration *Natural Gas Monthly* (September 1999), and the *Short-Term Energy Outlook* (October 1999).

have recovered with the rise in the price of crude oil. By mid-October, the rig count had reached 740, with 599, or 80 percent, of the rigs dedicated to gas exploration. The sharp drop in drilling early in the year and the lead time needed to bring properties to production has been a concern of many in the industry this past spring and summer. However, the Energy Information Administration (EIA) believes that sufficient production capacity remains to meet the moderate increase in production requirements projected here for the base case and for the severe weather scenario.

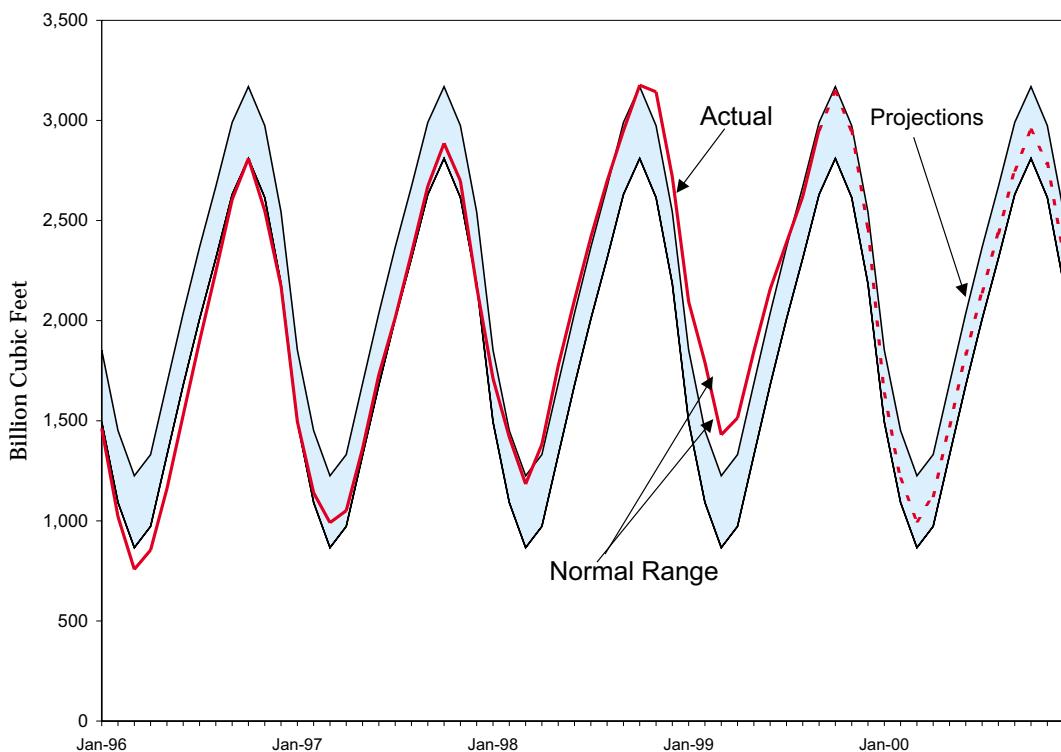
Working gas storage at the beginning of October is estimated to have reached 2,956 Bcf, slightly above last season's 5-year high of 2,949 Bcf but significantly greater than the October 1, 1998 level of 2,672 Bcf and at the high end of the normal range (Figure SR3). Since 1994 the average stock level on October 1, has been 2,786 Bcf. This year's level is estimated to be 170 Bcf or 6 percent above the average for the previous 5 years.

Storage plays an important role in meeting increased seasonal demand. In many areas of the country, it is a

critical supply source for local distribution companies to meet peak demand requirements. During the 1999-2000 heating season, withdrawals are expected to be significantly higher than last year's to meet the additional demand, averaging 10.7 Bcf per day compared to last year's average of 8.4 Bcf per day. Owing to larger projected withdrawals this winter, end-of-season stocks of working gas are projected to be 1,000 Bcf. This level is comparable to the 990 Bcf seen at the end of the 1996-97 heating season with relatively normal weather. Not surprisingly, it is much below the 1,430 Bcf at the end of the last heating season (March 31, 1999) with its warmer than normal temperatures.

The storage refill season, which runs from April through October and may often continue into November, got off to a slow start this year as only 90 Bcf was added to the working gas level in April compared with almost 200 Bcf in April 1998. Net injections returned to a more normal level in May and June as over 300 Bcf was added in each of those months (see NGM, Table 9, on page 21). The refill rate slowed in July and August as record setting summer heat waves affected major gas consuming areas in the

**Figure SR3. Working Gas in Storage**



Note: The normal range is developed using a seasonal adjustment procedure developed by the Bureau of the Census ("Census X-11"). The procedure uses monthly natural gas stock levels for the 7 most recent years, reported to the EIA on Form EIA-191, "Underground Gas Storage Report," to calculate seasonal factors. These seasonal factors are then applied to the monthly stock levels for the most recent 3 years to compute the average band, or range, for natural gas stocks.

Sources: Energy Information Administration *Natural Gas Monthly* (September 1994, 1997, and 1999), and the *Short-Term Energy Outlook* (October 1999).

Midwest, the Northeast, and the Southwest. The high temperatures increased electric utility use of natural gas in order to meet the demand for air-conditioning. Based on the EIA estimate of 2,956 Bcf in storage on October 1, the industry would need to add only 31 Bcf of gas during October to reach the 5 year average level of 2,987 for November 1. Estimates of weekly injections published by the American Gas Association indicate that over 100 Bcf of gas has already been added to stocks during the first 3 weeks of the month.

Natural gas imports are expected to contribute 14 percent of demand during the period, averaging 9.6 Bcf per day. This is 9 percent above last year's 8.7 Bcf per day. During the winter months, net imports are about 10 percent higher than flows during the rest of the year and usually increase to full pipeline capacity. That capacity, which had remained unchanged for the previous few years, increased in late 1998 as three construction projects were completed, expanding deliverability of Canadian gas by almost 1 Bcf per day. The largest of these projects, the expansion of the Northern Border pipeline system, increased im-

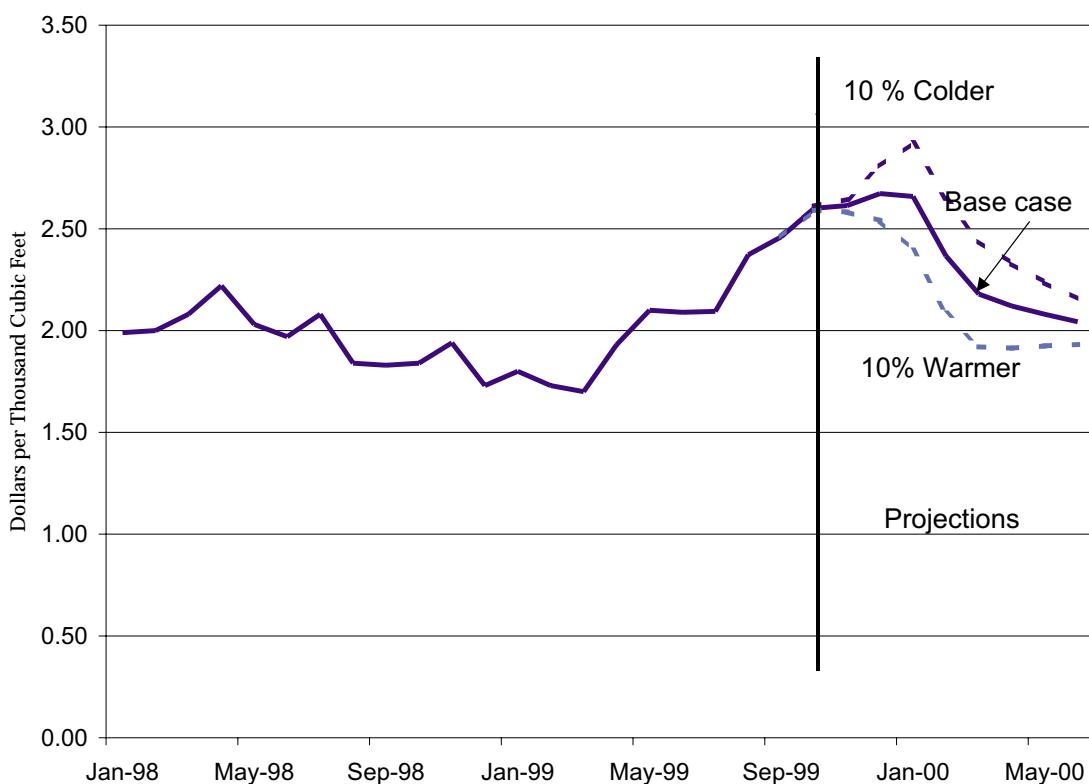
port capacity into the Midwest by 700 million cubic feet per day.

## Price and Expenditures

**Higher wellhead prices and normal weather will result in higher residential expenditures.**

Natural gas wellhead prices are projected to average about \$2.50 per thousand cubic feet (Mcf) this winter, 40 percent above the \$1.79 per Mcf average price seen a year ago. Last winter, the average wellhead price in October was low going into the winter at \$1.83, rose slightly to \$1.94 by November before sliding to \$1.70 by the end of the heating season. This was the lowest price in real terms since October 1995's \$1.54 per Mcf. Contributing to the low price of natural gas last season were the mild temperatures in several major gas-consuming markets (such as the Midwest), elevated stock levels, and collapsing oil prices. This year's higher oil prices and expected higher demand have already brought much higher gas prices than last year's (Figure SR4).

**Figure SR4. Natural Gas Wellhead Prices: Weather Scenarios**



Sources: Energy Information Administration *Natural Gas Monthly* (September 1999), and the *Short-Term Energy Outlook* (October 1999).

In mid-October of this year, natural gas prices on the NYMEX futures market for the upcoming winter season were trading 20 to 40 percent above those of last year (Figure SR5). Prices paid by residential consumers are also expected to move up, averaging \$6.93 per Mcf, up 10 percent from last winter's average of \$6.28. Consumers could see slightly higher or lower prices during the winter, depending on whether abnormally cold or warm conditions develop (Figure SR6).

### Other Weather Scenarios

Under a severe weather pattern, in which heating-degree days are 10 percent colder than normal, gas consumption could increase by an additional 3.6 Bcf per day—or 5.1 percent—from the base case, rising to 74.0 Bcf per day. The additional demand would be met primarily through an almost 25-percent increase in storage withdrawals, which would increase by 2.6 Bcf per day reaching a draw down of 13.3 Bcf

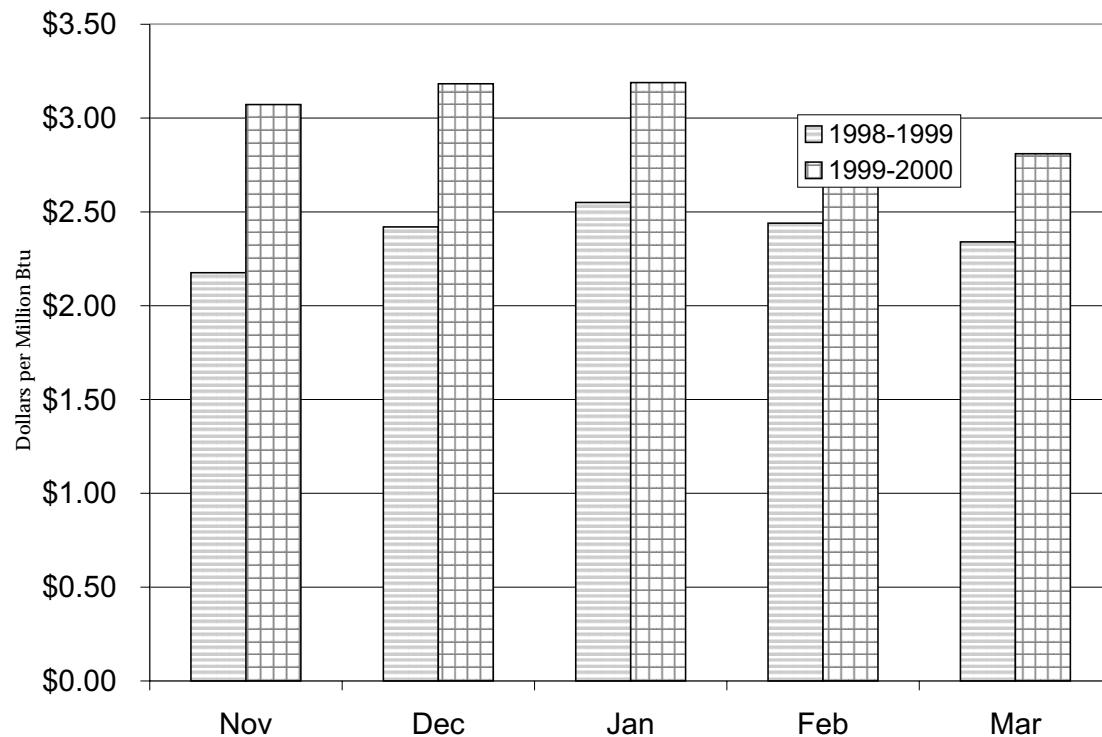
from Canada increasing by 0.5 Bcf to exceed 10 Bcf per day. The heavy dependence on stock withdrawals would leave 525 Bcf of working gas in inventory at the end of the heating season, 230 Bcf below 1996's record low of 755 Bcf. The sharp increase in demand would bring about a corresponding price movement, which could provide strong motivation for even larger increases in production and import levels than those contained in the STEO severe weather forecast.

The price reaction to such a severe draw on stocks would be hard to predict and is likely to be quite large. At a minimum, with the increased demand, wellhead prices would move up by at least \$0.20 per Mcf to average \$2.70 or more, and residential prices would increase by \$0.13 to average \$7.06 per Mcf. Residential demand would increase by 1.8 Bcf per day, or 9 percent. The combined impact of higher demand and prices resulting from a severe winter would raise the average space-heating bill by 10 percent above the bill for the base case for the typical gas-heated household (Table SR1).

per day. The other two supply sources would also increase, with production growing about 1.0 Bcf per day to reach 52.8 Bcf per day and natural gas imports

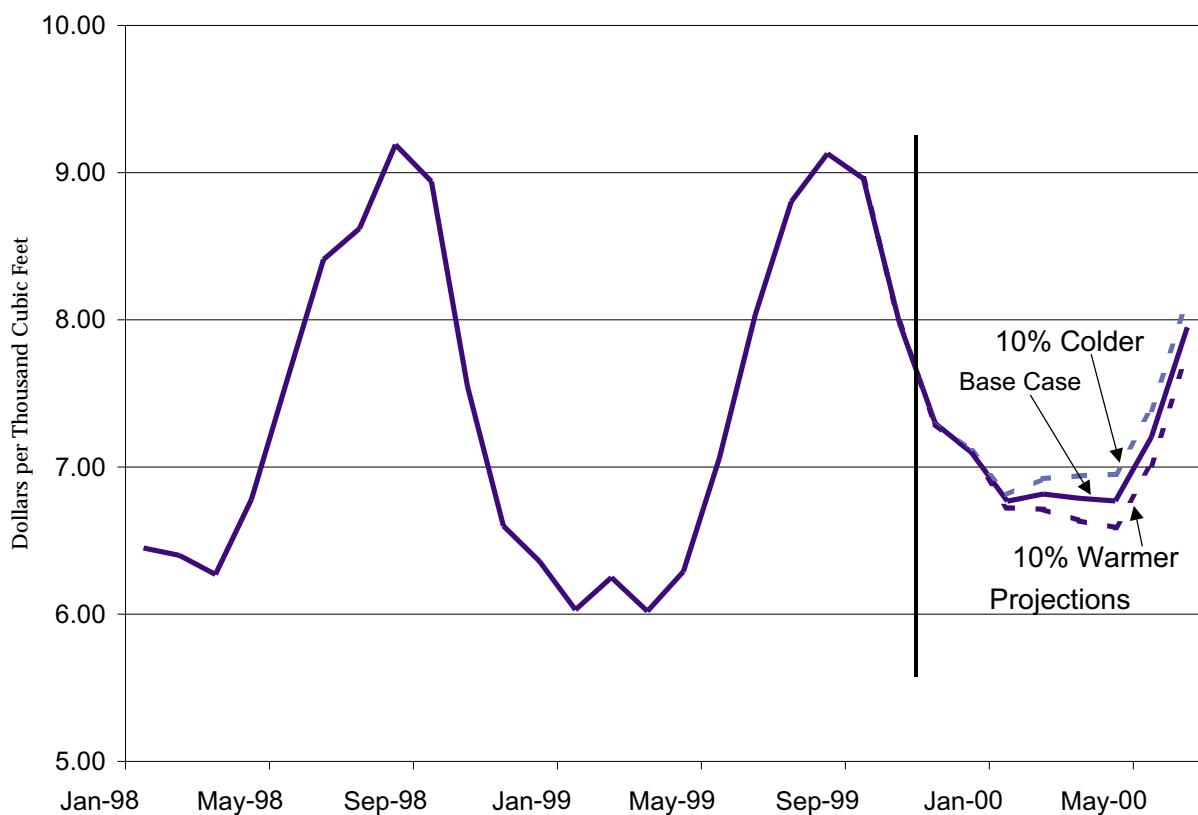
Under a mild weather pattern (10 percent warmer than normal), total natural gas consumption would decline by 4.6 Bcf per day, or 6.5 percent, from that of

**Figure SR5. Natural Gas Futures Prices for Winter Months 1998-1999 and 1999-2000, on October 22, 1998 and 1999, Respectively**



Source: Futures Prices-Commodity Futures Trading Commission, Division of Economic Analysis.

**Figure SR6. Residential Natural Gas Prices: Weather Scenarios**



Sources: Energy Information Administration *Natural Gas Monthly* (September 1999), and the *Short-Term Energy Outlook* (October 1999)

the base case reducing consumption to 65.8 Bcf per day. Under this scenario, residential demand would decline by 1.7 Bcf, or 9 percent, averaging 18.9 Bcf per day. The need for withdrawals from storage would also decrease to an average of 7.8 Bcf per day, 2.9 Bcf per day less than under normal weather, leaving end-of-season working gas inventories of 1,536 Bcf. This would be the highest stock level at the end of the heating season since March 1992's 1,574 Bcf. (It should be noted that the working gas stock level on November 1, 1991, was 3,370 Bcf.) The warm weather and reduced demand would see a projected decline in wellhead prices to an average \$2.37 per Mcf, \$0.13 lower than under normal weather conditions. In a warmer-than-normal winter, the price to residential consumers would average \$6.89 per Mcf, \$0.04 less than under the assumptions of a normal winter.

## Conclusion

The actual outcome regarding the demand, supply, and price of natural gas for this winter will depend very much on the weather. Natural gas commodity or well-head prices, particularly spot and futures prices, can show high volatility on a daily basis and are very sensitive to shifts in working gas in storage, which is critical for meeting winter demand peaks. For residential gas customers, increases in wellhead costs are passed on with a lag without the volatility seen in the commodity market because of monthly billing cycles and various state regulatory functions. The result is a more moderate increase in the typical residential gas bill compared to those of other fuel users.

# Highlights

## Overview

This issue of the *Natural Gas Monthly* contains estimates through October 1999 for many natural gas data series at the national level. Estimates of natural gas prices are available through June 1999 for most series. This issue also contains two articles. The Special Focus, "Corporate Realignments and Investments in the Interstate Natural Gas Transmission System," examines the financial characteristics of current ownership of the major U.S. interstate natural gas pipeline companies as well as their near-term investment needs. The Special Report, "Natural Gas Winter Outlook 1999-2000," summarizes the natural gas information contained in the article, "1999-2000 Winter Fuels Outlook" in the Energy Information Administration's *Short-Term Energy Outlook*, 4th quarter 1999.

Highlights of the most recent estimates contained in this issue of the *Natural Gas Monthly* are:

- The 1999-00 heating season (November through March) begins with 3,101 billion cubic feet of natural gas in underground storage facilities at the end of October 1999—the second highest level at the beginning of the heating season since 1992.
- Dry natural gas production for January through October 1999 is 197 billion cubic feet (1 percent) lower than in 1998 during the same period, but net imports are 267 billion cubic feet (11 percent) higher than last year.
- End-use consumption of natural gas for January through October 1999 is 123 billion cubic feet (1 percent) higher than in the same period of 1998.
- Cumulative average natural gas wellhead and end-use prices through July 1999 (through June 1999 for electric utilities) are at least 5 percent lower than for the corresponding period in 1998. The largest decline is in the industrial sector, where the cumulative average price of \$2.80 per

thousand cubic feet is \$0.52 or 16 percent below that of 1998.

## Supply

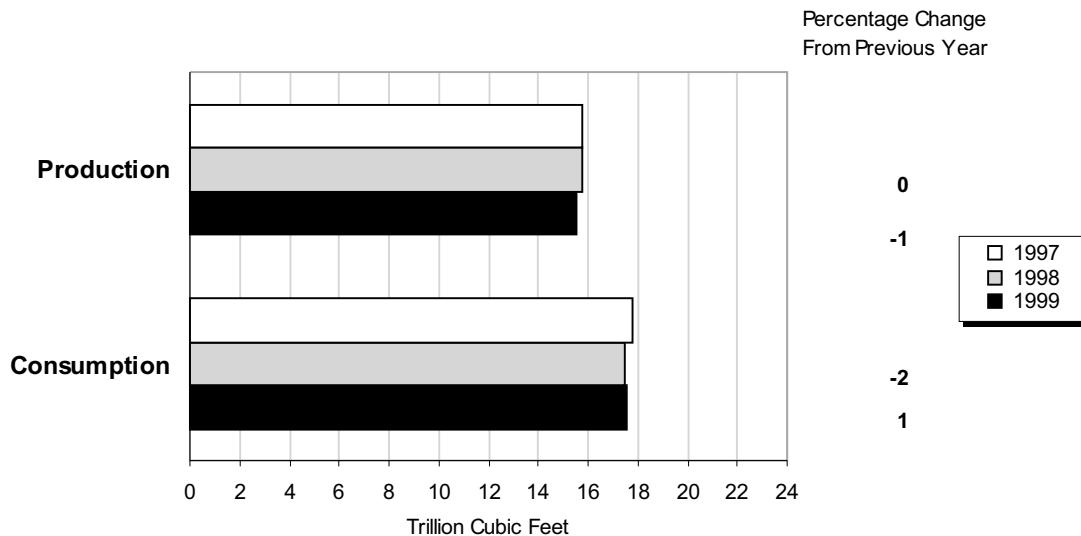
Cumulative dry natural gas production for the first 10 months of 1999 is 1 percent below that of 1998 during the same period. Net imports have increased during the period, thus supplies have been sufficient to meet the small increase seen in demand for natural gas. Cumulative dry production for January through October 1999 is estimated to be 15,543 billion cubic feet, 197 billion cubic feet (1 percent) lower than in 1998 (Table 1, Figure HI1). Estimated production during October 1999 is 1,585 billion cubic feet, or 51.1 billion cubic feet per day. The daily rate in October 1999 is slightly below that of both September 1999 and October 1998. Monthly production in 1999 has been below that of 1998 in every month except July when the level equaled that of July 1998.

Cumulative net imports of natural gas, which come mostly via pipeline from Canada, are estimated to be 2,755 billion cubic feet through October 1999, 267 billion cubic feet (11 percent) higher than in 1998 during the same period (Table 2). This increase averages 0.88 billion cubic feet per day and was made possible by the addition of nearly 1 billion cubic feet per day of import pipeline capacity that was put into service in late 1998 and early 1999. Net imports during October 1999 are 281 billion cubic feet, or 9.1 billion cubic feet per day. This is slightly below the daily rate of 9.4 billion cubic feet during September 1999. Thus far, net imports each month during 1999 have been from 8 to 14 percent higher than in 1998.

The 1998-99 heating season began with 3,176 billion cubic feet of working gas in underground storage facilities, the highest level at the beginning of the season since 1992. The estimated level of working gas for the end of October 1999 is 3,101 billion cubic feet, 75 billion cubic feet (2 percent) lower than last year but the second-highest level at the end of October since 1992 (Table 10 and Figure HI2). Net injections during

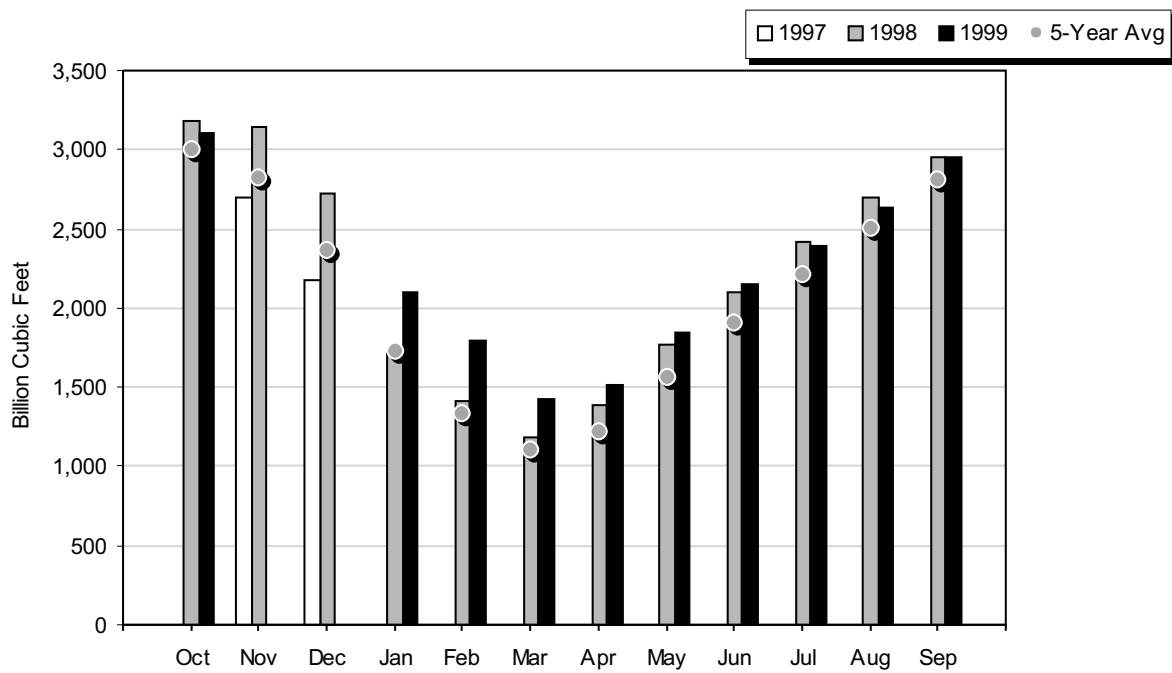
# Highlights

**Figure HI1. Natural Gas Production and Consumption, January-October, 1997-1999**



**Source:** Table 2.

**Figure HI2. Working Gas in Underground Storage in the United States, 1997-1999**



**Note:** The 4-year average is calculated using the latest available monthly data. For example, the December average is calculated from December storage levels for 1994 to 1998 while the January average is calculated from January levels for 1995 to 1999. Data are reported as of the end of the month, thus October data represent the beginning of the heating season.

**Source:** 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.

October 1999 were 150 billion cubic feet, less than half the level in September 1999, and the lowest level of net injections during October since 1991. A working gas level near 3,000 billion cubic feet is typically thought to be sufficient for the industry to meet the demand for space heating during a normal winter.

## End-Use Consumption

Cumulative end-use consumption of natural gas for January through October 1999 is estimated to be nearly 1 percent higher than during the same period of 1998 (Table 3). The increase is largely the result of higher consumption during January and April when the 1999 levels exceeded those of 1998 by 5 and 4 percent, respectively. Monthly end-use consumption from June through September was from 1 to 3 percent lower than in 1998, while consumption in October 1999 of 1,359 billion cubic feet is 2 percent higher than in October 1998.

Monthly residential consumption of natural gas during 1999 has been higher than in 1998 in every month except February and July, when it was 1 and 2 percent lower, respectively. Cumulative residential consumption through October 1999 is estimated to be 3,632 billion cubic feet, 153 billion cubic feet (4 percent) higher than in 1998 for the same period (Figure HI3). Commercial consumption of natural gas shows a similar pattern, with monthly consumption in 1999 being higher than that of 1998 except in 2 months—June and July. The commercial sector used 1 percent less gas during those 2 months in 1999 compared with 1998. Cumulatively through October 1999, commercial users consumed an estimated 2,473 billion cubic feet of natural gas, 77 billion cubic feet (3 percent) higher than during the same period of 1998.

The use of natural gas in the industrial sector is 1 percent lower in 1999 compared with 1998, according to cumulative estimates through October. Cumulative consumption through October 1999 is 7,013 billion cubic feet, more than in any other sector. The level is 76 billion cubic lower than during the same period in 1998. Declines in monthly consumption between 1998 and 1999 have been seen in January through April as well as in July and August. The largest monthly percentage decline was 4 percent, which oc-

curred in both January and July. Industrial consumption during October 1999 is estimated to be 721 billion cubic feet, 1 percent higher than in October 1998.

Estimates of monthly consumption of natural gas by electric utilities are available through July 1999. Cumulatively through July 1999, electric utilities consumed 1,825 billion cubic feet of gas, 17 billion cubic feet (1 percent) more than in 1998. Consumption during 1999 was higher than in 1998 during the first 4 months (35 percent higher in April), but has been lower in May, June, and July. The July 1999 estimate of 436 billion cubic feet is 3 percent lower than in July 1998.

## Prices

Natural gas prices fell from 1997 to 1998 and the trend has generally continued into the first part of 1999. Monthly estimates of natural gas prices in 1999 are available through July for most price series. Cumulatively through July, natural gas prices are at least 5 percent lower in 1999 than in 1998 during the same period. However, since May 1999, the monthly estimates of the wellhead price and the price paid for natural gas by electric utilities have been equal to or above those of 1998.

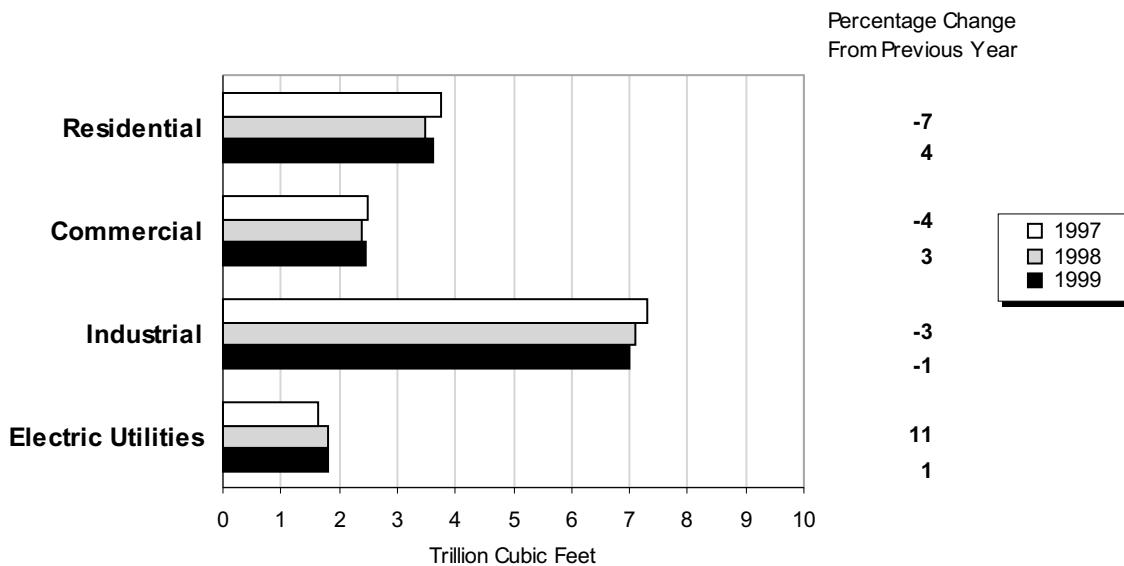
The national average wellhead prices for May, June, and July 1999, are \$2.10, \$2.10, and \$2.09 per thousand cubic feet, respectively (Table 4). For May, June, and July 1998, the prices were \$2.03, \$1.97, and \$2.08 per thousand cubic feet, respectively. Wellhead prices during the first part of 1999 were at least 10 percent below those of 1998. Thus, the cumulative average price for January through July 1999, at \$1.92 per thousand cubic feet, is \$0.13, or 6 percent, lower than in 1998 (Figure HI4). Wellhead prices are expected to increase later in the year according to the Energy Information Administration's *Short-Term Energy Outlook* (STEO), averaging \$2.28 per thousand cubic feet in the 3rd quarter of 1999 and \$2.60 in the 4th quarter.<sup>1</sup> These projections assume normal weather, whereas the past two winters generally have been warmer than normal.

The arrival of autumn temperatures has contributed to the increase seen in natural gas futures market

<sup>1</sup> Energy Information Administration, *Short-Term Energy Outlook*, 4th Quarter 1999, DOE/EIA-0202(99/4Q) (Washington, DC, October 1999), Table 4, page 55.

# Highlights

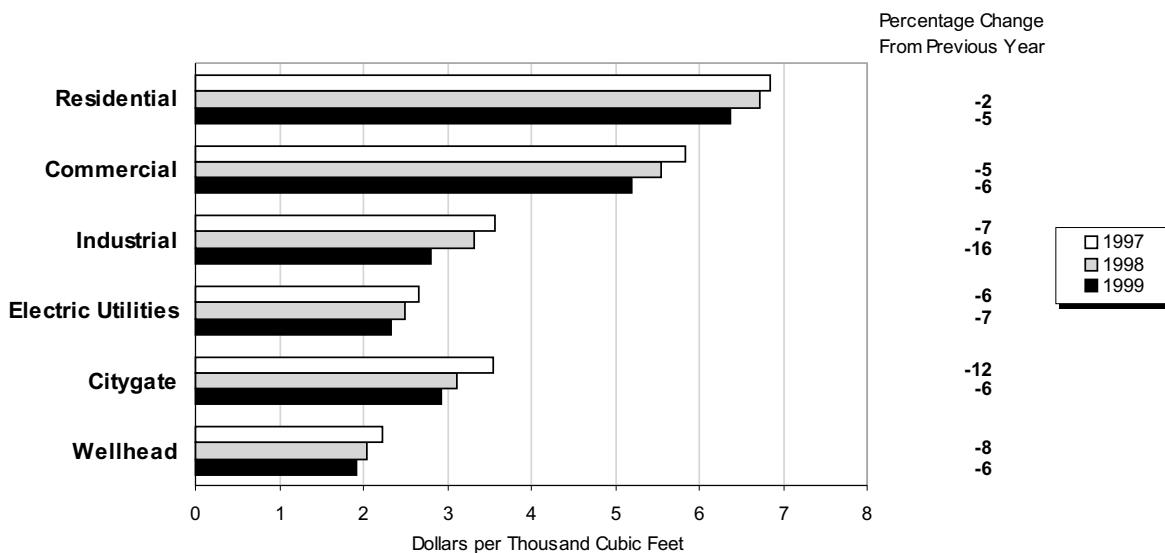
**Figure HI3. Natural Gas Delivered to Consumers, January-October, 1997-1999**



**Note:** Electric utilities reflect January-July deliveries.

**Source:** Table 3.

**Figure HI4. Average Delivered and Wellhead Natural Gas Prices, January-July, 1997-1999**



**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.

prices at the Henry Hub. The daily futures settlement price on the nearby month contract has generally increased from a recent low of \$2.426 per million Btu on September 22, 1999, to \$3.072 on October 22, 1999, an increase of 27 percent (Figure HI5). A gap of \$0.20 to \$0.30 per million Btu developed between the spot and futures prices in late September—the futures price being higher—but as cooler temperatures pushed from the Midwest to the East Coast in mid-October, the Henry Hub spot price caught up to the futures price. The daily average spot price increased 29 percent from \$2.35 per million Btu on September 30, 1999, to \$3.03 on October 22, 1999.

Cumulative average residential and commercial natural gas prices<sup>2</sup> through July 1999 are each \$0.34 per thousand cubic feet lower than in 1998 during the same period. The average residential price is \$6.38 per thousand cubic feet and the average commercial price is \$5.20 per thousand cubic feet. The price difference in the residential sector is equivalent to a 5-percent drop from 1998, while the commercial price is 6 percent lower than in 1998.

The monthly average price paid for natural gas in the residential sector has increased during the summer, but this is typical behavior for this price series. The estimated residential price has increased from \$7.08 per thousand cubic feet in May 1999 to \$8.44 in July 1999. The increased average cost during the summer is the result of the type of service residential users require and the strong seasonal pattern of residential consumption. To provide high-quality, on-demand (firm) service to residential users, a demand charge to reserve pipeline transportation capacity is paid. The demand charge is a constant dollar amount throughout the year. Besides the demand charge, the total residential price includes charges for distribution and for the natural gas commodity, both of which

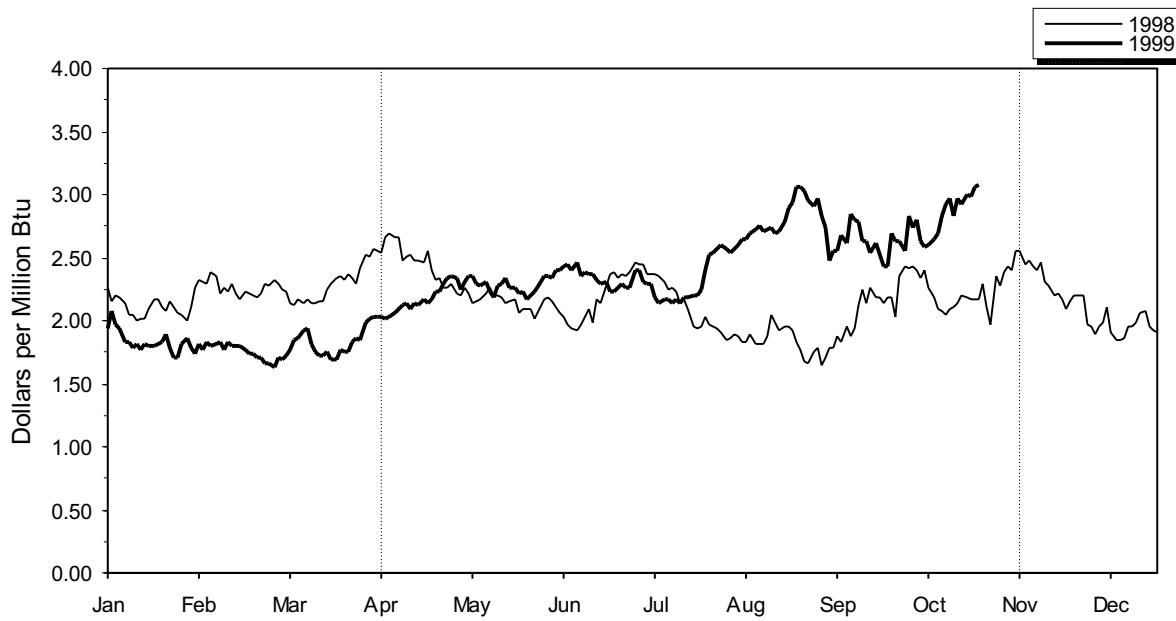
may vary throughout the year. The primary use of natural gas in the residential sector is for space heating, thus usage declines during the summer. For example, residential consumption was an estimated 909 billion cubic feet in January 1999, but only 130 billion cubic feet during July 1999. Because the demand charge is a significant portion of the final price and it is a constant each month, when consumption goes down, the average price *per unit of gas consumed* increases. Thus average residential natural gas prices always rise during the summer as consumption declines.

Residential expenditures for natural gas during the 1999-00 heating season are expected to be higher than a year earlier because of a return to normal winter weather and higher natural gas wellhead prices. In the Special Report, "Natural Gas Winter Outlook 1999-2000," EIA projects that average household expenditures in the Midwest could increase from \$524 in the 1998-99 heating season to \$625 in the 1999-00 season, assuming normal winter weather. The percentage increase of 19 percent can be generally expected in other regions as well, even though actual expenditure levels will be different.

Industrial users paid an estimated \$2.68 per thousand cubic feet for natural gas in July 1999 and a cumulative average of \$2.80 for January through July. The cumulative average price is \$0.52 per thousand cubic feet, or 16 percent, lower than in 1998 during the same period. Electric utilities paid an average \$2.47 per thousand cubic feet for natural gas in June 1999 and a cumulative average of \$2.33 for January through June 1999. The cumulative average price is 7 percent lower than that of 1998, but the price in June 1999 is 3 percent above that of June 1998. The prices paid for natural gas in both the industrial and electric utility sectors tend to respond quickly to changes in wellhead prices.

<sup>2</sup> End-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, during 1999 they have ranged from 55 to 72 percent of commercial deliveries and only 16 to 19 percent of industrial deliveries (Table 4).

**Figure HI5. Daily Futures Settlement Prices at the Henry Hub**



**Note:** The future price is for the nearby month contract, that is, for the next contract to terminate trading.

Contracts are traded on the New York Mercantile Exchange. April 1 is the beginning of the natural gas storage refill season. November 1 is the beginning of the heating season.

**Source:** Commodity Futures Trading Commission, Division of Economic Analysis.

**Table 1. Summary of Natural Gas Production in the United States, 1993-1999**  
(Billion Cubic Feet)

| Year<br>and<br>Month | Gross<br>Withdrawals | Repressuring  | Nonhydrocarbon<br>Gases<br>Removed <sup>a</sup> | Vented<br>and<br>Flared | Marketed<br>Production<br>(Wet) | Extraction<br>Loss <sup>b</sup> | Dry Gas<br>Production <sup>c</sup> |
|----------------------|----------------------|---------------|---|-------------------------|---------------------------------|---------------------------------|------------------------------------|
| <b>1993 Total</b>    | <b>22,726</b>        | <b>3,103</b>  | <b>414</b>                                      | <b>227</b>              | <b>18,982</b>                   | <b>886</b>                      | <b>18,095</b>                      |
| <b>1994 Total</b>    | <b>23,581</b>        | <b>3,231</b>  | <b>412</b>                                      | <b>228</b>              | <b>19,710</b>                   | <b>889</b>                      | <b>18,821</b>                      |
| <b>1995 Total</b>    | <b>23,744</b>        | <b>3,565</b>  | <b>388</b>                                      | <b>284</b>              | <b>19,506</b>                   | <b>908</b>                      | <b>18,599</b>                      |
| <b>1996 Total</b>    | <b>24,052</b>        | <b>3,510</b>  | <b>518</b>                                      | <b>272</b>              | <b>19,751</b>                   | <b>958</b>                      | <b>18,793</b>                      |
| <b>1997</b>          |                      |               |   |                         |                                 |                                 |                                    |
| January              | 2,089                | 305           | 50  | 25                      | 1,709                           | 83                              | 1,626                              |
| February             | 1,905                | 289           | 46  | 22                      | 1,549                           | 75                              | 1,474                              |
| March                | 2,103                | 311           | 51  | 23                      | 1,720                           | 83                              | 1,636                              |
| April                | 1,993                | 285           | 48  | 22                      | 1,639                           | 80                              | 1,559                              |
| May                  | 2,041                | 268           | 50  | 22                      | 1,702                           | 83                              | 1,619                              |
| June                 | 1,952                | 275           | 47  | 18                      | 1,612                           | 78                              | 1,534                              |
| July                 | 2,020                | 272           | 51  | 23                      | 1,674                           | 81                              | 1,593                              |
| August               | 2,022                | 279           | 52  | 21                      | 1,671                           | 81                              | 1,590                              |
| September            | 1,988                | 285           | 50  | 21                      | 1,632                           | 79                              | 1,553                              |
| October              | 2,057                | 307           | 51  | 20                      | 1,678                           | 81                              | 1,597                              |
| November             | 1,999                | 302           | 52  | 19                      | 1,626                           | 79                              | 1,547                              |
| December             | 2,044                | 314           | 52  | 22                      | 1,655                           | 80                              | 1,575                              |
| <b>Total</b>         | <b>24,213</b>        | <b>3,492</b>  | <b>599</b>                                      | <b>256</b>              | <b>19,866</b>                   | <b>964</b>                      | <b>18,902</b>                      |
| <b>1998</b>          |                      |               |   |                         |                                 |                                 |                                    |
| January              | E2,116               | E332          | E46   | E22                     | E1,717                          | E83                             | E1,633                             |
| February             | E1,901               | E294          | E42   | E18                     | E1,547                          | E75                             | E1,472                             |
| March                | E2,083               | E321          | E45   | E21                     | E1,696                          | E82                             | E1,613                             |
| April                | E2,003               | E306          | E44   | E21                     | E1,632                          | E79                             | E1,553                             |
| May                  | E2,063               | E318          | E43   | E20                     | E1,682                          | E82                             | E1,600                             |
| June                 | E1,996               | E294          | E44   | E22                     | E1,636                          | E79                             | E1,557                             |
| July                 | E2,019               | E295          | E45   | E23                     | E1,656                          | E80                             | E1,576                             |
| August               | E2,038               | E291          | E45   | E24                     | E1,677                          | E81                             | E1,596                             |
| September            | E1,968               | E274          | E44   | E22                     | E1,628                          | E79                             | E1,549                             |
| October              | E2,053               | E314          | E44   | E22                     | E1,672                          | E81                             | E1,591                             |
| November             | E1,993               | E313          | E45   | E23                     | E1,612                          | E78                             | E1,534                             |
| December             | E2,066               | E329          | E44   | E23                     | E1,670                          | E81                             | E1,589                             |
| <b>Total</b>         | <b>E24,297</b>       | <b>E3,682</b> | <b>E531</b>                                     | <b>E261</b>             | <b>E19,824</b>                  | <b>E961</b>                     | <b>E18,862</b>                     |
| <b>1999</b>          |                      |               |   |                         |                                 |                                 |                                    |
| January              | E2,062               | E335          | E44   | E21                     | E1,662                          | E81                             | E1,581                             |
| February             | E1,861               | E290          | E41   | E19                     | E1,510                          | E73                             | E1,437                             |
| March                | E2,067               | E326          | E45   | E22                     | E1,675                          | E81                             | E1,594                             |
| April                | E1,954               | E292          | E42   | E21                     | E1,599                          | E78                             | E1,521                             |
| May                  | E1,991               | E262          | E44   | E22                     | E1,663                          | E81                             | E1,583                             |
| June                 | RE1,949              | RE280         | RE42  | E21                     | RE1,606                         | RE78                            | RE1,528                            |
| July                 | RE2,005              | RE283         | E44   | E22                     | E1,656                          | E80                             | E1,576                             |
| August               | E2,019               | E280          | E44   | E22                     | E1,673                          | E81                             | E1,592                             |
| September(STIFS)     | NA                   | NA            | NA  | NA                      | E1,625                          | E79                             | E1,546                             |
| October(STIFS)       | NA                   | NA            | NA  | NA                      | E1,666                          | E81                             | E1,585                             |
| <b>1999 YTD</b>      | NA                   | NA            | NA  | NA                      | E16,336                         | E792                            | E15,543                            |
| <b>1998 YTD</b>      | <b>E20,238</b>       | <b>E3,039</b> | <b>E442</b>                                     | <b>E215</b>             | <b>E16,542</b>                  | <b>E802</b>                     | <b>E15,740</b>                     |
| <b>1997 YTD</b>      | <b>20,170</b>        | <b>2,875</b>  | <b>495</b>                                      | <b>215</b>              | <b>16,585</b>                   | <b>805</b>                      | <b>15,780</b>                      |

<sup>a</sup> See Appendix A, Explanatory Note 1, for a discussion of data on Nonhydrocarbon Gases Removed.

<sup>b</sup> 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.

<sup>c</sup> Equal to marketed production (wet) minus extraction loss.

E Estimated Data.

RE Revised Estimated Data.

NA Not Available.

**Notes:** Data for 1993 through 1997 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:** 1993-1997: Energy Information Administration (EIA), *Natural Gas Annual 1997*. January 1998 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 and estimation procedures and revision policies.

Table 2

**Table 2. Supply and Disposition of Dry Natural Gas in the United States, 1993-1999**

(Billion Cubic Feet)

| Year<br>and<br>Month          | Dry Gas<br>Production | Supplemental<br>Gaseous<br>Fuels <sup>a</sup> | Net<br>Imports | Net<br>Storage<br>Withdrawals <sup>b</sup> | Balancing<br>Item <sup>c</sup> | Consumption <sup>d</sup> |
|-------------------------------|-----------------------|---|----------------|--|--------------------------------|--------------------------|
| 1993 Total .....              | 18,095                | 119   | 2,210          | -36  | -110                           | 20,279                   |
| 1994 Total .....              | 18,821                | 111   | 2,462          | -286                                       | -400                           | 20,708                   |
| 1995 Total .....              | 18,599                | 110   | 2,687          | 415  | -230                           | 21,581                   |
| 1996 Total .....              | 18,793                | 109   | 2,784          | 2  | 279                            | 21,967                   |
| <b>1997</b>                   |                       |   |                |  |                                |                          |
| January .....                 | 1,626                 | 12  | 266            | 709  | -90                            | 2,523                    |
| February .....                | 1,474                 | 10  | 228            | 371  | 170                            | 2,253                    |
| March .....                   | 1,636                 | 9   | 241            | 160  | 69                             | 2,115                    |
| April .....                   | 1,559                 | 8   | 224            | -61  | 64                             | 1,795                    |
| May .....                     | 1,619                 | 8   | 232            | -333                                       | 62                             | 1,588                    |
| June .....                    | 1,534                 | 6   | 223            | -379                                       | 67                             | 1,451                    |
| July .....                    | 1,593                 | 7   | 225            | -293                                       | 5                              | 1,537                    |
| August .....                  | 1,590                 | 8   | 227            | -334                                       | 28                             | 1,518                    |
| September .....               | 1,553                 | 6   | 226            | -349                                       | 3                              | 1,440                    |
| October .....                 | 1,597                 | 8   | 239            | -218                                       | -92                            | 1,534                    |
| November .....                | 1,547                 | 10  | 259            | 196  | -116                           | 1,895                    |
| December .....                | 1,575                 | 11  | 246            | 553  | -68                            | 2,317                    |
| <b>Total</b> .....            | <b>18,902</b>         | <b>103</b>                                    | <b>2,837</b>   | <b>24</b>                                  | <b>106</b>                     | <b>21,972</b>            |
| <b>1998</b>                   |                       |   |                |  |                                |                          |
| January .....                 | E1,633                | E12   | 270            | 466  | R33                            | R2,415                   |
| February .....                | E1,472                | E10   | 240            | 300  | R92                            | R2,114                   |
| March .....                   | E1,613                | E11   | 244            | 242  | R13                            | R2,122                   |
| April .....                   | E1,553                | E9  | 240            | -199                                       | R110                           | R1,714                   |
| May .....                     | E1,600                | E8  | 242            | -393                                       | 62                             | 1,519                    |
| June .....                    | E1,557                | E7  | 230            | -323                                       | R9                             | R1,481                   |
| July .....                    | E1,576                | E9  | 255            | -314                                       | R61                            | R1,587                   |
| August .....                  | E1,596                | E9  | 264            | -283                                       | R8                             | 1,578                    |
| September .....               | E1,549                | E9  | 250            | -227                                       | R-110                          | 1,471                    |
| October .....                 | E1,591                | E10   | 253            | -255                                       | -109                           | 1,490                    |
| November .....                | E1,534                | E11   | 246            | 34   | R-110                          | 1,714                    |
| December .....                | E1,589                | E12   | 259            | 435  | R-165                          | R2,130                   |
| <b>Total</b> .....            | <b>E18,862</b>        | <b>E117</b>                                   | <b>2,993</b>   | <b>-518</b>                                | <b>R-121</b>                   | <b>R21,334</b>           |
| <b>1999</b>                   |                       |   |                |  |                                |                          |
| January .....                 | E1,581                | E13   | 295            | 623  | R14                            | R2,526                   |
| February .....                | E1,437                | E10   | 262            | 333  | 69                             | 2,111                    |
| March .....                   | E1,594                | E11   | 276            | 297  | R-42                           | R2,135                   |
| April .....                   | E1,521                | E10   | E266           | -91  | R72                            | R1,778                   |
| May .....                     | E1,583                | E9  | E271           | -337                                       | R12                            | R1,538                   |
| June .....                    | RE1,528               | E8  | E263           | -306                                       | R-38                           | R1,456                   |
| July .....                    | E1,576                | E9  | RE276          | -225                                       | R-115                          | 1,538                    |
| August .....                  | E1,592                | E9  | E285           | -238                                       | E-100                          | E1,548                   |
| <b>September(STIFS)</b> ..... | E1,546                | E9  | E281           | RE-319                                     | RE-70                          | E1,447                   |
| <b>October(STIFS)</b> .....   | E1,585                | E10   | E281           | E-150                                      | E-216                          | E1,511                   |
| <b>1999 YTD</b> .....         | <b>E15,543</b>        | <b>E99</b>                                    | <b>E2,755</b>  | <b>E-414</b>                               | <b>E-413</b>                   | <b>E17,588</b>           |
| <b>1998 YTD</b> .....         | <b>E15,740</b>        | <b>E94</b>                                    | <b>2,488</b>   | <b>-987</b>                                | <b>155</b>                     | <b>17,489</b>            |
| <b>1997 YTD</b> .....         | <b>15,780</b>         | <b>82</b>                                     | <b>2,332</b>   | <b>-725</b>                                | <b>286</b>                     | <b>17,756</b>            |

<sup>a</sup> Supplemental gaseous fuels data are only collected on an annual basis except for the Dakota Gasification Inc. coal gasification facility which provides data 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 .0025 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.

<sup>b</sup> Monthly and annual data for 1992 through 1997 include underground storage and liquefied natural gas storage. Data for January 1998 forward include underground storage only. See Appendix A, Explanatory Note 7 for discussion of computation procedures.

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

<sup>d</sup> Consists of pipeline fuel use, lease and plant fuel use, vehicle fuel, and deliveries to consuming sectors as shown in Table 3.

<sup>R</sup> Revised Data.

<sup>E</sup> Estimated Data.

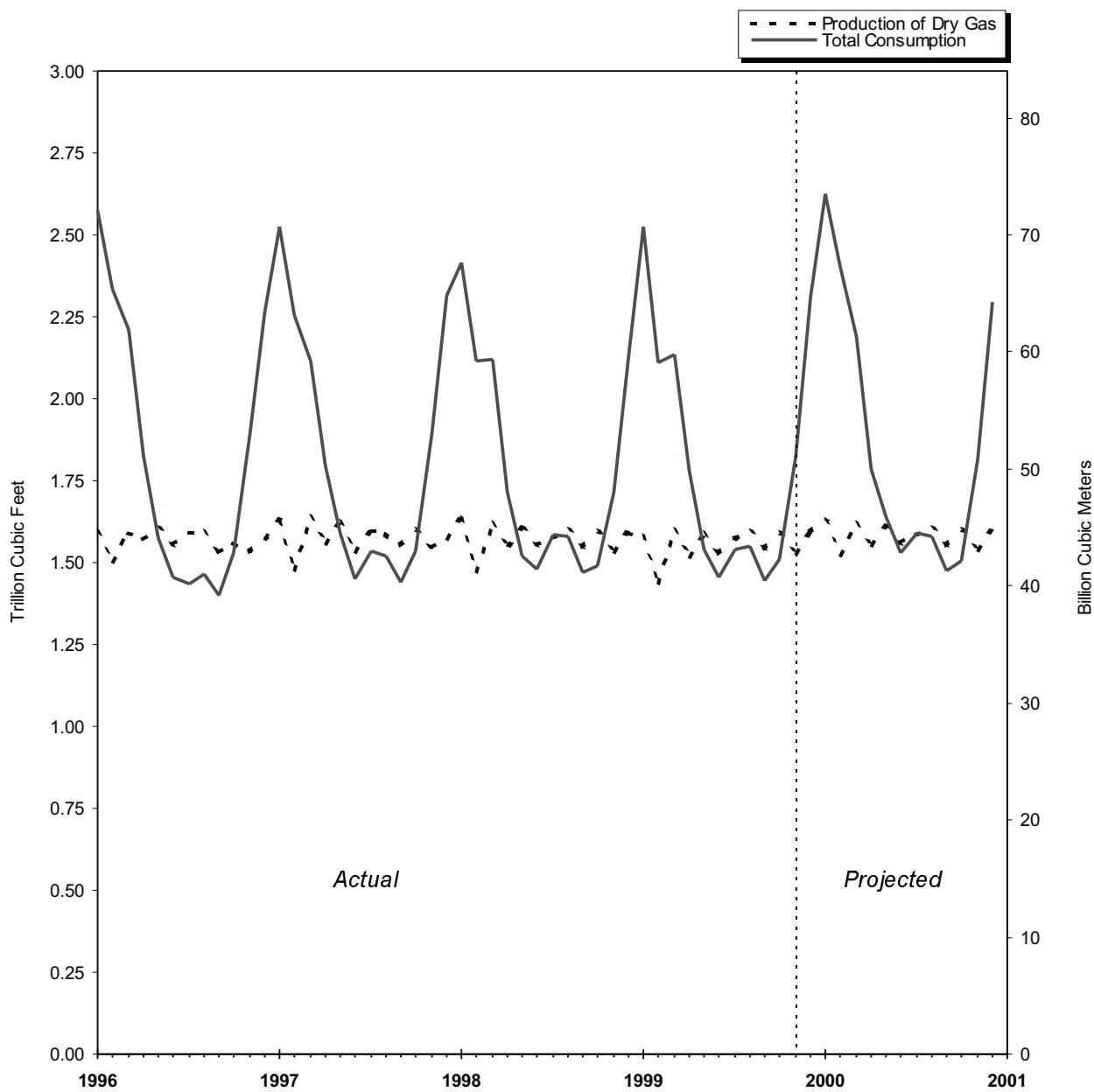
<sup>RE</sup> Revised Estimated Data.

**Notes:** Data for 1993 through 1997 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:** 1993-1997: Energy Information Administration (EIA), *Natural Gas Annual 1997*. 1997: EIA-895, "Monthly Quantity of Natural Gas Report," Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers," Form EIA-191, "Monthly Underground Gas Storage Report," and Office of Fossil Energy, U.S. Department of Energy, *Natural Gas Imports and Exports* and EIA computations. January 1998 through current month: EIA, Form EIA-895, Form EIA-857, Form EIA-191, EIA computations, and estimates, Short-Term Integrated Forecasting System (STIFS) computations, and Office of Fossil Energy, *Natural Gas Imports and Exports*. See Appendix A for discussion of computation and estimation procedures and revision policies.

# Figure 1

**Figure 1. Production and Consumption of Natural Gas in the United States, 1996-2000**



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

# Table 3

**Table 3. Natural Gas Consumption in the United States, 1993-1999**  
(Billion Cubic Feet)

| Year<br>and<br>Month              | Lease and<br>Plant<br>Fuel <sup>a</sup> | Pipeline<br>Fuel <sup>b</sup> | Delivered to Consumers |               |               |                       |                | Total<br>Consumption |
|-----------------------------------|---|-------------------------------|------------------------|---------------|---------------|-----------------------|----------------|----------------------|
|                                   |   |                               | Residential            | Commercial    | Industrial    | Electric<br>Utilities | Total          |                      |
| 1993 Total .....                  | 1,172                                   | 624                           | 4,956                  | 2,863         | 7,981         | 2,682                 | 18,483         | 20,279               |
| 1994 Total .....                  | 1,124                                   | 685                           | 4,848                  | 2,897         | 8,167         | 2,987                 | 18,899         | 20,708               |
| 1995 Total .....                  | 1,220                                   | 700                           | 4,850                  | 3,034         | 8,580         | 3,197                 | 19,660         | 21,581               |
| 1996 Total .....                  | 1,250                                   | 711                           | 5,241                  | 3,161         | 8,870         | 2,732                 | 20,006         | 21,967               |
| <b>1997</b>                       |   |                               |                        |               |               |                       |                |                      |
| January .....                     | 104                                     | 88                            | 902                    | 475           | 816           | 139                   | 2,332          | 2,523                |
| February .....                    | 94                                      | 78                            | 757                    | 421           | 759           | 143                   | 2,081          | 2,253                |
| March .....                       | 104                                     | 73                            | 606                    | 360           | 782           | 190                   | 1,938          | 2,115                |
| April .....                       | 99                                      | 61                            | 433                    | 270           | 739           | 193                   | 1,635          | 1,795                |
| May .....                         | 102                                     | 54                            | 284                    | 204           | 713           | 232                   | 1,432          | 1,588                |
| June .....                        | 97                                      | 49                            | 164                    | 154           | 690           | 297                   | 1,305          | 1,451                |
| July .....                        | 101                                     | 52                            | 128                    | 144           | 683           | 429                   | 1,385          | 1,537                |
| August .....                      | 101                                     | 51                            | 118                    | 140           | 717           | 391                   | 1,366          | 1,518                |
| September .....                   | 99                                      | 49                            | 129                    | 142           | 689           | 333                   | 1,293          | 1,440                |
| October .....                     | 102                                     | 52                            | 234                    | 190           | 711           | 244                   | 1,380          | 1,534                |
| November .....                    | 99                                      | 65                            | 497                    | 306           | 748           | 180                   | 1,731          | 1,895                |
| December .....                    | 101                                     | 81                            | 731                    | 411           | 796           | 197                   | 2,135          | 2,317                |
| <b>Total</b> .....                | <b>1,202</b>                            | <b>752</b>                    | <b>4,984</b>           | <b>3,223</b>  | <b>8,843</b>  | <b>2,968</b>          | <b>20,018</b>  | <b>21,972</b>        |
| <b>1998</b>                       |   |                               |                        |               |               |                       |                |                      |
| January .....                     | E107                                    | 83                            | 808                    | 449           | R797          | 171                   | R2,225         | R2,415               |
| February .....                    | E97                                     | 72                            | 685                    | 390           | R735          | 134                   | R1,945         | R2,114               |
| March .....                       | E106                                    | 73                            | R638                   | R368          | R743          | 194                   | R1,943         | R2,122               |
| April .....                       | E102                                    | 59                            | R406                   | R255          | 701           | 190                   | R1,553         | R1,714               |
| May .....                         | E105                                    | 52                            | 221                    | 174           | 676           | 290                   | 1,362          | 1,519                |
| June .....                        | E102                                    | 51                            | R153                   | 142           | R655          | 379                   | R1,328         | R1,481               |
| July .....                        | E104                                    | 54                            | R132                   | 148           | R700          | 449                   | R1,429         | R1,587               |
| August .....                      | E105                                    | 54                            | 115                    | 150           | 697           | 457                   | 1,419          | 1,578                |
| September .....                   | E102                                    | 50                            | R120                   | R144          | 674           | 381                   | R1,318         | 1,471                |
| October .....                     | E105                                    | 51                            | 200                    | 177           | 711           | 246                   | 1,334          | 1,490                |
| November .....                    | E101                                    | 59                            | 390                    | 263           | 724           | 178                   | R1,555         | 1,714                |
| December .....                    | E105                                    | 73                            | 613                    | R365          | 786           | 189                   | R1,953         | R2,130               |
| <b>Total</b> .....                | <b>E1,241</b>                           | <b>730</b>                    | <b>R4,481</b>          | <b>R3,025</b> | <b>R8,599</b> | <b>3,258</b>          | <b>R19,363</b> | <b>R21,334</b>       |
| <b>1999</b>                       |   |                               |                        |               |               |                       |                |                      |
| January .....                     | E104                                    | 86                            | R909                   | 481           | R767          | 179                   | R2,336         | R2,526               |
| February .....                    | E95                                     | 72                            | R675                   | 396           | R721          | 152                   | R1,945         | 2,111                |
| March .....                       | E105                                    | 73                            | 657                    | R377          | R717          | 206                   | R1,957         | R2,135               |
| April .....                       | E100                                    | 61                            | 415                    | R264          | R683          | 256                   | R1,617         | R1,778               |
| May .....                         | E104                                    | 53                            | 236                    | R184          | R688          | 273                   | R1,381         | R1,538               |
| June .....                        | RE101                                   | 50                            | 157                    | R149          | 675           | 324                   | R1,305         | R1,456               |
| July .....                        | E104                                    | 53                            | 130                    | 146           | 670           | 436                   | 1,382          | 1,538                |
| August(STIFS) .....               | E104                                    | E45                           | E116                   | E148          | E693          | NA                    | E1,398         | E1,548               |
| September(STIFS) .....            | E100                                    | E48                           | E128                   | E148          | E677          | NA                    | E1,299         | E1,447               |
| October(STIFS) .....              | E105                                    | E48                           | E210                   | E178          | E721          | NA                    | E1,359         | E1,511               |
| <b>1999 YTD<sup>d</sup></b> ..... | <b>E1,020</b>                           | <b>E589</b>                   | <b>E3,632</b>          | <b>E2,473</b> | <b>E7,013</b> | <b>1,825</b>          | <b>E15,979</b> | <b>E17,588</b>       |
| <b>1998 YTD<sup>d</sup></b> ..... | <b>E1,036</b>                           | <b>598</b>                    | <b>3,479</b>           | <b>2,396</b>  | <b>7,089</b>  | <b>1,808</b>          | <b>15,856</b>  | <b>17,489</b>        |
| <b>1997 YTD<sup>d</sup></b> ..... | <b>1,002</b>                            | <b>606</b>                    | <b>3,755</b>           | <b>2,501</b>  | <b>7,299</b>  | <b>1,623</b>          | <b>16,147</b>  | <b>17,756</b>        |

<sup>a</sup> 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.

<sup>b</sup> 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.

<sup>c</sup> Vehicle fuel deliveries, in billion cubic feet, were 0.4 in 1991, 0.5 in 1992, 1.0 in 1993, 1.7 in 1994, 2.7 in 1995, 2.9 in 1996 and 4.4 in 1997.

<sup>d</sup> Year-to-date volume represents months for which volume information is available in the current year.

<sup>R</sup> Revised Data.

<sup>E</sup> Estimated Data.

<sup>RE</sup> Revised Estimated Data.

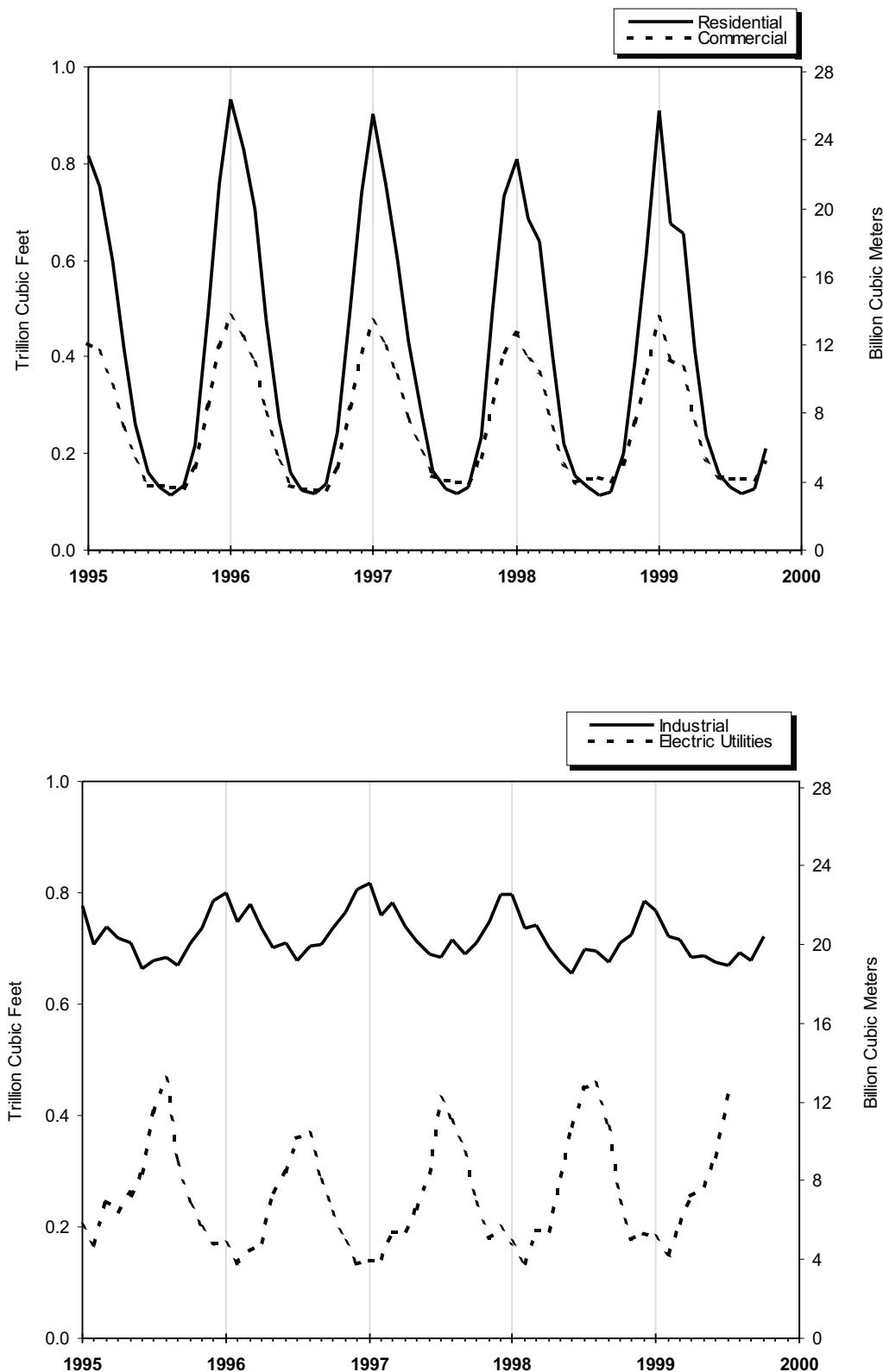
NA Not Available.

**Notes:** Data for 1993 through 1997 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. In 1996, consumption of natural gas for agricultural use is classified as industrial use. In 1995 and earlier years, agricultural use was classified as commercial use. See Explanatory Note 5 for further explanation.

**Sources:** 1993-1997: Energy Information Administration (EIA): Form EIA-627, "Annual Quantity and Value of Natural Gas Report," (thru 1994), Form EIA-895 "Monthly Quantity of Natural Gas Report," (1995 forward), 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 1997*, January 1998 through the current month: EIA: Form EIA-895, Form EIA-857, Form EIA-759, and STIFS computations. See Appendix A, Explanatory Note 5, for computation procedures and revision policy.

# Figure 2

**Figure 2. Natural Gas Deliveries to Consumers in the United States, 1995-1999**



Sources: Table 3.

Table 4

**Table 4. Selected National Average Natural Gas Prices, 1993-1999**

(Dollars per Thousand Cubic Feet)

| Year<br>and<br>Month              | Wellhead<br>Price <sup>a</sup> | City<br>Gate<br>Price | Delivered to Consumers |             |                         |              |                         |                                |
|-----------------------------------|--------------------------------|-----------------------|------------------------|-------------|-------------------------|--------------|-------------------------|--------------------------------|
|                                   |                                |                       | Residential<br>Price   | Commercial  |                         | Industrial   |                         | Electric<br>Utilities<br>Price |
|                                   |                                |                       |                        | Price       | % of Total <sup>b</sup> | Price        | % of Total <sup>b</sup> |                                |
| 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 Annual Average .....         | 1.55                           | 2.78                  | 6.06                   | 5.05        | 76.7                    | 2.71         | 24.5                    | 2.02                           |
| 1996 Annual Average .....         | 2.17                           | 3.34                  | 6.34                   | 5.40        | 77.6                    | 3.42         | 19.4                    | 2.69                           |
| <b>1997</b>                       |                                |                       |                        |             |                         |              |                         |                                |
| January .....                     | 3.40                           | 4.28                  | 6.74                   | 6.18        | 78.8                    | 4.65         | 21.6                    | 4.06                           |
| February .....                    | 2.49                           | 3.76                  | 6.79                   | 6.13        | 78.4                    | 4.20         | 19.7                    | 2.97                           |
| March .....                       | 1.79                           | 3.04                  | 6.52                   | 5.72        | 74.0                    | 3.35         | 18.8                    | 2.29                           |
| April .....                       | 1.81                           | 2.92                  | 6.53                   | 5.46        | 71.8                    | 3.02         | 18.4                    | 2.30                           |
| May .....                         | 2.00                           | 3.11                  | 6.83                   | 5.39        | 65.5                    | 2.96         | 18.1                    | 2.41                           |
| June .....                        | 2.08                           | 3.41                  | 8.30                   | 5.64        | 61.7                    | 3.10         | 17.4                    | 2.52                           |
| July .....                        | 2.00                           | 3.44                  | 8.78                   | 5.35        | 59.5                    | 3.06         | 15.3                    | 2.44                           |
| August .....                      | 2.08                           | 3.34                  | 8.99                   | 5.43        | 57.9                    | 2.90         | 15.6                    | 2.53                           |
| September .....                   | 2.33                           | 3.50                  | 8.84                   | 5.57        | 59.5                    | 3.25         | 15.1                    | 2.96                           |
| October .....                     | 2.68                           | 3.86                  | 7.69                   | 5.73        | 62.9                    | 3.69         | 16.8                    | 3.24                           |
| November .....                    | 2.92                           | 3.91                  | 6.86                   | 5.85        | 70.4                    | 4.07         | 18.0                    | 3.41                           |
| December .....                    | 2.28                           | 3.42                  | 6.54                   | 5.70        | 72.8                    | 3.79         | 17.2                    | 2.77                           |
| <b>Annual Average .....</b>       | <b>2.32</b>                    | <b>3.61</b>           | <b>6.94</b>            | <b>5.79</b> | <b>70.8</b>             | <b>3.59</b>  | <b>17.7</b>             | <b>2.74</b>                    |
| <b>1998</b>                       |                                |                       |                        |             |                         |              |                         |                                |
| January .....                     | E1.99                          | R3.11                 | 6.45                   | 5.59        | 72.1                    | R3.69        | R15.0                   | 2.64                           |
| February .....                    | E2.00                          | 3.08                  | 6.40                   | 5.56        | 71.1                    | R3.57        | 15.4                    | 2.51                           |
| March .....                       | E2.08                          | R3.08                 | 6.27                   | 5.38        | R72.0                   | 3.43         | 16.3                    | 2.53                           |
| April .....                       | E2.22                          | 3.22                  | R6.79                  | R5.59       | R66.2                   | 3.26         | 14.7                    | 2.59                           |
| May .....                         | E2.03                          | 3.10                  | 7.60                   | 5.69        | 60.6                    | 3.10         | 13.9                    | 2.47                           |
| June .....                        | E1.97                          | 2.98                  | R8.39                  | 5.51        | 60.2                    | 2.95         | 14.0                    | 2.40                           |
| July .....                        | E2.08                          | R3.31                 | R8.49                  | 5.65        | 52.7                    | 3.01         | R12.6                   | 2.50                           |
| August .....                      | E1.84                          | 3.05                  | R9.17                  | R5.48       | R50.1                   | 2.75         | 13.4                    | 2.21                           |
| September .....                   | E1.83                          | R2.73                 | R8.91                  | 5.56        | R53.6                   | 2.66         | 14.2                    | 2.15                           |
| October .....                     | E1.84                          | 3.00                  | 7.55                   | 5.33        | R55.6                   | 2.75         | 14.1                    | 2.22                           |
| November .....                    | E1.94                          | 3.00                  | 6.60                   | R5.25       | R62.1                   | 2.95         | 15.0                    | 2.37                           |
| December .....                    | E1.73                          | R3.07                 | 6.36                   | 5.22        | R66.2                   | 2.92         | 16.4                    | 2.22                           |
| <b>Annual Average .....</b>       | <b>E1.96</b>                   | <b>R3.07</b>          | <b>6.82</b>            | <b>5.47</b> | <b>R64.8</b>            | <b>R3.11</b> | <b>14.6</b>             | <b>2.37</b>                    |
| <b>1999</b>                       |                                |                       |                        |             |                         |              |                         |                                |
| January .....                     | E1.80                          | 2.86                  | R6.02                  | 5.13        | 71.5                    | 3.09         | 15.7                    | 2.26                           |
| February .....                    | E1.73                          | 2.94                  | 6.25                   | 5.18        | 68.3                    | 3.00         | 15.4                    | 2.27                           |
| March .....                       | E1.70                          | R2.67                 | 6.02                   | 5.03        | R68.4                   | 2.77         | 16.6                    | 2.11                           |
| April .....                       | E1.93                          | 2.89                  | 6.31                   | R5.69       | R63.7                   | 2.80         | 15.7                    | 2.25                           |
| May .....                         | E2.10                          | R3.23                 | R7.08                  | R5.15       | R59.9                   | 2.65         | R17.1                   | 2.48                           |
| June .....                        | RE2.10                         | R3.19                 | R7.89                  | R5.23       | R57.2                   | 2.67         | 18.3                    | 2.47                           |
| July .....                        | E2.09                          | 3.12                  | 8.44                   | 5.24        | 54.9                    | 2.68         | 18.8                    | NA                             |
| <b>1999 YTD<sup>c</sup> .....</b> | <b>E1.92</b>                   | <b>2.92</b>           | <b>6.38</b>            | <b>5.20</b> | <b>65.9</b>             | <b>2.80</b>  | <b>16.8</b>             | <b>2.33</b>                    |
| <b>1998 YTD<sup>c</sup> .....</b> | <b>E2.05</b>                   | <b>3.12</b>           | <b>6.72</b>            | <b>5.55</b> | <b>67.7</b>             | <b>3.32</b>  | <b>14.6</b>             | <b>2.50</b>                    |
| <b>1997 YTD<sup>c</sup> .....</b> | <b>2.22</b>                    | <b>3.54</b>           | <b>6.85</b>            | <b>5.84</b> | <b>72.9</b>             | <b>3.56</b>  | <b>18.6</b>             | <b>2.66</b>                    |

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

<sup>b</sup> Percentage of total deliveries represented by onsystem sales, see Figure 6. See Table 25 for breakdown by State.

<sup>c</sup> Year-to-date price represents months for which price information is available in the current year.

R Revised Data.

E Estimated Data.

RE Revised Estimated Data.

NA Not Available.

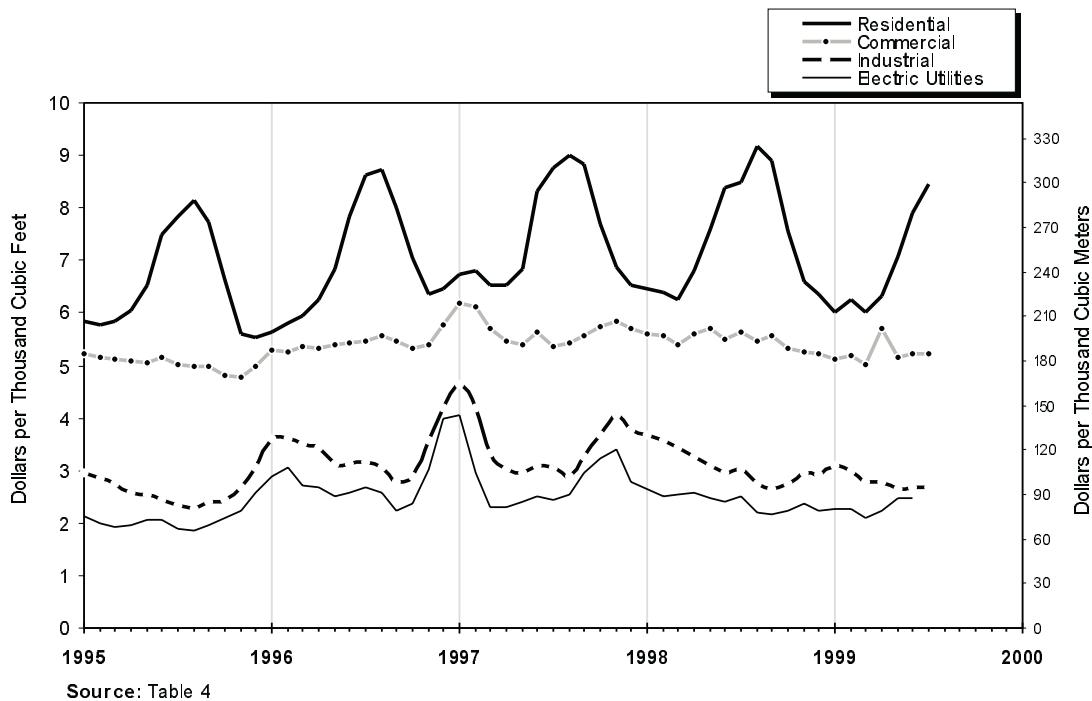
**Notes:** Data for 1993 through 1997 are final. All other data are

preliminary unless otherwise indicated. Geographic coverage is the 50 States and the District of Columbia. In 1996, consumption of natural gas for agricultural use is classified as industrial use. In 1995 and earlier years, agricultural use was classified as commercial use. See Explanatory Note 5 for further explanation.

**Sources:** 1993-1997: Energy Information Administration (EIA) *Natural Gas Annual/1997*. 1998 forward: 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 1998 through current month: See Appendix A, Explanatory Note 8 for estimation procedures and revision policy.

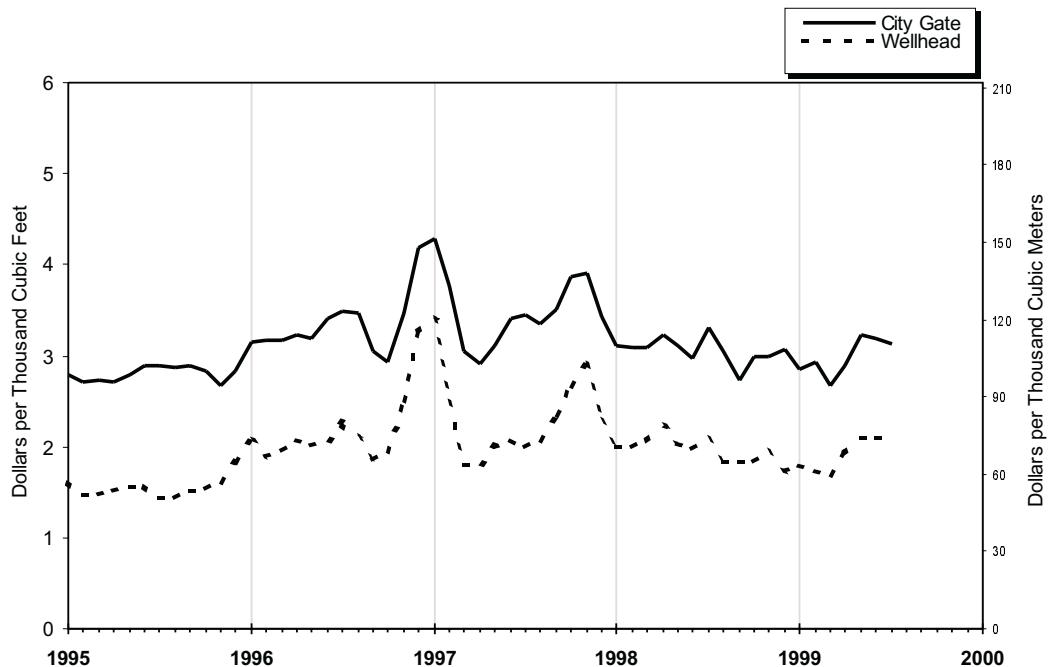
# Figures 3 and 4

**Figure 3. Average Price of Natural Gas Delivered to Consumers in the U.S., 1995-1999**



Source: Table 4

**Figure 4. Average Price of Natural Gas in the United States, 1995-1999**



Source: Table 4

# Table 5

**Table 5. U.S. Natural Gas Imports, by Country, 1994-1999**  
 (Volumes in Million Cubic Feet, Prices in Dollars per Thousand Cubic Feet)

| Year<br>and<br>Month  | Pipeline                     |                   |                           |               | LNG           |                   |               |                   |
|-----------------------|------------------------------|-------------------|---------------------------|---------------|---------------|-------------------|---------------|-------------------|
|                       | Canada                       |                   | Mexico                    |               | Algeria       |                   | Australia     |                   |
|                       | Volume                       | Average Price     | Volume                    | Average Price | Volume        | Average Price     | Volume        | Average Price     |
| 1993 Total .....      | 2,266,751                    | 2.02              | 1,678                     | 1.94          | 81,685        | 2.20              | 0             | —                 |
| 1994 Total .....      | 2,566,049                    | 1.86              | 7,013                     | 1.99          | 50,778        | 2.28              | 0             | —                 |
| 1995 Total .....      | 2,816,408                    | 1.48              | 6,722                     | 1.53          | 17,918        | 2.30              | 0             | —                 |
| 1996 Total .....      | 2,883,277                    | 1.96              | 13,862                    | 2.25          | 35,325        | 2.70              | 0             | —                 |
| <b>1997</b>           |                              |                   |                           |               |               |                   |               |                   |
| January .....         | 266,756                      | 3.27              | 1,555                     | 3.09          | 7,560         | 2.78              | 0             | —                 |
| February .....        | 230,352                      | 2.50              | 2,526                     | 2.49          | 7,667         | 3.00              | 0             | —                 |
| March .....           | 251,328                      | 1.70              | 3,127                     | 1.83          | 2,530         | 2.98              | 0             | —                 |
| April .....           | 235,431                      | 1.66              | 189                       | 1.92          | 2,557         | 2.23              | 0             | —                 |
| May .....             | 234,345                      | 1.81              | 2,380                     | 2.03          | 2,552         | 2.20              | 2,455         | 2.68              |
| June .....            | 225,366                      | 1.87              | 1,692                     | 2.20          | 5,059         | 2.49              | 0             | —                 |
| July .....            | 229,479                      | 1.82              | 1,088                     | 1.98          | 5,026         | 2.48              | 0             | —                 |
| August .....          | 237,142                      | 1.81              | 6                         | 2.35          | 7,535         | 2.43              | 0             | —                 |
| September .....       | 232,090                      | 2.00              | 29                        | 2.47          | 5,030         | 2.41              | 2,337         | 2.88              |
| October .....         | 245,742                      | 2.32              | 965                       | 2.92          | 5,050         | 2.70              | 0             | —                 |
| November .....        | 257,782                      | 2.71              | 1,874                     | 2.82          | 7,542         | 2.89              | 4,893         | 3.07              |
| December .....        | 253,338                      | 2.17              | 1,810                     | 2.12          | 7,567         | 2.88              | 0             | —                 |
| <b>Total</b> .....    | <b>2,899,152</b>             | <b>2.15</b>       | <b>17,243</b>             | <b>2.31</b>   | <b>65,675</b> | <b>2.67</b>       | <b>9,686</b>  | <b>2.92</b>       |
| <b>1998</b>           |                              |                   |                           |               |               |                   |               |                   |
| January .....         | 276,118                      | 2.06              | 55                        | 2.12          | 10,105        | 2.51              | 0             | —                 |
| February .....        | 239,091                      | 1.90              | 2,184                     | 2.04          | 7,606         | 2.51              | 2,171         | 3.99              |
| March .....           | 257,485                      | 1.97              | 380                       | 2.20          | 5,166         | 2.50              | 0             | —                 |
| April .....           | 247,363                      | 2.03              | 3,249                     | 2.37          | 2,549         | 2.52              | 0             | —                 |
| May .....             | 243,868                      | 2.00              | 845                       | 2.15          | 7,596         | 2.51              | 0             | —                 |
| June .....            | 235,847                      | 1.86              | 5                         | 2.21          | 5,149         | 2.51              | 2,441         | 2.91              |
| July .....            | 259,412                      | 1.96              | 1,821                     | 2.13          | 5,086         | 2.52              | 0             | —                 |
| August .....          | 268,535                      | 1.80              | 1,413                     | 1.78          | 2,540         | 2.52              | 2,321         | 2.92              |
| September .....       | 254,752                      | 1.66              | 2,257                     | 1.86          | 5,133         | 2.52              | 0             | —                 |
| October .....         | 260,135                      | 1.92              | 905                       | 1.65          | 5,023         | 2.50              | 0             | —                 |
| November .....        | 247,971                      | 2.09              | 0                         | —             | 5,042         | 2.51              | 2,353         | 3.55              |
| December .....        | 261,495                      | 2.14              | 1,418                     | 1.77          | 7,572         | 2.51              | 2,348         | 3.18              |
| <b>Total</b> .....    | <b>3,052,073</b>             | <b>1.95</b>       | <b>14,532</b>             | <b>2.03</b>   | <b>68,567</b> | <b>2.51</b>       | <b>11,634</b> | <b>3.30</b>       |
| <b>1999</b>           |                              |                   |                           |               |               |                   |               |                   |
| January .....         | 290,266                      | 1.98              | 4,891                     | 1.76          | 12,612        | <sup>R</sup> 2.47 | 0             | —                 |
| February .....        | 258,656                      | 1.89              | 4,398                     | 1.71          | 7,423         | <sup>R</sup> 2.51 | 2,557         | <sup>R</sup> 3.56 |
| March .....           | 279,161                      | 1.82              | 751                       | 1.61          | 12,648        | <sup>R</sup> 2.70 | 0             | —                 |
| April .....           | 265,973                      | <sup>R</sup> 1.84 | 4,192                     | 2.04          | 7,639         | <sup>R</sup> 2.46 | 0             | —                 |
| May .....             | 270,034                      | <sup>R</sup> 2.17 | 6,843                     | 1.97          | 3,900         | <sup>R</sup> 2.67 | 0             | —                 |
| June .....            | 256,251                      | <sup>R</sup> 2.13 | 4,978                     | 2.14          | 2,528         | <sup>R</sup> 1.96 | 2,314         | <sup>R</sup> 2.34 |
| July .....            | <sup>R</sup> 271,431         | NA                | <sup>E</sup> 5,000        | NA            | 5,133         | NA                | 0             | —                 |
| August .....          | <sup>E</sup> 278,605         | NA                | <sup>E</sup> 5,000        | NA            | 2,554         | NA                | 2,684         | NA                |
| <b>1999 YTD</b> ..... | <b><sup>E</sup>2,170,378</b> | <b>NA</b>         | <b><sup>E</sup>36,053</b> | <b>NA</b>     | <b>54,437</b> | <b>NA</b>         | <b>7,555</b>  | <b>NA</b>         |
| <b>1998 YTD</b> ..... | <b>2,027,720</b>             | <b>1.95</b>       | <b>9,952</b>              | <b>2.14</b>   | <b>45,799</b> | <b>2.51</b>       | <b>6,933</b>  | <b>3.25</b>       |
| <b>1997 YTD</b> ..... | <b>1,910,200</b>             | <b>2.07</b>       | <b>12,563</b>             | <b>2.22</b>   | <b>40,487</b> | <b>2.62</b>       | <b>2,455</b>  | <b>2.68</b>       |

See footnotes at end of table.

**Table 5. U.S. Natural Gas Imports, by Country, 1994-1999**

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

Continued

| Year<br>and<br>Month  | LNG          |                     |               |                     |                      |                  | Total             |                     |
|-----------------------|--------------|---------------------|---------------|---------------------|----------------------|------------------|-------------------|---------------------|
|                       | Qatar        |                     | Trinidad      |                     | United Arab Emirates |                  | Volume            | Average<br>Price    |
|                       | Volume       | Average<br>Price    | Volume        | Average<br>Price    | Volume               | Average<br>Price |                   |                     |
| 1993 Total .....      | 0            | —                   | 0             | —                   | 0                    | —                | 2,350,115         | 2.03                |
| 1994 Total .....      | 0            | —                   | 0             | —                   | 0                    | —                | 2,623,839         | 1.87                |
| 1995 Total .....      | 0            | —                   | 0             | —                   | 0                    | —                | 2,841,048         | 1.49                |
| 1996 Total .....      | 0            | —                   | 0             | —                   | 4,949                | 3.46             | 2,937,413         | 1.97                |
| <b>1997</b>           |              |                     |               |                     |                      |                  |                   |                     |
| January .....         | 0            | —                   | 0             | —                   | 2,417                | 3.74             | 278,288           | 3.26                |
| February .....        | 0            | —                   | 0             | —                   | 0                    | —                | 240,545           | 2.52                |
| March .....           | 0            | —                   | 0             | —                   | 0                    | —                | 256,985           | 1.72                |
| April .....           | 0            | —                   | 0             | —                   | 0                    | —                | 238,178           | 1.67                |
| May .....             | 0            | —                   | 0             | —                   | 0                    | —                | 241,732           | 1.83                |
| June .....            | 0            | —                   | 0             | —                   | 0                    | —                | 232,118           | 1.88                |
| July .....            | 0            | —                   | 0             | —                   | 0                    | —                | 235,593           | 1.84                |
| August .....          | 0            | —                   | 0             | —                   | 0                    | —                | 244,684           | 1.83                |
| September .....       | 0            | —                   | 0             | —                   | 0                    | —                | 239,486           | 2.01                |
| October .....         | 0            | —                   | 0             | —                   | 0                    | —                | 251,758           | 2.33                |
| November .....        | 0            | —                   | 0             | —                   | 0                    | —                | 272,091           | 2.72                |
| December .....        | 0            | —                   | 0             | —                   | 0                    | —                | 262,716           | 2.19                |
| <b>Total</b> .....    | <b>0</b>     | <b>—</b>            | <b>0</b>      | <b>—</b>            | <b>2,417</b>         | <b>3.74</b>      | <b>2,994,173</b>  | <b>2.17</b>         |
| <b>1998</b>           |              |                     |               |                     |                      |                  |                   |                     |
| January .....         | 0            | —                   | 0             | —                   | 0                    | —                | 286,278           | 2.08                |
| February .....        | 0            | —                   | 0             | —                   | 0                    | —                | 251,052           | 1.94                |
| March .....           | 0            | —                   | 0             | —                   | 0                    | —                | 263,032           | 1.98                |
| April .....           | 0            | —                   | 0             | —                   | 0                    | —                | 253,161           | 2.04                |
| May .....             | 0            | —                   | 0             | —                   | 0                    | —                | 252,310           | 2.02                |
| June .....            | 0            | —                   | 0             | —                   | 0                    | —                | 243,442           | 1.88                |
| July .....            | 0            | —                   | 0             | —                   | 0                    | —                | 266,319           | 1.97                |
| August .....          | 0            | —                   | 0             | —                   | 0                    | —                | 274,809           | 1.82                |
| September .....       | 0            | —                   | 0             | —                   | 0                    | —                | 262,142           | 1.68                |
| October .....         | 0            | —                   | 0             | —                   | 0                    | —                | 266,063           | 1.93                |
| November .....        | 0            | —                   | 0             | —                   | 2,667                | 2.78             | 258,033           | 2.12                |
| December .....        | 0            | —                   | 0             | —                   | 2,585                | 2.47             | 275,417           | 2.16                |
| <b>Total</b> .....    | <b>0</b>     | <b>—</b>            | <b>0</b>      | <b>—</b>            | <b>5,252</b>         | <b>2.63</b>      | <b>3,152,058</b>  | <b>1.97</b>         |
| <b>1999</b>           |              |                     |               |                     |                      |                  |                   |                     |
| January .....         | 0            | —                   | 0             | —                   | 0                    | —                | 307,769           | 2.00                |
| February .....        | 2,481        | 2.75                | 0             | —                   | 0                    | —                | 275,515           | 1.93                |
| March .....           | 0            | —                   | 0             | —                   | 0                    | —                | 292,560           | 1.86                |
| April .....           | 2,492        | R <sup>a</sup> 1.93 | 0             | —                   | 0                    | —                | 280,296           | R <sup>a</sup> 1.86 |
| May .....             | 0            | —                   | 5,493         | R <sup>a</sup> 1.90 | 0                    | —                | 286,270           | R <sup>a</sup> 2.17 |
| June .....            | 2,417        | R <sup>a</sup> 1.98 | 6,620         | R <sup>a</sup> 2.08 | 0                    | —                | 275,109           | R <sup>a</sup> 2.13 |
| July .....            | 2,388        | NA                  | 6,599         | NA                  | 0                    | —                | RE290,552         | NA                  |
| August .....          | 0            | —                   | 9,898         | NA                  | 0                    | —                | E298,741          | NA                  |
| <b>1999 YTD</b> ..... | <b>9,779</b> | <b>NA</b>           | <b>28,609</b> | <b>NA</b>           | <b>0</b>             | <b>—</b>         | <b>E2,306,811</b> | <b>NA</b>           |
| <b>1998 YTD</b> ..... | <b>0</b>     | <b>—</b>            | <b>0</b>      | <b>—</b>            | <b>0</b>             | <b>—</b>         | <b>2,090,403</b>  | <b>1.97</b>         |
| <b>1997 YTD</b> ..... | <b>0</b>     | <b>—</b>            | <b>0</b>      | <b>—</b>            | <b>2,417</b>         | <b>3.74</b>      | <b>1,968,122</b>  | <b>2.09</b>         |

<sup>a</sup> Revised Data.<sup>e</sup> Estimated Data.

RE Revised Estimated Data.

NA Not Available.

— Not Applicable.

**Sources:** 1993-1994: 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

**Table 6. U.S. Natural Gas Exports, by Country, 1993-1999**

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

| Year<br>and<br>Month  | Pipeline       |                  |                |                  | LNG           |                  |           |                  | Total           |                  |
|-----------------------|----------------|------------------|----------------|------------------|---------------|------------------|-----------|------------------|-----------------|------------------|
|                       | Canada         |                  | Mexico         |                  | Japan         |                  | Mexico    |                  | Volume          | Average<br>Price |
|                       | Volume         | Average<br>Price | Volume         | Average<br>Price | Volume        | Average<br>Price | Volume    | Average<br>Price |                 |                  |
| 1993 Total .....      | 44,518         | 2.14             | 39,676         | 2.02             | 55,989        | 3.34             | 0         | —                | 140,183         | 2.59             |
| 1994 Total .....      | 52,556         | 2.42             | 46,500         | 1.68             | 62,682        | 3.18             | 0         | —                | 161,738         | 2.50             |
| 1995 Total .....      | 27,554         | 1.96             | 61,283         | 1.50             | 65,283        | 3.41             | 0         | —                | 154,119         | 2.39             |
| 1996 Total .....      | 51,905         | 2.67             | 33,840         | 2.11             | 67,648        | 3.65             | 0         | —                | 153,393         | 2.97             |
| <b>1997</b>           |                |                  |                |                  |               |                  |           |                  |                 |                  |
| January .....         | 4,193          | 4.08             | 2,231          | 4.08             | 5,604         | 4.25             | 0         | —                | 12,028          | 4.16             |
| February .....        | 5,169          | 3.02             | 1,677          | 2.32             | 5,596         | 4.20             | 0         | —                | 12,443          | 3.46             |
| March .....           | 9,115          | 2.05             | 1,486          | 1.55             | 5,675         | 4.16             | 0         | —                | 16,276          | 2.74             |
| April .....           | 5,168          | 1.78             | 3,044          | 1.83             | 5,660         | 4.06             | 0         | —                | 13,872          | 2.72             |
| May .....             | 4,107          | 2.08             | 2,177          | 1.96             | 3,812         | 3.83             | 0         | —                | 10,097          | 2.72             |
| June .....            | 3,162          | 2.28             | 2,579          | 2.14             | 3,786         | 3.72             | 0         | —                | 9,527           | 2.81             |
| July .....            | 3,257          | 2.14             | 3,122          | 2.17             | 3,756         | 3.66             | 0         | —                | 10,136          | 2.71             |
| August .....          | 3,820          | 2.15             | 6,282          | 2.37             | 7,532         | 3.62             | 0         | —                | 17,633          | 2.86             |
| September .....       | 3,129          | 2.37             | 6,159          | 2.59             | 3,767         | 3.58             | 0         | —                | 13,055          | 2.83             |
| October .....         | 2,432          | 2.85             | 4,182          | 2.87             | 5,676         | 3.58             | 0         | —                | 12,289          | 3.19             |
| November .....        | 5,579          | 3.10             | 1,782          | 3.16             | 5,691         | 3.66             | 0         | —                | 13,051          | 3.35             |
| December .....        | 7,318          | 2.58             | 3,650          | 2.30             | 5,631         | 3.58             | 0         | —                | 16,600          | 2.86             |
| <b>Total</b> .....    | <b>56,447</b>  | <b>2.52</b>      | <b>38,372</b>  | <b>2.46</b>      | <b>62,187</b> | <b>3.83</b>      | <b>0</b>  | <b>—</b>         | <b>157,006</b>  | <b>3.02</b>      |
| <b>1998</b>           |                |                  |                |                  |               |                  |           |                  |                 |                  |
| January .....         | 4,930          | 2.53             | 4,257          | 2.11             | 7,446         | 3.67             | 0         | —                | 16,632          | 2.93             |
| February .....        | 4,502          | 2.11             | 3,117          | 2.06             | 3,726         | 3.42             | 0         | —                | 11,346          | 2.53             |
| March .....           | 7,851          | 2.25             | 4,202          | 2.14             | 7,435         | 3.09             | 0         | —                | 19,488          | 2.55             |
| April .....           | 4,509          | 2.47             | 2,675          | 2.23             | 5,702         | 2.81             | 0         | —                | 12,886          | 2.57             |
| May .....             | 2,083          | 2.28             | 6,119          | 2.12             | 1,891         | 2.70             | 0         | —                | 10,093          | 2.26             |
| June .....            | 1,938          | 2.03             | 5,617          | 1.98             | 5,695         | 2.69             | 0         | —                | 13,250          | 2.29             |
| July .....            | 1,634          | 1.97             | 3,852          | 2.20             | 5,679         | 2.70             | 0         | —                | 11,166          | 2.42             |
| August .....          | 52             | 1.87             | 4,834          | 1.95             | 5,676         | 2.70             | 1         | 5.88             | 10,563          | 2.35             |
| September .....       | 1,481          | 2.09             | 2,892          | 1.81             | 7,584         | 2.68             | 0         | —                | 11,957          | 2.40             |
| October .....         | 2,127          | 2.03             | 5,167          | 1.90             | 5,679         | 2.72             | 3         | 5.74             | 12,975          | 2.28             |
| November .....        | 3,630          | 2.17             | 5,079          | 2.00             | 3,776         | 2.75             | 9         | 5.69             | 12,494          | 2.28             |
| December .....        | 5,152          | 2.26             | 5,323          | 1.99             | 5,662         | 2.73             | 20        | 5.68             | 16,157          | 2.34             |
| <b>Total</b> .....    | <b>39,891</b>  | <b>2.25</b>      | <b>53,133</b>  | <b>2.04</b>      | <b>65,951</b> | <b>2.91</b>      | <b>33</b> | <b>5.69</b>      | <b>159,007</b>  | <b>2.45</b>      |
| <b>1999</b>           |                |                  |                |                  |               |                  |           |                  |                 |                  |
| January .....         | 2,373          | 1.91             | 4,526          | 1.83             | 5,587         | 2.61             | 24        | 7.48             | 12,510          | 2.20             |
| February .....        | 3,360          | 1.94             | 4,753          | 1.74             | 5,563         | 2.49             | 28        | 7.46             | 13,704          | 2.11             |
| March .....           | 4,883          | 1.80             | 5,950          | 1.64             | 5,570         | 2.75             | 22        | 7.41             | 16,425          | 2.07             |
| April .....           | E4,002         | R1.79            | R5,049         | R1.89            | 5,699         | R2.48            | R19       | R7.23            | E14,769         | R2.10            |
| May .....             | E3,500         | R2.26            | R6,109         | R2.29            | 5,586         | R2.70            | R24       | R7.47            | E15,219         | R2.44            |
| June .....            | E3,300         | R2.16            | R5,278         | R2.32            | 3,723         | R2.41            | R19       | R7.34            | E12,320         | R2.31            |
| July .....            | E3,300         | NA               | E5,200         | NA               | 5,675         | NA               | NA        | NA               | E14,175         | NA               |
| August .....          | E3,300         | NA               | E5,200         | NA               | 5,628         | NA               | NA        | NA               | E14,128         | NA               |
| <b>1999 YTD</b> ..... | <b>E28,018</b> | <b>NA</b>        | <b>E42,065</b> | <b>NA</b>        | <b>43,030</b> | <b>NA</b>        | <b>NA</b> | <b>NA</b>        | <b>E113,249</b> | <b>NA</b>        |
| <b>1998 YTD</b> ..... | <b>27,500</b>  | <b>2.28</b>      | <b>34,672</b>  | <b>2.09</b>      | <b>43,250</b> | <b>3.01</b>      | <b>1</b>  | <b>5.88</b>      | <b>105,423</b>  | <b>2.52</b>      |
| <b>1997 YTD</b> ..... | <b>37,990</b>  | <b>2.41</b>      | <b>22,598</b>  | <b>2.32</b>      | <b>41,423</b> | <b>3.95</b>      | <b>0</b>  | <b>—</b>         | <b>102,011</b>  | <b>3.01</b>      |

R Revised Data.

E Estimated Data.

NA Not Available.

— Not Applicable.

Sources: 1993-1994: 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, 1993-1999**  
 (Million Cubic Feet)

| Year and Month        | Alabama <sup>b</sup> | Alaska                     | Arizona    | California     | Colorado                   | Florida                  | Kansas                     |
|-----------------------|----------------------|----------------------------|------------|----------------|----------------------------|--------------------------|----------------------------|
| 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 Total .....      | 519,661              | 469,550                    | 558        | 279,555        | 523,084                    | 6,463                    | 721,436                    |
| 1996 Total .....      | 530,841              | 480,828                    | 463        | 286,494        | 572,071                    | 6,006                    | 712,796                    |
| <b>1997</b>           |                      |                            |            |                |                            |                          |                            |
| January .....         | 48,213               | 43,497                     | 46         | 24,430         | 52,755                     | 527                      | 60,198                     |
| February .....        | 46,024               | 39,391                     | 41         | 21,876         | 48,424                     | 512                      | 55,275                     |
| March .....           | 51,313               | 42,625                     | 42         | 23,910         | 53,954                     | 610                      | 60,099                     |
| April .....           | 51,246               | 38,687                     | 39         | 23,248         | 52,529                     | 554                      | 58,357                     |
| May .....             | 48,802               | 35,427                     | 36         | 23,590         | 52,376                     | 541                      | 61,661                     |
| June .....            | 47,342               | 36,344                     | 28         | 22,928         | 50,715                     | 450                      | 59,996                     |
| July .....            | 46,370               | 36,284                     | 31         | 23,981         | 52,964                     | 514                      | 58,234                     |
| August .....          | 46,314               | 36,270                     | 30         | 23,841         | 54,041                     | 505                      | 61,937                     |
| September .....       | 48,911               | 37,041                     | 30         | 23,760         | 52,742                     | 519                      | 49,658                     |
| October .....         | 50,634               | 40,095                     | 34         | 24,437         | 54,260                     | 452                      | 53,815                     |
| November .....        | 49,734               | 39,631                     | 57         | 24,792         | 55,549                     | 439                      | 54,152                     |
| December .....        | 48,368               | 43,020                     | 39         | 24,896         | 57,064                     | 491                      | 53,834                     |
| <b>Total</b> .....    | <b>583,272</b>       | <b>468,311</b>             | <b>452</b> | <b>285,690</b> | <b>637,375</b>             | <b>6,114</b>             | <b>687,215</b>             |
| <b>1998</b>           |                      |                            |            |                |                            |                          |                            |
| January .....         | 32,739               | 43,715                     | 43         | 24,810         | 53,025                     | 479                      | 52,204                     |
| February .....        | 29,230               | 38,016                     | 42         | 21,719         | 51,770                     | 436                      | 49,283                     |
| March .....           | 33,505               | 41,026                     | 53         | 22,869         | 56,834                     | 466                      | 50,179                     |
| April .....           | 32,406               | 38,188                     | 43         | 21,952         | 55,760                     | 480                      | 47,405                     |
| May .....             | 33,656               | 35,200                     | 38         | 23,889         | 56,151                     | 512                      | 46,564                     |
| June .....            | 33,257               | 36,116                     | 34         | 24,837         | 54,493                     | 428                      | <sup>E</sup> 48,050        |
| July .....            | 33,696               | 36,501                     | 42         | 27,152         | 56,370                     | 504                      | <sup>E</sup> 48,048        |
| August .....          | 33,719               | 36,331                     | 36         | 29,717         | 56,841                     | 529                      | <sup>E</sup> 48,172        |
| September .....       | 30,466               | 36,142                     | 32         | 29,096         | 55,501                     | 445                      | 41,968                     |
| October .....         | 33,344               | 41,335                     | 31         | 29,858         | 58,862                     | 470                      | 48,568                     |
| November .....        | 31,876               | 41,517                     | 33         | 29,462         | 51,627                     | 533                      | 46,402                     |
| December .....        | 32,976               | 43,600                     | 33         | 28,879         | 60,780                     | 515                      | 46,677                     |
| <b>Total</b> .....    | <b>390,870</b>       | <b>467,688</b>             | <b>457</b> | <b>314,240</b> | <b>668,014</b>             | <b>5,796</b>             | <b><sup>E</sup>573,520</b> |
| <b>1999</b>           |                      |                            |            |                |                            |                          |                            |
| January .....         | 32,035               | 43,848                     | 31         | 29,268         | <sup>E</sup> 54,000        | 517                      | 41,599                     |
| February .....        | 29,017               | 39,443                     | 27         | 26,541         | <sup>E</sup> 46,518        | 448                      | 43,103                     |
| March .....           | 31,827               | 42,685                     | 36         | 30,361         | <sup>E</sup> 56,043        | 494                      | 43,887                     |
| April .....           | 28,404               | <sup>E</sup> 38,010        | 38         | 29,808         | <sup>E</sup> 53,866        | <sup>R</sup> 459         | <sup>E</sup> 42,197        |
| May .....             | 33,664               | <sup>E</sup> 32,925        | 41         | 30,944         | <sup>E</sup> 54,484        | <sup>R</sup> 474         | <sup>E</sup> 43,176        |
| June .....            | 32,304               | <sup>E</sup> 35,951        | 45         | 28,553         | <sup>E</sup> 52,655        | <sup>E</sup> 429         | <sup>E</sup> 41,669        |
| <b>1999 YTD</b> ..... | <b>187,251</b>       | <b><sup>E</sup>232,862</b> | <b>218</b> | <b>175,476</b> | <b><sup>E</sup>317,567</b> | <b><sup>E</sup>2,819</b> | <b><sup>E</sup>255,632</b> |
| <b>1998 YTD</b> ..... | <b>194,793</b>       | <b>232,261</b>             | <b>252</b> | <b>140,077</b> | <b>328,032</b>             | <b>2,800</b>             | <b><sup>E</sup>293,685</b> |
| <b>1997 YTD</b> ..... | <b>292,941</b>       | <b>235,971</b>             | <b>232</b> | <b>139,982</b> | <b>310,754</b>             | <b>3,193</b>             | <b>355,586</b>             |

See footnotes at end of table.

**Table 7. Marketed Production of Natural Gas, by State, 1993-1999**  
 (Million Cubic Feet) — Continued

| Year and Month        | Louisianab        | Michigan       | Mississippi    | Montana        | New Mexico       | North Dakota  | Oklahoma          |
|-----------------------|-------------------|----------------|----------------|----------------|------------------|---------------|-------------------|
| 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 Total .....      | 5,108,366         | 238,203        | 95,533         | 50,264         | 1,625,837        | 49,468        | 1,811,734         |
| 1996 Total .....      | 5,240,747         | 245,740        | 103,263        | 50,996         | 1,554,087        | 49,674        | 1,734,887         |
| <b>1997</b>           |                   |                |                |                |                  |               |                   |
| January .....         | 445,257           | 34,940         | 8,253          | 4,654          | 135,263          | 3,952         | 144,608           |
| February .....        | 405,366           | 16,875         | 7,807          | 4,451          | 122,656          | 3,899         | 134,455           |
| March .....           | 447,802           | 24,790         | 8,470          | 4,836          | 137,830          | 4,453         | 147,098           |
| April .....           | 431,010           | 12,944         | 8,120          | 4,654          | 132,438          | 4,364         | 136,246           |
| May .....             | 443,269           | 39,819         | 8,611          | 4,561          | 136,553          | 4,539         | 142,336           |
| June .....            | 425,934           | 19,314         | 8,893          | 3,808          | 125,256          | 4,348         | 138,038           |
| July .....            | 434,326           | 40,026         | 8,636          | 4,114          | 131,806          | 4,427         | 144,769           |
| August .....          | 438,965           | 18,597         | 9,626          | 4,213          | 134,140          | 4,486         | 147,528           |
| September .....       | 430,599           | 22,451         | 9,162          | 4,199          | 128,915          | 4,381         | 150,488           |
| October .....         | 445,702           | 20,297         | 10,084         | 3,150          | 134,623          | 4,508         | 145,054           |
| November .....        | 434,908           | 26,013         | 9,683          | 4,706          | 120,856          | 4,416         | 135,537           |
| December .....        | 446,682           | 29,885         | 9,955          | 5,091          | 118,298          | 4,629         | 137,731           |
| <b>Total</b> .....    | <b>5,229,821</b>  | <b>305,950</b> | <b>107,300</b> | <b>52,437</b>  | <b>1,558,633</b> | <b>52,401</b> | <b>1,703,888</b>  |
| <b>1998</b>           |                   |                |                |                |                  |               |                   |
| January .....         | 467,734           | 28,439         | 9,639          | E5,058         | 142,312          | 4,623         | 159,422           |
| February .....        | 418,165           | 28,259         | 8,574          | E4,668         | 142,383          | 4,020         | 125,953           |
| March .....           | 470,930           | 30,719         | 9,781          | E5,018         | 141,671          | 4,337         | 136,396           |
| April .....           | 456,246           | 17,983         | 8,957          | E4,714         | 140,963          | 4,284         | 134,017           |
| May .....             | 473,557           | 29,164         | 9,121          | E4,672         | 140,258          | 4,488         | 136,703           |
| June .....            | 458,372           | 26,962         | 8,586          | E3,805         | 139,557          | 4,210         | 136,013           |
| July .....            | 461,063           | 26,188         | 9,258          | E3,990         | 138,859          | 4,384         | 134,510           |
| August .....          | 464,025           | 19,037         | 8,835          | E4,242         | 138,165          | 4,499         | 139,914           |
| September .....       | 438,628           | 28,469         | 8,664          | E4,332         | 137,474          | 4,427         | 142,267           |
| October .....         | 462,358           | 21,908         | 8,868          | E4,346         | 136,786          | 4,600         | 140,146           |
| November .....        | E440,854          | 12,272         | 8,602          | E4,934         | 136,102          | 4,428         | E133,360          |
| December .....        | E461,135          | 29,159         | 9,184          | E5,280         | 135,422          | 4,536         | E136,123          |
| <b>Total</b> .....    | <b>E5,473,067</b> | <b>298,560</b> | <b>108,069</b> | <b>E55,059</b> | <b>1,669,951</b> | <b>52,834</b> | <b>E1,654,824</b> |
| <b>1999</b>           |                   |                |                |                |                  |               |                   |
| January .....         | E466,143          | 20,853         | 9,154          | E5,090         | 134,745          | 4,331         | E144,408          |
| February .....        | 425,121           | 8,746          | 8,678          | E4,796         | 134,071          | 3,858         | E122,928          |
| March .....           | 463,776           | 39,892         | 9,933          | E5,112         | 134,084          | 4,220         | E133,354          |
| April .....           | 450,953           | 22,653         | 9,426          | E4,821         | 134,098          | 4,298         | E131,587          |
| May .....             | 474,329           | 25,273         | 9,708          | E4,834         | E137,332         | 4,335         | E139,036          |
| June .....            | E464,118          | 25,120         | 9,480          | E3,944         | E130,997         | 4,329         | E133,557          |
| <b>1999 YTD</b> ..... | <b>E2,744,440</b> | <b>142,538</b> | <b>56,378</b>  | <b>E28,597</b> | <b>E805,326</b>  | <b>25,370</b> | <b>E804,870</b>   |
| <b>1998 YTD</b> ..... | <b>2,745,004</b>  | <b>161,527</b> | <b>54,659</b>  | <b>E27,935</b> | <b>847,143</b>   | <b>25,961</b> | <b>828,504</b>    |
| <b>1997 YTD</b> ..... | <b>2,598,638</b>  | <b>148,681</b> | <b>50,154</b>  | <b>26,965</b>  | <b>789,996</b>   | <b>25,555</b> | <b>842,780</b>    |

See footnotes at end of table.

**Table 7. Marketed Production of Natural Gas, by State, 1993-1999**  
 (Million Cubic Feet) — Continued

| Year and Month    | Oregon       | Texas <sup>c</sup> | Utah            | Wyoming        | Other <sup>a</sup> States | U.S. Total         |
|-------------------|--------------|--------------------|-----------------|----------------|---------------------------|--------------------|
| <b>1993 Total</b> | <b>4,003</b> | <b>6,249,624</b>   | <b>225,401</b>  | <b>634,957</b> | <b>788,472</b>            | <b>18,981,915</b>  |
| <b>1994 Total</b> | <b>3,221</b> | <b>6,353,844</b>   | <b>270,858</b>  | <b>696,018</b> | <b>774,724</b>            | <b>19,709,525</b>  |
| <b>1995 Total</b> | <b>1,923</b> | <b>6,330,048</b>   | <b>241,290</b>  | <b>673,775</b> | <b>759,728</b>            | <b>19,506,474</b>  |
| <b>1996 Total</b> | <b>1,439</b> | <b>6,449,022</b>   | <b>250,767</b>  | <b>666,036</b> | <b>814,612</b>            | <b>19,750,793</b>  |
| <b>1997</b>       |              |                    |                 |                |                           |                    |
| January           | 105          | 554,934            | 21,782          | 59,016         | 66,837                    | 1,709,269          |
| February          | 98           | 506,768            | 19,115          | 55,848         | 59,897                    | 1,548,774          |
| March             | 101          | 564,269            | 21,912          | 61,159         | 64,286                    | 1,719,559          |
| April             | 102          | 539,499            | 19,570          | 64,278         | 61,118                    | 1,639,002          |
| May               | 102          | 552,230            | 22,053          | 62,726         | 62,301                    | 1,701,532          |
| June              | 97           | 529,765            | 19,815          | 59,667         | 59,069                    | 1,611,809          |
| July              | 98           | 546,610            | 21,711          | 60,324         | 58,493                    | 1,673,719          |
| August            | 99           | 548,267            | 21,024          | 61,091         | 59,686                    | 1,670,660          |
| September         | 86           | 525,836            | 22,007          | 64,678         | 56,803                    | 1,632,265          |
| October           | 97           | 540,150            | 23,006          | 64,992         | 62,912                    | 1,678,302          |
| November          | 91           | 519,274            | 22,840          | 62,181         | 60,863                    | 1,625,720          |
| December          | 96           | 526,271            | 22,307          | 62,410         | 64,414                    | 1,655,481          |
| <b>Total</b>      | <b>1,173</b> | <b>6,453,873</b>   | <b>257,139</b>  | <b>738,368</b> | <b>736,679</b>            | <b>19,866,093</b>  |
| <b>1998</b>       |              |                    |                 |                |                           |                    |
| January           | 90           | 542,462            | 21,826          | 66,074         | E61,837                   | E1,716,531         |
| February          | 79           | 491,530            | 21,758          | 53,970         | E57,200                   | E1,547,056         |
| March             | 96           | 541,311            | 23,656          | 65,704         | E61,188                   | E1,695,739         |
| April             | 92           | 525,602            | 23,513          | 61,974         | E57,188                   | E1,631,767         |
| May               | 92           | 550,442            | 24,967          | 54,304         | E58,146                   | E1,681,924         |
| June              | 90           | 517,200            | 23,968          | 63,574         | E56,699                   | E1,636,249         |
| July              | 95           | 531,212            | 23,036          | 64,917         | E55,998                   | E1,655,822         |
| August            | 94           | 546,100            | 23,681          | 66,273         | E57,217                   | E1,677,426         |
| September         | 90           | 529,321            | 21,554          | 63,370         | E55,348                   | E1,627,593         |
| October           | 83           | 534,431            | 23,830          | 62,709         | E59,433                   | E1,671,967         |
| November          | 85           | 520,580            | 23,045          | 66,979         | E59,256                   | E1,611,948         |
| December          | 80           | 525,805            | 22,507          | 64,357         | E62,674                   | E1,669,720         |
| <b>Total</b>      | <b>1,067</b> | <b>6,355,996</b>   | <b>277,340</b>  | <b>754,206</b> | <b>E702,185</b>           | <b>E19,823,742</b> |
| <b>1999</b>       |              |                    |                 |                |                           |                    |
| January           | 83           | 528,793            | 23,467          | R62,582        | E60,748                   | RE1,661,695        |
| February          | 84           | 483,571            | 21,141          | R55,832        | E56,306                   | RE1,510,229        |
| March             | 120          | 527,106            | 23,878          | R67,624        | E60,561                   | RE1,674,993        |
| April             | 111          | 507,927            | 22,076          | R61,885        | E56,293                   | RE1,598,909        |
| May               | 113          | 526,518            | E24,177         | R64,838        | E57,153                   | RE1,663,352        |
| June              | 111          | 501,865            | E22,958         | 63,028         | E55,148                   | E1,606,261         |
| <b>1999 YTD</b>   | <b>621</b>   | <b>3,075,780</b>   | <b>E137,697</b> | <b>375,788</b> | <b>E346,208</b>           | <b>E9,715,439</b>  |
| <b>1998 YTD</b>   | <b>539</b>   | <b>3,168,547</b>   | <b>139,688</b>  | <b>365,601</b> | <b>E352,258</b>           | <b>E9,909,266</b>  |
| <b>1997 YTD</b>   | <b>606</b>   | <b>3,247,466</b>   | <b>124,245</b>  | <b>362,693</b> | <b>373,508</b>            | <b>9,929,946</b>   |

<sup>a</sup> Includes Arkansas, Illinois, Indiana, Kentucky, Maryland, Missouri, Nebraska, Nevada, New York, Ohio, Pennsylvania, South Dakota, Tennessee, Virginia and West Virginia. The 1998 monthly values for these States are estimated.

<sup>b</sup> All data for 1991 through 1996 include Federal Offshore production. For 1997 and 1998, data for Alabama exclude Federal Offshore production and data for Louisiana include both the Louisiana and Alabama portions of Federal Offshore production.

<sup>c</sup> Federal offshore production volumes are included.

<sup>R</sup> Revised Data.

<sup>E</sup> Estimated Data.

<sup>RE</sup> Revised Estimated Data.

**Notes:** Data for 1993 through 1997 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:** 1992-1997: Energy Information Administration (EIA), *Natural Gas Annual 1997.1998* through current month; Form EIA-895, "Monthly Quantity of Natural Gas Report," Minerals Management Service reports, and EIA computations.

# Table 8

**Table 8. Gross Withdrawals and Marketed Production of Natural Gas by State, June 1999**  
 (Million Cubic Feet)

| State              | Gross Withdrawals  |                  |                    | Repressuring     | Nonhydro-carbon Gases Removed <sup>a</sup> | Vented and Flared | Marketed Production |
|--------------------|--------------------|------------------|--------------------|------------------|--|-------------------|---------------------|
|                    | From Gas Wells     | From Oil Wells   | Total              |                  |  |                   |                     |
| Alabama .....      | 34,824             | 571              | 35,395             | 1,031            | 1,961                                      | 99                | 32,304              |
| Alaska .....       | \$14,096           | \$242,527        | \$256,623          | \$220,192        | 0  | \$481             | \$35,951            |
| Arizona .....      | 44                 | 0                | 45                 | 0                | 0  | 0                 | 45                  |
| California .....   | 6,770              | 26,274           | 33,043             | 4,261            | 155  | 75                | 28,553              |
| Colorado .....     | \$45,879           | \$7,348          | \$53,226           | \$483            | 0  | \$88              | \$52,655            |
| Florida .....      | 0                  | \$484            | \$484              | 0                | \$56                                       | 0                 | \$429               |
| Kansas .....       | \$38,439           | \$3,343          | \$41,782           | \$71             | 0  | \$42              | \$41,669            |
| Louisiana .....    | \$408,421          | \$61,397         | \$469,818          | \$3,685          | 0  | \$2,015           | \$464,118           |
| Michigan .....     | 20,445             | 5,111            | 25,556             | 180              | 0  | 256               | 25,120              |
| Mississippi .....  | 10,278             | 473              | 10,751             | 507              | 532  | 233               | 9,480               |
| Montana .....      | \$3,490            | \$611            | \$4,101            | \$5              | 0  | \$152             | \$3,944             |
| New Mexico .....   | \$123,652          | \$21,434         | \$145,086          | \$883            | \$12,971                                   | \$235             | \$130,997           |
| North Dakota ..... | 1,243              | 3,300            | 4,543              | 0                | 8  | 206               | 4,329               |
| Oklahoma .....     | \$120,488          | \$13,069         | \$133,557          | 0                | 0  | 0                 | \$133,557           |
| Oregon .....       | 134                | 0                | 134                | 4                | 19   | 0                 | 111                 |
| Texas .....        | 444,984            | 107,673          | 552,657            | 35,765           | 12,702                                     | 2,325             | 501,865             |
| Utah .....         | \$20,948           | \$3,321          | \$24,269           | \$43             | 0  | \$1,268           | \$22,958            |
| Wyoming .....      | 97,201             | 5,062            | 102,263            | 12,390           | 13,414                                     | 13,431            | 63,028              |
| Other States ..... | \$52,147           | \$3,777          | \$55,924           | \$156            | \$485                                      | \$135             | \$55,148            |
| <b>Total .....</b> | <b>\$1,443,482</b> | <b>\$505,776</b> | <b>\$1,949,258</b> | <b>\$279,655</b> | <b>\$42,301</b>                            | <b>\$21,041</b>   | <b>\$1,606,261</b>  |

<sup>a</sup> See Appendix A, Explanatory Note 1, for a discussion of data on Nonhydrocarbon Gases Removed.

<sup>E</sup> 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.

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

**Table 9. Underground Natural Gas Storage - All Operators, 1993-1999**

(Volumes in Billion Cubic Feet)

| Year<br>and<br>Month          | Natural Gas in<br>Underground Storage<br>at End of Period |                     |                     | Change In Working Gas<br>from Same Period<br>Previous Year |                   | Storage Activity |              |                                 |
|-------------------------------|---|---------------------|---------------------|--|-------------------|------------------|--------------|---------------------------------|
|                               | Base<br>Gas   | Working<br>Gas      | Total <sup>b</sup>  | Volume   | Percent           | Injections       | Withdrawals  | Net<br>Withdrawals <sup>c</sup> |
| 1993 Total <sup>a</sup> ..... | 4,327   | 2,322               | 6,649               | -275   | -10.6             | 2,760            | 2,717        | -43                             |
| 1994 Total <sup>a</sup> ..... | 4,360   | 2,606               | 6,966               | 284  | 12.2              | 2,796            | 2,508        | -288                            |
| 1995 Total <sup>a</sup> ..... | 4,349   | 2,153               | 6,503               | -453   | 3.1               | 2,566            | 2,974        | 408                             |
| 1996 Total <sup>a</sup> ..... | 4,341   | 2,173               | 6,513               | 19   | 0.9               | 2,906            | 2,911        | 6                               |
| <b>1997</b>                   |   |                     |                     |  |                   |                  |              |                                 |
| January .....                 | 4,347   | 1,496               | 5,843               | 32   | 2.3               | 68               | 753          | 684                             |
| February .....                | 4,342   | 1,139               | 5,481               | 118  | 11.6              | 55               | 413          | 358                             |
| March .....                   | 4,345   | 990                 | 5,336               | 232  | 30.7              | 131              | 285          | 155                             |
| April .....                   | 4,342   | 1,051               | 5,393               | 196  | 23.1              | 205              | 146          | -59                             |
| May .....                     | 4,340   | 1,365               | 5,704               | 202  | 17.5              | 362              | 41           | -321                            |
| June .....                    | 4,357   | 1,731               | 6,088               | 202  | 13.2              | 407              | 42           | -365                            |
| July .....                    | 4,356   | 2,017               | 6,372               | 119  | 6.3               | 361              | 78           | -282                            |
| August .....                  | 4,357   | 2,338               | 6,695               | 93   | 4.2               | 378              | 56           | -322                            |
| September .....               | 4,360   | 2,672               | 7,033               | 67   | 2.6               | 380              | 44           | -336                            |
| October .....                 | 4,358   | 2,886               | 7,244               | 75   | 2.7               | 294              | 84           | -210                            |
| November .....                | 4,359   | 2,699               | 7,058               | 150  | 5.9               | 113              | 302          | 189                             |
| December .....                | 4,350   | 2,175               | 6,525               | 2  | 0.1               | 45               | 579          | 533                             |
| <b>Total</b> .....            | —   | —                   | —                   | —  | —                 | <b>2,800</b>     | <b>2,824</b> | <b>24</b>                       |
| <b>1998</b>                   |   |                     |                     |  |                   |                  |              |                                 |
| January .....                 | 4,347   | 1,713               | 6,060               | 218  | 14.5              | 68               | 535          | 466                             |
| February .....                | 4,341   | 1,419               | 5,760               | 280  | 24.6              | 74               | 373          | 300                             |
| March .....                   | 4,342   | 1,185               | 5,527               | 194  | 19.6              | 136              | 378          | 242                             |
| April .....                   | 4,339   | 1,382               | 5,721               | 331  | 31.5              | 277              | 78           | -199                            |
| May .....                     | 4,340   | 1,775               | 6,115               | 410  | 30.0              | 435              | 42           | -393                            |
| June .....                    | 4,346   | 2,103               | 6,448               | 372  | 21.5              | 375              | 52           | -323                            |
| July .....                    | 4,340   | 2,417               | 6,757               | 401  | 19.9              | 366              | 52           | -314                            |
| August .....                  | 4,336   | 2,697               | 7,033               | 359  | 15.4              | 342              | 58           | -283                            |
| September .....               | 4,340   | 2,949               | 7,289               | 277  | 10.4              | 305              | 78           | -227                            |
| October .....                 | 4,342   | 3,176               | 7,517               | 290  | 10.0              | 301              | 46           | -255                            |
| November .....                | 4,340   | 3,143               | 7,483               | 444  | 16.5              | 131              | 165          | 34                              |
| December .....                | 4,326   | 2,718               | 7,044               | 543  | 25.0              | 94               | 530          | 435                             |
| <b>Total</b> .....            | —   | —                   | —                   | —  | —                 | <b>2,905</b>     | <b>2,386</b> | <b>-518</b>                     |
| <b>1999</b>                   |   |                     |                     |  |                   |                  |              |                                 |
| January .....                 | 4,327   | 2,094               | 6,421               | 381  | 22.2              | 55               | 678          | 623                             |
| February .....                | 4,312   | 1,792               | 6,104               | 372  | 26.2              | 62               | 395          | 333                             |
| March .....                   | <sup>d</sup> 4,361  | <sup>d</sup> 4,430  | 5,792               | 246  | 20.7              | 84               | 381          | 297                             |
| April .....                   | 4,355   | 1,514               | 5,869               | 131  | 9.5               | 203              | 112          | -91                             |
| May .....                     | 4,346   | 1,847               | 6,192               | 72   | 4.0               | 380              | 43           | -337                            |
| June .....                    | 4,344   | 2,157               | 6,501               | 54   | 2.6               | 345              | 40           | -306                            |
| July .....                    | 4,350   | 2,390               | 6,740               | -27  | -1.1              | 303              | 78           | -225                            |
| August .....                  | 4,342   | 2,632               | 6,974               | -66  | -2.4              | 309              | 70           | -238                            |
| September(STIFS) .....        | <sup>RE</sup> 4,342                                       | <sup>RE</sup> 2,951 | <sup>RE</sup> 7,293 | <sup>RE</sup> 2  | <sup>RE</sup> 0.1 | NA               | NA           | <sup>RE</sup> -319              |
| October(STIFS) .....          | <sup>E</sup> 4,342  | <sup>E</sup> 3,101  | <sup>E</sup> 7,443  | <sup>E</sup> -75   | <sup>E</sup> -2.4 | NA               | NA           | <sup>E</sup> -150               |

<sup>a</sup> Total as of December 31.<sup>b</sup> 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; 1995 - 7,927; 1996 - 8,159; 1997 - 8,128; and 1998 - 8,179.<sup>c</sup> Negative numbers indicate the volume of injections in excess of withdrawals. Positive numbers indicate the volume of withdrawals in excess of injections.<sup>d</sup> Reflects one respondent's reclassification of natural gas in underground storage from working gas to base gas.<sup>E</sup> Estimated Data.<sup>RE</sup> Revised Estimated Data.

NA Not Available.

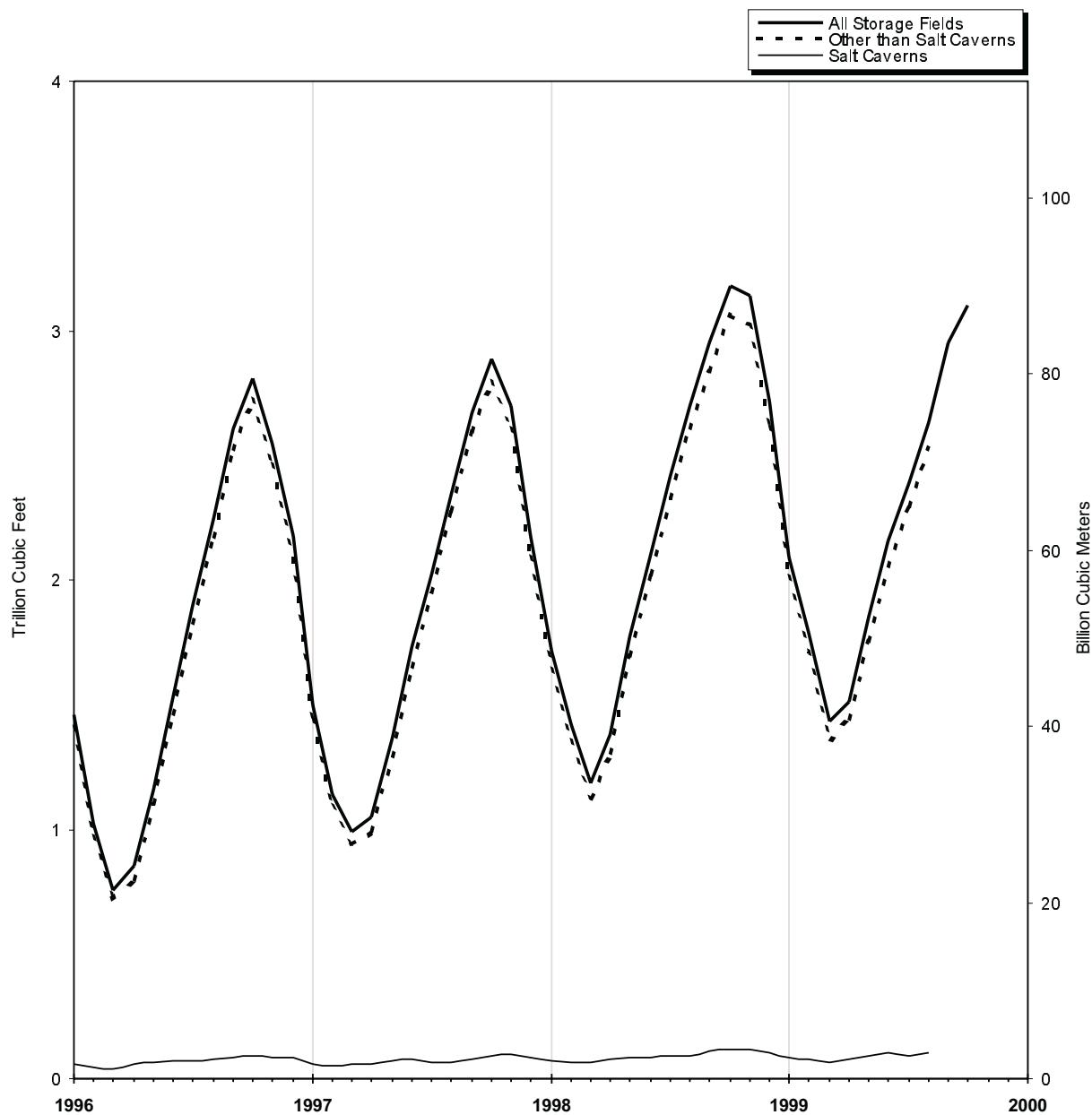
— Not Applicable.

**Notes:** Data for 1993 through 1997 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. Totals may not equal sum of components because of independent rounding. Geographic coverage is the 50 States and the District of Columbia.

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

## Figure 5

Figure 5. Working Gas in Underground Natural Gas Storage in the U.S., 1996-1999



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

**Table 10. Underground Natural Gas Storage - by Season, 1996-1999**  
 (Volumes in Billion Cubic Feet)

| Year, Season<br>and<br>Month    | Natural Gas in<br>Underground Storage<br>at End of Period |                     |                     | Change In Working Gas<br>from Same Period<br>Previous Year |                   | Storage Activity |              |                                 |
|---------------------------------|---|---------------------|---------------------|--|-------------------|------------------|--------------|---------------------------------|
|                                 | Base<br>Gas   | Working<br>Gas      | Total               | Volume   | Percent           | Injections       | Withdrawals  | Net<br>Withdrawals <sup>a</sup> |
| October 1996 .....              | 4,335   | 2,810               | 7,145               | --   | --                | --               | --           | --                              |
| <b>1996-1997 Heating Season</b> |   |                     |                     |  |                   |                  |              |                                 |
| November .....                  | 4,339   | 2,549               | 6,889               | -179   | -6.6              | 90               | 354          | 264                             |
| December .....                  | 4,341   | 2,173               | 6,513               | 19   | 0.9               | 86               | 461          | 374                             |
| January .....                   | 4,347   | 1,496               | 5,843               | 32   | 2.3               | 68               | 753          | 684                             |
| February .....                  | 4,342   | 1,139               | 5,481               | 118  | 11.6              | 55               | 413          | 358                             |
| March .....                     | 4,345   | 990                 | 5,336               | 232  | 30.7              | 131              | 285          | 155                             |
| <b>Total</b> .....              | --  | --                  | --                  | --   | --                | <b>430</b>       | <b>2,266</b> | <b>1,835</b>                    |
| <b>1997 Refill Season</b>       |   |                     |                     |  |                   |                  |              |                                 |
| April .....                     | 4,342   | 1,051               | 5,393               | 196  | 23.1              | 205              | 146          | -59                             |
| May .....                       | 4,340   | 1,365               | 5,704               | 202  | 17.5              | 362              | 41           | -321                            |
| June .....                      | 4,357   | 1,731               | 6,088               | 202  | 13.2              | 407              | 42           | -365                            |
| July .....                      | 4,356   | 2,017               | 6,372               | 119  | 6.3               | 361              | 78           | -282                            |
| August .....                    | 4,357   | 2,338               | 6,695               | 93   | 4.2               | 378              | 56           | -322                            |
| September .....                 | 4,360   | 2,672               | 7,033               | 67   | 2.6               | 380              | 44           | -336                            |
| October .....                   | 4,358   | 2,886               | 7,244               | 75   | 2.7               | 294              | 84           | -210                            |
| <b>Total</b> .....              | --  | --                  | --                  | --   | --                | <b>2,388</b>     | <b>492</b>   | <b>-1,896</b>                   |
| <b>1997-1998 Heating Season</b> |   |                     |                     |  |                   |                  |              |                                 |
| November .....                  | 4,359   | 2,699               | 7,058               | 150  | 5.9               | 113              | 302          | 189                             |
| December .....                  | 4,350   | 2,175               | 6,525               | 2  | 0.1               | 45               | 579          | 533                             |
| January .....                   | 4,347   | 1,713               | 6,060               | 218  | 14.5              | 68               | 535          | 466                             |
| February .....                  | 4,341   | 1,419               | 5,760               | 280  | 24.6              | 74               | 373          | 300                             |
| March .....                     | 4,342   | 1,185               | 5,527               | 194  | 19.6              | 136              | 378          | 242                             |
| <b>Total</b> .....              | --  | --                  | --                  | --   | --                | <b>436</b>       | <b>2,167</b> | <b>1,730</b>                    |
| <b>1998 Refill Season</b>       |   |                     |                     |  |                   |                  |              |                                 |
| April .....                     | 4,339   | 1,382               | 5,721               | 331  | 31.5              | 277              | 78           | -199                            |
| May .....                       | 4,340   | 1,775               | 6,115               | 410  | 30.0              | 435              | 42           | -393                            |
| June .....                      | 4,346   | 2,103               | 6,448               | 372  | 21.5              | 375              | 52           | -323                            |
| July .....                      | 4,340   | 2,417               | 6,757               | 401  | 19.9              | 366              | 52           | -314                            |
| August .....                    | 4,336   | 2,697               | 7,033               | 359  | 15.4              | 342              | 58           | -283                            |
| September .....                 | 4,340   | 2,949               | 7,289               | 277  | 10.4              | 305              | 78           | -227                            |
| October .....                   | 4,342   | 3,176               | 7,517               | 290  | 10.0              | 301              | 46           | -255                            |
| <b>Total</b> .....              | --  | --                  | --                  | --   | --                | <b>2,402</b>     | <b>407</b>   | <b>-1,995</b>                   |
| <b>1998-1999 Heating Season</b> |   |                     |                     |  |                   |                  |              |                                 |
| November .....                  | 4,340   | 3,143               | 7,483               | 444  | 16.5              | 131              | 165          | 34                              |
| December .....                  | 4,326   | 2,718               | 7,044               | 543  | 25.0              | 94               | 530          | 435                             |
| January .....                   | 4,327   | 2,094               | 6,421               | 381  | 22.2              | 55               | 678          | 623                             |
| February .....                  | 4,312   | 1,792               | 6,104               | 372  | 26.2              | 62               | 395          | 333                             |
| March .....                     | <sup>b</sup> 4,361  | <sup>b</sup> 1,430  | 5,792               | 246  | 20.7              | 84               | 381          | 297                             |
| <b>Total</b> .....              | --  | --                  | --                  | --   | --                | <b>427</b>       | <b>2,148</b> | <b>1,721</b>                    |
| <b>1999 Refill Season</b>       |   |                     |                     |  |                   |                  |              |                                 |
| April .....                     | 4,355   | 1,514               | 5,869               | 131  | 9.5               | 203              | 112          | -91                             |
| May .....                       | 4,346   | 1,847               | 6,192               | 72   | 4.0               | 380              | 43           | -337                            |
| June .....                      | 4,344   | 2,157               | 6,501               | 54   | 2.6               | 345              | 40           | -306                            |
| July .....                      | 4,350   | 2,390               | 6,740               | -27  | -1.1              | 303              | 78           | -225                            |
| August .....                    | 4,342   | 2,632               | 6,974               | -66  | -2.4              | 309              | 70           | -238                            |
| September(STIFS) .....          | <sup>RE</sup> 4,342                                       | <sup>RE</sup> 2,951 | <sup>RE</sup> 7,293 | <sup>RE</sup> 2  | <sup>RE</sup> 0.1 | NA               | NA           | <sup>RE</sup> 319               |
| October(STIFS) .....            | <sup>E</sup> 4,342  | <sup>E</sup> 3,101  | <sup>E</sup> 7,443  | <sup>E</sup> -75   | <sup>E</sup> -2.4 | NA               | NA           | <sup>E</sup> -150               |
| <b>Total</b> .....              | --  | --                  | --                  | --   | --                | NA               | NA           | <b>-1,666</b>                   |

<sup>a</sup> Negative numbers indicate the volume of injections in excess of withdrawals. Positive numbers indicate the volume of withdrawals in excess of injections.

<sup>b</sup> Reflects one respondent's reclassification of natural gas in underground storage from working gas to base gas.

<sup>E</sup> Estimated Data.

<sup>RE</sup> Revised Estimated Data.

<sup>NA</sup> Not Available.

— Not Applicable.

**Notes:** Data for 1996 and 1997 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.

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

# Table 11

**Table 11. Underground Natural Gas Storage - Salt Cavern Storage Fields, 1994 - 1999**  
 (Volumes in Billion Cubic Feet)

| Year<br>and<br>Month          | Natural Gas in Salt Cavern<br>Underground Storage<br>at End of Period |                |       | Change in Working Gas<br>from Same Period<br>Previous Year |         | Storage Activity |             |                    |
|-------------------------------|---|----------------|-------|--|---------|------------------|-------------|--------------------|
|                               | Base<br>Gas   | Working<br>Gas | Total | Volume   | Percent | Injections       | Withdrawals | Net<br>Withdrawals |
| 1994 Total <sup>c</sup> ..... | 44  | 70             | 113   | —  | —       | 142              | 123         | -19                |
| 1995 Total <sup>c</sup> ..... | 60  | 72             | 131   | 2  | 2.9     | 194              | 200         | 5                  |
| 1996 Total <sup>c</sup> ..... | 64  | 85             | 149   | 14   | 18.8    | 258              | 246         | -13                |
| <b>1997</b>                   |   |                |       |  |         |                  |             |                    |
| January .....                 | 65  | 57             | 122   | -2   | -3.1    | 21               | 51          | 30                 |
| February .....                | 59  | 49             | 109   | 2  | 4.0     | 15               | 23          | 8                  |
| March .....                   | 65  | 56             | 121   | 18   | 47.3    | 22               | 16          | -6                 |
| April .....                   | 65  | 58             | 123   | 1  | 1.8     | 22               | 19          | -2                 |
| May .....                     | 65  | 73             | 138   | 10   | 17.3    | 27               | 13          | -14                |
| June .....                    | 66  | 80             | 145   | 8  | 11.7    | 22               | 16          | -7                 |
| July .....                    | 65  | 66             | 131   | -6   | -7.5    | 15               | 30          | 15                 |
| August .....                  | 65  | 67             | 132   | -11  | -12.4   | 23               | 22          | 0                  |
| September .....               | 65  | 78             | 143   | -9   | -8.7    | 27               | 14          | -12                |
| October .....                 | 66  | 93             | 159   | 4  | 5.6     | 30               | 14          | -16                |
| November .....                | 67  | 95             | 162   | 7  | 9.4     | 25               | 24          | -2                 |
| December .....                | 67  | 83             | 150   | -4   | -3.0    | 19               | 31          | 12                 |
| <b>Total</b> .....            | —   | —              | —     | —  | —       | <b>267</b>       | <b>274</b>  | <b>6</b>           |
| <b>1998</b>                   |   |                |       |  |         |                  |             |                    |
| January .....                 | 66  | 70             | 136   | 13   | 23.0    | 17               | 31          | 14                 |
| February .....                | 65  | 68             | 133   | 18   | 36.4    | 17               | 21          | 3                  |
| March .....                   | 68  | 64             | 132   | 8  | 14.6    | 23               | 29          | 6                  |
| April .....                   | 68  | 80             | 148   | 22   | 38.1    | 29               | 11          | -17                |
| May .....                     | 68  | 83             | 151   | 10   | 13.0    | 26               | 22          | -3                 |
| June .....                    | 66  | 83             | 149   | 3  | 4.3     | 21               | 23          | 2                  |
| July .....                    | 66  | 92             | 158   | 26   | 39.6    | 26               | 18          | -8                 |
| August .....                  | 66  | 93             | 159   | 27   | 40.0    | 24               | 21          | -3                 |
| September .....               | 67  | 112            | 180   | 35   | 44.9    | 22               | 30          | 8                  |
| October .....                 | 67  | 116            | 183   | 23   | 24.4    | 44               | 12          | -32                |
| November .....                | 67  | 119            | 187   | 24   | 25.5    | 22               | 17          | -5                 |
| December .....                | 67  | 104            | 171   | 22   | 26.4    | 17               | 32          | 14                 |
| <b>Total</b> .....            | —   | —              | —     | —  | —       | <b>288</b>       | <b>267</b>  | <b>-21</b>         |
| <b>1999</b>                   |   |                |       |  |         |                  |             |                    |
| January .....                 | 69  | 84             | 153   | 14   | 19.6    | 19               | 41          | 22                 |
| February .....                | 67  | 77             | 144   | 10   | 14.3    | 15               | 20          | 5                  |
| March .....                   | 67  | 68             | 135   | 4  | 6.0     | 18               | 26          | 8                  |
| April .....                   | 67  | 77             | 144   | -3   | -3.8    | 27               | 18          | -9                 |
| May .....                     | 67  | 94             | 161   | 11   | 13.4    | 29               | 12          | -17                |
| June .....                    | 65  | 102            | 167   | 19   | 22.6    | 21               | 15          | -6                 |
| July .....                    | 65  | 94             | 160   | 3  | 3.0     | 16               | 24          | 8                  |
| August .....                  | 66  | 102            | 168   | 9  | 9.6     | 22               | 14          | -8                 |

<sup>c</sup> Total as of December 31.

— Not Applicable.

**Notes:** Data for 1994 through 1997 are final. All other data are preliminary unless otherwise noted. See Explanatory Note 7 of the *Natural Gas Monthly* for discussion of the reporting of underground storage information. 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, "Monthly Underground Gas Storage Report," and Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition."

**Table 12. Underground Natural Gas Storage - Storage Fields Other than Salt****Caverns, 1994-1999**

(Volumes in Billion Cubic Feet)

| Year<br>and<br>Month          | Natural Gas in Non-Salt Cavern<br>Underground Storage<br>at End of Period |                |       | Change in Working Gas<br>from Same Period<br>Previous Year |         | Storage Activity |              |                    |
|-------------------------------|---|----------------|-------|--|---------|------------------|--------------|--------------------|
|                               | Base<br>Gas   | Working<br>Gas | Total | Volume   | Percent | Injections       | Withdrawals  | Net<br>Withdrawals |
| 1994 Total <sup>c</sup> ..... | 4,317   | 2,536          | 6,853 | —  | —       | 2,654            | 2,385        | -269               |
| 1995 Total <sup>c</sup> ..... | 4,290   | 2,082          | 6,371 | -455   | -17.9   | 2,372            | 2,774        | 403                |
| 1996 Total <sup>c</sup> ..... | 4,277   | 2,087          | 6,364 | 6  | 0.3     | 2,647            | 2,665        | 18                 |
| <b>1997</b>                   |   |                |       |  |         |                  |              |                    |
| January .....                 | 4,282   | 1,439          | 5,721 | 34   | 2.5     | 47               | 702          | 654                |
| February .....                | 4,283   | 1,090          | 5,372 | 116  | 12.0    | 40               | 390          | 350                |
| March .....                   | 4,280   | 935            | 5,215 | 214  | 29.8    | 109              | 269          | 160                |
| April .....                   | 4,277   | 993            | 5,270 | 195  | 24.6    | 184              | 127          | -56                |
| May .....                     | 4,275   | 1,292          | 5,566 | 191  | 17.6    | 335              | 28           | -307               |
| June .....                    | 4,291   | 1,651          | 5,942 | 194  | 13.3    | 385              | 26           | -358               |
| July .....                    | 4,290   | 1,951          | 6,241 | 124  | 6.8     | 346              | 49           | -297               |
| August .....                  | 4,291   | 2,271          | 6,563 | 103  | 4.7     | 356              | 34           | -322               |
| September .....               | 4,295   | 2,595          | 6,890 | 75   | 3.0     | 353              | 29           | -324               |
| October .....                 | 4,292   | 2,793          | 7,085 | 70   | 2.6     | 265              | 70           | -195               |
| November .....                | 4,292   | 2,604          | 6,896 | 142  | 5.8     | 88               | 278          | 191                |
| December .....                | 4,283   | 2,092          | 6,375 | 4  | 0.2     | 27               | 548          | 521                |
| <b>Total</b> .....            | —   | —              | —     | —  | —       | <b>2,533</b>     | <b>2,551</b> | <b>18</b>          |
| <b>1998</b>                   |   |                |       |  |         |                  |              |                    |
| January .....                 | 4,281   | 1,643          | 5,923 | 204  | 14.2    | 51               | 504          | 453                |
| February .....                | 4,275   | 1,352          | 5,627 | 262  | 24.0    | 56               | 353          | 296                |
| March .....                   | 4,274   | 1,121          | 5,394 | 186  | 19.9    | 113              | 349          | 236                |
| April .....                   | 4,271   | 1,302          | 5,573 | 309  | 31.1    | 248              | 67           | -181               |
| May .....                     | 4,272   | 1,692          | 5,964 | 400  | 31.0    | 410              | 20           | -390               |
| June .....                    | 4,279   | 2,020          | 6,299 | 368  | 22.3    | 354              | 29           | -325               |
| July .....                    | 4,274   | 2,326          | 6,600 | 375  | 19.2    | 340              | 34           | -306               |
| August .....                  | 4,270   | 2,604          | 6,875 | 333  | 14.7    | 318              | 37           | -281               |
| September .....               | 4,273   | 2,837          | 7,109 | 242  | 9.3     | 284              | 48           | -236               |
| October .....                 | 4,274   | 3,060          | 7,334 | 267  | 9.6     | 257              | 34           | -223               |
| November .....                | 4,272   | 3,024          | 7,296 | 420  | 16.1    | 108              | 147          | 39                 |
| December .....                | 4,259   | 2,614          | 6,873 | 522  | 24.9    | 77               | 498          | 421                |
| <b>Total</b> .....            | —   | —              | —     | —  | —       | <b>2,617</b>     | <b>2,120</b> | <b>-497</b>        |
| <b>1999</b>                   |   |                |       |  |         |                  |              |                    |
| January .....                 | 4,257   | 2,010          | 6,268 | 367  | 22.4    | 37               | 638          | 601                |
| February .....                | 4,245   | 1,714          | 5,960 | 363  | 26.8    | 47               | 375          | 328                |
| March .....                   | 4,294   | 1,363          | 5,657 | 242  | 21.6    | 67               | 355          | 289                |
| April .....                   | 4,288   | 1,437          | 5,725 | 134  | 10.3    | 175              | 94           | -81                |
| May .....                     | 4,279   | 1,753          | 6,031 | 61   | 3.6     | 351              | 31           | -320               |
| June .....                    | 4,279   | 2,055          | 6,333 | 35   | 1.7     | 324              | 24           | -300               |
| July .....                    | 4,285   | 2,296          | 6,581 | -30  | -1.3    | 287              | 54           | -233               |
| August .....                  | 4,276   | 2,530          | 6,806 | -75  | -2.9    | 287              | 56           | -231               |

<sup>c</sup> Total as of December 31.

— Not Applicable.

**Notes:** Data for 1994 through 1997 are final. All other data are preliminary unless otherwise noted. See Explanatory Note 7 of the *Natural Gas Monthly* for discussion of the reporting of underground storage information. 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, "Monthly Underground Gas Storage Report," and Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition."

# Table 13

**Table 13. Net Withdrawals from Underground Storage, by State, 1997-1999**  
 (Volumes in Million Cubic Feet)

| State                   | 1999            |                 |                 |                 |                |                |
|-------------------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|
|                         | August          | July            | June            | May             | April          | March          |
| Alabama .....           | -81             | -235            | -210            | -471            | -137           | 312            |
| Arkansas .....          | -901            | -1,116          | -1,086          | -1,045          | -667           | 690            |
| California .....        | 2,919           | -11,199         | -20,737         | -27,111         | -911           | 9,782          |
| Colorado .....          | -5,436          | -6,692          | -5,526          | -307            | 8,881          | 3,319          |
| Illinois .....          | -30,924         | -23,880         | -24,188         | -27,851         | 7,599          | 27,580         |
| Indiana .....           | -2,797          | -1,681          | -1,625          | -758            | 921            | 3,622          |
| Iowa .....              | -12,914         | -10,783         | -6,837          | -4,596          | 86             | 5,170          |
| Kansas .....            | -9,796          | -3,006          | -17,080         | -12,144         | 5,085          | 13,977         |
| Kentucky .....          | -1,241          | -3,773          | -10,131         | -8,328          | -2,297         | 6,081          |
| Louisiana .....         | -3,569          | -3,546          | -19,988         | -22,324         | -16,632        | 10,263         |
| Maryland .....          | -1,954          | 1,324           | 93              | -2,551          | -667           | 1,208          |
| Michigan .....          | -50,880         | -51,556         | -51,441         | -49,536         | -23,148        | 53,123         |
| Minnesota .....         | -250            | -308            | -172            | 0               | 214            | 167            |
| Mississippi .....       | -1,088          | 852             | -3,642          | -5,105          | -2,240         | 6,840          |
| Missouri .....          | -64             | 6               | 6               | -697            | -27            | 150            |
| Montana .....           | -2,542          | -1,794          | -1,784          | -568            | 1,329          | 2,410          |
| Nebraska .....          | -1,004          | 478             | -697            | -701            | 1,168          | 1,338          |
| New Mexico .....        | -841            | -172            | -443            | -1,371          | 1,025          | 943            |
| New York .....          | -6,853          | -5,915          | -6,909          | -9,935          | -5,300         | 10,688         |
| Ohio .....              | -27,587         | -27,798         | -27,954         | -33,732         | -5,317         | 33,698         |
| Oklahoma .....          | -1,222          | -748            | -9,556          | -14,068         | -8,791         | 8,079          |
| Oregon .....            | -1,313          | -2,114          | -2,013          | 168             | 735            | 1,185          |
| Pennsylvania .....      | -37,841         | -27,925         | -36,090         | -44,102         | -24,525        | 44,023         |
| Tennessee .....         | -104            | -76             | -107            | -143            | 3              | 80             |
| Texas .....             | -7,923          | -6,519          | -21,602         | -30,819         | -15,510        | 14,152         |
| Utah .....              | -4,582          | -7,489          | -5,915          | -3,772          | 1,667          | 5,738          |
| Virginia .....          | -207            | -209            | -211            | -273            | -184           | 325            |
| Washington .....        | -2,951          | -3,595          | -1,765          | -786            | 1,852          | 1,113          |
| West Virginia .....     | -22,999         | -23,517         | -26,426         | -32,000         | -13,958        | 30,271         |
| Wyoming .....           | -1,371          | -2,294          | -1,661          | -2,132          | -990           | 352            |
| <b>AGA Regions</b>      |                 |                 |                 |                 |                |                |
| Producing .....         | -25,340         | -14,255         | -73,397         | -86,875         | -37,730        | 54,944         |
| Eastern Consuming ..... | -197,450        | -175,542        | -192,727        | -215,674        | -65,782        | 217,668        |
| Western Consuming ..... | -15,526         | -35,485         | -39,575         | -34,509         | 12,778         | 24,066         |
| <b>Total</b> .....      | <b>-238,316</b> | <b>-225,282</b> | <b>-305,699</b> | <b>-337,059</b> | <b>-90,735</b> | <b>296,678</b> |

See footnotes at end of table.

**Table 13. Net Withdrawals from Underground Storage, by State, 1997-1999**

(Volumes in Million Cubic Feet) — Continued

| State                   | 1999           |                | 1998            |                |               |                 |                 |
|-------------------------|----------------|----------------|-----------------|----------------|---------------|-----------------|-----------------|
|                         | February       | January        | Total           | December       | November      | October         | September       |
| Alabama .....           | 114            | 813            | -447            | 139            | -1            | -613            | 401             |
| Arkansas .....          | 1,049          | 2,066          | -1,774          | 1,245          | 63            | -580            | -817            |
| California .....        | 18,491         | 23,789         | -44,006         | 29,749         | -10,022       | -23,926         | -9,990          |
| Colorado .....          | 3,684          | 3,990          | -4,885          | 7,416          | -1,764        | -2,043          | -5,919          |
| Illinois .....          | 41,907         | 56,407         | -11,545         | 26,858         | 9,641         | -27,923         | -28,122         |
| Indiana .....           | 2,942          | 5,558          | 1,424           | 4,038          | -618          | -2,904          | -4,534          |
| Iowa .....              | 11,814         | 20,553         | -3,131          | 20,547         | -68           | -7,108          | -12,149         |
| Kansas .....            | 9,273          | 22,470         | -20,440         | 14,055         | 3,658         | -8,737          | -9,284          |
| Kentucky .....          | 7,825          | 12,241         | -12,142         | 10,397         | 1,776         | -5,237          | -8,821          |
| Louisiana .....         | 15,966         | 43,591         | -70,560         | 38,892         | 1,326         | -30,831         | -9,708          |
| Maryland .....          | 1,982          | 3,399          | 237             | 2,068          | 124           | -1,267          | -783            |
| Michigan .....          | 57,189         | 112,276        | -77,044         | 60,725         | 18,548        | -27,089         | -31,023         |
| Minnesota .....         | 238            | 287            | 442             | 438            | -84           | -187            | -275            |
| Mississippi .....       | 3,303          | 9,981          | -8,781          | 5,256          | 701           | -9,800          | 156             |
| Missouri .....          | 343            | 170            | 174             | 573            | -204          | -208            | -414            |
| Montana .....           | 3,375          | 4,860          | -401            | 3,962          | 2,606         | -1,532          | -4,239          |
| Nebraska .....          | 442            | 698            | 298             | 1,215          | 536           | -363            | -864            |
| New Mexico .....        | 83             | 1,364          | -6,247          | -619           | -1,243        | -1,903          | -1,185          |
| New York .....          | 10,057         | 15,534         | -10,575         | 6,448          | 1,054         | -4,464          | -5,640          |
| Ohio .....              | 33,362         | 53,448         | -26,542         | 35,311         | 7,921         | -12,746         | -19,259         |
| Oklahoma .....          | -881           | 31,284         | -34,004         | 40,863         | -473          | -19,520         | -12,146         |
| Oregon .....            | 1,717          | 1,979          | 829             | 1,888          | 28            | 4               | -818            |
| Pennsylvania .....      | 50,445         | 83,851         | -30,915         | 46,400         | 30            | -20,091         | -27,252         |
| Tennessee .....         | 131            | 130            | -60             | 131            | 0             | -103            | -102            |
| Texas .....             | 9,654          | 43,297         | -108,737        | 36,143         | -3,908        | -34,137         | -5,040          |
| Utah .....              | 6,185          | 10,569         | -16,395         | 8,751          | 2,231         | -3,879          | -8,260          |
| Virginia .....          | 449            | 317            | -709            | 359            | 0             | -229            | -272            |
| Washington .....        | 3,144          | 603            | -509            | 3,226          | -730          | 719             | -1,822          |
| West Virginia .....     | 36,278         | 53,983         | -28,894         | 26,188         | 3,337         | -7,094          | -16,425         |
| Wyoming .....           | 2,050          | 3,464          | -2,837          | 2,621          | -614          | -1,425          | -2,602          |
| <b>AGA Regions</b>      |                |                |                 |                |               |                 |                 |
| Producing .....         | 38,447         | 154,055        | -250,543        | 135,835        | 124           | -105,507        | -38,023         |
| Eastern Consuming ..... | 255,282        | 419,379        | -199,871        | 241,397        | 42,077        | -117,437        | -155,259        |
| Western Consuming ..... | 38,885         | 49,540         | -67,763         | 58,052         | -8,349        | -32,268         | -33,925         |
| <b>Total</b> .....      | <b>332,615</b> | <b>622,974</b> | <b>-518,177</b> | <b>435,284</b> | <b>33,852</b> | <b>-255,212</b> | <b>-227,207</b> |

See footnotes at end of table.

**Table 13. Net Withdrawals from Underground Storage, by State, 1997-1999**

(Volumes in Million Cubic Feet) — Continued

| State                   | 1998            |                 |                 |                 |                 |                |                |
|-------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|
|                         | August          | July            | June            | May             | April           | March          | February       |
| Alabama .....           | -200            | 9               | -623            | -144            | -245            | 248            | 187            |
| Arkansas .....          | -1,005          | -1,034          | -1,100          | -1,046          | -471            | 1,039          | 875            |
| California .....        | -7,283          | -9,435          | -27,493         | -29,210         | -10,710         | -2,257         | 26,766         |
| Colorado .....          | -5,877          | -4,060          | -3,907          | -6,040          | 3,534           | 3,928          | 6,337          |
| Illinois .....          | -31,634         | -25,062         | -31,348         | -25,967         | -293            | 28,186         | 36,082         |
| Indiana .....           | -3,695          | -2,476          | -575            | -446            | 917             | 4,249          | 3,322          |
| Iowa .....              | -12,102         | -11,525         | -8,405          | -3,600          | 348             | 6,692          | 5,335          |
| Kansas .....            | -12,200         | -13,108         | -6,267          | -19,324         | -6,954          | 14,438         | 8,180          |
| Kentucky .....          | -4,533          | -10,622         | -8,137          | -11,793         | -2,480          | 7,768          | 9,981          |
| Louisiana .....         | -20,159         | -25,597         | -14,635         | -22,794         | -21,191         | 7,400          | 5,164          |
| Maryland .....          | -1,407          | -2,924          | -1,251          | -808            | -1,127          | 1,631          | 2,745          |
| Michigan .....          | -52,128         | -60,857         | -69,589         | -69,296         | -31,779         | 55,388         | 45,886         |
| Minnesota .....         | -214            | -289            | -169            | 0               | 159             | 416            | 203            |
| Mississippi .....       | -4,139          | -5,961          | -2,887          | -3,438          | -2,757          | 2,405          | 4,251          |
| Missouri .....          | -203            | 8               | 143             | -460            | 48              | 423            | 10             |
| Montana .....           | -4,524          | -2,295          | -2,024          | -2,571          | 224             | 3,017          | 2,554          |
| Nebraska .....          | -616            | -796            | -528            | -860            | 754             | 1,090          | 355            |
| New Mexico .....        | -208            | -191            | -180            | -1,120          | 287             | 658            | -130           |
| New York .....          | -5,247          | -8,108          | -8,786          | -11,267         | -3,673          | 7,977          | 9,548          |
| Ohio .....              | -27,246         | -31,220         | -25,882         | -35,968         | -14,906         | 28,619         | 34,023         |
| Oklahoma .....          | -7,189          | -7,554          | -12,460         | -23,277         | -21,343         | 7,159          | 737            |
| Oregon .....            | -819            | -852            | -1,411          | 0               | 81              | 934            | 1,253          |
| Pennsylvania .....      | -19,657         | -31,998         | -34,236         | -57,800         | -32,842         | 38,957         | 49,786         |
| Tennessee .....         | -112            | -134            | 0               | 0               | 0               | 83             | 60             |
| Texas .....             | -18,629         | -18,872         | -20,145         | -27,286         | -40,395         | -9,062         | -3,341         |
| Utah .....              | -7,385          | -7,265          | -8,225          | -7,364          | -596            | 1,199          | 6,783          |
| Virginia .....          | -341            | -190            | -309            | -313            | -209            | 312            | 437            |
| Washington .....        | -3,640          | -312            | -2,963          | -3,932          | 1,544           | 3,329          | 4,131          |
| West Virginia .....     | -29,075         | -28,560         | -26,404         | -26,003         | -14,607         | 22,818         | 36,285         |
| Wyoming .....           | -2,008          | -2,807          | -3,406          | -1,344          | 89              | 2,611          | 2,059          |
| <b>AGA Regions</b>      |                 |                 |                 |                 |                 |                |                |
| Producing .....         | -63,530         | -72,318         | -57,675         | -98,285         | -92,824         | 24,038         | 15,735         |
| Eastern Consuming ..... | -188,197        | -214,455        | -215,931        | -244,724        | -100,092        | 204,441        | 234,042        |
| Western Consuming ..... | -31,751         | -27,316         | -49,599         | -50,461         | -5,674          | 13,177         | 50,086         |
| <b>Total</b> .....      | <b>-283,478</b> | <b>-314,088</b> | <b>-323,205</b> | <b>-393,470</b> | <b>-198,591</b> | <b>241,655</b> | <b>299,863</b> |

See footnotes at end of table.

**Table 13. Net Withdrawals from Underground Storage, by State, 1997-1999**

(Volumes in Million Cubic Feet) — Continued

| State                   | 1998           | 1997          |                |                |                 |                 |                 |
|-------------------------|----------------|---------------|----------------|----------------|-----------------|-----------------|-----------------|
|                         | January        | Total         | December       | November       | October         | September       | August          |
| Alabama .....           | 396            | -162          | 243            | 243            | -251            | -262            | -286            |
| Arkansas .....          | 1,057          | 250           | 1,526          | 651            | 271             | -1,048          | -1,234          |
| California .....        | 29,805         | 16,340        | 58,418         | 2,846          | -11,717         | -6,637          | -7,805          |
| Colorado .....          | 3,510          | -525          | 5,026          | 2,503          | 359             | -5,203          | -4,559          |
| Illinois .....          | 58,036         | -10,153       | 44,906         | 2,805          | -28,399         | -35,655         | -35,387         |
| Indiana .....           | 4,144          | 984           | 4,193          | -879           | -3,088          | -4,559          | -3,722          |
| Iowa .....              | 18,905         | -6,255        | 17,041         | 505            | -8,412          | -12,825         | -11,001         |
| Kansas .....            | 15,103         | -11,372       | 12,277         | 8,384          | -7,782          | -13,351         | -11,129         |
| Kentucky .....          | 9,559          | 3,013         | 10,773         | 4,035          | -2,926          | -7,983          | -6,520          |
| Louisiana .....         | 21,574         | -9,248        | 43,644         | 20,997         | -24,035         | -29,291         | -15,446         |
| Maryland .....          | 3,236          | -544          | 1,298          | 33             | -2,346          | -2,838          | -2,353          |
| Michigan .....          | 84,170         | -3,388        | 78,027         | 53,016         | -32,466         | -65,209         | -73,230         |
| Minnesota .....         | 444            | -373          | 4              | 4              | 0               | -130            | -142            |
| Mississippi .....       | 7,431          | 3,763         | 8,484          | 1,089          | -2,126          | -5,224          | -3,109          |
| Missouri .....          | 458            | -453          | 228            | -207           | -215            | -240            | -379            |
| Montana .....           | 4,421          | 11,962        | 3,169          | 2,760          | 1,015           | -1,490          | -2,339          |
| Nebraska .....          | 376            | -1,590        | 944            | 124            | -69             | -1,099          | -971            |
| New Mexico .....        | -412           | 2,065         | 2,500          | 25             | -1,305          | -853            | -328            |
| New York .....          | 11,582         | 304           | 10,735         | 4,857          | -2,211          | -6,455          | -11,606         |
| Ohio .....              | 34,810         | -7,336        | 40,530         | 15,502         | -8,809          | -23,499         | -32,174         |
| Oklahoma .....          | 21,199         | -9,482        | 25,362         | 13,995         | -19,663         | -14,556         | -8,393          |
| Oregon .....            | 540            | -1,316        | 1,036          | -262           | -97             | -410            | -1,178          |
| Pennsylvania .....      | 57,788         | 28,381        | 53,825         | 26,061         | -15,914         | -48,745         | -44,878         |
| Tennessee .....         | 116            | 0             | 0              | 0              | 0               | 0               | 0               |
| Texas .....             | 35,935         | 10,035        | 53,619         | 18,531         | -30,600         | -21,731         | -12,881         |
| Utah .....              | 7,613          | -7,571        | 13,169         | 2,721          | -1,301          | -3,235          | -5,284          |
| Virginia .....          | 46             | 0             | 0              | 0              | 0               | 0               | 0               |
| Washington .....        | -58            | -1,003        | 3,159          | 83             | 702             | -2,268          | 982             |
| West Virginia .....     | 30,647         | 16,716        | 36,318         | 6,615          | -8,145          | -19,091         | -24,119         |
| Wyoming .....           | 3,990          | 908           | 3,019          | 1,906          | -591            | -2,454          | -2,727          |
| <b>AGA Regions</b>      |                |               |                |                |                 |                 |                 |
| Producing .....         | 101,887        | -13,990       | 147,412        | 63,672         | -85,240         | -86,054         | -52,520         |
| Eastern Consuming ..... | 314,267        | 19,518        | 299,061        | 112,710        | -113,251        | -228,461        | -246,626        |
| Western Consuming ..... | 50,266         | 18,423        | 87,001         | 12,560         | -11,630         | -21,826         | -23,050         |
| <b>Total</b> .....      | <b>466,420</b> | <b>23,950</b> | <b>533,474</b> | <b>188,941</b> | <b>-210,121</b> | <b>-336,341</b> | <b>-322,196</b> |

**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 through 1997 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. The American Gas Association (AGA) publishes weekly estimates of working gas levels in underground storage by

region. AGA defines the Producing Region as Texas, Oklahoma, Kansas, New Mexico, Louisiana, Arkansas, and Mississippi; the Eastern Consuming Region as all States east of the Mississippi River less Mississippi, plus Iowa, Nebraska and Missouri; the Western Consuming Region as all States west of the Mississippi River less the Producing Region and Iowa, Nebraska and Missouri.

**Source:** Form EIA-191, "Monthly Underground Gas Storage Report."

# Table 14

**Table 14. Activities of Underground Natural Gas Storage Operators, by State,**

**August 1999**

(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   | 1,509            | 2,699            | -31  | -2.0        | 202              | 121           |
| Arkansas .....          | 24,191                 | 7,460   | 8,505            | 15,964           | 1,064  | 14.3        | 906              | 5             |
| California .....        | 388,370                | 246,825   | 172,828          | 419,653          | 17,343   | 11.2        | 8,520            | 11,440        |
| Colorado .....          | 99,600                 | 48,229  | 33,010           | 81,240           | 364  | 1.1         | 5,597            | 161           |
| Illinois .....          | 898,565                | 651,346   | 196,335          | 847,681          | -9,030   | -4.4        | 31,707           | 783           |
| Indiana .....           | 113,210                | 73,876  | 25,365           | 99,240           | -167   | -0.7        | 2,831            | 34            |
| Iowa .....              | 273,200                | 200,300   | 49,086           | 249,386          | 2,644  | 5.7         | 14,067           | 1,153         |
| Kansas .....            | 301,102                | 179,488   | 85,033           | 264,521          | -8,161   | -8.8        | 12,574           | 2,777         |
| Kentucky .....          | 219,908                | 109,121   | 92,718           | 201,839          | -3,447   | -3.6        | 4,970            | 3,729         |
| Louisiana .....         | 563,868                | 265,716   | 216,120          | 481,836          | -1,874   | -0.9        | 20,389           | 16,820        |
| Maryland .....          | 62,000                 | 46,677  | 10,006           | 56,683           | -2,976   | -22.9       | 2,724            | 770           |
| Michigan .....          | 1,021,675              | 460,514   | 461,410          | 921,924          | -79,082  | -14.6       | 51,287           | 408           |
| Minnesota .....         | 7,000                  | 4,623   | 1,755            | 6,378            | -68  | -3.7        | 320              | 70            |
| Mississippi .....       | 134,012                | 76,884  | 43,166           | 120,050          | -4,022   | -8.5        | 3,349            | 2,261         |
| Missouri .....          | 31,274                 | 21,600  | 9,384            | 30,984           | 364  | 4.0         | 70               | 6             |
| Montana .....           | 371,510                | 167,356   | 41,203           | 208,559          | -6,068   | -12.8       | 3,391            | 849           |
| Nebraska .....          | 39,469                 | 31,507  | 1,498            | 33,005           | -2,245   | -60.0       | 1,059            | 55            |
| New Mexico .....        | 96,600                 | 27,835  | 8,405            | 36,240           | 152  | 1.8         | 2,093            | 1,252         |
| New York .....          | 175,129                | 103,063   | 63,281           | 166,344          | -1,202   | -1.9        | 7,048            | 196           |
| Ohio .....              | 575,234                | 350,918   | 157,200          | 508,118          | -7,855   | -4.8        | 28,080           | 493           |
| Oklahoma .....          | 394,827                | 217,527   | 126,943          | 344,470          | 4,757  | 3.9         | 8,796            | 7,574         |
| Oregon .....            | 11,623                 | 6,834   | 6,813            | 13,647           | 554  | 8.8         | 1,313            | 0             |
| Pennsylvania .....      | 684,842                | 353,978   | 304,666          | 658,645          | -10,868  | -3.4        | 41,925           | 4,084         |
| Tennessee .....         | 1,200                  | 340   | 645              | 985              | 178  | 38.1        | 104              | 0             |
| Texas .....             | 684,226                | 251,319   | 283,157          | 534,476          | 31,204   | 12.4        | 22,182           | 14,259        |
| Utah .....              | 121,980                | 64,601  | 36,419           | 101,020          | 5,915  | 19.4        | 5,045            | 462           |
| Virginia .....          | 4,669                  | 2,450   | 1,830            | 4,280            | -64  | -3.4        | 237              | 31            |
| Washington .....        | 37,300                 | 19,000  | 16,679           | 35,679           | 4,132  | 32.9        | 3,047            | 97            |
| West Virginia .....     | 733,158                | 290,749   | 152,947          | 443,696          | -1,695   | -1.1        | 23,314           | 315           |
| Wyoming .....           | 105,869                | 60,782  | 23,856           | 84,638           | 4,647  | 24.2        | 1,377            | 7             |
| <b>AGA Regions</b>      |                        |   |                  |                  |  |             |                  |               |
| Producing .....         | 2,198,826              | 1,026,227   | 771,329          | 1,797,557        | 23,122   | 3.1         | 70,289           | 44,949        |
| Eastern Consuming ..... | 4,836,812              | 2,697,629   | 1,527,881        | 4,225,510        | -113,116   | -6.9        | 209,626          | 12,176        |
| Western Consuming ..... | 1,143,251              | 618,250   | 332,563          | 950,814          | 26,818   | 8.8         | 28,611           | 13,085        |
| <b>Total</b> .....      | <b>8,178,889</b>       | <b>4,342,107</b>                                    | <b>2,631,774</b> | <b>6,973,881</b> | <b>-65,537</b>                                       | <b>-2.4</b> | <b>308,525</b>   | <b>70,210</b> |

**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. The American Gas Association (AGA) publishes weekly estimates of working

gas levels in underground storage by region. AGA defines the Producing Region as Texas, Oklahoma, Kansas, New Mexico, Louisiana, Arkansas, and Mississippi; the Eastern Consuming Region as all States east of the Mississippi River less Mississippi, plus Iowa, Nebraska and Missouri; the Western Consuming Region as all States west of the Mississippi River less the Producing Region and Iowa, Nebraska and Missouri.

**Source:** Form EIA-191, "Monthly Underground Gas Storage Report."

**Table 15. Natural Gas Deliveries to Residential Consumers, by State, 1997-1999**  
 (Million Cubic Feet)

| State                      | YTD<br>1999      | YTD<br>1998      | YTD<br>1997      | 1999           |                            |                            |
|----------------------------|------------------|------------------|------------------|----------------|----------------------------|----------------------------|
|                            |                  |                  |                  | July           | June                       | May                        |
| Alabama .....              | 30,941           | 35,925           | 32,640           | 1,300          | 1,402                      | 1,934                      |
| Alaska .....               | 10,267           | 8,763            | 8,571            | 486            | 559                        | 939                        |
| Arizona .....              | 23,140           | 26,253           | 21,237           | 1,056          | 1,341                      | 2,068                      |
| Arkansas .....             | 26,904           | 28,093           | 28,836           | 998            | <sup>R</sup> 1,030         | <sup>R</sup> 1,641         |
| California .....           | 395,180          | 371,062          | 303,849          | 25,726         | 32,958                     | 40,603                     |
| Colorado .....             | NA               | NA               | 78,379           | NA             | 4,748                      | 9,718                      |
| Connecticut .....          | 26,542           | 24,638           | 27,356           | 945            | 1,128                      | 1,879                      |
| Delaware .....             | 6,543            | 5,760            | 6,473            | 201            | 254                        | 497                        |
| District of Columbia ..... | NA               | NA               | 10,653           | NA             | 399                        | 687                        |
| Florida .....              | 8,863            | 10,936           | 8,223            | 657            | 723                        | 853                        |
| Georgia .....              | NA               | 72,225           | 65,216           | 2,222          | 1,508                      | NA                         |
| Hawaii .....               | 320              | 339              | 312              | 45             | 43                         | 44                         |
| Idaho .....                | 12,172           | 10,771           | 10,188           | 428            | 645                        | 1,244                      |
| Illinois .....             | 284,845          | 255,090          | 319,966          | 9,967          | 11,122                     | 15,866                     |
| Indiana .....              | NA               | NA               | 111,498          | 4,108          | <sup>R</sup> 5,060         | NA                         |
| Iowa .....                 | 48,696           | 46,141           | 53,866           | 1,825          | 1,597                      | 3,082                      |
| Kansas .....               | NA               | 60,343           | 45,749           | 1,771          | 2,469                      | 4,031                      |
| Kentucky .....             | 38,477           | 35,876           | 41,180           | 1,170          | 1,335                      | 1,800                      |
| Louisiana .....            | 31,751           | 34,082           | 35,132           | 1,799          | 1,984                      | 2,391                      |
| Maine .....                | 604              | 566              | 638              | 22             | 31                         | 45                         |
| Maryland .....             | NA               | 45,839           | 51,066           | NA             | 2,172                      | NA                         |
| Massachusetts .....        | NA               | NA               | 76,658           | NA             | NA                         | NA                         |
| Michigan .....             | 239,758          | 215,679          | 257,962          | 6,909          | 10,413                     | 16,098                     |
| Minnesota .....            | 76,749           | 69,219           | 85,061           | 2,245          | 3,105                      | 4,969                      |
| Mississippi .....          | NA               | NA               | 18,268           | 784            | 813                        | 1,063                      |
| Missouri .....             | 81,908           | 80,320           | 87,816           | 2,550          | 3,081                      | 5,307                      |
| Montana .....              | 12,628           | NA               | 13,564           | 518            | 658                        | 1,399                      |
| Nebraska .....             | 28,779           | 29,524           | 33,662           | 1,002          | 1,179                      | 2,628                      |
| Nevada .....               | 19,398           | 20,158           | 16,823           | 945            | 1,240                      | 1,853                      |
| New Hampshire .....        | 4,667            | 4,485            | 4,742            | 153            | 195                        | 372                        |
| New Jersey .....           | NA               | 126,371          | 146,210          | NA             | NA                         | NA                         |
| New Mexico .....           | 26,936           | 21,926           | 21,410           | 820            | 919                        | 1,159                      |
| New York .....             | NA               | NA               | 255,102          | 10,116         | NA                         | NA                         |
| North Carolina .....       | 38,587           | 37,546           | 35,547           | 1,120          | 1,318                      | 2,608                      |
| North Dakota .....         | 7,312            | 6,905            | 8,022            | 232            | 266                        | 627                        |
| Ohio .....                 | 213,720          | NA               | 235,424          | 6,622          | 7,970                      | 12,575                     |
| Oklahoma .....             | 45,947           | 48,694           | 49,515           | 1,661          | 2,010                      | 3,166                      |
| Oregon .....               | 25,943           | NA               | 22,002           | 839            | 1,635                      | 2,754                      |
| Pennsylvania .....         | 155,940          | NA               | 173,848          | 5,112          | 6,519                      | 10,770                     |
| Rhode Island .....         | 12,187           | NA               | 12,614           | 531            | 557                        | 949                        |
| South Carolina .....       | 18,151           | 19,144           | 17,077           | 492            | 571                        | 1,196                      |
| South Dakota .....         | 8,088            | 7,814            | 9,099            | 274            | 324                        | 629                        |
| Tennessee .....            | NA               | NA               | 41,930           | 1,067          | 1,424                      | NA                         |
| Texas .....                | 124,693          | 140,112          | 152,912          | 6,291          | 7,093                      | 8,805                      |
| Utah .....                 | 33,203           | 33,388           | 33,991           | 2,254          | 1,648                      | 2,663                      |
| Vermont .....              | 1,837            | 1,680            | 1,843            | 56             | 77                         | 159                        |
| Virginia .....             | NA               | 43,075           | 48,240           | 1,517          | 1,597                      | NA                         |
| Washington .....           | NA               | NA               | 35,398           | NA             | NA                         | NA                         |
| West Virginia .....        | NA               | NA               | 22,807           | 532            | NA                         | NA                         |
| Wisconsin .....            | 79,830           | 73,999           | 87,048           | 2,646          | 3,343                      | 5,091                      |
| Wyoming .....              | 8,039            | NA               | 8,301            | 310            | 497                        | 1,095                      |
| <b>Total .....</b>         | <b>3,177,698</b> | <b>3,043,359</b> | <b>3,273,921</b> | <b>129,627</b> | <b><sup>R</sup>157,044</b> | <b><sup>R</sup>235,714</b> |

See footnotes at end of table.

**Table 15. Natural Gas Deliveries to Residential Consumers, by State, 1997-1999**  
(Million Cubic Feet) — Continued

| State                      | 1999           |                |                 |                 | 1998              |                 |
|----------------------------|----------------|----------------|-----------------|-----------------|-------------------|-----------------|
|                            | April          | March          | February        | January         | Total             | December        |
| Alabama .....              | 4,021          | 6,604          | 6,364           | 9,316           | 46,655            | 4,534           |
| Alaska .....               | 1,315          | 2,075          | 2,223           | 2,668           | 15,617            | 2,183           |
| Arizona .....              | 3,290          | 3,662          | 5,368           | 6,355           | 35,815            | 4,624           |
| Arkansas .....             | 3,732          | 5,156          | 5,259           | 9,087           | 38,803            | 4,917           |
| California .....           | 62,123         | 67,414         | 77,987          | 88,370          | 549,885           | 68,820          |
| Colorado .....             | 10,768         | 13,675         | 15,399          | 22,196          | NA                | 14,198          |
| Connecticut .....          | 3,623          | 5,780          | 6,082           | 7,104           | 35,704            | 4,490           |
| Delaware .....             | 989            | 1,574          | 1,469           | 1,560           | 7,810             | 901             |
| District of Columbia ..... | 1,269          | 2,324          | 2,309           | 2,915           | NA                | 1,541           |
| Florida .....              | 1,236          | 1,676          | 1,555           | 2,163           | R15,000           | R1,145          |
| Georgia .....              | 4,884          | 10,625         | 13,082          | 16,692          | 106,238           | 14,775          |
| Hawaii .....               | 46             | 44             | 48              | 49              | 545               | 44              |
| Idaho .....                | 1,875          | 2,257          | 2,633           | 3,090           | 15,975            | 2,434           |
| Illinois .....             | 31,250         | 61,415         | 61,438          | 93,786          | 405,461           | 64,039          |
| Indiana .....              | NA             | NA             | NA              | 32,211          | NA                | NA              |
| Iowa .....                 | 5,545          | 9,863          | 10,656          | 16,128          | 68,912            | 10,511          |
| Kansas .....               | 6,996          | NA             | NA              | NA              | 84,208            | 10,495          |
| Kentucky .....             | 4,103          | 9,239          | 8,779           | 12,050          | 55,894            | 9,366           |
| Louisiana .....            | 3,837          | 5,570          | 5,999           | 10,171          | NA                | 4,941           |
| Maine .....                | 76             | 131            | 133             | 165             | 907               | 132             |
| Maryland .....             | 6,125          | NA             | NA              | 14,660          | NA                | 9,252           |
| Massachusetts .....        | NA             | NA             | 17,828          | 12,564          | NA                | NA              |
| Michigan .....             | 31,612         | 53,871         | 52,119          | 68,737          | 317,329           | 42,050          |
| Minnesota .....            | 8,565          | 15,346         | 17,096          | 25,424          | 110,578           | 18,670          |
| Mississippi .....          | NA             | 3,709          | R3,148          | R5,702          | NA                | 2,509           |
| Missouri .....             | 9,667          | 16,580         | 18,523          | 26,201          | 110,375           | 13,831          |
| Montana .....              | 1,917          | 2,138          | 2,519           | 3,479           | NA                | 2,942           |
| Nebraska .....             | 3,732          | 5,721          | 5,949           | 8,568           | 40,703            | 4,223           |
| Nevada .....               | 2,718          | 3,349          | 4,332           | 4,962           | 30,023            | 4,335           |
| New Hampshire .....        | 672            | 991            | 1,036           | 1,246           | NA                | 739             |
| New Jersey .....           | NA             | NA             | NA              | NA              | NA                | NA              |
| New Mexico .....           | 2,866          | 6,478          | 4,896           | 9,799           | 35,614            | 7,289           |
| New York .....             | NA             | NA             | NA              | NA              | NA                | NA              |
| North Carolina .....       | 5,348          | 9,468          | 7,495           | 11,230          | 50,318            | 5,679           |
| North Dakota .....         | 984            | 1,318          | 1,565           | 2,320           | 10,290            | 1,455           |
| Ohio .....                 | 26,857         | 51,339         | 49,194          | 59,162          | NA                | 42,817          |
| Oklahoma .....             | 6,241          | 8,415          | 9,465           | 14,989          | 65,403            | 7,678           |
| Oregon .....               | 3,888          | 5,047          | 5,445           | 6,336           | NA                | 5,504           |
| Pennsylvania .....         | 20,516         | 34,931         | 34,404          | 43,687          | NA                | 27,675          |
| Rhode Island .....         | 1,702          | 2,704          | 2,662           | 3,083           | NA                | 1,883           |
| South Carolina .....       | 2,228          | 4,380          | 3,591           | 5,693           | 25,316            | 2,858           |
| South Dakota .....         | 1,140          | 1,486          | 1,719           | 2,516           | 11,649            | 1,669           |
| Tennessee .....            | NA             | 7,577          | 8,917           | 15,186          | NA                | 8,358           |
| Texas .....                | 15,467         | 20,018         | 23,882          | 43,138          | 200,728           | 28,481          |
| Utah .....                 | 5,267          | 5,425          | 7,725           | 8,220           | 56,731            | 9,826           |
| Vermont .....              | 284            | 377            | 387             | 496             | 2,454             | 289             |
| Virginia .....             | 5,112          | 11,307         | 11,220          | 12,891          | 63,029            | 8,989           |
| Washington .....           | NA             | NA             | NA              | NA              | NA                | NA              |
| West Virginia .....        | NA             | NA             | 4,936           | 6,204           | NA                | 3,895           |
| Wisconsin .....            | 9,109          | 16,251         | 16,833          | 26,556          | 116,373           | 18,698          |
| Wyoming .....              | 1,217          | 1,317          | 1,674           | 1,929           | NA                | 1,578           |
| <b>Total .....</b>         | <b>414,762</b> | <b>656,556</b> | <b>R675,199</b> | <b>R908,796</b> | <b>R4,481,361</b> | <b>R613,200</b> |

See footnotes at end of table.

**Table 15. Natural Gas Deliveries to Residential Consumers, by State, 1997-1999**  
 (Million Cubic Feet) — Continued

| State                      | 1998           |                |                 |                 |                 |                 |
|----------------------------|----------------|----------------|-----------------|-----------------|-----------------|-----------------|
|                            | November       | October        | September       | August          | July            | June            |
| Alabama .....              | 2,493          | 1,324          | 1,196           | 1,183           | 1,202           | 1,386           |
| Alaska .....               | 1,858          | 1,346          | 818             | 648             | 479             | 628             |
| Arizona .....              | 1,990          | 1,122          | 932             | 894             | 1,062           | 1,375           |
| Arkansas .....             | 2,957          | 1,107          | 859             | 870             | 962             | 1,004           |
| California .....           | 40,193         | 26,155         | 22,034          | 21,621          | 25,147          | 33,207          |
| Colorado .....             | 8,454          | 4,185          | 2,690           | 2,480           | NA              | 1,592           |
| Connecticut .....          | 3,259          | 1,532          | 937             | 848             | 1,028           | 1,195           |
| Delaware .....             | 575            | 232            | 177             | 165             | 197             | 252             |
| District of Columbia ..... | 1,084          | 457            | 338             | 327             | NA              | 435             |
| Florida .....              | 935            | 718            | 626             | 639             | 707             | 817             |
| Georgia .....              | 9,306          | 4,268          | 2,851           | 2,814           | 2,956           | 3,186           |
| Hawaii .....               | 40             | 40             | 41              | 41              | 45              | 47              |
| Idaho .....                | 1,507          | 656            | 316             | 292             | 402             | 666             |
| Illinois .....             | 43,854         | 21,530         | 10,513          | 10,437          | 9,497           | 11,529          |
| Indiana .....              | 13,244         | 6,355          | ^3,150          | ^2,742          | NA              | ^3,658          |
| Iowa .....                 | 6,343          | 3,029          | 1,435           | 1,453           | 1,622           | 1,435           |
| Kansas .....               | 6,968          | 2,780          | 1,771           | 1,851           | 2,090           | 2,512           |
| Kentucky .....             | 6,142          | 2,239          | 1,167           | 1,104           | 1,321           | 1,360           |
| Louisiana .....            | 2,678          | NA             | 1,703           | 1,574           | 1,774           | 1,814           |
| Maine .....                | 95             | 62             | 27              | 25              | 22              | 31              |
| Maryland .....             | 6,554          | NA             | NA              | 1,854           | 1,828           | 2,087           |
| Massachusetts .....        | NA             | 4,257          | NA              | 2,347           | 2,842           | NA              |
| Michigan .....             | 29,476         | 15,851         | 7,533           | 6,740           | 7,275           | 9,771           |
| Minnesota .....            | 12,214         | 5,328          | 2,683           | 2,465           | 2,537           | 2,735           |
| Mississippi .....          | 1,545          | 815            | 711             | 705             | 714             | 796             |
| Missouri .....             | 8,075          | 3,345          | 2,619           | 2,185           | 2,670           | 3,128           |
| Montana .....              | 2,079          | 1,272          | 484             | 488             | 481             | 673             |
| Nebraska .....             | 3,404          | 1,632          | 885             | 1,036           | 1,014           | 1,199           |
| Nevada .....               | 2,526          | 1,367          | 824             | 813             | 977             | 1,487           |
| New Hampshire .....        | 597            | 294            | 159             | NA              | 169             | 238             |
| New Jersey .....           | NA             | 8,124          | NA              | 4,528           | 4,845           | 5,736           |
| New Mexico .....           | 3,545          | 1,169          | 840             | 845             | 822             | 284             |
| New York .....             | NA             | NA             | NA              | 7,468           | 15,038          | NA              |
| North Carolina .....       | 4,022          | 1,205          | 963             | 905             | 1,044           | 1,192           |
| North Dakota .....         | 1,036          | 484            | 202             | 208             | 235             | 292             |
| Ohio .....                 | 29,741         | 16,127         | 5,905           | 7,246           | NA              | 8,509           |
| Oklahoma .....             | 4,327          | 1,780          | 1,494           | 1,430           | 1,633           | 1,855           |
| Oregon .....               | 3,150          | 1,431          | 760             | 679             | 944             | 1,641           |
| Pennsylvania .....         | 19,152         | 10,155         | NA              | NA              | 5,283           | 6,505           |
| Rhode Island .....         | 1,408          | 645            | 436             | 438             | 462             | 622             |
| South Carolina .....       | 1,754          | 606            | 491             | 463             | 474             | 562             |
| South Dakota .....         | 1,157          | 533            | 248             | 227             | 274             | 302             |
| Tennessee .....            | 4,525          | 1,492          | 1,172           | 1,111           | 1,186           | 1,410           |
| Texas .....                | 13,025         | 7,370          | 5,930           | 5,810           | 6,077           | 6,125           |
| Utah .....                 | 5,808          | 4,463          | 1,913           | 1,332           | 1,264           | 1,958           |
| Vermont .....              | 213            | 102            | 114             | 57              | 56              | 77              |
| Virginia .....             | 5,980          | 2,478          | 1,443           | 1,064           | 1,425           | 1,737           |
| Washington .....           | NA             | NA             | NA              | NA              | NA              | NA              |
| West Virginia .....        | NA             | 1,302          | 619             | 522             | 510             | 665             |
| Wisconsin .....            | 11,803         | 6,382          | 2,723           | 2,768           | 2,415           | 3,470           |
| Wyoming .....              | NA             | 745            | 299             | 298             | NA              | 503             |
| <b>Total .....</b>         | <b>389,640</b> | <b>200,011</b> | <b>^119,836</b> | <b>^115,314</b> | <b>^132,401</b> | <b>^152,508</b> |

See footnotes at end of table.

**Table 15. Natural Gas Deliveries to Residential Consumers, by State, 1997-1999**

(Million Cubic Feet) — Continued

| State                      | 1998           |                            |                            |                     |                | 1997             |
|----------------------------|----------------|----------------------------|----------------------------|---------------------|----------------|------------------|
|                            | May            | April                      | March                      | February            | January        | Total            |
| Alabama .....              | 2,335          | 4,610                      | 7,480                      | 9,222               | 9,689          | 48,496           |
| Alaska .....               | 933            | 1,239                      | 1,529                      | 1,716               | 2,240          | 15,146           |
| Arizona .....              | 2,092          | 3,694                      | 5,323                      | 5,604               | 7,103          | 31,057           |
| Arkansas .....             | 1,722          | 3,920                      | 6,069                      | 6,668               | 7,747          | 42,428           |
| California .....           | 38,118         | 54,072                     | 62,006                     | 76,210              | 82,302         | 478,904          |
| Colorado .....             | 7,546          | 11,118                     | 15,570                     | 16,176              | 18,860         | 115,583          |
| Connecticut .....          | 1,878          | 3,638                      | 5,051                      | 5,585               | 6,263          | 40,562           |
| Delaware .....             | 450            | 846                        | 1,248                      | 1,360               | 1,408          | 8,972            |
| District of Columbia ..... | 636            | 1,195                      | 2,032                      | 2,365               | 2,409          | 15,807           |
| Florida .....              | 1,017          | 1,631                      | 2,044                      | 2,251               | 2,470          | 13,117           |
| Georgia .....              | 3,558          | 8,015                      | 16,312                     | 18,031              | 20,167         | 114,383          |
| Hawaii .....               | 41             | 49                         | 49                         | 52                  | 55             | 517              |
| Idaho .....                | 904            | 1,560                      | 2,032                      | 2,232               | 2,975          | 15,239           |
| Illinois .....             | 14,790         | 33,014                     | 54,697                     | 53,146              | 78,417         | 497,230          |
| Indiana .....              | 5,270          | <sup>R</sup> 11,806        | <sup>R</sup> 20,920        | 20,668              | 26,868         | 169,140          |
| Iowa .....                 | 2,807          | 5,821                      | 10,634                     | 10,261              | 13,560         | 81,696           |
| Kansas .....               | 4,451          | 8,389                      | 13,482                     | 13,593              | 15,826         | 69,415           |
| Kentucky .....             | 1,961          | 3,937                      | 8,164                      | 8,515               | 10,618         | 66,033           |
| Louisiana .....            | 2,310          | 3,736                      | 7,184                      | 7,953               | 9,311          | 52,709           |
| Maine .....                | 45             | 71                         | 120                        | 124                 | 153            | 1,009            |
| Maryland .....             | 2,992          | 5,696                      | 9,577                      | 11,052              | 12,609         | 77,500           |
| Massachusetts .....        | NA             | 10,697                     | 14,514                     | 15,644              | 16,948         | 112,308          |
| Michigan .....             | 13,888         | 31,736                     | 47,397                     | 48,977              | 56,636         | 379,838          |
| Minnesota .....            | 3,836          | 7,148                      | 16,337                     | 15,023              | 21,603         | 128,873          |
| Mississippi .....          | 1,231          | 2,243                      | NA                         | 4,564               | NA             | 27,626           |
| Missouri .....             | 4,980          | 10,435                     | 17,763                     | 18,966              | 22,378         | 127,625          |
| Montana .....              | NA             | 1,676                      | 2,429                      | 2,404               | 3,418          | 21,002           |
| Nebraska .....             | 1,961          | 4,324                      | 6,482                      | 6,642               | 7,902          | 47,105           |
| Nevada .....               | 1,884          | 2,826                      | 3,809                      | 4,149               | 5,025          | 25,243           |
| New Hampshire .....        | 378            | 697                        | <sup>R</sup> 853           | 1,010               | 1,140          | 6,939            |
| New Jersey .....           | 11,735         | 17,514                     | 26,429                     | 29,313              | 30,800         | 216,925          |
| New Mexico .....           | 1,270          | 2,589                      | 4,740                      | 4,337               | 7,884          | 36,623           |
| New York .....             | NA             | 30,102                     | 42,752                     | 46,717              | 53,322         | 375,641          |
| North Carolina .....       | 2,243          | 5,018                      | 7,535                      | 9,710               | 10,803         | 52,894           |
| North Dakota .....         | 490            | 953                        | 1,464                      | 1,561               | 1,910          | 11,370           |
| Ohio .....                 | 11,550         | 24,861                     | 44,211                     | 43,910              | 50,527         | 354,543          |
| Oklahoma .....             | 3,094          | 5,854                      | 10,832                     | 11,652              | 13,774         | 71,762           |
| Oregon .....               | 2,135          | NA                         | NA                         | 4,581               | 6,117          | 32,522           |
| Pennsylvania .....         | 9,880          | NA                         | 32,526                     | 34,714              | 31,526         | 262,494          |
| Rhode Island .....         | 1,001          | NA                         | 2,402                      | 2,720               | 2,781          | 18,162           |
| South Carolina .....       | 1,071          | 2,421                      | 4,006                      | 5,177               | 5,432          | 25,741           |
| South Dakota .....         | 512            | 1,127                      | 1,738                      | 1,666               | 2,196          | 13,203           |
| Tennessee .....            | 2,674          | 5,170                      | 9,938                      | 9,546               | NA             | 64,130           |
| Texas .....                | 9,148          | 15,463                     | 28,005                     | 34,096              | 41,199         | 234,988          |
| Utah .....                 | 2,243          | 4,853                      | 6,482                      | 8,193               | 8,396          | 58,108           |
| Vermont .....              | 118            | 266                        | 340                        | 397                 | 427            | 2,631            |
| Virginia .....             | 2,509          | 5,172                      | 9,618                      | <sup>R</sup> 11,067 | 11,546         | 73,905           |
| Washington .....           | NA             | NA                         | NA                         | NA                  | NA             | 61,813           |
| West Virginia .....        | NA             | 2,785                      | 4,553                      | 4,906               | 5,039          | 35,996           |
| Wisconsin .....            | 4,080          | 9,198                      | 17,130                     | 15,618              | 22,087         | 135,819          |
| Wyoming .....              | 704            | 1,182                      | 1,566                      | 1,560               | NA             | 12,999           |
| <b>Total .....</b>         | <b>220,663</b> | <b><sup>R</sup>406,170</b> | <b><sup>R</sup>638,253</b> | <b>685,125</b>      | <b>808,238</b> | <b>4,983,772</b> |

<sup>R</sup> 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 16. Natural Gas Deliveries to Commercial Consumers, by State, 1997-1999**  
 (Million Cubic Feet)

| State                      | YTD<br>1999      | YTD<br>1998      | YTD<br>1997      | 1999           |                 |                 |
|----------------------------|------------------|------------------|------------------|----------------|-----------------|-----------------|
|                            |                  |                  |                  | July           | June            | May             |
| Alabama .....              | 16,629           | 17,872           | 19,579           | 1,554          | 1,556           | 1,438           |
| Alaska .....               | 15,113           | 15,731           | 15,595           | 1,216          | 1,330           | 1,763           |
| Arizona .....              | 20,067           | 20,681           | 19,128           | 1,837          | 2,144           | 2,498           |
| Arkansas .....             | NA               | 19,151           | 19,135           | 1,300          | NA              | NA              |
| California .....           | 195,164          | 169,508          | 149,031          | 22,458         | 21,553          | 26,045          |
| Colorado .....             | NA               | NA               | 46,133           | NA             | 3,326           | 5,491           |
| Connecticut .....          | 30,514           | 27,321           | 27,129           | 2,527          | 2,591           | 3,209           |
| Delaware .....             | 4,361            | 3,954            | 4,533            | 182            | 215             | 347             |
| District of Columbia ..... | NA               | 11,656           | 11,679           | NA             | 940             | 1,249           |
| Florida .....              | 22,468           | 24,288           | 22,164           | 2,007          | 2,444           | 2,786           |
| Georgia .....              | NA               | 37,593           | 34,183           | 1,644          | 1,713           | NA              |
| Hawaii .....               | 1,029            | 1,026            | 1,106            | 144            | 143             | 143             |
| Idaho .....                | 8,372            | 7,680            | 7,443            | 425            | 520             | 852             |
| Illinois .....             | 120,456          | 109,786          | 128,384          | 6,219          | 5,980           | 8,317           |
| Indiana .....              | NA               | NA               | 53,664           | NA             | NA              | NA              |
| Iowa .....                 | 29,722           | 27,967           | 31,766           | 1,522          | 1,407           | 1,764           |
| Kansas .....               | NA               | 35,657           | 26,530           | 1,819          | 1,622           | 2,208           |
| Kentucky .....             | 22,828           | 21,608           | 23,683           | 1,003          | 1,205           | 1,673           |
| Louisiana .....            | 15,348           | 16,416           | 16,419           | 1,397          | 1,490           | 1,642           |
| Maine .....                | 1,637            | 1,577            | 1,705            | 75             | 90              | R122            |
| Maryland .....             | NA               | 36,833           | 31,111           | NA             | 3,186           | NA              |
| Massachusetts .....        | NA               | 62,051           | 67,846           | NA             | R4,922          | R5,306          |
| Michigan .....             | 118,026          | 108,332          | 125,878          | 5,464          | 6,183           | 9,049           |
| Minnesota .....            | 56,676           | 52,039           | 59,236           | 2,638          | 2,852           | 4,048           |
| Mississippi .....          | NA               | 15,237           | 13,650           | 1,054          | 1,078           | NA              |
| Missouri .....             | 44,761           | 42,675           | 47,091           | 3,121          | 2,465           | 3,251           |
| Montana .....              | 7,810            | 7,592            | 8,984            | 423            | 473             | R735            |
| Nebraska .....             | 19,861           | 19,569           | 21,959           | 1,074          | 1,123           | 1,827           |
| Nevada .....               | 14,776           | 15,270           | 13,948           | 1,935          | 1,400           | 1,703           |
| New Hampshire .....        | NA               | NA               | 4,899            | 212            | 266             | NA              |
| New Jersey .....           | NA               | 93,977           | 107,281          | NA             | NA              | NA              |
| New Mexico .....           | 22,883           | 19,812           | 19,788           | 1,718          | 1,758           | 2,273           |
| New York .....             | NA               | NA               | 201,984          | 22,659         | NA              | NA              |
| North Carolina .....       | 31,555           | 25,703           | 23,865           | 1,583          | 1,695           | 2,216           |
| North Dakota .....         | 6,990            | 6,616            | 7,262            | 279            | 286             | 623             |
| Ohio .....                 | 111,947          | NA               | 121,964          | 4,667          | 5,501           | 7,815           |
| Oklahoma .....             | 27,712           | 30,924           | 29,801           | 1,743          | 1,016           | 2,382           |
| Oregon .....               | 19,236           | NA               | 16,781           | 1,128          | 1,462           | 2,053           |
| Pennsylvania .....         | 89,926           | NA               | 91,692           | 4,544          | 5,049           | 6,605           |
| Rhode Island .....         | 8,072            | 7,676            | 8,182            | 501            | 526             | 650             |
| South Carolina .....       | 13,884           | 13,194           | 11,109           | 1,125          | 1,107           | 1,341           |
| South Dakota .....         | 6,523            | 6,161            | 6,958            | 313            | 438             | 493             |
| Tennessee .....            | NA               | NA               | 35,511           | 2,290          | 3,366           | 2,605           |
| Texas .....                | 116,358          | 123,357          | 129,158          | 11,859         | 11,427          | 12,626          |
| Utah .....                 | 18,702           | 18,824           | 18,703           | 1,090          | 989             | 1,858           |
| Vermont .....              | 1,641            | 1,913            | 1,994            | 66             | 91              | 140             |
| Virginia .....             | NA               | 38,842           | 38,912           | 2,611          | 2,581           | NA              |
| Washington .....           | NA               | NA               | 25,791           | NA             | NA              | NA              |
| West Virginia .....        | NA               | 15,858           | 15,974           | 1,197          | NA              | R1,909          |
| Wisconsin .....            | 57,814           | 50,519           | 55,123           | 3,154          | 3,146           | 3,619           |
| Wyoming .....              | 6,151            | NA               | 7,552            | 362            | 450             | 847             |
| <b>Total .....</b>         | <b>1,998,790</b> | <b>1,926,159</b> | <b>2,028,980</b> | <b>146,409</b> | <b>R149,078</b> | <b>R184,282</b> |

See footnotes at end of table.

**Table 16. Natural Gas Deliveries to Commercial Consumers, by State, 1997-1999**

(Million Cubic Feet) — Continued

| State                      | 1999            |                 |                |                | 1998              |                 |
|----------------------------|-----------------|-----------------|----------------|----------------|-------------------|-----------------|
|                            | April           | March           | February       | January        | Total             | December        |
| Alabama .....              | 2,093           | 3,097           | 3,007          | 3,884          | 25,165            | 2,355           |
| Alaska .....               | 1,967           | 2,822           | 2,894          | 3,122          | 27,155            | 3,382           |
| Arizona .....              | 2,980           | 3,158           | 3,569          | 3,880          | 31,754            | 3,376           |
| Arkansas .....             | 2,503           | 3,384           | 3,503          | 5,531          | 28,002            | 3,160           |
| California .....           | 27,184          | 29,895          | 31,671         | 36,358         | 319,553           | 35,388          |
| Colorado .....             | NA              | 7,527           | 8,906          | 11,048         | NA                | 7,986           |
| Connecticut .....          | 3,724           | 5,831           | 6,038          | 6,594          | 42,471            | 4,991           |
| Delaware .....             | 637             | 998             | 944            | 1,038          | 5,624             | 626             |
| District of Columbia ..... | 1,976           | 2,333           | 2,549          | 2,486          | 16,915            | 1,483           |
| Florida .....              | 3,414           | 3,969           | 3,797          | 4,051          | 38,240            | 3,369           |
| Georgia .....              | 2,970           | 5,497           | 5,786          | 7,139          | 55,578            | 5,541           |
| Hawaii .....               | 147             | 142             | 158            | 153            | 1,747             | 151             |
| Idaho .....                | 1,233           | 1,532           | 1,734          | 2,076          | 11,718            | 1,642           |
| Illinois .....             | 14,054          | 24,499          | 26,221         | 35,165         | 175,082           | 24,720          |
| Indiana .....              | NA              | NA              | 12,406         | 16,957         | NA                | NA              |
| Iowa .....                 | 3,783           | 6,201           | 6,162          | 8,883          | R43,021           | 5,999           |
| Kansas .....               | 3,588           | NA              | NA             | NA             | 50,545            | 5,585           |
| Kentucky .....             | 2,550           | 5,102           | 4,940          | 6,354          | 33,883            | 4,924           |
| Louisiana .....            | 2,059           | 2,485           | 2,692          | 3,584          | R24,509           | 2,259           |
| Maine .....                | 199             | 357             | 341            | 454            | NA                | 337             |
| Maryland .....             | 5,678           | NA              | NA             | 9,129          | 57,671            | 6,716           |
| Massachusetts .....        | R9,308          | R10,549         | NA             | 6,643          | NA                | R6,412          |
| Michigan .....             | 14,919          | 25,951          | 25,441         | 31,019         | 164,836           | 20,702          |
| Minnesota .....            | 7,091           | 11,097          | 12,605         | 16,345         | 84,104            | 12,694          |
| Mississippi .....          | NA              | 2,676           | 2,934          | NA             | 23,170            | 2,318           |
| Missouri .....             | 5,222           | 8,515           | 9,713          | 12,474         | 61,869            | 7,156           |
| Montana .....              | 1,168           | 1,346           | 1,550          | 2,115          | R12,275           | 1,819           |
| Nebraska .....             | 2,309           | 3,484           | 4,246          | 5,798          | 28,465            | 3,910           |
| Nevada .....               | 1,977           | 2,372           | 2,486          | 2,903          | 23,049            | 2,528           |
| New Hampshire .....        | 658             | 1,026           | 1,070          | 1,312          | NA                | 810             |
| New Jersey .....           | NA              | NA              | NA             | NA             | NA                | NA              |
| New Mexico .....           | 3,148           | 3,836           | 4,322          | 5,827          | 30,824            | 4,613           |
| New York .....             | NA              | NA              | NA             | NA             | NA                | NA              |
| North Carolina .....       | 3,576           | 9,796           | 6,309          | 6,380          | 37,774            | 4,006           |
| North Dakota .....         | 909             | 1,253           | 1,558          | 2,083          | 10,290            | 1,390           |
| Ohio .....                 | 15,152          | 24,032          | 26,480         | 28,299         | NA                | 21,958          |
| Oklahoma .....             | 3,917           | 4,745           | 5,832          | 8,077          | 44,821            | 5,604           |
| Oregon .....               | 2,699           | 3,462           | 3,880          | 4,554          | NA                | 3,630           |
| Pennsylvania .....         | 12,458          | 19,237          | 20,975         | 21,058         | NA                | 15,512          |
| Rhode Island .....         | 1,085           | 1,731           | 1,686          | 1,892          | R11,260           | 1,308           |
| South Carolina .....       | 1,945           | 3,183           | 2,232          | 2,952          | 19,887            | 1,940           |
| South Dakota .....         | 914             | 1,149           | 1,343          | 1,873          | 9,274             | 1,306           |
| Tennessee .....            | NA              | 6,399           | 6,648          | 9,606          | NA                | 6,190           |
| Texas .....                | 16,114          | 18,021          | 18,878         | 27,433         | 215,939           | 26,376          |
| Utah .....                 | 2,920           | 3,068           | 4,198          | 4,580          | 30,853            | 4,903           |
| Vermont .....              | 227             | 334             | 321            | 462            | 2,979             | 401             |
| Virginia .....             | 5,237           | 7,611           | 8,062          | 8,962          | R59,190           | 7,141           |
| Washington .....           | NA              | NA              | NA             | NA             | NA                | NA              |
| West Virginia .....        | R2,184          | 3,390           | 3,286          | 3,882          | 25,155            | 2,880           |
| Wisconsin .....            | 7,263           | 11,763          | 11,927         | 16,941         | 81,410            | 11,696          |
| Wyoming .....              | 935             | 1,077           | 1,124          | 1,356          | NA                | 1,708           |
| <b>Total .....</b>         | <b>R264,279</b> | <b>R377,385</b> | <b>396,144</b> | <b>481,214</b> | <b>R3,024,672</b> | <b>R365,322</b> |

See footnotes at end of table.

**Table 16. Natural Gas Deliveries to Commercial Consumers, by State, 1997-1999**  
 (Million Cubic Feet) — Continued

| State                      | 1998            |                 |                 |                 |                |                |
|----------------------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|
|                            | November        | October         | September       | August          | July           | June           |
| Alabama .....              | 1,676           | 1,228           | 1,053           | 981             | 1,030          | 1,118          |
| Alaska .....               | 2,676           | 2,324           | 1,624           | 1,418           | 1,419          | 1,516          |
| Arizona .....              | 2,343           | 1,902           | 1,730           | 1,721           | 1,890          | 2,073          |
| Arkansas .....             | 1,993           | 1,356           | 1,140           | 1,202           | 1,273          | 1,210          |
| California .....           | 30,954          | 26,720          | 26,660          | 30,322          | 27,131         | 18,132         |
| Colorado .....             | 5,059           | 3,413           | 2,714           | 2,329           | NA             | 3,415          |
| Connecticut .....          | 3,256           | 2,686           | 2,039           | 2,178           | 2,456          | 2,151          |
| Delaware .....             | 446             | 243             | 179             | 176             | 190            | 226            |
| District of Columbia ..... | 1,209           | 883             | 837             | 847             | 871            | 913            |
| Florida .....              | 2,852           | 2,656           | 2,501           | 2,575           | 2,630          | 2,748          |
| Georgia .....              | 4,110           | 3,073           | 2,612           | 2,649           | 2,757          | 2,725          |
| Hawaii .....               | 143             | 132             | 140             | 155             | 134            | 148            |
| Idaho .....                | 1,047           | 581             | 388             | 381             | 407            | 537            |
| Illinois .....             | 17,234          | 10,112          | 6,559           | 6,672           | 5,252          | 6,702          |
| Indiana .....              | 7,162           | 4,358           | NA              | 2,009           | NA             | NA             |
| Iowa .....                 | 4,257           | 2,406           | 1,194           | 1,199           | 1,353          | 1,237          |
| Kansas .....               | 3,672           | 1,929           | 1,626           | 2,077           | 2,201          | 1,980          |
| Kentucky .....             | 3,368           | 1,705           | 1,143           | 1,134           | 1,061          | 1,195          |
| Louisiana .....            | 1,747           | R1,373          | 1,317           | 1,398           | 1,321          | 1,496          |
| Maine .....                | NA              | 165             | 78              | 74              | 75             | 90             |
| Maryland .....             | 4,921           | 3,296           | 2,827           | 3,079           | 2,927          | 3,155          |
| Massachusetts .....        | NA              | 5,288           | R2,278          | 3,407           | 4,054          | 5,209          |
| Michigan .....             | 15,353          | 8,819           | 5,790           | 5,841           | 5,301          | 6,297          |
| Minnesota .....            | 8,931           | 5,382           | 2,747           | 2,311           | 2,026          | 3,003          |
| Mississippi .....          | 1,624           | 1,242           | 1,445           | 1,304           | 1,371          | 1,298          |
| Missouri .....             | 4,410           | 2,395           | 2,195           | 3,039           | 2,210          | 2,352          |
| Montana .....              | 1,262           | 789             | 407             | 405             | 400            | 447            |
| Nebraska .....             | 2,186           | 1,018           | 935             | 848             | 1,070          | 856            |
| Nevada .....               | 1,822           | 1,288           | 1,090           | 1,052           | 1,304          | 1,587          |
| New Hampshire .....        | R611            | 371             | 222             | NA              | 228            | NA             |
| New Jersey .....           | NA              | NA              | NA              | 6,079           | 6,385          | 6,873          |
| New Mexico .....           | 2,533           | 1,410           | 1,242           | 1,214           | 1,174          | 1,096          |
| New York .....             | NA              | NA              | NA              | 15,604          | 12,007         | 13,919         |
| North Carolina .....       | 2,870           | 1,867           | 1,678           | 1,650           | 1,502          | 1,658          |
| North Dakota .....         | 1,042           | 558             | 329             | 354             | 285            | 312            |
| Ohio .....                 | 14,908          | 6,698           | 4,919           | 4,070           | NA             | 5,165          |
| Oklahoma .....             | 2,911           | 1,813           | 1,756           | 1,812           | 1,614          | 1,826          |
| Oregon .....               | 2,689           | 1,296           | 1,028           | 905             | 1,047          | 1,428          |
| Pennsylvania .....         | 11,849          | 6,876           | 4,436           | NA              | 4,607          | 4,906          |
| Rhode Island .....         | 996             | 613             | 472             | 195             | 484            | 495            |
| South Carolina .....       | 1,531           | 1,148           | 1,055           | 1,019           | 1,013          | 1,063          |
| South Dakota .....         | 914             | 363             | 269             | 263             | 283            | 285            |
| Tennessee .....            | 4,239           | 2,688           | 2,527           | 2,366           | 2,507          | 2,646          |
| Texas .....                | 18,725          | 14,888          | 16,529          | 16,063          | 18,195         | 11,161         |
| Utah .....                 | 3,182           | 2,078           | 1,026           | 840             | 845            | 1,154          |
| Vermont .....              | 276             | 165             | 125             | 100             | 102            | 110            |
| Virginia .....             | 5,371           | 3,304           | 2,561           | 1,971           | 2,739          | 2,682          |
| Washington .....           | NA              | NA              | NA              | NA              | NA             | NA             |
| West Virginia .....        | 2,339           | 1,603           | 1,260           | 1,215           | 1,132          | 1,175          |
| Wisconsin .....            | 8,101           | 4,339           | 3,346           | 3,410           | 3,063          | 3,471          |
| Wyoming .....              | NA              | 461             | 324             | 232             | NA             | 428            |
| <b>Total .....</b>         | <b>R263,005</b> | <b>R176,570</b> | <b>R143,924</b> | <b>R149,693</b> | <b>147,564</b> | <b>141,779</b> |

See footnotes at end of table.

# Table 16

**Table 16. Natural Gas Deliveries to Commercial Consumers, by State, 1997-1999**

(Million Cubic Feet) — Continued

| State                      | 1998            |                 |                 |                |                | 1997             |
|----------------------------|-----------------|-----------------|-----------------|----------------|----------------|------------------|
|                            | May             | April           | March           | February       | January        | Total            |
| Alabama .....              | 1,393           | 2,269           | 3,522           | 4,010          | 4,529          | 32,362           |
| Alaska .....               | 1,981           | 2,229           | 2,612           | 2,681          | 3,295          | 26,908           |
| Arizona .....              | 2,495           | 3,013           | 3,548           | 3,534          | 4,129          | 30,284           |
| Arkansas .....             | 1,432           | 2,536           | 3,843           | 4,075          | 4,781          | 29,443           |
| California .....           | 22,410          | 23,269          | 19,321          | 28,787         | 30,457         | 256,044          |
| Colorado .....             | 4,768           | 6,738           | 9,008           | 9,159          | 10,507         | 69,088           |
| Connecticut .....          | 2,124           | 4,294           | 4,999           | 5,540          | 5,757          | 42,680           |
| Delaware .....             | 320             | 556             | 829             | 899            | 935            | 6,610            |
| District of Columbia ..... | 1,085           | 1,830           | 2,032           | 2,382          | 2,542          | 18,018           |
| Florida .....              | 3,112           | 3,701           | 3,961           | 3,984          | 4,152          | 36,765           |
| Georgia .....              | 3,248           | 4,882           | 7,391           | 8,120          | 8,471          | 57,227           |
| Hawaii .....               | 140             | 145             | 140             | 150            | 168            | 1,751            |
| Idaho .....                | 689             | 1,077           | 1,423           | 1,570          | 1,977          | 11,469           |
| Illinois .....             | 6,961           | 15,326          | 22,556          | 22,455         | 30,533         | 202,871          |
| Indiana .....              | 3,258           | R6,399          | 11,063          | 10,460         | 12,876         | 81,813           |
| Iowa .....                 | 1,566           | 3,605           | R6,306          | 5,962          | 7,938          | 50,194           |
| Kansas .....               | 2,493           | 3,888           | 9,214           | 7,252          | 8,630          | 41,238           |
| Kentucky .....             | 1,505           | 2,490           | 4,636           | 5,053          | 5,668          | 38,632           |
| Louisiana .....            | 1,629           | 2,048           | 3,079           | 3,315          | 3,527          | 25,629           |
| Maine .....                | 122             | 195             | 332             | 342            | 422            | 2,713            |
| Maryland .....             | 3,514           | 4,885           | 7,125           | 7,365          | 7,862          | 49,859           |
| Massachusetts .....        | 5,789           | 8,771           | 11,570          | 12,943         | 13,716         | 105,818          |
| Michigan .....             | 8,530           | 15,784          | 22,837          | 23,664         | 25,919         | 192,300          |
| Minnesota .....            | 3,208           | 5,685           | 11,726          | 11,133         | 15,257         | 92,263           |
| Mississippi .....          | 1,339           | 1,789           | 2,866           | 3,310          | 3,264          | 22,073           |
| Missouri .....             | 2,978           | 5,545           | 8,978           | 9,467          | 11,144         | 69,869           |
| Montana .....              | R552            | 1,029           | 1,527           | 1,459          | 2,178          | 13,926           |
| Nebraska .....             | 1,690           | 2,786           | 4,027           | 4,237          | 4,903          | 33,853           |
| Nevada .....               | 1,876           | 2,207           | 2,642           | 2,575          | 3,078          | 22,024           |
| New Hampshire .....        | 375             | 623             | 869             | 1,051          | 1,167          | 7,489            |
| New Jersey .....           | 10,233          | 11,748          | 19,826          | 18,713         | 20,200         | 168,761          |
| New Mexico .....           | 1,832           | 2,727           | 3,814           | 3,839          | 5,330          | 31,501           |
| New York .....             | NA              | 20,716          | NA              | NA             | NA             | 321,447          |
| North Carolina .....       | 2,053           | 3,326           | 4,879           | 5,791          | 6,495          | 38,021           |
| North Dakota .....         | 507             | 953             | 1,372           | 1,434          | 1,753          | 10,875           |
| Ohio .....                 | 7,134           | 13,211          | 21,443          | 23,991         | 27,046         | 184,103          |
| Oklahoma .....             | 2,291           | 4,018           | 6,347           | 6,859          | 7,969          | 45,195           |
| Oregon .....               | 1,618           | NA              | NA              | 3,308          | 3,889          | 25,500           |
| Pennsylvania .....         | 6,114           | NA              | 17,790          | 19,674         | 21,571         | 144,134          |
| Rhode Island .....         | 680             | R1,119          | 1,492           | 1,620          | 1,786          | 12,306           |
| South Carolina .....       | 1,209           | 1,732           | 2,440           | 2,781          | 2,955          | 19,561           |
| South Dakota .....         | 539             | 806             | 1,335           | 1,292          | 1,621          | 10,426           |
| Tennessee .....            | 2,993           | 4,714           | 7,027           | 6,063          | NA             | 55,130           |
| Texas .....                | 13,951          | 14,839          | 20,104          | 20,826         | 24,280         | 216,347          |
| Utah .....                 | 1,510           | 2,749           | 3,787           | 4,235          | 4,544          | 31,257           |
| Vermont .....              | 116             | 281             | 381             | 436            | 487            | 3,051            |
| Virginia .....             | 3,672           | R4,799          | 7,878           | 8,398          | 8,673          | 61,932           |
| Washington .....           | NA              | NA              | NA              | NA             | NA             | 46,802           |
| West Virginia .....        | 1,297           | 2,235           | 3,146           | 3,310          | 3,564          | 25,918           |
| Wisconsin .....            | 3,801           | 6,632           | 11,019          | 9,845          | 12,688         | 88,783           |
| Wyoming .....              | 545             | 861             | 1,128           | 1,288          | NA             | 10,767           |
| <b>Total .....</b>         | <b>R174,350</b> | <b>R255,448</b> | <b>R368,080</b> | <b>390,421</b> | <b>448,516</b> | <b>3,223,030</b> |

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 but not in the monthly components. See Appendix A, Explanatory Note 5 for discussion of computations and revision policy. In 1996, consumption of

natural gas for agricultural use is classified as industrial use. In 1995 and earlier years, agricultural use was classified as commercial use. See Explanatory Note 5 for further explanation.

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

**Table 17. Natural Gas Deliveries to Industrial Consumers, by State, 1997-1999**  
 (Million Cubic Feet)

| State                      | YTD<br>1999      | YTD<br>1998      | YTD<br>1997      | 1999           |                            |                            |
|----------------------------|------------------|------------------|------------------|----------------|----------------------------|----------------------------|
|                            |                  |                  |                  | July           | June                       | May                        |
| Alabama .....              | 124,775          | 136,675          | 116,722          | 17,500         | 16,985                     | 16,888                     |
| Alaska .....               | 43,511           | 44,586           | 44,317           | 6,932          | 5,923                      | 6,318                      |
| Arizona .....              | 15,766           | 16,107           | 15,561           | 1,987          | 1,956                      | 2,390                      |
| Arkansas .....             | NA               | 88,452           | 86,177           | 11,128         | NA                         | 11,490                     |
| California .....           | 457,803          | 413,365          | 414,226          | 80,894         | 67,180                     | 68,716                     |
| Colorado .....             | NA               | 41,570           | 43,852           | NA             | 5,628                      | 6,227                      |
| Connecticut .....          | 17,773           | 19,557           | 20,721           | 2,160          | 2,055                      | 2,322                      |
| Delaware .....             | 12,490           | 9,385            | 8,560            | 1,757          | 1,459                      | 1,789                      |
| District of Columbia ..... | 0                | 0                | 0                | 0              | 0                          | 0                          |
| Florida .....              | 82,604           | 78,136           | 77,092           | 12,463         | 11,725                     | 11,822                     |
| Georgia .....              | NA               | 91,863           | 108,570          | 7,528          | 6,687                      | NA                         |
| Hawaii .....               | 0                | 0                | 0                | 0              | 0                          | 0                          |
| Idaho <sup>a</sup> .....   | 20,128           | 20,888           | 20,379           | 2,450          | 2,528                      | 2,885                      |
| Illinois .....             | 183,303          | 181,346          | 191,585          | 21,509         | 21,065                     | 21,571                     |
| Indiana .....              | NA               | 172,224          | 167,898          | NA             | NA                         | NA                         |
| Iowa .....                 | 63,831           | 63,672           | 61,078           | 7,195          | 6,980                      | 8,402                      |
| Kansas .....               | NA               | 84,860           | 67,916           | 9,660          | 8,073                      | NA                         |
| Kentucky .....             | 54,350           | 54,364           | 55,526           | 6,392          | 6,525                      | 7,076                      |
| Louisiana .....            | 568,253          | 542,491          | 580,089          | 80,735         | 80,832                     | 84,967                     |
| Maine .....                | 1,255            | 1,251            | 1,359            | 153            | 184                        | 171                        |
| Maryland .....             | NA               | 21,460           | 34,184           | 2,491          | 2,383                      | NA                         |
| Massachusetts .....        | NA               | NA               | 67,163           | NA             | NA                         | 9,108                      |
| Michigan .....             | 172,332          | 190,192          | 203,397          | 19,902         | 20,408                     | 22,841                     |
| Minnesota .....            | 63,090           | 60,321           | 62,236           | 7,616          | 7,893                      | 7,475                      |
| Mississippi .....          | NA               | NA               | 48,966           | 6,669          | 6,807                      | 7,007                      |
| Missouri .....             | NA               | 39,784           | 44,037           | 4,795          | 4,846                      | 4,658                      |
| Montana .....              | 14,445           | 10,071           | 10,480           | 1,293          | <sup>b</sup> 1,694         | <sup>b</sup> 1,968         |
| Nebraska .....             | 18,247           | 23,560           | 26,679           | 4,397          | 2,186                      | 2,076                      |
| Nevada .....               | 19,029           | 15,449           | 16,718           | 2,504          | 2,573                      | 2,811                      |
| New Hampshire .....        | 3,479            | 3,300            | 3,507            | 442            | 457                        | 486                        |
| New Jersey .....           | NA               | 116,292          | 119,689          | NA             | NA                         | NA                         |
| New Mexico .....           | NA               | 22,076           | 24,439           | 5,368          | 5,221                      | 5,743                      |
| New York .....             | NA               | NA               | 183,413          | 26,081         | 22,323                     | NA                         |
| North Carolina .....       | 63,052           | 68,410           | 65,210           | 9,256          | 8,940                      | 8,827                      |
| North Dakota .....         | 11,566           | 12,970           | 12,412           | 1,155          | 1,266                      | 1,351                      |
| Ohio .....                 | 199,968          | NA               | 201,272          | 23,648         | 23,818                     | 25,487                     |
| Oklahoma .....             | 86,465           | 111,338          | 124,080          | 9,521          | 11,596                     | 11,075                     |
| Oregon .....               | 66,212           | NA               | 47,383           | 8,008          | 7,861                      | 8,216                      |
| Pennsylvania .....         | 143,070          | 137,631          | 142,498          | 17,527         | 17,717                     | 18,247                     |
| Rhode Island .....         | 21,135           | 24,833           | 15,705           | 2,969          | 2,948                      | 3,343                      |
| South Carolina .....       | 60,148           | 60,843           | 59,764           | 7,396          | 7,764                      | 8,161                      |
| South Dakota .....         | 2,941            | 3,238            | 4,310            | 419            | 282                        | 347                        |
| Tennessee .....            | NA               | 84,214           | 80,143           | 12,903         | 11,323                     | 11,887                     |
| Texas .....                | NA               | 1,122,511        | 1,214,102        | 116,200        | 139,676                    | NA                         |
| Utah .....                 | 23,552           | 28,338           | 25,490           | 3,200          | 2,351                      | 3,422                      |
| Vermont .....              | 1,598            | 1,254            | 1,318            | 174            | 157                        | 192                        |
| Virginia .....             | NA               | 52,128           | 47,906           | 12,584         | 11,360                     | NA                         |
| Washington .....           | NA               | NA               | 58,110           | NA             | NA                         | NA                         |
| West Virginia .....        | NA               | 31,418           | 33,584           | 4,222          | NA                         | <sup>b</sup> 3,407         |
| Wisconsin .....            | 89,242           | 82,791           | 93,824           | 9,443          | 9,824                      | 10,286                     |
| Wyoming .....              | NA               | 29,560           | 27,568           | NA             | 3,056                      | 2,979                      |
| <b>Total</b> .....         | <b>4,921,382</b> | <b>5,006,870</b> | <b>5,181,215</b> | <b>669,626</b> | <b><sup>b</sup>675,381</b> | <b><sup>b</sup>688,220</b> |

See footnotes at end of table.

Table 17

**Table 17. Natural Gas Deliveries to Industrial Consumers, by State, 1997-1999**  
(Million Cubic Feet) — Continued

| State                      | 1999      |                |                |                | 1998           |                  |
|----------------------------|-----------|----------------|----------------|----------------|----------------|------------------|
|                            | April     | March          | February       | January        | Total          | December         |
| Alabama .....              | 18,047    | 20,820         | 17,325         | 17,209         | 225,062        | 15,857           |
| Alaska .....               | 6,244     | 6,270          | 5,521          | 6,304          | NA             | NA               |
| Arizona .....              | 2,545     | 2,237          | 2,291          | 2,360          | 28,209         | 2,609            |
| Arkansas .....             | 11,728    | 12,581         | 11,668         | 13,070         | 152,073        | 13,073           |
| California .....           | 60,937    | 52,152         | 65,298         | 62,625         | 729,514        | 64,279           |
| Colorado .....             | 7,703     | 6,418          | 7,170          | 4,603          | 67,916         | 6,739            |
| Connecticut .....          | 2,504     | 2,790          | 2,957          | 2,985          | 32,455         | 2,815            |
| Delaware .....             | 1,767     | 1,952          | 1,878          | 1,887          | 16,137         | 1,522            |
| District of Columbia ..... | 0         | 0              | 0              | 0              | 0              | 0                |
| Florida .....              | 12,497    | 12,588         | 10,403         | 11,107         | 133,880        | 11,116           |
| Georgia .....              | 9,427     | 12,217         | 11,713         | 12,054         | 151,146        | 12,615           |
| Hawaii .....               | 0         | 0              | 0              | 0              | 0              | 0                |
| Idaho <sup>a</sup> .....   | 3,167     | 3,214          | 3,081          | 2,802          | 34,263         | 2,632            |
| Illinois .....             | 25,818    | 29,733         | 29,448         | 34,159         | 306,290        | 29,103           |
| Indiana .....              | NA        | NA             | 26,890         | NA             | 297,187        | 28,078           |
| Iowa .....                 | 10,191    | 9,569          | 9,611          | 11,884         | 107,602        | 9,466            |
| Kansas .....               | 8,493     | 8,912          | 7,969          | NA             | NA             | NA               |
| Kentucky .....             | 7,600     | 9,276          | 8,168          | 9,312          | 91,562         | 8,151            |
| Louisiana .....            | 80,246    | 82,473         | 74,099         | 84,900         | NA             | 87,957           |
| Maine .....                | 161       | 189            | 104            | 293            | 2,264          | 201              |
| Maryland .....             | 2,824     | NA             | 4,039          | 3,238          | 2,727          | 37,610           |
| Massachusetts .....        | NA        | NA             | 8,668          | 8,789          | NA             | NA               |
| Michigan .....             | 24,992    | 28,348         | 26,741         | 29,100         | 301,398        | 26,840           |
| Minnesota .....            | 8,307     | 9,720          | 11,213         | 10,867         | 103,573        | 9,222            |
| Mississippi .....          | NA        | 7,546          | 6,900          | NA             | NA             | 6,841            |
| Missouri .....             | 5,446     | 5,175          | NA             | 6,624          | 64,857         | 5,897            |
| Montana .....              | NA        | 2,120          | 2,174          | 2,554          | 2,642          | 17,137           |
| Nebraska .....             | 953       | 2,508          | 2,695          | 3,432          | 37,472         | 2,255            |
| Nevada .....               | 2,635     | 2,816          | 2,674          | 3,016          | 28,532         | 2,986            |
| New Hampshire .....        | 578       | 505            | 484            | 526            | NA             | 484              |
| New Jersey .....           | NA        | NA             | NA             | NA             | NA             | NA               |
| New Mexico .....           | NA        | NA             | 5,497          | 4,870          | 40,139         | 3,636            |
| New York .....             | NA        | NA             | NA             | NA             | NA             | NA               |
| North Carolina .....       | 8,837     | 9,200          | 8,025          | 9,967          | 115,082        | 9,524            |
| North Dakota .....         | 1,479     | 2,037          | 2,844          | 1,434          | 20,912         | 1,840            |
| Ohio .....                 | 29,080    | 32,561         | 31,901         | 33,472         | NA             | 31,615           |
| Oklahoma .....             | 13,018    | 12,381         | 14,203         | 14,670         | 191,012        | 12,040           |
| Oregon .....               | 8,923     | 15,206         | 8,595          | 9,403          | NA             | 9,024            |
| Pennsylvania .....         | 20,822    | 23,081         | 23,816         | 21,860         | 231,500        | 21,066           |
| Rhode Island .....         | 2,996     | 2,528          | 2,930          | 3,421          | 40,858         | 2,179            |
| South Carolina .....       | 9,982     | 9,684          | 8,284          | 8,877          | 104,878        | 9,241            |
| South Dakota .....         | 446       | 439            | 463            | 545            | 5,510          | 573              |
| Tennessee .....            | NA        | 13,948         | 12,593         | 13,193         | 145,448        | 12,892           |
| Texas .....                | 131,317   | 136,528        | 157,475        | 169,095        | NA             | 210,615          |
| Utah .....                 | 3,809     | 3,718          | 3,350          | 3,703          | 45,366         | 3,830            |
| Vermont .....              | 243       | 301            | 312            | 220            | 2,105          | 202              |
| Virginia .....             | 10,718    | 8,714          | 7,364          | 5,632          | 93,999         | 7,488            |
| Washington .....           | NA        | NA             | NA             | NA             | NA             | NA               |
| West Virginia .....        | NA        | NA             | 3,705          | 4,141          | 51,457         | 4,262            |
| Wisconsin .....            | 12,033    | 15,029         | 14,720         | 17,907         | 140,446        | 14,588           |
| Wyoming .....              | 3,616     | 3,832          | NA             | 4,359          | 50,850         | 4,597            |
| <b>Total .....</b>         | <b>NA</b> | <b>682,732</b> | <b>716,956</b> | <b>721,230</b> | <b>767,237</b> | <b>8,598,887</b> |
|                            |           |                |                |                |                | <b>785,777</b>   |

See footnotes at end of table.

**Table 17. Natural Gas Deliveries to Industrial Consumers, by State, 1997-1999**

(Million Cubic Feet) — Continued

| State                      | 1998            |                |                |                |                 |                 |
|----------------------------|-----------------|----------------|----------------|----------------|-----------------|-----------------|
|                            | November        | October        | September      | August         | July            | June            |
| Alabama .....              | 17,492          | 18,337         | 17,335         | 19,366         | 18,324          | 19,075          |
| Alaska .....               | NA              | NA             | 5,699          | NA             | 6,542           | 6,251           |
| Arizona .....              | 2,384           | 2,522          | 2,078          | 2,508          | 2,307           | 2,034           |
| Arkansas .....             | 12,033          | 12,433         | 13,055         | 13,027         | 12,613          | 12,419          |
| California .....           | 60,200          | 61,870         | 65,490         | 64,310         | 59,188          | 53,880          |
| Colorado .....             | 5,399           | 4,683          | 4,230          | 5,294          | ^4,959          | ^5,026          |
| Connecticut .....          | 2,641           | 2,571          | 2,417          | 2,455          | 2,271           | 2,225           |
| Delaware .....             | 1,415           | 1,412          | 1,182          | 1,221          | 1,097           | 1,160           |
| District of Columbia ..... | 0               | 0              | 0              | 0              | 0               | 0               |
| Florida .....              | 11,473          | 10,774         | 11,553         | 10,827         | 11,384          | 11,469          |
| Georgia .....              | 13,015          | 11,895         | 8,274          | 13,484         | 12,768          | 13,149          |
| Hawaii .....               | 0               | 0              | 0              | 0              | 0               | 0               |
| Idaho <sup>a</sup> .....   | 2,799           | 2,712          | 2,701          | 2,530          | 2,620           | 2,672           |
| Illinois .....             | 28,080          | 25,507         | 21,840         | 20,413         | 20,256          | 20,738          |
| Indiana .....              | 25,419          | 24,946         | 24,129         | 22,391         | 22,168          | 22,044          |
| Iowa .....                 | 9,960           | 9,295          | 7,469          | 7,741          | 7,647           | 7,613           |
| Kansas .....               | ^13,253         | 12,280         | 9,502          | 13,725         | 15,481          | 12,763          |
| Kentucky .....             | 7,945           | 7,705          | 6,695          | 6,702          | 6,738           | 6,787           |
| Louisiana .....            | 66,600          | NA             | 84,209         | 85,378         | 80,693          | 73,666          |
| Maine .....                | 219             | 224            | 190            | 179            | 153             | 184             |
| Maryland .....             | 2,959           | 3,650          | 3,040          | 3,017          | 2,988           | 2,935           |
| Massachusetts .....        | 8,942           | 8,006          | NA             | 8,134          | 7,812           | NA              |
| Michigan .....             | 25,540          | 22,636         | 18,483         | 17,707         | 18,191          | 22,705          |
| Minnesota .....            | 9,226           | 8,990          | 7,579          | 8,236          | 7,803           | 7,855           |
| Mississippi .....          | 6,278           | 6,419          | 6,052          | NA             | 5,993           | NA              |
| Missouri .....             | 4,744           | 5,194          | 4,581          | 4,658          | 4,512           | 4,773           |
| Montana .....              | 1,563           | 1,400          | 1,206          | 1,126          | 1,215           | 1,276           |
| Nebraska .....             | 2,620           | 2,673          | 2,315          | 4,050          | 5,853           | 3,076           |
| Nevada .....               | 2,730           | 2,836          | 1,793          | 2,739          | 2,458           | 2,337           |
| New Hampshire .....        | NA              | 555            | 476            | NA             | 438             | 431             |
| New Jersey .....           | NA              | NA             | NA             | 15,840         | 15,601          | 14,727          |
| New Mexico .....           | 3,439           | 3,627          | 3,805          | 3,556          | 3,536           | 3,179           |
| New York .....             | NA              | NA             | NA             | NA             | NA              | 21,404          |
| North Carolina .....       | 9,456           | 9,423          | 8,986          | 9,283          | 8,561           | 9,042           |
| North Dakota .....         | 1,712           | 1,110          | 1,655          | 1,625          | 1,522           | 1,794           |
| Ohio .....                 | 28,292          | 27,630         | 24,368         | 23,492         | NA              | 24,008          |
| Oklahoma .....             | 12,518          | 17,337         | 19,543         | 18,236         | 16,672          | 16,280          |
| Oregon .....               | 8,625           | 8,988          | 8,452          | 8,883          | 8,185           | 6,767           |
| Pennsylvania .....         | 18,945          | 18,082         | 17,892         | 17,882         | 17,111          | 17,926          |
| Rhode Island .....         | 3,431           | 3,562          | 3,132          | 3,722          | 3,654           | 3,412           |
| South Carolina .....       | 9,092           | 8,837          | 8,475          | 8,389          | 7,613           | 8,464           |
| South Dakota .....         | 554             | 294            | 411            | 440            | 416             | 307             |
| Tennessee .....            | 12,705          | 13,618         | 10,436         | 11,583         | 10,097          | 10,242          |
| Texas .....                | 187,889         | NA             | 151,722        | 164,970        | 181,812         | 150,210         |
| Utah .....                 | 3,533           | 3,432          | 3,192          | 3,040          | 3,424           | 3,678           |
| Vermont .....              | 181             | 179            | 154            | 135            | 153             | 152             |
| Virginia .....             | 7,847           | 8,947          | 8,135          | 9,453          | 9,435           | 8,103           |
| Washington .....           | NA              | NA             | NA             | NA             | NA              | NA              |
| West Virginia .....        | 4,018           | 4,037          | 3,817          | 3,904          | 3,965           | 4,043           |
| Wisconsin .....            | 12,952          | 11,284         | 9,610          | 9,221          | 7,967           | 9,204           |
| Wyoming .....              | 4,480           | 4,320          | 3,888          | 4,005          | 3,983           | 4,162           |
| <b>Total .....</b>         | <b>^724,268</b> | <b>711,148</b> | <b>673,503</b> | <b>697,321</b> | <b>^699,756</b> | <b>^654,749</b> |

See footnotes at end of table.

**Table 17. Natural Gas Deliveries to Industrial Consumers, by State, 1997-1999**  
 (Million Cubic Feet) — Continued

| State                      | 1998           |                |                 |                 |                 | 1997             |
|----------------------------|----------------|----------------|-----------------|-----------------|-----------------|------------------|
|                            | May            | April          | March           | February        | January         | Total            |
| Alabama .....              | 19,854         | 19,308         | 20,569          | 18,609          | 20,935          | 201,240          |
| Alaska .....               | 5,854          | 6,455          | 6,878           | 6,152           | 6,454           | 73,599           |
| Arizona .....              | 2,313          | 2,281          | 2,413           | 2,226           | 2,533           | 27,864           |
| Arkansas .....             | 11,839         | 12,765         | 13,363          | 12,114          | 13,339          | 147,969          |
| California .....           | 66,080         | 55,492         | 47,185          | 67,501          | 64,039          | 737,354          |
| Colorado .....             | 5,649          | 6,278          | 6,323           | 6,388           | 6,949           | 73,781           |
| Connecticut .....          | 2,546          | 2,782          | 3,183           | 3,149           | 3,402           | 34,554           |
| Delaware .....             | 1,256          | 1,348          | 1,477           | 1,443           | 1,604           | 14,805           |
| District of Columbia ..... | 0              | 0              | 0               | 0               | 0               | 0                |
| Florida .....              | 11,765         | 11,608         | R11,464         | R9,386          | R11,060         | 130,816          |
| Georgia .....              | 12,501         | 12,866         | 13,434          | 13,335          | 13,808          | 174,747          |
| Hawaii .....               | 0              | 0              | 0               | 0               | 0               | 342              |
| Idaho <sup>a</sup> .....   | 2,593          | 3,047          | 3,130           | 3,482           | 3,344           | 34,999           |
| Illinois .....             | 22,462         | 26,752         | 29,211          | 28,719          | 33,208          | 317,755          |
| Indiana .....              | 23,136         | 22,400         | 27,772          | 25,847          | 28,857          | 290,723          |
| Iowa .....                 | 7,616          | 9,066          | 10,893          | 9,516           | 11,321          | 107,463          |
| Kansas .....               | 11,091         | 10,661         | 11,559          | 10,398          | 12,908          | 112,089          |
| Kentucky .....             | 7,022          | 7,543          | 8,884           | 7,550           | 9,839           | 95,724           |
| Louisiana .....            | 75,577         | 77,970         | 77,158          | 74,500          | 82,928          | 1,004,383        |
| Maine .....                | 168            | 180            | 182             | 182             | 202             | 2,525            |
| Maryland .....             | 3,002          | 3,094          | 3,607           | 2,764           | 3,069           | 65,954           |
| Massachusetts .....        | 7,635          | 8,209          | 8,759           | 8,443           | 9,923           | 108,295          |
| Michigan .....             | 25,012         | 26,873         | 32,052          | 31,380          | 33,980          | 338,456          |
| Minnesota .....            | 6,901          | 8,548          | 9,039           | 10,044          | R10,130         | 107,338          |
| Mississippi .....          | NA             | NA             | NA              | 6,814           | NA              | 83,967           |
| Missouri .....             | 4,830          | 5,473          | 6,788           | 6,360           | 7,047           | 71,164           |
| Montana .....              | 1,244          | 1,521          | 1,481           | 1,449           | 1,884           | 18,766           |
| Nebraska .....             | 2,662          | 2,543          | 3,043           | 2,902           | 3,481           | 44,418           |
| Nevada .....               | 2,455          | 2,453          | 2,174           | 1,979           | 1,593           | 28,925           |
| New Hampshire .....        | 473            | 457            | 523             | 498             | 481             | 5,830            |
| New Jersey .....           | 15,723         | 16,455         | 17,152          | 17,655          | 18,980          | 202,418          |
| New Mexico .....           | 3,131          | 3,190          | 2,891           | 2,895           | 3,254           | 40,854           |
| New York .....             | NA             | 22,542         | 26,423          | NA              | NA              | 305,521          |
| North Carolina .....       | 9,439          | 9,366          | 10,846          | 10,404          | 10,752          | 111,513          |
| North Dakota .....         | 1,961          | 1,853          | 1,924           | 1,844           | 2,072           | 20,580           |
| Ohio .....                 | 25,977         | 29,362         | 32,257          | 31,779          | 35,912          | 335,993          |
| Oklahoma .....             | 13,793         | 14,388         | 16,578          | 17,131          | 16,497          | 206,677          |
| Oregon .....               | 7,015          | NA             | NA              | 8,744           | 9,760           | 90,403           |
| Pennsylvania .....         | 18,161         | 19,808         | 21,699          | 20,811          | 22,115          | 238,220          |
| Rhode Island .....         | 3,510          | 3,420          | 3,632           | 3,462           | 3,742           | 24,472           |
| South Carolina .....       | 8,713          | 8,159          | 9,121           | 9,129           | 9,645           | 102,929          |
| South Dakota .....         | 697            | 279            | 474             | 500             | 565             | 6,928            |
| Tennessee .....            | 11,710         | 12,020         | 14,188          | 12,628          | R13,329         | 138,877          |
| Texas .....                | 154,540        | 153,724        | 159,503         | R153,269        | 169,452         | 2,058,755        |
| Utah .....                 | 3,668          | 4,480          | 4,273           | 4,080           | 4,735           | 44,162           |
| Vermont .....              | 164            | 164            | 194             | 205             | 223             | 2,334            |
| Virginia .....             | 6,263          | 7,746          | 6,391           | 7,444           | 6,747           | 85,264           |
| Washington .....           | NA             | NA             | NA              | NA              | NA              | 111,159          |
| West Virginia .....        | 4,022          | 4,584          | 5,091           | 4,659           | 5,054           | 57,380           |
| Wisconsin .....            | 9,508          | 11,658         | 14,819          | 13,298          | 16,337          | 155,677          |
| Wyoming .....              | 4,281          | 3,305          | 4,068           | R4,605          | 5,156           | 46,936           |
| <b>Total .....</b>         | <b>676,415</b> | <b>701,156</b> | <b>R742,834</b> | <b>R735,289</b> | <b>R796,670</b> | <b>8,842,896</b> |

<sup>a</sup> Small volumes of natural gas representing onsystem sales to industrial consumers in Idaho are included in the annual total but not in monthly components.

revision policy. In 1996, consumption of natural gas for agricultural use is classified as industrial use. In 1995 and earlier years, agricultural use was classified as commercial use. See Explanatory Note 5 for further explanation.

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

<sup>R</sup> 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

**Table 18. Natural Gas Deliveries to Electric Utility<sup>a</sup> Consumers, by State, 1997-1999**

(Million Cubic Feet)

| State                      | YTD<br>1999      | YTD<br>1998      | YTD<br>1997      | 1999           |                |                |
|----------------------------|------------------|------------------|------------------|----------------|----------------|----------------|
|                            |                  |                  |                  | July           | June           | May            |
| Alabama .....              | 11,226           | 13,874           | 5,149            | 4,717          | 1,937          | 1,289          |
| Alaska .....               | 17,061           | 16,528           | 20,428           | 2,551          | 2,189          | 2,290          |
| Arizona .....              | 26,407           | 13,058           | 10,780           | 6,138          | 5,287          | 4,279          |
| Arkansas .....             | 23,241           | 23,395           | 13,198           | 7,104          | 5,602          | 3,982          |
| California .....           | 117,326          | 141,538          | 189,311          | 14,988         | 12,409         | 11,714         |
| Colorado .....             | 9,803            | 5,182            | 2,677            | 2,315          | 1,817          | 1,987          |
| Connecticut .....          | 6,349            | 6,100            | 8,506            | 3,003          | 1,798          | 1,311          |
| Delaware .....             | 12,791           | 5,095            | 12,097           | 3,804          | 2,531          | 2,052          |
| District of Columbia ..... | 0                | 0                | 0                | 0              | 0              | 0              |
| Florida .....              | 168,756          | 160,530          | 178,900          | 33,921         | 29,566         | 29,547         |
| Georgia .....              | 10,748           | 12,656           | 3,504            | 4,351          | 1,722          | 1,374          |
| Hawaii .....               | 0                | 0                | 0                | 0              | 0              | 0              |
| Idaho .....                | 0                | 0                | 0                | 0              | 0              | 0              |
| Illinois .....             | 30,381           | 38,224           | 25,706           | 10,896         | 4,828          | 2,672          |
| Indiana .....              | 5,465            | 5,646            | 3,312            | 2,646          | 1,174          | 245            |
| Iowa .....                 | 3,414            | 3,331            | 2,598            | 1,616          | 646            | 278            |
| Kansas .....               | 23,287           | 18,347           | 13,110           | 8,527          | 3,543          | 2,800          |
| Kentucky .....             | 3,469            | 3,229            | 1,154            | 1,889          | 500            | 214            |
| Louisiana .....            | 187,864          | 173,565          | 158,768          | 38,149         | 34,541         | 29,398         |
| Maine .....                | 0                | 0                | 0                | 0              | 0              | 0              |
| Maryland .....             | 10,434           | 5,672            | 8,011            | 5,877          | 1,826          | 478            |
| Massachusetts .....        | 6,413            | 12,915           | 32,294           | 1,672          | 1,820          | 1,572          |
| Michigan .....             | 32,658           | 26,839           | 18,107           | 7,611          | 5,206          | 5,210          |
| Minnesota .....            | 4,617            | 3,847            | 4,508            | 1,913          | 728            | 657            |
| Mississippi .....          | 58,232           | 44,413           | 38,974           | 14,102         | 9,827          | 9,505          |
| Missouri .....             | 9,704            | 7,707            | 4,297            | 4,940          | 1,710          | 496            |
| Montana .....              | 222              | 251              | 256              | 112            | 32             | 6              |
| Nebraska .....             | 3,387            | 2,633            | 1,564            | 1,895          | 745            | 201            |
| Nevada .....               | 35,663           | 29,917           | 27,923           | 6,824          | 5,834          | 5,642          |
| New Hampshire .....        | 156              | 98               | 366              | 67             | 24             | 16             |
| New Jersey .....           | 19,762           | 19,362           | 19,970           | 11,544         | 3,439          | 2,070          |
| New Mexico .....           | 19,410           | 22,572           | 18,759           | 3,916          | 2,706          | 2,011          |
| New York .....             | 115,169          | 118,784          | 126,758          | 26,219         | 22,476         | 23,122         |
| North Carolina .....       | 5,523            | 6,970            | 2,797            | 3,807          | 1,102          | 131            |
| North Dakota .....         | 0                | 0                | 1                | 0              | 0              | 0              |
| Ohio .....                 | 8,366            | 4,112            | 2,151            | 3,367          | 1,488          | 737            |
| Oklahoma .....             | 101,128          | 90,134           | 64,597           | 24,982         | 18,440         | 13,921         |
| Oregon .....               | 8,239            | 10,189           | 976              | 1,575          | 876            | 2,032          |
| Pennsylvania .....         | 6,740            | 5,199            | 5,153            | 3,241          | 2,071          | 465            |
| Rhode Island .....         | 0                | 13,339           | 14,779           | 0              | 0              | 0              |
| South Carolina .....       | 2,948            | 3,525            | 1,710            | 2,291          | 389            | 76             |
| South Dakota .....         | 1,830            | 1,452            | 1,196            | 646            | 213            | 215            |
| Tennessee .....            | 2,001            | 3,041            | 1,099            | 1,208          | 594            | 58             |
| Texas .....                | 685,111          | 709,490          | 555,769          | 152,748        | 127,509        | 104,215        |
| Utah .....                 | 2,818            | 2,111            | 1,609            | 654            | 598            | 166            |
| Vermont .....              | 18               | 154              | 20               | 0              | 2              | 1              |
| Virginia .....             | 15,669           | 10,601           | 7,727            | 4,066          | 1,885          | 2,229          |
| Washington .....           | 1,228            | 1,438            | 125              | 52             | 39             | 560            |
| West Virginia .....        | 220              | 230              | 164              | 25             | 32             | 48             |
| Wisconsin .....            | 9,690            | 10,162           | 12,573           | 4,044          | 1,895          | 1,432          |
| Wyoming .....              | 122              | 238              | 52               | 8              | 68             | 6              |
| <b>Total .....</b>         | <b>1,825,067</b> | <b>1,807,694</b> | <b>1,623,484</b> | <b>436,024</b> | <b>323,665</b> | <b>272,705</b> |

See footnotes at end of table.

**Table 18. Natural Gas Deliveries to Electric Utility<sup>a</sup> Consumers, by State, 1997-1999**

(Million Cubic Feet) — Continued

| State                      | 1999           |                |                |                | 1998             |                |
|----------------------------|----------------|----------------|----------------|----------------|------------------|----------------|
|                            | April          | March          | February       | January        | Total            | December       |
| Alabama .....              | 1,247          | 925            | 550            | 561            | 25,546           | 789            |
| Alaska .....               | 2,282          | 2,499          | 2,519          | 2,733          | 28,784           | 2,957          |
| Arizona .....              | 4,483          | 2,013          | 1,783          | 2,424          | 38,674           | 3,738          |
| Arkansas .....             | 2,579          | 2,034          | 1,376          | 564            | 40,576           | 367            |
| California .....           | 18,722         | 19,915         | 19,517         | 20,060         | 271,154          | 17,740         |
| Colorado .....             | 1,125          | 1,141          | 981            | 438            | 10,627           | 918            |
| Connecticut .....          | 84             | 123            | 1              | 29             | 10,719           | 123            |
| Delaware .....             | 673            | 1,687          | 912            | 1,131          | 11,135           | 911            |
| District of Columbia ..... | 0              | 0              | 0              | 0              | 0                | 0              |
| Florida .....              | 28,221         | 18,961         | 13,119         | 15,422         | 281,346          | 17,667         |
| Georgia .....              | 3,046          | 220            | 20             | 16             | 22,371           | 259            |
| Hawaii .....               | 0              | 0              | 0              | 0              | 0                | 0              |
| Idaho .....                | 0              | 0              | 0              | 0              | 0                | 0              |
| Illinois .....             | 5,295          | 2,863          | 1,357          | 2,470          | 56,337           | 1,469          |
| Indiana .....              | 403            | 332            | 147            | 517            | 9,096            | 237            |
| Iowa .....                 | 348            | 189            | 193            | 145            | 5,947            | 144            |
| Kansas .....               | 3,740          | 2,451          | 1,042          | 1,184          | 36,896           | 1,679          |
| Kentucky .....             | 196            | 142            | 90             | 438            | 5,760            | 136            |
| Louisiana .....            | 25,149         | 21,653         | 17,481         | 21,493         | 318,395          | 18,345         |
| Maine .....                | 0              | 0              | 0              | 0              | 0                | 0              |
| Maryland .....             | 1,382          | 289            | 138            | 444            | 12,303           | 499            |
| Massachusetts .....        | 763            | 412            | 51             | 122            | 18,427           | 725            |
| Michigan .....             | 4,041          | 3,881          | 3,061          | 3,649          | 48,321           | 3,449          |
| Minnesota .....            | 438            | 437            | 151            | 294            | 7,738            | 120            |
| Mississippi .....          | 10,077         | 4,296          | 4,678          | 5,748          | 76,362           | 4,126          |
| Missouri .....             | 1,436          | 279            | 310            | 533            | 16,035           | 515            |
| Montana .....              | 9              | 4              | 5              | 53             | 522              | 36             |
| Nebraska .....             | 344            | 118            | 44             | 40             | 5,044            | 106            |
| Nevada .....               | 4,813          | 4,274          | 3,699          | 4,578          | 60,937           | 5,362          |
| New Hampshire .....        | 0              | 16             | 0              | 32             | 149              | 0              |
| New Jersey .....           | 658            | 686            | 343            | 1,022          | 30,996           | 792            |
| New Mexico .....           | 3,104          | 2,789          | 2,322          | 2,563          | 39,034           | 2,876          |
| New York .....             | 14,099         | 12,815         | 8,397          | 8,041          | 208,348          | 10,911         |
| North Carolina .....       | 421            | 25             | 3              | 34             | 12,418           | 36             |
| North Dakota .....         | 0              | 0              | 0              | 0              | 0                | 0              |
| Ohio .....                 | 1,158          | 971            | 333            | 312            | 7,663            | 351            |
| Oklahoma .....             | 13,186         | 12,492         | 7,519          | 10,588         | 174,577          | 13,066         |
| Oregon .....               | 1,069          | 219            | 936            | 1,532          | 28,883           | 3,009          |
| Pennsylvania .....         | 284            | 315            | 105            | 261            | 6,890            | 357            |
| Rhode Island .....         | 0              | 0              | 0              | 0              | 15,589           | 0              |
| South Carolina .....       | 109            | 48             | 21             | 14             | 5,893            | 42             |
| South Dakota .....         | 279            | 232            | 120            | 125            | 2,865            | 189            |
| Tennessee .....            | 141            | 0              | 0              | 0              | 6,213            | 0              |
| Texas .....                | 97,047         | 81,573         | 55,651         | 66,368         | 1,242,574        | 71,865         |
| Utah .....                 | 341            | 392            | 337            | 331            | 5,945            | 493            |
| Vermont .....              | 2              | 6              | 2              | 5              | 188              | 4              |
| Virginia .....             | 1,812          | 2,093          | 1,918          | 1,666          | 20,386           | 757            |
| Washington .....           | 503            | 6              | 40             | 28             | 13,352           | 635            |
| West Virginia .....        | 29             | 35             | 24             | 27             | 417              | 25             |
| Wisconsin .....            | 553            | 568            | 648            | 550            | 16,348           | 730            |
| Wyoming .....              | 4              | 13             | 14             | 9              | 271              | 5              |
| <b>Total .....</b>         | <b>255,694</b> | <b>206,430</b> | <b>151,958</b> | <b>178,592</b> | <b>3,258,054</b> | <b>188,557</b> |

See footnotes at end of table.

**Table 18. Natural Gas Deliveries to Electric Utility<sup>a</sup> Consumers, by State, 1997-1999**  
 (Million Cubic Feet) — Continued

| State                      | 1998           |                |                |                |                |                |
|----------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                            | November       | October        | September      | August         | July           | June           |
| Alabama .....              | 568            | 973            | 4,213          | 5,129          | 5,071          | 4,763          |
| Alaska .....               | 2,669          | 2,190          | 2,402          | 2,038          | 2,163          | 2,102          |
| Arizona .....              | 2,716          | 4,777          | 6,200          | 8,185          | 6,791          | 1,986          |
| Arkansas .....             | 122            | 1,753          | 6,764          | 8,176          | 7,022          | 6,618          |
| California .....           | 20,126         | 25,310         | 31,816         | 34,624         | 26,020         | 15,338         |
| Colorado .....             | 1,046          | 684            | 1,378          | 1,419          | 1,763          | 914            |
| Connecticut .....          | 9              | 209            | 1,605          | 2,672          | 1,582          | 1,708          |
| Delaware .....             | 1,152          | 985            | 1,319          | 1,672          | 1,648          | 1,196          |
| District of Columbia ..... | 0              | 0              | 0              | 0              | 0              | 0              |
| Florida .....              | 18,413         | 28,024         | 27,465         | 29,246         | 31,965         | 33,183         |
| Georgia .....              | 337            | 741            | 3,350          | 5,027          | 5,457          | 4,959          |
| Hawaii .....               | 0              | 0              | 0              | 0              | 0              | 0              |
| Idaho .....                | 0              | 0              | 0              | 0              | 0              | 0              |
| Illinois .....             | 1,465          | 1,426          | 6,084          | 7,669          | 7,640          | 7,325          |
| Indiana .....              | 172            | 389            | 957            | 1,695          | 1,911          | 1,732          |
| Iowa .....                 | 147            | 177            | 1,099          | 1,049          | 933            | 749            |
| Kansas .....               | 2,097          | 1,602          | 6,109          | 7,062          | 7,713          | 5,133          |
| Kentucky .....             | 151            | 206            | 978            | 1,060          | 649            | 950            |
| Louisiana .....            | 20,877         | 24,381         | 36,591         | 44,636         | 43,677         | 38,806         |
| Maine .....                | 0              | 0              | 0              | 0              | 0              | 0              |
| Maryland .....             | 188            | 232            | 2,565          | 3,146          | 2,186          | 1,396          |
| Massachusetts .....        | 777            | 918            | 1,127          | 1,965          | 1,404          | 2,164          |
| Michigan .....             | 3,163          | 3,934          | 5,415          | 5,520          | 4,553          | 5,074          |
| Minnesota .....            | 268            | 504            | 1,538          | 1,461          | 1,389          | 979            |
| Mississippi .....          | 3,553          | 4,004          | 9,141          | 11,125         | 10,887         | 10,629         |
| Missouri .....             | 521            | 228            | 3,067          | 3,997          | 3,750          | 2,425          |
| Montana .....              | 33             | 48             | 69             | 83             | 80             | 26             |
| Nebraska .....             | 35             | 154            | 955            | 1,161          | 1,022          | 702            |
| Nevada .....               | 4,649          | 5,732          | 6,460          | 8,818          | 8,189          | 4,036          |
| New Hampshire .....        | 25             | 0              | 0              | 26             | 37             | 35             |
| New Jersey .....           | 804            | 376            | 3,446          | 6,216          | 7,105          | 4,303          |
| New Mexico .....           | 2,246          | 2,708          | 3,782          | 4,850          | 5,283          | 4,019          |
| New York .....             | 8,116          | 15,872         | 20,464         | 34,201         | 29,277         | 24,080         |
| North Carolina .....       | 29             | 136            | 2,132          | 3,116          | 2,041          | 3,788          |
| North Dakota .....         | 0              | 0              | 0              | 0              | 0              | 0              |
| Ohio .....                 | 170            | 272            | 1,333          | 1,426          | 1,307          | 1,103          |
| Oklahoma .....             | 11,482         | 11,983         | 21,106         | 26,807         | 26,740         | 20,703         |
| Oregon .....               | 4,188          | 3,701          | 4,014          | 3,781          | 3,008          | 835            |
| Pennsylvania .....         | 98             | 220            | 561            | 455            | 1,411          | 2,017          |
| Rhode Island .....         | 0              | 0              | 0              | 2,251          | 2,238          | 1,453          |
| South Carolina .....       | 97             | 72             | 919            | 1,237          | 1,239          | 1,413          |
| South Dakota .....         | 190            | 61             | 366            | 608            | 627            | 315            |
| Tennessee .....            | 0              | 190            | 1,860          | 1,123          | 1,407          | 1,202          |
| Texas .....                | 61,712         | 95,036         | 143,064        | 161,408        | 174,322        | 153,383        |
| Utah .....                 | 165            | 648            | 1,206          | 1,323          | 1,126          | 160            |
| Vermont .....              | 3              | 7              | 11             | 8              | 15             | 7              |
| Virginia .....             | 625            | 1,435          | 3,323          | 3,645          | 2,969          | 2,253          |
| Washington .....           | 1,742          | 3,318          | 2,749          | 3,470          | 621            | 33             |
| West Virginia .....        | 56             | 52             | 20             | 34             | 53             | 46             |
| Wisconsin .....            | 589            | 486            | 2,044          | 2,338          | 3,059          | 2,554          |
| Wyoming .....              | 6              | 13             | 9              | 1              | 5              | 10             |
| <b>Total .....</b>         | <b>177,596</b> | <b>246,171</b> | <b>381,075</b> | <b>456,960</b> | <b>449,354</b> | <b>378,607</b> |

See footnotes at end of table.

**Table 18. Natural Gas Deliveries to Electric Utility<sup>a</sup> Consumers, by State, 1997-1999**

(Million Cubic Feet) — Continued

| State                      | 1998           |                |                |                |                | 1997             |
|----------------------------|----------------|----------------|----------------|----------------|----------------|------------------|
|                            | May            | April          | March          | February       | January        | Total            |
| Alabama .....              | 2,843          | 296            | 382            | 157            | 362            | 9,997            |
| Alaska .....               | 2,420          | 2,274          | 2,391          | 2,316          | 2,862          | 33,510           |
| Arizona .....              | 674            | 1,127          | 718            | 803            | 961            | 23,385           |
| Arkansas .....             | 5,431          | 2,262          | 1,507          | 269            | 286            | 24,805           |
| California .....           | 13,746         | 18,053         | 23,365         | 18,272         | 26,743         | 377,946          |
| Colorado .....             | 690            | 581            | 412            | 446            | 377            | 5,536            |
| Connecticut .....          | 1,385          | 157            | 23             | 109            | 1,135          | 16,761           |
| Delaware .....             | 900            | 548            | 475            | 74             | 255            | 16,092           |
| District of Columbia ..... | 0              | 0              | 0              | 0              | 0              | 0                |
| Florida .....              | 26,818         | 15,852         | 18,011         | 15,630         | 19,071         | 296,903          |
| Georgia .....              | 1,891          | 41             | 149            | 57             | 102            | 7,342            |
| Hawaii .....               | 0              | 0              | 0              | 0              | 0              | 0                |
| Idaho .....                | 0              | 0              | 0              | 0              | 0              | 0                |
| Illinois .....             | 7,006          | 4,790          | 3,985          | 3,502          | 3,977          | 44,607           |
| Indiana .....              | 1,102          | 231            | 427            | 129            | 115            | 4,661            |
| Iowa .....                 | 674            | 288            | 237            | 195            | 255            | 4,124            |
| Kansas .....               | 3,088          | 575            | 891            | 426            | 521            | 25,822           |
| Kentucky .....             | 1,017          | 107            | 282            | 138            | 86             | 2,194            |
| Louisiana .....            | 31,804         | 18,072         | 16,190         | 9,854          | 15,161         | 277,438          |
| Maine .....                | 0              | 0              | 0              | 0              | 0              | 0                |
| Maryland .....             | 932            | 373            | 371            | 222            | 191            | 11,007           |
| Massachusetts .....        | 2,661          | 1,575          | 1,561          | 1,316          | 2,235          | 51,490           |
| Michigan .....             | 4,196          | 3,582          | 3,735          | 2,480          | 3,218          | 33,287           |
| Minnesota .....            | 792            | 264            | 202            | 104            | 118            | 6,098            |
| Mississippi .....          | 8,715          | 4,398          | 3,920          | 2,774          | 3,090          | 73,083           |
| Missouri .....             | 947            | 208            | 160            | 80             | 137            | 7,465            |
| Montana .....              | 89             | 15             | 39             | 0              | 1              | 420              |
| Nebraska .....             | 621            | 173            | 58             | 21             | 36             | 2,656            |
| Nevada .....               | 3,932          | 3,926          | 2,925          | 3,377          | 3,532          | 51,777           |
| New Hampshire .....        | 0              | 0              | 0              | 26             | 0              | 564              |
| New Jersey .....           | 3,925          | 1,248          | 1,835          | 419            | 528            | 29,534           |
| New Mexico .....           | 3,015          | 3,446          | 3,091          | 1,801          | 1,917          | 33,375           |
| New York .....             | 18,922         | 9,089          | 10,407         | 10,285         | 16,724         | 217,504          |
| North Carolina .....       | 1,026          | 12             | 91             | 1              | 11             | 4,512            |
| North Dakota .....         | 0              | 0              | 0              | 0              | 0              | 1                |
| Ohio .....                 | 1,005          | 179            | 307            | 96             | 114            | 3,486            |
| Oklahoma .....             | 13,832         | 7,905          | 9,348          | 5,179          | 6,427          | 128,818          |
| Oregon .....               | 176            | 2,265          | 1,334          | 1,101          | 1,470          | 10,680           |
| Pennsylvania .....         | 622            | 260            | 406            | 257            | 225            | 7,370            |
| Rhode Island .....         | 1,943          | 1,606          | 1,888          | 1,599          | 2,612          | 27,160           |
| South Carolina .....       | 687            | 37             | 105            | 11             | 33             | 2,731            |
| South Dakota .....         | 366            | 33             | 42             | 6              | 63             | 1,731            |
| Tennessee .....            | 432            | 0              | 0              | 0              | 0              | 1,636            |
| Texas .....                | 115,390        | 82,922         | 80,353         | 48,953         | 54,167         | 1,056,550        |
| Utah .....                 | 157            | 153            | 177            | 164            | 174            | 4,078            |
| Vermont .....              | 12             | 6              | 3              | 47             | 65             | 36               |
| Virginia .....             | 2,157          | 698            | 1,196          | 476            | 852            | 11,572           |
| Washington .....           | 14             | 152            | 121            | 5              | 492            | 2,618            |
| West Virginia .....        | 30             | 22             | 29             | 29             | 21             | 219              |
| Wisconsin .....            | 2,279          | 394            | 1,106          | 352            | 418            | 15,776           |
| Wyoming .....              | 6              | 8              | 3              | 200            | 7              | 95               |
| <b>Total .....</b>         | <b>290,368</b> | <b>190,201</b> | <b>194,258</b> | <b>133,757</b> | <b>171,149</b> | <b>2,968,453</b> |

<sup>a</sup> 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 19. Natural Gas Deliveries to All Consumers, by State, 1997-1999**

(Million Cubic Feet)

| State                      | YTD<br>1999       | YTD<br>1998       | YTD<br>1997       | 1999             |                              |                              |
|----------------------------|-------------------|-------------------|-------------------|------------------|------------------------------|------------------------------|
|                            |                   |                   |                   | July             | June                         | May                          |
| Alabama .....              | 183,571           | 204,345           | 174,091           | 25,072           | 21,880                       | 21,550                       |
| Alaska .....               | 85,952            | 85,608            | 88,912            | 11,184           | 10,001                       | 11,310                       |
| Arizona .....              | 85,379            | 76,099            | 66,705            | 11,018           | 10,728                       | 11,235                       |
| Arkansas .....             | 153,081           | 159,091           | 147,346           | 20,530           | <sup>R</sup> 20,067          | <sup>R</sup> 18,730          |
| California .....           | 1,165,472         | 1,095,473         | 1,056,418         | 144,066          | 134,100                      | 147,078                      |
| Colorado .....             | NA                | 167,706           | 171,041           | NA               | 15,518                       | 23,423                       |
| Connecticut .....          | 81,178            | 77,617            | 83,712            | 8,635            | 7,572                        | 8,721                        |
| Delaware .....             | 36,185            | 24,194            | 31,663            | 5,945            | 4,459                        | 4,684                        |
| District of Columbia ..... | NA                | 21,097            | 22,333            | NA               | 1,339                        | 1,936                        |
| Florida .....              | 282,690           | 273,890           | 286,380           | 49,048           | 44,457                       | 45,007                       |
| Georgia .....              | 155,489           | 214,337           | 211,473           | 15,745           | 11,630                       | 12,729                       |
| Hawaii .....               | 1,349             | 1,365             | 1,418             | 189              | 186                          | 187                          |
| Idaho .....                | 40,672            | 39,339            | 38,010            | 3,303            | 3,694                        | 4,982                        |
| Illinois .....             | 618,984           | 584,446           | 665,641           | 48,591           | 42,995                       | 48,427                       |
| Indiana .....              | NA                | 319,164           | 336,372           | NA               | <sup>R</sup> 40,326          | NA                           |
| Iowa .....                 | 145,663           | 141,111           | 149,308           | 12,157           | 10,630                       | 13,526                       |
| Kansas .....               | NA                | 199,207           | 153,304           | 21,777           | 15,706                       | NA                           |
| Kentucky .....             | 119,123           | 115,078           | 121,543           | 10,455           | 9,565                        | 10,764                       |
| Louisiana .....            | 803,216           | 766,555           | 790,408           | 122,081          | 118,847                      | 118,399                      |
| Maine .....                | 3,496             | 3,394             | 3,701             | 251              | 305                          | <sup>R</sup> 338             |
| Maryland .....             | NA                | 109,805           | 124,373           | NA               | 9,567                        | NA                           |
| Massachusetts .....        | NA                | NA                | 243,961           | NA               | <sup>R</sup> 29,416          | <sup>R</sup> 24,814          |
| Michigan .....             | 562,774           | 541,043           | 605,343           | 39,886           | 42,209                       | 53,199                       |
| Minnesota .....            | 201,133           | 185,426           | 211,041           | 14,413           | 14,578                       | 17,148                       |
| Mississippi .....          | NA                | NA                | 119,859           | 22,609           | 18,524                       | 18,935                       |
| Missouri .....             | NA                | 170,486           | 183,241           | 15,407           | 12,102                       | 13,712                       |
| Montana .....              | 35,105            | 29,869            | 33,283            | 2,345            | <sup>R</sup> 4,285           | <sup>R</sup> 4,107           |
| Nebraska .....             | 70,274            | 75,286            | 83,863            | 8,369            | 5,233                        | 6,732                        |
| Nevada .....               | 88,866            | 80,795            | 75,412            | 12,209           | 11,047                       | 12,008                       |
| New Hampshire .....        | 13,227            | NA                | 13,515            | 874              | 943                          | 1,256                        |
| New Jersey .....           | NA                | 356,002           | 393,150           | NA               | NA                           | NA                           |
| New Mexico .....           | NA                | 86,386            | 84,396            | 11,822           | 10,605                       | 11,186                       |
| New York .....             | NA                | NA                | 767,257           | 85,075           | NA                           | NA                           |
| North Carolina .....       | 138,717           | 138,629           | 127,420           | 15,765           | 13,055                       | 13,782                       |
| North Dakota .....         | 25,868            | 26,491            | 27,698            | 1,666            | 1,818                        | 2,600                        |
| Ohio .....                 | 534,001           | NA                | 560,811           | 38,305           | 38,778                       | 46,614                       |
| Oklahoma .....             | 261,252           | 281,089           | 267,993           | 37,906           | 33,062                       | 30,544                       |
| Oregon .....               | 119,630           | NA                | 87,143            | 11,549           | 11,834                       | 15,055                       |
| Pennsylvania .....         | 395,675           | NA                | 413,191           | 30,423           | 31,355                       | 36,087                       |
| Rhode Island .....         | 41,394            | 57,434            | 51,280            | 4,001            | 4,031                        | 4,942                        |
| South Carolina .....       | 95,131            | 96,706            | 89,660            | 11,304           | 9,831                        | 10,774                       |
| South Dakota .....         | 19,382            | 18,665            | 21,562            | 1,652            | 1,257                        | 1,683                        |
| Tennessee .....            | NA                | 163,857           | 158,683           | 17,468           | 16,707                       | NA                           |
| Texas .....                | NA                | 2,095,470         | 2,051,942         | 287,098          | 285,705                      | NA                           |
| Utah .....                 | 78,275            | 82,661            | 79,793            | 7,198            | 5,585                        | 8,108                        |
| Vermont .....              | 5,094             | 5,001             | 5,174             | 295              | 327                          | 492                          |
| Virginia .....             | NA                | 144,647           | 142,786           | 20,778           | 17,424                       | NA                           |
| Washington .....           | NA                | NA                | 119,424           | NA               | NA                           | NA                           |
| West Virginia .....        | NA                | 67,287            | 72,529            | 5,975            | NA                           | <sup>R</sup> 6,751           |
| Wisconsin .....            | 236,575           | 217,470           | 248,569           | 19,288           | 18,210                       | 20,427                       |
| Wyoming .....              | NA                | NA                | 43,473            | NA               | 4,070                        | 4,927                        |
| <b>Total .....</b>         | <b>11,922,937</b> | <b>11,784,083</b> | <b>12,107,599</b> | <b>1,381,686</b> | <b><sup>R</sup>1,305,168</b> | <b><sup>R</sup>1,380,920</b> |

See footnotes at end of table.

**Table 19. Natural Gas Deliveries to All Consumers, by State, 1997-1999**

(Million Cubic Feet) — Continued

| State                      | 1999                         |                              |                              |                              | 1998                          |                              |
|----------------------------|------------------------------|------------------------------|------------------------------|------------------------------|-------------------------------|------------------------------|
|                            | April                        | March                        | February                     | January                      | Total                         | December                     |
| Alabama .....              | 25,408                       | 31,445                       | 27,246                       | 30,970                       | 322,428                       | 23,534                       |
| Alaska .....               | 11,807                       | 13,666                       | 13,158                       | 14,826                       | 147,720                       | 14,986                       |
| Arizona .....              | 13,298                       | 11,069                       | 13,011                       | 15,019                       | 134,452                       | 14,346                       |
| Arkansas .....             | 20,542                       | 23,155                       | 21,807                       | 28,252                       | 259,454                       | 21,517                       |
| California .....           | 168,965                      | 169,377                      | 194,473                      | 207,412                      | 1,870,106                     | 186,227                      |
| Colorado .....             | 25,857                       | 28,762                       | 32,456                       | 38,285                       | <sup>R</sup> 253,002          | 29,840                       |
| Connecticut .....          | 9,935                        | 14,524                       | 15,078                       | 16,712                       | 121,350                       | 12,418                       |
| Delaware .....             | 4,066                        | 6,212                        | 5,203                        | 5,616                        | 40,707                        | 3,961                        |
| District of Columbia ..... | 3,245                        | 4,658                        | 4,857                        | 5,400                        | 30,104                        | 3,024                        |
| Florida .....              | 45,367                       | 37,194                       | 28,874                       | 32,743                       | <sup>R</sup> 468,465          | <sup>R</sup> 33,297          |
| Georgia .....              | 20,327                       | 28,558                       | 30,600                       | 35,900                       | 335,333                       | 33,189                       |
| Hawaii .....               | 193                          | 186                          | 205                          | 202                          | 2,291                         | 195                          |
| Idaho .....                | 6,275                        | 7,004                        | 7,448                        | 7,967                        | 61,955                        | 6,707                        |
| Illinois .....             | 76,416                       | 118,510                      | 118,464                      | 165,581                      | 943,171                       | 119,331                      |
| Indiana .....              | NA                           | NA                           | 60,327                       | 80,594                       | NA                            | NA                           |
| Iowa .....                 | 19,867                       | 25,822                       | 26,622                       | 37,039                       | <sup>R</sup> 225,482          | 26,120                       |
| Kansas .....               | 22,816                       | 28,740                       | 28,075                       | NA                           | NA                            | NA                           |
| Kentucky .....             | 14,449                       | 23,759                       | 21,978                       | 28,154                       | 187,099                       | 22,577                       |
| Louisiana .....            | 111,290                      | 112,180                      | 100,272                      | 120,148                      | <sup>R</sup> 1,335,394        | 113,502                      |
| Maine .....                | 435                          | 676                          | 578                          | 913                          | 5,655                         | 670                          |
| Maryland .....             | 16,010                       | <sup>R</sup> 22,372          | 22,274                       | 26,960                       | NA                            | 19,949                       |
| Massachusetts .....        | <sup>R</sup> 34,319          | <sup>R</sup> 44,601          | 34,771                       | 28,117                       | NA                            | <sup>R</sup> 30,320          |
| Michigan .....             | 75,564                       | 112,050                      | 107,362                      | 132,504                      | 831,885                       | 93,042                       |
| Minnesota .....            | 24,400                       | 36,599                       | 41,064                       | 52,930                       | <sup>R</sup> 305,993          | 40,705                       |
| Mississippi .....          | NA                           | 18,227                       | <sup>R</sup> 17,659          | <sup>R</sup> 21,460          | NA                            | 15,794                       |
| Missouri .....             | 21,771                       | 30,549                       | NA                           | 45,831                       | 253,135                       | 27,398                       |
| Montana .....              | <sup>R</sup> 5,214           | <sup>R</sup> 5,662           | <sup>R</sup> 6,628           | <sup>R</sup> 8,290           | <sup>R</sup> 49,153           | 6,569                        |
| Nebraska .....             | 7,337                        | 11,831                       | 12,934                       | 17,838                       | 111,685                       | 10,494                       |
| Nevada .....               | 12,142                       | 12,810                       | 13,191                       | 15,458                       | 142,541                       | 15,210                       |
| New Hampshire .....        | 1,909                        | 2,539                        | 2,590                        | 3,115                        | NA                            | 2,033                        |
| New Jersey .....           | NA                           | NA                           | NA                           | NA                           | NA                            | NA                           |
| New Mexico .....           | NA                           | 18,599                       | 16,409                       | NA                           | 145,612                       | 18,414                       |
| New York .....             | NA                           | NA                           | NA                           | NA                           | NA                            | NA                           |
| North Carolina .....       | 18,182                       | 28,489                       | 21,832                       | 27,610                       | 215,593                       | 19,245                       |
| North Dakota .....         | 3,371                        | 4,608                        | 5,967                        | 5,837                        | 41,491                        | 4,685                        |
| Ohio .....                 | 72,247                       | 108,903                      | 107,908                      | 121,245                      | NA                            | 96,741                       |
| Oklahoma .....             | 36,362                       | 38,033                       | 37,020                       | 48,324                       | 475,813                       | 38,388                       |
| Oregon .....               | 16,579                       | 23,934                       | 18,855                       | 21,825                       | NA                            | 21,167                       |
| Pennsylvania .....         | 54,080                       | 77,564                       | 79,300                       | 86,866                       | NA                            | 64,611                       |
| Rhode Island .....         | 5,782                        | 6,963                        | 7,279                        | 8,396                        | <sup>R</sup> 84,105           | 5,371                        |
| South Carolina .....       | 14,264                       | 17,294                       | 14,128                       | 17,536                       | 155,973                       | 14,080                       |
| South Dakota .....         | 2,779                        | 3,307                        | 3,646                        | 5,058                        | 29,298                        | 3,736                        |
| Tennessee .....            | NA                           | 27,924                       | 28,158                       | 37,984                       | <sup>R</sup> 262,933          | 27,441                       |
| Texas .....                | 259,945                      | 256,140                      | 255,885                      | 306,033                      | NA                            | 337,337                      |
| Utah .....                 | 12,336                       | 12,602                       | 15,610                       | 16,835                       | 138,895                       | 19,052                       |
| Vermont .....              | 756                          | 1,017                        | 1,023                        | 1,184                        | 7,726                         | 895                          |
| Virginia .....             | 22,879                       | 29,725                       | 28,564                       | 29,151                       | NA                            | 24,374                       |
| Washington .....           | NA                           | NA                           | NA                           | NA                           | NA                            | NA                           |
| West Virginia .....        | NA                           | NA                           | 11,950                       | 14,254                       | 105,765                       | 11,062                       |
| Wisconsin .....            | 28,958                       | 43,610                       | 44,128                       | 61,954                       | 354,578                       | 45,711                       |
| Wyoming .....              | 5,772                        | 6,239                        | NA                           | 7,653                        | NA                            | 7,888                        |
| <b>Total .....</b>         | <b><sup>R</sup>1,617,467</b> | <b><sup>R</sup>1,957,327</b> | <b><sup>R</sup>1,944,530</b> | <b><sup>R</sup>2,335,838</b> | <b><sup>R</sup>19,362,973</b> | <b><sup>R</sup>1,952,857</b> |

See footnotes at end of table.

**Table 19. Natural Gas Deliveries to All Consumers, by State, 1997-1999**

(Million Cubic Feet) — Continued

| State                      | 1998                         |                              |                              |                              |                              |                              |
|----------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
|                            | November                     | October                      | September                    | August                       | July                         | June                         |
| Alabama .....              | 22,229                       | 21,862                       | 23,797                       | 26,659                       | 25,628                       | 26,343                       |
| Alaska .....               | 13,057                       | 12,401                       | 10,543                       | 11,125                       | 10,602                       | 10,497                       |
| Arizona .....              | 9,433                        | 10,323                       | 10,941                       | 13,309                       | 12,050                       | 7,467                        |
| Arkansas .....             | 17,104                       | 16,649                       | 21,819                       | 23,275                       | 21,870                       | 21,251                       |
| California .....           | 151,474                      | 140,054                      | 146,001                      | 150,877                      | 137,487                      | 120,557                      |
| Colorado .....             | 19,959                       | 12,965                       | 11,011                       | 11,521                       | <sup>R</sup> 13,218          | <sup>R</sup> 10,946          |
| Connecticut .....          | 9,164                        | 6,999                        | 6,999                        | 8,154                        | 7,337                        | 7,280                        |
| Delaware .....             | 3,589                        | 2,871                        | 2,857                        | 3,234                        | 3,131                        | 2,833                        |
| District of Columbia ..... | 2,293                        | 1,340                        | 1,176                        | 1,174                        | 1,242                        | 1,348                        |
| Florida .....              | 33,673                       | 42,172                       | 42,145                       | 43,287                       | 46,686                       | 48,216                       |
| Georgia .....              | 26,768                       | 19,977                       | 17,087                       | 23,974                       | 23,938                       | 24,020                       |
| Hawaii .....               | 183                          | 172                          | 181                          | 195                          | 179                          | 195                          |
| Idaho .....                | 5,353                        | 3,948                        | 3,405                        | 3,203                        | 3,429                        | 3,876                        |
| Illinois .....             | 90,632                       | 58,574                       | 44,996                       | 45,191                       | 42,646                       | 46,294                       |
| Indiana .....              | 45,997                       | 36,048                       | <sup>R</sup> 30,974          | <sup>R</sup> 28,836          | <sup>R</sup> 29,251          | <sup>R</sup> 30,308          |
| Iowa .....                 | 20,707                       | 14,907                       | 11,196                       | 11,442                       | 11,556                       | 11,035                       |
| Kansas .....               | <sup>R</sup> 25,989          | 18,590                       | 19,008                       | 24,716                       | 27,485                       | 22,388                       |
| Kentucky .....             | 17,607                       | 11,855                       | 9,983                        | 10,000                       | 9,770                        | 10,292                       |
| Louisiana .....            | 91,902                       | <sup>R</sup> 106,630         | 123,820                      | 132,986                      | 127,464                      | 115,782                      |
| Maine .....                | 566                          | 452                          | 295                          | 278                          | 251                          | 305                          |
| Maryland .....             | 14,622                       | NA                           | NA                           | 11,097                       | 9,929                        | 9,573                        |
| Massachusetts .....        | 24,816                       | 18,469                       | <sup>R</sup> 13,495          | 15,853                       | 16,112                       | NA                           |
| Michigan .....             | 73,532                       | 51,240                       | 37,220                       | 35,808                       | 35,320                       | 43,847                       |
| Minnesota .....            | 30,638                       | 20,204                       | 14,547                       | 14,473                       | 13,755                       | 14,572                       |
| Mississippi .....          | 13,000                       | 12,479                       | 17,349                       | NA                           | 18,965                       | NA                           |
| Missouri .....             | 17,749                       | 11,162                       | 12,462                       | 13,878                       | 13,142                       | 12,678                       |
| Montana .....              | 4,937                        | 3,509                        | 2,167                        | 2,102                        | 2,176                        | 2,423                        |
| Nebraska .....             | 8,245                        | 5,476                        | 5,090                        | 7,095                        | 8,959                        | 5,832                        |
| Nevada .....               | 11,727                       | 11,223                       | 10,166                       | 13,421                       | 12,929                       | 9,447                        |
| New Hampshire .....        | <sup>R</sup> 1,771           | 1,219                        | 857                          | NA                           | 871                          | NA                           |
| New Jersey .....           | NA                           | NA                           | NA                           | 32,663                       | 33,936                       | 31,639                       |
| New Mexico .....           | 11,763                       | 8,914                        | 9,670                        | 10,465                       | 10,814                       | 8,579                        |
| New York .....             | NA                           | NA                           | NA                           | NA                           | NA                           | NA                           |
| North Carolina .....       | 16,376                       | 12,630                       | 13,759                       | 14,953                       | 13,148                       | 15,680                       |
| North Dakota .....         | 3,789                        | 2,153                        | 2,186                        | 2,187                        | 2,043                        | 2,397                        |
| Ohio .....                 | 73,111                       | 50,727                       | 36,525                       | 36,235                       | NA                           | NA                           |
| Oklahoma .....             | 31,239                       | 32,913                       | 43,899                       | 48,285                       | 46,660                       | 40,664                       |
| Oregon .....               | 18,653                       | 15,418                       | 14,253                       | 14,248                       | 13,185                       | 10,671                       |
| Pennsylvania .....         | 50,045                       | 35,333                       | NA                           | NA                           | 28,412                       | 31,355                       |
| Rhode Island .....         | 5,835                        | 4,819                        | 4,039                        | 6,605                        | 6,839                        | 5,982                        |
| South Carolina .....       | 12,475                       | 10,663                       | 10,940                       | 11,109                       | 10,338                       | 11,503                       |
| South Dakota .....         | 2,814                        | 1,250                        | 1,294                        | 1,538                        | 1,600                        | 1,209                        |
| Tennessee .....            | 21,469                       | 17,987                       | 15,995                       | 16,183                       | 15,198                       | 15,500                       |
| Texas .....                | 281,351                      | NA                           | 317,245                      | 348,252                      | 380,407                      | 320,879                      |
| Utah .....                 | 12,689                       | 10,621                       | 7,336                        | 6,535                        | 6,659                        | 6,949                        |
| Vermont .....              | 673                          | 453                          | 403                          | 301                          | 325                          | 347                          |
| Virginia .....             | NA                           | 16,165                       | 15,462                       | 16,133                       | 16,568                       | 14,775                       |
| Washington .....           | NA                           | NA                           | NA                           | NA                           | NA                           | NA                           |
| West Virginia .....        | 9,032                        | 6,994                        | 5,717                        | 5,675                        | 5,660                        | 5,929                        |
| Wisconsin .....            | 33,445                       | 22,491                       | 17,723                       | 17,737                       | 16,504                       | 18,699                       |
| Wyoming .....              | 6,622                        | 5,539                        | 4,519                        | 4,536                        | 4,661                        | 5,103                        |
| <b>Total .....</b>         | <b><sup>R</sup>1,554,509</b> | <b><sup>R</sup>1,333,899</b> | <b><sup>R</sup>1,318,338</b> | <b><sup>R</sup>1,419,288</b> | <b><sup>R</sup>1,429,075</b> | <b><sup>R</sup>1,327,643</b> |

See footnotes at end of table.

# Table 19

**Table 19. Natural Gas Deliveries to All Consumers, by State, 1997-1999**

(Million Cubic Feet) — Continued

| State                      | 1998              |                   |                   |                   |                   | 1997              |
|----------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|                            | May               | April             | March             | February          | January           | Total             |
| Alabama .....              | 26,426            | 26,483            | 31,953            | 31,998            | 35,514            | 292,094           |
| Alaska .....               | 11,188            | 12,197            | 13,409            | 12,865            | 14,850            | 149,164           |
| Arizona .....              | 7,574             | 10,115            | 12,000            | 12,168            | 14,725            | 112,590           |
| Arkansas .....             | 20,424            | 21,483            | 24,783            | 23,126            | 26,153            | 244,644           |
| California .....           | 140,354           | 150,887           | 151,877           | 190,770           | 203,541           | 1,850,248         |
| Colorado .....             | 18,653            | 24,714            | 31,312            | 32,169            | 36,693            | 263,988           |
| Connecticut .....          | 7,933             | 10,871            | 13,255            | 14,383            | 16,557            | 134,557           |
| Delaware .....             | 2,924             | 3,298             | 4,029             | 3,776             | 4,203             | 46,480            |
| District of Columbia ..... | 1,720             | 3,025             | 4,064             | 4,747             | 4,951             | 33,824            |
| Florida .....              | 42,712            | 32,793            | R35,481           | R31,251           | R36,753           | 477,601           |
| Georgia .....              | 21,199            | 25,805            | 37,286            | 39,542            | 42,548            | 353,700           |
| Hawaii .....               | 181               | 194               | 189               | 203               | 224               | 2,611             |
| Idaho .....                | 4,186             | 5,684             | 6,585             | 7,284             | 8,295             | 61,707            |
| Illinois .....             | 51,218            | 79,882            | 110,448           | 107,822           | 146,135           | 1,062,463         |
| Indiana .....              | 32,766            | R40,836           | R60,183           | 57,103            | 68,716            | 546,337           |
| Iowa .....                 | 12,663            | 18,779            | R28,070           | 25,934            | 33,073            | 243,476           |
| Kansas .....               | 21,123            | 23,512            | 35,146            | 31,669            | 37,884            | 248,563           |
| Kentucky .....             | 11,505            | 14,076            | 21,967            | 21,257            | 26,211            | 202,583           |
| Louisiana .....            | 111,320           | 101,827           | 103,612           | 95,623            | 110,927           | 1,360,160         |
| Maine .....                | 335               | 447               | 633               | 647               | 777               | 6,247             |
| Maryland .....             | 10,440            | 14,048            | 20,680            | 21,403            | 23,731            | 204,319           |
| Massachusetts .....        | NA                | 29,252            | 36,404            | 38,346            | 42,821            | 377,911           |
| Michigan .....             | 51,625            | 77,976            | 106,021           | 106,501           | 119,753           | 943,881           |
| Minnesota .....            | 14,737            | 21,645            | R37,304           | 36,305            | R47,109           | 334,572           |
| Mississippi .....          | NA                | NA                | NA                | 17,461            | NA                | 206,749           |
| Missouri .....             | 13,736            | 21,662            | 33,689            | 34,873            | 40,706            | 276,124           |
| Montana .....              | R2,760            | 4,240             | 5,477             | 5,313             | 7,480             | 54,114            |
| Nebraska .....             | 6,933             | 9,827             | 13,611            | 13,802            | 16,321            | 128,031           |
| Nevada .....               | 10,147            | 11,412            | 11,550            | 12,082            | 13,229            | 127,969           |
| New Hampshire .....        | 1,226             | 1,776             | R2,245            | 2,585             | 2,788             | 20,822            |
| New Jersey .....           | 41,615            | 46,964            | 65,242            | 66,099            | 70,507            | 617,638           |
| New Mexico .....           | 9,248             | 11,952            | 14,536            | 12,873            | 18,385            | 142,353           |
| New York .....             | NA                | 82,450            | NA                | NA                | NA                | 1,220,113         |
| North Carolina .....       | 14,761            | 17,721            | 23,352            | 25,906            | 28,061            | 206,940           |
| North Dakota .....         | 2,958             | 3,759             | 4,760             | 4,840             | 5,735             | 42,826            |
| Ohio .....                 | 45,666            | 67,612            | 98,219            | 99,777            | 113,599           | 878,124           |
| Oklahoma .....             | 33,009            | 32,165            | 43,105            | 40,820            | 44,667            | 452,453           |
| Oregon .....               | 10,944            | NA                | NA                | 17,735            | 21,237            | 159,105           |
| Pennsylvania .....         | 34,777            | NA                | 72,422            | 75,456            | 75,438            | 652,219           |
| Rhode Island .....         | 7,135             | R7,744            | 9,414             | 9,401             | 10,920            | 82,100            |
| South Carolina .....       | 11,680            | 12,349            | 15,673            | 17,097            | 18,065            | 150,962           |
| South Dakota .....         | 2,114             | 2,244             | 3,588             | 3,464             | 4,445             | 32,289            |
| Tennessee .....            | 17,809            | 21,904            | 31,153            | 28,238            | R34,056           | 259,773           |
| Texas .....                | 293,029           | 266,948           | 287,964           | R257,144          | 289,099           | 3,566,640         |
| Utah .....                 | 7,578             | 12,236            | 14,719            | 16,672            | 17,848            | 137,605           |
| Vermont .....              | 409               | 716               | 918               | 1,085             | 1,202             | 8,052             |
| Virginia .....             | 14,601            | R18,416           | 25,084            | 27,386            | 27,818            | 232,674           |
| Washington .....           | NA                | NA                | NA                | NA                | NA                | 222,391           |
| West Virginia .....        | 6,672             | 9,625             | 12,819            | 12,904            | 13,678            | 119,512           |
| Wisconsin .....            | 19,667            | 27,883            | 44,074            | 39,113            | 51,530            | 396,055           |
| Wyoming .....              | 5,536             | 5,357             | 6,765             | R7,653            | NA                | 70,797            |
| <b>Total .....</b>         | <b>R1,361,796</b> | <b>R1,552,976</b> | <b>R1,943,426</b> | <b>R1,944,593</b> | <b>R2,224,574</b> | <b>20,018,151</b> |

<sup>R</sup> 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 20. Average City Gate Price, by State, 1997-1999**

(Dollars per Thousand Cubic Feet)

| State                      | YTD<br>1999 | YTD<br>1998 | YTD<br>1997 | 1999        |              |              |             |              |
|----------------------------|-------------|-------------|-------------|-------------|--------------|--------------|-------------|--------------|
|                            |             |             |             | July        | June         | May          | April       | March        |
| Alabama .....              | 2.81        | 3.21        | 3.84        | 3.33        | 3.53         | 2.86         | 2.70        | 2.65         |
| Alaska .....               | 1.31        | 1.72        | 1.82        | 1.26        | 1.27         | 1.23         | 1.32        | 1.33         |
| Arizona .....              | 2.45        | 2.56        | 3.16        | 3.26        | 3.16         | 3.03         | 2.39        | 2.18         |
| Arkansas .....             | NA          | 2.98        | 3.18        | 3.04        | NA           | NA           | 2.71        | 2.58         |
| California .....           | 2.34        | 2.35        | 3.01        | 2.51        | 2.57         | 2.71         | 2.17        | 2.07         |
| Colorado .....             | NA          | NA          | 2.97        | NA          | 2.44         | 2.36         | 1.14        | 1.84         |
| Connecticut .....          | 4.68        | 5.18        | 5.29        | 5.34        | 4.33         | 5.17         | 4.87        | 4.57         |
| Delaware .....             | 3.61        | 2.70        | 3.79        | 4.43        | 5.10         | 3.91         | 3.12        | 3.33         |
| District of Columbia ..... | 0.00        | 0.00        | 0.00        | 0.00        | —            | —            | —           | —            |
| Florida .....              | 3.20        | 3.38        | 3.95        | 3.22        | 3.27         | 3.28         | 2.99        | 3.11         |
| Georgia .....              | NA          | 3.45        | 4.01        | 3.42        | 4.08         | NA           | 3.11        | 3.33         |
| Hawaii .....               | 4.93        | 5.49        | 6.58        | 5.61        | 5.45         | 4.72         | 4.68        | 4.53         |
| Idaho .....                | 1.85        | 1.95        | 2.21        | 2.72        | 1.50         | 1.69         | 1.94        | 1.82         |
| Illinois .....             | 2.72        | 2.86        | 3.15        | 3.23        | 3.17         | 3.62         | 2.63        | 2.51         |
| Indiana .....              | NA          | NA          | 2.98        | NA          | NA           | NA           | NA          | NA           |
| Iowa .....                 | 2.95        | 3.54        | 3.64        | 3.54        | 4.26         | 3.63         | 3.03        | 2.77         |
| Kansas .....               | NA          | 2.99        | 3.33        | 2.52        | 3.08         | 2.94         | 2.54        | —            |
| Kentucky .....             | 3.16        | 3.30        | 3.70        | 3.06        | 2.89         | 3.63         | 3.73        | 2.79         |
| Louisiana .....            | 2.22        | 2.43        | 2.98        | 2.24        | 2.27         | 2.41         | 2.14        | 2.16         |
| Maine .....                | NA          | 3.33        | 4.25        | 5.39        | 3.67         | NA           | 5.48        | 3.05         |
| Maryland .....             | NA          | 3.91        | 3.90        | NA          | 5.86         | NA           | NA          | NA           |
| Massachusetts .....        | NA          | 4.08        | 3.80        | NA          | NA           | 5.21         | NA          | NA           |
| Michigan .....             | 2.81        | 2.81        | 2.95        | 2.83        | 2.63         | 2.83         | 2.75        | 2.79         |
| Minnesota .....            | 2.76        | 2.98        | 3.41        | 3.30        | 3.23         | 2.87         | 2.49        | 2.70         |
| Mississippi .....          | NA          | NA          | 3.33        | 2.84        | 2.49         | 2.66         | NA          | R2.61        |
| Missouri .....             | 3.09        | 3.33        | 3.69        | 5.14        | 4.90         | 4.56         | 3.43        | 2.75         |
| Montana .....              | 2.48        | 2.43        | 3.26        | 2.08        | 2.20         | 1.37         | 2.39        | 2.98         |
| Nebraska .....             | 3.03        | 3.39        | 3.62        | 3.25        | 3.24         | 3.45         | 2.94        | 2.90         |
| Nevada .....               | 2.15        | 3.15        | 3.44        | 0.83        | 3.60         | 3.07         | 2.13        | 2.31         |
| New Hampshire .....        | 3.61        | NA          | 4.19        | 4.77        | 4.06         | 3.32         | 3.59        | 3.24         |
| New Jersey .....           | NA          | 3.59        | 4.11        | NA          | NA           | NA           | NA          | 1.20         |
| New Mexico .....           | 2.04        | 2.10        | 2.53        | 2.06        | 2.13         | 2.06         | 1.81        | 1.98         |
| New York .....             | NA          | NA          | 3.22        | 2.84        | NA           | NA           | NA          | NA           |
| North Carolina .....       | 3.10        | 3.65        | 3.99        | 3.21        | 3.34         | 3.52         | 3.25        | 2.73         |
| North Dakota .....         | 2.78        | 2.80        | 3.29        | 2.90        | 2.83         | 2.97         | 2.57        | 2.58         |
| Ohio .....                 | 4.88        | 4.73        | 5.47        | 5.07        | 5.81         | 6.71         | 7.73        | 4.43         |
| Oklahoma .....             | 2.77        | 2.56        | 3.13        | 2.19        | 2.47         | 2.28         | 2.35        | 2.36         |
| Oregon .....               | 2.73        | NA          | 2.52        | 3.74        | 3.28         | 2.84         | 2.66        | 2.59         |
| Pennsylvania .....         | 3.54        | NA          | 4.02        | 5.13        | 4.35         | 4.61         | 3.62        | 3.26         |
| Rhode Island .....         | 3.53        | NA          | 4.41        | 5.41        | 4.73         | 4.46         | 4.09        | 3.06         |
| South Carolina .....       | 3.27        | 3.49        | 3.70        | 3.63        | 3.80         | 3.85         | 3.43        | 2.86         |
| South Dakota .....         | 3.40        | 3.39        | 3.68        | 4.03        | 3.72         | 4.21         | 3.37        | 3.25         |
| Tennessee .....            | NA          | NA          | 3.21        | 3.25        | 2.75         | 2.81         | NA          | 2.80         |
| Texas .....                | 2.69        | 2.84        | 3.63        | 2.77        | 2.78         | 2.86         | 2.45        | 2.38         |
| Utah .....                 | 2.78        | 3.18        | 2.55        | 4.04        | 2.62         | 2.07         | 2.31        | 2.76         |
| Vermont .....              | 2.96        | 2.71        | 2.18        | 2.63        | 3.12         | 3.34         | 3.07        | 2.92         |
| Virginia .....             | NA          | 3.75        | 4.15        | 7.13        | 5.27         | NA           | 3.70        | 3.35         |
| Washington .....           | NA          | NA          | 2.66        | NA          | NA           | NA           | NA          | NA           |
| West Virginia .....        | NA          | 3.05        | 3.09        | 3.16        | NA           | 4.15         | NA          | NA           |
| Wisconsin .....            | 2.91        | 3.36        | 3.60        | 3.84        | R4.12        | R3.62        | 3.11        | 2.64         |
| Wyoming .....              | 3.15        | NA          | 3.05        | 3.51        | 2.53         | 3.01         | 3.40        | 2.91         |
| <b>Total .....</b>         | <b>2.92</b> | <b>3.12</b> | <b>3.54</b> | <b>3.12</b> | <b>R3.19</b> | <b>R3.23</b> | <b>2.89</b> | <b>R2.67</b> |

See footnotes at end of table.

# Table 20

**Table 20. Average City Gate Price, by State, 1997-1999**

(Dollars per Thousand Cubic Feet) — Continued

| State                      | 1999        |             | 1998         |              |             |             |              |             |
|----------------------------|-------------|-------------|--------------|--------------|-------------|-------------|--------------|-------------|
|                            | February    | January     | Total        | December     | November    | October     | September    | August      |
| Alabama .....              | 2.79        | 2.62        | 3.26         | 3.16         | 3.26        | 3.64        | 3.43         | 3.82        |
| Alaska .....               | 1.34        | 1.32        | NA           | 1.73         | NA          | 1.73        | 1.71         | 1.71        |
| Arizona .....              | 2.19        | 2.17        | 2.55         | 2.31         | 2.67        | 2.61        | 2.76         | 2.84        |
| Arkansas .....             | 3.40        | 2.69        | 2.94         | 3.13         | 3.03        | 2.93        | 1.88         | 2.38        |
| California .....           | 2.25        | 2.23        | 2.38         | 2.76         | 2.49        | 2.22        | 1.95         | 2.46        |
| Colorado .....             | 2.07        | 2.21        | NA           | 2.74         | 2.18        | 2.24        | NA           | 2.26        |
| Connecticut .....          | 4.74        | 4.44        | 5.06         | 5.51         | 4.54        | 4.28        | 4.69         | 4.87        |
| Delaware .....             | 3.68        | 3.63        | 3.01         | 4.10         | 3.83        | 3.75        | 3.76         | 2.70        |
| District of Columbia ..... | —           | —           | 0.00         | —            | —           | —           | —            | —           |
| Florida .....              | 3.24        | 3.30        | 3.36         | 3.36         | 3.66        | 3.48        | 2.99         | 3.10        |
| Georgia .....              | 3.47        | 4.61        | 3.51         | 4.34         | 3.24        | 3.08        | 3.37         | 3.45        |
| Hawaii .....               | 4.47        | 5.07        | 5.33         | 5.17         | 5.14        | 4.95        | 5.12         | 5.06        |
| Idaho .....                | 1.92        | 1.76        | 1.96         | 1.86         | 1.99        | 1.95        | 2.38         | 2.14        |
| Illinois .....             | 2.59        | 2.49        | 2.75         | 2.74         | 2.65        | 2.43        | 2.24         | 2.49        |
| Indiana .....              | 2.26        | 2.11        | NA           | ^2.43        | NA          | NA          | —            | 2.53        |
| Iowa .....                 | 3.02        | 2.62        | 3.48         | 2.79         | 3.05        | 4.98        | 4.00         | 4.29        |
| Kansas .....               | NA          | NA          | ^2.97        | 2.79         | 3.20        | 2.97        | 2.83         | 3.03        |
| Kentucky .....             | 3.10        | 3.35        | 3.22         | 3.08         | 3.19        | 2.94        | 3.58         | 2.85        |
| Louisiana .....            | 2.19        | 2.20        | NA           | 2.48         | 2.20        | NA          | 2.01         | 2.05        |
| Maine .....                | 2.84        | 3.27        | NA           | ^3.82        | NA          | 3.37        | 2.69         | 3.21        |
| Maryland .....             | NA          | 2.82        | NA           | 3.19         | 3.42        | NA          | NA           | 5.86        |
| Massachusetts .....        | NA          | NA          | NA           | NA           | 3.49        | 4.46        | 5.82         | 5.75        |
| Michigan .....             | 3.02        | 2.79        | 2.80         | 3.05         | 2.86        | 2.61        | 2.69         | 2.79        |
| Minnesota .....            | 2.84        | 2.60        | 2.97         | 3.04         | 3.04        | 2.74        | 2.78         | 3.06        |
| Mississippi .....          | 2.92        | NA          | NA           | 3.14         | 3.16        | 2.91        | 2.65         | 2.67        |
| Missouri .....             | 2.89        | 2.49        | 3.32         | 2.77         | 3.12        | 4.06        | 4.50         | 4.61        |
| Montana .....              | 2.70        | 2.75        | 2.39         | 2.40         | 2.57        | 2.29        | 2.20         | 1.87        |
| Nebraska .....             | 3.11        | 2.90        | 3.23         | 3.10         | 2.84        | 3.03        | 2.90         | 3.01        |
| Nevada .....               | 2.54        | 2.42        | 3.02         | 2.65         | 2.60        | 2.48        | 3.79         | 4.43        |
| New Hampshire .....        | 3.56        | 3.73        | NA           | 3.63         | 3.41        | NA          | 3.34         | 3.80        |
| New Jersey .....           | NA          | NA          | NA           | NA           | NA          | 4.08        | 5.83         | 3.75        |
| New Mexico .....           | 2.08        | 2.13        | 2.07         | 2.18         | 2.16        | 1.75        | 1.64         | 1.86        |
| New York .....             | NA          | NA          | NA           | NA           | NA          | NA          | ^2.56        | NA          |
| North Carolina .....       | 3.00        | 3.11        | 3.49         | 3.09         | 3.16        | 3.46        | 3.20         | 3.43        |
| North Dakota .....         | 2.84        | 2.85        | 2.81         | 3.01         | 3.10        | 3.05        | 2.11         | 2.49        |
| Ohio .....                 | 4.62        | 4.22        | 4.70         | 4.32         | 4.23        | 6.02        | 5.54         | 4.70        |
| Oklahoma .....             | 5.21        | 2.41        | 2.55         | 2.54         | 2.52        | 2.16        | 2.73         | 2.61        |
| Oregon .....               | 2.68        | 2.43        | NA           | 2.50         | 2.61        | 2.72        | 2.93         | 3.60        |
| Pennsylvania .....         | 3.41        | 3.15        | NA           | 3.45         | 3.48        | 3.74        | 5.18         | NA          |
| Rhode Island .....         | 3.20        | 3.32        | NA           | 1.25         | 4.04        | 4.02        | 4.23         | 4.66        |
| South Carolina .....       | 3.09        | 3.14        | ^3.45        | ^3.24        | 3.34        | 3.49        | 3.48         | 3.57        |
| South Dakota .....         | 3.37        | 3.18        | 3.23         | 2.69         | 3.07        | 2.76        | 3.91         | 4.68        |
| Tennessee .....            | 2.72        | 2.85        | NA           | ^3.28        | 3.57        | 3.06        | 2.42         | 2.77        |
| Texas .....                | 2.61        | 2.95        | 2.74         | 3.03         | 2.85        | 2.37        | 2.09         | 2.35        |
| Utah .....                 | 3.11        | 2.86        | 3.22         | 3.58         | 3.07        | 2.94        | 3.37         | 3.48        |
| Vermont .....              | 3.01        | 2.85        | 2.58         | 2.52         | 2.67        | 1.99        | 2.26         | 2.34        |
| Virginia .....             | 2.97        | 3.32        | 3.69         | 3.25         | 3.31        | 3.80        | 4.52         | 5.14        |
| Washington .....           | NA          | NA          | NA           | NA           | NA          | NA          | NA           | NA          |
| West Virginia .....        | 4.00        | 6.98        | 3.14         | 3.79         | 3.55        | 3.48        | 2.58         | 2.43        |
| Wisconsin .....            | 2.77        | 2.52        | ^3.32        | 2.84         | 3.35        | 3.24        | ^3.76        | 4.38        |
| Wyoming .....              | 3.49        | 3.07        | NA           | 4.14         | 3.22        | 2.88        | 2.46         | 2.93        |
| <b>Total .....</b>         | <b>2.94</b> | <b>2.86</b> | <b>^3.07</b> | <b>^3.07</b> | <b>3.00</b> | <b>3.00</b> | <b>^2.73</b> | <b>3.05</b> |

See footnotes at end of table.

**Table 20. Average City Gate Price, by State, 1997-1999**

(Dollars per Thousand Cubic Feet) — Continued

| State                      | 1998                     |                     |                     |             |                          |                     |                          | 1997        |
|----------------------------|--------------------------|---------------------|---------------------|-------------|--------------------------|---------------------|--------------------------|-------------|
|                            | July                     | June                | May                 | April       | March                    | February            | January                  | Total       |
| Alabama .....              | 3.97                     | 3.86                | 3.56                | 3.20        | 3.03                     | 2.93                | 3.18                     | 3.65        |
| Alaska .....               | 1.64                     | 1.67                | 1.68                | 1.71        | 1.73                     | 1.72                | 1.75                     | 1.81        |
| Arizona .....              | 2.85                     | 2.60                | 2.93                | 2.75        | 2.55                     | 2.28                | 2.46                     | 3.15        |
| Arkansas .....             | 3.23                     | 2.31                | 3.00                | 2.96        | 3.13                     | 2.85                | 3.09                     | 3.23        |
| California .....           | 2.39                     | 2.34                | 2.49                | 2.33        | 2.38                     | 2.12                | 2.35                     | 2.98        |
| Colorado .....             | 2.09                     | 2.43                | 2.46                | NA          | NA                       | NA                  | NA                       | 2.92        |
| Connecticut .....          | 5.14                     | 4.74                | 5.08                | 5.89        | 4.87                     | 5.24                | 5.23                     | 5.11        |
| Delaware .....             | 2.86                     | 4.35                | 1.79                | 2.63        | 2.73                     | 3.02                | 2.71                     | 3.53        |
| District of Columbia ..... | —                        | —                   | —                   | —           | —                        | —                   | —                        | —           |
| Florida .....              | 3.14                     | 2.96                | 3.15                | 3.92        | 3.25                     | 3.20                | 3.81                     | 3.97        |
| Georgia .....              | 3.57                     | 3.01                | 3.55                | 3.63        | 3.85                     | 3.18                | 3.43                     | 3.98        |
| Hawaii .....               | 4.77                     | 4.86                | 5.21                | 5.21        | 6.25                     | 5.75                | 6.40                     | 6.42        |
| Idaho .....                | 2.81                     | 2.18                | 1.94                | 1.96        | 1.81                     | 1.94                | 1.89                     | 2.12        |
| Illinois .....             | 3.16                     | 2.15                | 3.64                | 2.90        | 2.81                     | 2.85                | 2.78                     | 3.28        |
| Indiana .....              | NA                       | 1.51                | 2.80                | 2.43        | 2.32                     | 2.48                | 2.49                     | 3.03        |
| Iowa .....                 | 4.11                     | 1.98                | 4.17                | 3.33        | 3.42                     | 3.33                | 3.80                     | 4.06        |
| Kansas .....               | 3.87                     | 3.66                | 3.17                | 2.79        | 2.86                     | 2.73                | R <sup>a</sup> 2.94      | 3.47        |
| Kentucky .....             | 3.57                     | 3.12                | 3.33                | 3.99        | 3.23                     | 3.09                | 3.22                     | 3.83        |
| Louisiana .....            | 2.45                     | 2.19                | 2.36                | 2.29        | 2.53                     | 2.25                | 2.81                     | 3.04        |
| Maine .....                | 5.39                     | R <sup>b</sup> 3.67 | R <sup>b</sup> 2.53 | 3.25        | 3.25                     | 3.25                | 3.25                     | 3.84        |
| Maryland .....             | 7.62                     | 5.94                | 5.58                | 4.37        | 3.44                     | 3.43                | 2.96                     | 4.02        |
| Massachusetts .....        | 7.56                     | 6.87                | 5.44                | 3.98        | 3.64                     | 2.89                | 3.40                     | 3.85        |
| Michigan .....             | 2.92                     | 2.50                | 2.69                | 2.78        | 2.97                     | 2.89                | 2.94                     | 2.99        |
| Minnesota .....            | 3.31                     | 2.88                | 3.24                | 2.95        | 3.00                     | 2.90                | 2.90                     | 3.67        |
| Mississippi .....          | 3.09                     | 2.86                | NA                  | NA          | NA                       | 2.99                | NA                       | 3.39        |
| Missouri .....             | 5.12                     | 4.87                | 4.47                | 3.72        | 2.97                     | 2.99                | 2.96                     | 3.75        |
| Montana .....              | 2.51                     | 2.08                | 2.22                | 2.29        | 2.50                     | 2.41                | 2.71                     | 3.16        |
| Nebraska .....             | 3.65                     | 2.98                | 3.73                | 3.29        | 2.98                     | 2.70                | 4.71                     | 4.24        |
| Nevada .....               | 3.75                     | 3.37                | 3.25                | 3.00        | 3.29                     | 3.00                | 3.03                     | 3.39        |
| New Hampshire .....        | 4.63                     | NA                  | 3.36                | 3.37        | 3.93                     | 3.74                | 3.77                     | 4.10        |
| New Jersey .....           | 3.86                     | 3.57                | 3.00                | 3.54        | 3.53                     | 3.38                | 4.37                     | 4.19        |
| New Mexico .....           | 1.94                     | 1.76                | 2.04                | 2.19        | 2.20                     | 2.02                | 2.24                     | 2.53        |
| New York .....             | R <sup>b</sup> 2.85      | 2.88                | NA                  | 3.01        | R <sup>b</sup> 2.01      | NA                  | R <sup>b</sup> 2.06      | 3.51        |
| North Carolina .....       | 3.95                     | 3.83                | 3.66                | 3.91        | 3.49                     | 3.47                | 3.65                     | 3.97        |
| North Dakota .....         | 2.57                     | 2.34                | 2.74                | 2.86        | 2.91                     | 2.85                | 2.93                     | 3.38        |
| Ohio .....                 | 5.16                     | 4.75                | 5.04                | 4.89        | 4.87                     | 4.27                | 4.82                     | 5.18        |
| Oklahoma .....             | 2.38                     | 2.51                | 2.46                | 2.36        | 2.38                     | 2.61                | 2.86                     | 3.12        |
| Oregon .....               | 4.13                     | 3.22                | 2.78                | NA          | NA                       | 2.31                | 2.53                     | 2.58        |
| Pennsylvania .....         | R <sup>b</sup> 6.23      | 4.79                | 3.94                | NA          | 5.26                     | 3.64                | 3.68                     | 4.09        |
| Rhode Island .....         | 4.82                     | 4.69                | 4.68                | NA          | R <sup>b</sup> 4.05      | R <sup>b</sup> 4.03 | 3.93                     | 4.49        |
| South Carolina .....       | 4.09                     | 3.81                | 3.90                | 3.66        | 3.34                     | 3.05                | 3.37                     | 3.81        |
| South Dakota .....         | 4.27                     | 2.91                | 4.42                | 4.37        | 2.60                     | 3.66                | 3.22                     | 3.65        |
| Tennessee .....            | 3.12                     | 3.39                | 3.40                | 6.62        | 2.42                     | 3.84                | NA                       | 3.36        |
| Texas .....                | 2.62                     | 2.36                | 2.65                | 2.94        | 2.84                     | 2.87                | 3.26                     | 3.66        |
| Utah .....                 | 2.64                     | 2.73                | 2.62                | 2.89        | 3.23                     | 3.68                | 3.25                     | 2.79        |
| Vermont .....              | 2.60                     | 2.69                | 2.82                | 2.74        | 2.92                     | 2.66                | 2.59                     | 2.33        |
| Virginia .....             | 4.51                     | 4.32                | 4.37                | 3.64        | 3.25                     | 3.63                | 3.97                     | 4.14        |
| Washington .....           | NA                       | NA                  | NA                  | NA          | NA                       | NA                  | NA                       | 2.62        |
| West Virginia .....        | 2.76                     | 2.91                | 3.43                | 3.61        | 2.58                     | 3.15                | 3.34                     | 3.17        |
| Wisconsin .....            | 4.36                     | 3.82                | 3.63                | 3.54        | 3.33                     | 2.99                | 3.21                     | 3.67        |
| Wyoming .....              | NA                       | 2.53                | NA                  | 1.28        | 3.29                     | 3.31                | NA                       | 3.11        |
| <b>Total .....</b>         | <b>R<sup>b</sup>3.31</b> | <b>2.98</b>         | <b>3.10</b>         | <b>3.22</b> | <b>R<sup>b</sup>3.08</b> | <b>3.08</b>         | <b>R<sup>b</sup>3.11</b> | <b>3.61</b> |

<sup>a</sup> Revised Data.<sup>b</sup> 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 21. Average Price of Natural Gas Delivered to Residential Consumers, by State, 1997-1999**

(Dollars per Thousand Cubic Feet)

| State                      | YTD<br>1999 | YTD<br>1998 | YTD<br>1997 | 1999        |                         |                         |             |             |
|----------------------------|-------------|-------------|-------------|-------------|-------------------------|-------------------------|-------------|-------------|
|                            |             |             |             | July        | June                    | May                     | April       | March       |
| Alabama .....              | 7.96        | 7.65        | 8.28        | 11.38       | 10.98                   | 9.83                    | 7.83        | 7.03        |
| Alaska .....               | 3.65        | 3.74        | 3.78        | 4.31        | 4.10                    | 3.81                    | 3.65        | 3.59        |
| Arizona .....              | 8.75        | 8.01        | 7.38        | 12.26       | 11.03                   | 9.55                    | 8.75        | 8.57        |
| Arkansas .....             | 6.60        | 6.69        | 6.52        | 9.65        | <sup>R</sup> 9.45       | <sup>R</sup> 8.25       | 6.70        | 6.16        |
| California .....           | 6.48        | 6.93        | 6.47        | 7.04        | 6.82                    | 6.22                    | 5.98        | 6.22        |
| Colorado .....             | NA          | NA          | 4.56        | NA          | 6.13                    | 5.12                    | 5.00        | 4.86        |
| Connecticut .....          | 10.25       | 10.41       | 10.30       | 11.67       | 11.86                   | 11.31                   | 10.29       | 10.08       |
| Delaware .....             | 8.40        | 8.51        | 8.09        | 10.58       | 10.97                   | 9.32                    | 8.39        | 8.05        |
| District of Columbia ..... | NA          | NA          | 9.14        | NA          | 8.24                    | 8.95                    | 7.96        | 7.76        |
| Florida .....              | 11.38       | 11.25       | 11.29       | 13.77       | 13.34                   | 12.59                   | 11.46       | 10.58       |
| Georgia .....              | NA          | 7.28        | 7.79        | 11.45       | 10.16                   | NA                      | 4.12        | 2.44        |
| Hawaii .....               | 18.46       | 19.46       | 22.20       | 18.71       | 18.56                   | 18.60                   | 18.04       | 18.15       |
| Idaho .....                | 5.24        | 5.27        | 5.01        | 6.21        | 5.83                    | 5.46                    | 5.31        | 5.10        |
| Illinois .....             | 5.08        | 5.46        | 5.99        | 8.85        | 8.12                    | 7.66                    | 5.27        | 4.63        |
| Indiana .....              | NA          | NA          | 6.47        | 6.92        | <sup>R</sup> 6.76       | NA                      | NA          | NA          |
| Iowa .....                 | 5.66        | 5.77        | 5.80        | 9.40        | 11.36                   | 7.77                    | 6.00        | 5.26        |
| Kansas .....               | NA          | 5.99        | 6.34        | 8.77        | 7.71                    | 6.58                    | 5.64        | NA          |
| Kentucky .....             | 5.37        | 5.82        | 6.23        | 8.18        | 7.75                    | 6.75                    | 5.46        | 4.82        |
| Louisiana .....            | 6.21        | 6.30        | 6.97        | 8.55        | 7.75                    | 7.34                    | 6.19        | 5.98        |
| Maine .....                | 7.54        | 8.14        | 8.52        | 9.11        | 8.33                    | 8.66                    | 7.85        | 7.38        |
| Maryland .....             | NA          | 8.02        | 8.21        | NA          | 11.87                   | NA                      | 7.98        | NA          |
| Massachusetts .....        | NA          | NA          | 9.30        | NA          | NA                      | NA                      | NA          | NA          |
| Michigan .....             | 5.00        | 5.07        | 5.10        | 7.68        | 6.46                    | 5.72                    | 5.10        | 4.78        |
| Minnesota .....            | 5.30        | 5.41        | 5.64        | 8.04        | 7.19                    | 6.26                    | 5.21        | 5.08        |
| Mississippi .....          | NA          | NA          | 6.19        | 7.22        | 7.12                    | 6.92                    | NA          | 5.20        |
| Missouri .....             | 5.92        | 6.30        | 6.36        | 9.85        | 6.09                    | 7.08                    | 6.06        | 5.41        |
| Montana .....              | 4.98        | NA          | 4.74        | 6.58        | 5.99                    | 4.66                    | 4.95        | 4.94        |
| Nebraska .....             | 4.70        | 5.19        | 5.43        | 7.13        | 6.76                    | 5.39                    | 4.70        | 4.47        |
| Nevada .....               | 7.06        | 6.95        | 5.99        | 8.86        | 8.15                    | 7.39                    | 7.00        | 6.94        |
| New Hampshire .....        | 7.36        | 8.17        | 8.46        | 8.68        | 7.88                    | 6.36                    | 5.67        | 8.23        |
| New Jersey .....           | NA          | 7.52        | 7.84        | NA          | NA                      | NA                      | NA          | NA          |
| New Mexico .....           | 4.07        | 5.47        | 6.39        | 9.96        | 10.62                   | 9.45                    | 4.97        | 3.09        |
| New York .....             | NA          | NA          | 9.48        | 11.31       | NA                      | NA                      | NA          | NA          |
| North Carolina .....       | 7.83        | 8.33        | 9.03        | 11.74       | 12.98                   | 8.76                    | 7.92        | 6.20        |
| North Dakota .....         | 4.91        | 4.99        | 4.57        | 7.54        | 7.23                    | 5.19                    | 4.71        | 4.76        |
| Ohio .....                 | 5.97        | NA          | 6.79        | 8.41        | 7.89                    | 6.83                    | 5.83        | 5.63        |
| Oklahoma .....             | 5.26        | 5.87        | 6.14        | 8.80        | 3.63                    | 6.83                    | 5.59        | 5.33        |
| Oregon .....               | 7.05        | NA          | 6.13        | 10.50       | 7.75                    | 7.26                    | 7.04        | 6.91        |
| Pennsylvania .....         | 8.13        | NA          | 8.28        | 11.40       | 10.69                   | 9.00                    | 7.64        | 7.82        |
| Rhode Island .....         | 9.23        | NA          | 9.47        | 11.52       | 11.36                   | 9.79                    | 9.48        | 8.88        |
| South Carolina .....       | 8.43        | 8.24        | 8.50        | 10.20       | 9.89                    | 8.48                    | 8.17        | 7.81        |
| South Dakota .....         | 5.42        | 5.53        | 5.42        | 8.69        | 8.46                    | 6.48                    | 5.43        | 5.00        |
| Tennessee .....            | NA          | NA          | 6.86        | 8.86        | 9.32                    | NA                      | NA          | 6.37        |
| Texas .....                | 5.62        | 6.13        | 6.18        | 7.40        | 7.86                    | 6.91                    | 6.00        | 5.18        |
| Utah .....                 | 5.23        | 5.60        | 4.99        | 5.54        | 5.78                    | 4.83                    | 4.19        | 5.59        |
| Vermont .....              | 6.82        | 6.52        | 6.27        | 9.33        | 8.42                    | 7.41                    | 6.83        | 6.68        |
| Virginia .....             | NA          | 8.44        | 8.37        | 13.85       | 13.36                   | NA                      | 8.72        | 7.34        |
| Washington .....           | NA          | NA          | 5.56        | NA          | NA                      | NA                      | NA          | NA          |
| West Virginia .....        | NA          | NA          | 7.00        | 10.66       | NA                      | NA                      | NA          | NA          |
| Wisconsin .....            | 6.15        | 6.13        | 6.36        | 7.14        | 6.50                    | 5.81                    | 6.10        | 6.05        |
| Wyoming .....              | 5.16        | NA          | 4.02        | 6.74        | 5.94                    | 5.08                    | 5.02        | 5.18        |
| <b>Total .....</b>         | <b>6.38</b> | <b>6.72</b> | <b>6.85</b> | <b>8.44</b> | <b><sup>R</sup>7.89</b> | <b><sup>R</sup>7.08</b> | <b>6.31</b> | <b>6.02</b> |

See footnotes at end of table.

**Table 21. Average Price of Natural Gas Delivered to Residential Consumers, by State, 1997-1999**

(Dollars per Thousand Cubic Feet) — Continued

| State                      | 1999        |              | 1998        |             |             |             |              |              |
|----------------------------|-------------|--------------|-------------|-------------|-------------|-------------|--------------|--------------|
|                            | February    | January      | Total       | December    | November    | October     | September    | August       |
| Alabama .....              | 8.29        | 7.13         | 8.15        | 8.99        | 9.94        | 10.92       | 10.71        | 10.78        |
| Alaska .....               | 3.53        | 3.53         | 3.67        | 3.51        | 3.70        | 3.74        | 3.01         | 3.75         |
| Arizona .....              | 8.17        | 8.03         | 8.56        | 8.39        | 9.91        | 12.07       | 13.01        | 13.19        |
| Arkansas .....             | 6.94        | 5.66         | 6.86        | 6.83        | 6.79        | 8.13        | 8.81         | 8.99         |
| California .....           | 6.54        | 6.82         | 6.93        | 6.89        | 6.80        | 6.88        | 7.01         | 7.21         |
| Colorado .....             | 4.75        | 4.68         | NA          | 4.86        | 5.18        | 5.75        | 8.36         | 7.44         |
| Connecticut .....          | 10.18       | 9.71         | 10.59       | 10.96       | 10.51       | 11.13       | 11.73        | 11.80        |
| Delaware .....             | 8.10        | 8.05         | 8.86        | 8.56        | 9.38        | 11.62       | 12.78        | 12.61        |
| District of Columbia ..... | 8.25        | 8.61         | NA          | 8.96        | 9.29        | 10.65       | 11.22        | 8.59         |
| Florida .....              | 11.10       | 10.29        | R11.72      | R11.97      | 12.19       | 14.12       | 13.56        | 13.59        |
| Georgia .....              | 2.38        | 2.12         | 6.74        | 2.41        | 3.43        | 7.99        | 15.53        | 15.94        |
| Hawaii .....               | 18.34       | 18.79        | 19.31       | 18.88       | 19.41       | 19.27       | 19.41        | 18.31        |
| Idaho .....                | 5.13        | 5.03         | 5.34        | 5.16        | 5.43        | 5.80        | 6.55         | 6.71         |
| Illinois .....             | 4.62        | 4.46         | 5.46        | 4.77        | 5.01        | 5.97        | 8.06         | 8.16         |
| Indiana .....              | NA          | 5.36         | NA          | NA          | 5.77        | 6.67        | R8.64        | R9.43        |
| Iowa .....                 | 5.07        | 4.79         | 5.91        | 4.91        | 5.69        | 7.32        | 10.97        | 10.78        |
| Kansas .....               | NA          | NA           | 6.08        | 5.60        | 5.98        | 7.54        | 8.07         | 7.98         |
| Kentucky .....             | 5.27        | 5.08         | 5.94        | 5.24        | 5.67        | 7.83        | 9.19         | 9.75         |
| Louisiana .....            | 5.86        | 5.56         | NA          | 7.00        | 7.93        | NA          | 8.91         | 8.84         |
| Maine .....                | 7.34        | 7.00         | 8.00        | 7.59        | 7.40        | 7.61        | 8.88         | 9.13         |
| Maryland .....             | NA          | 7.37         | NA          | 8.13        | 7.86        | NA          | NA           | 11.52        |
| Massachusetts .....        | 9.19        | 9.39         | NA          | NA          | NA          | 9.55        | NA           | 11.36        |
| Michigan .....             | 4.76        | 4.68         | 5.12        | 4.82        | 4.80        | 5.38        | 6.96         | 7.35         |
| Minnesota .....            | 5.06        | 4.96         | 5.47        | 5.21        | 5.30        | 6.01        | 7.04         | 7.32         |
| Mississippi .....          | R5.94       | R4.84        | NA          | 6.22        | 4.33        | 7.48        | 7.55         | 7.59         |
| Missouri .....             | 5.70        | 5.71         | 6.56        | 6.19        | 6.62        | 8.84        | 9.86         | 10.94        |
| Montana .....              | 4.93        | 4.75         | NA          | 5.05        | 5.27        | 5.90        | 7.04         | 6.89         |
| Nebraska .....             | 4.38        | 4.37         | 5.19        | 4.63        | 4.77        | 5.74        | 6.91         | 7.12         |
| Nevada .....               | 6.75        | 6.70         | 7.11        | 6.74        | 7.14        | 8.00        | 9.25         | 9.27         |
| New Hampshire .....        | 7.60        | 7.44         | NA          | 8.09        | 8.27        | 7.39        | 9.03         | NA           |
| New Jersey .....           | NA          | NA           | NA          | NA          | NA          | 9.33        | NA           | 9.93         |
| New Mexico .....           | 4.25        | 2.63         | 5.20        | 3.21        | 4.22        | 7.96        | 10.19        | 10.57        |
| New York .....             | NA          | NA           | NA          | NA          | NA          | NA          | NA           | 13.55        |
| North Carolina .....       | 8.40        | 7.56         | 8.71        | 9.48        | 8.33        | 11.73       | 12.56        | 13.29        |
| North Dakota .....         | 4.67        | 4.62         | 5.19        | 5.04        | 5.08        | 5.69        | 7.69         | 9.87         |
| Ohio .....                 | 5.69        | 5.87         | NA          | 6.08        | 6.15        | 7.82        | 9.30         | 9.89         |
| Oklahoma .....             | 5.48        | 4.45         | 6.10        | 5.66        | 6.31        | 8.64        | 9.50         | 9.33         |
| Oregon .....               | 6.79        | 6.68         | NA          | 6.72        | 6.88        | 7.62        | 8.78         | 9.04         |
| Pennsylvania .....         | 7.86        | 7.88         | NA          | 7.89        | 8.18        | 9.23        | NA           | NA           |
| Rhode Island .....         | 8.90        | 8.71         | NA          | 9.39        | 9.79        | 10.78       | 12.15        | 12.14        |
| South Carolina .....       | 9.14        | 8.25         | 8.50        | 9.16        | 8.96        | 9.57        | 10.10        | 10.32        |
| South Dakota .....         | 5.09        | 4.89         | 5.59        | 4.99        | 5.35        | 6.34        | 8.38         | 8.63         |
| Tennessee .....            | 6.05        | 5.97         | NA          | 6.30        | 6.62        | 8.09        | 8.51         | 9.03         |
| Texas .....                | 5.20        | 4.97         | 6.31        | 5.52        | 6.58        | 8.16        | 8.79         | 8.97         |
| Utah .....                 | 5.33        | 5.51         | 5.61        | 5.66        | 5.77        | 4.78        | 6.13         | 7.01         |
| Vermont .....              | 6.29        | 6.64         | 6.54        | 6.38        | 6.64        | 7.46        | 5.12         | 8.77         |
| Virginia .....             | 7.98        | 8.01         | 8.66        | 8.18        | 8.52        | 10.97       | 12.22        | 12.28        |
| Washington .....           | NA          | NA           | NA          | NA          | NA          | NA          | NA           | NA           |
| West Virginia .....        | 6.96        | 6.89         | NA          | 7.13        | NA          | 7.64        | 9.66         | 10.37        |
| Wisconsin .....            | 6.28        | 6.07         | 6.08        | 5.97        | 6.06        | 5.42        | 6.49         | 6.66         |
| Wyoming .....              | 5.03        | 4.98         | NA          | 5.10        | NA          | 5.26        | 6.85         | 7.30         |
| <b>Total .....</b>         | <b>6.25</b> | <b>R6.02</b> | <b>6.82</b> | <b>6.36</b> | <b>6.60</b> | <b>7.55</b> | <b>R8.91</b> | <b>R9.17</b> |

See footnotes at end of table.

**Table 21. Average Price of Natural Gas Delivered to Residential Consumers, by State, 1997-1999**

(Dollars per Thousand Cubic Feet) — Continued

| State                      | 1998      |             |             |             |             |             |             | 1997        |
|----------------------------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                            | July      | June        | May         | April       | March       | February    | January     | Total       |
| Alabama .....              | 11.13     | 10.91       | 8.99        | 7.73        | 7.00        | 7.10        | 7.41        | 8.35        |
| Alaska .....               | 4.71      | 4.02        | 3.83        | 3.66        | 3.71        | 3.65        | 3.56        | 3.77        |
| Arizona .....              | 12.24     | 11.02       | 9.58        | 8.14        | 7.39        | 7.40        | 7.23        | 7.83        |
| Arkansas .....             | 9.03      | 8.72        | 7.59        | 6.42        | 6.41        | 6.50        | 6.46        | 6.67        |
| California .....           | 7.07      | 7.32        | 7.01        | 6.80        | 6.78        | 6.49        | 7.28        | 6.81        |
| Colorado .....             | NA        | 15.98       | 5.24        | 4.74        | 4.49        | 4.57        | 4.50        | 4.81        |
| Connecticut .....          | 11.62     | 11.11       | 11.57       | 9.78        | 10.18       | 10.33       | 10.36       | 10.33       |
| Delaware .....             | 11.67     | 10.99       | 9.44        | 8.51        | 8.15        | 8.08        | 8.07        | 8.36        |
| District of Columbia ..... | NA        | 8.50        | 9.70        | 8.86        | 8.62        | 8.44        | 9.01        | 9.39        |
| Florida .....              | 13.79     | 13.30       | 13.08       | 11.34       | 10.51       | 10.47       | 10.33       | 11.90       |
| Georgia .....              | 16.76     | 11.73       | 13.50       | 7.09        | 5.78        | 6.15        | 6.40        | 7.41        |
| Hawaii .....               | 18.60     | 18.75       | 19.02       | 19.21       | 19.87       | 20.46       | 19.99       | 21.74       |
| Idaho .....                | 6.26      | 5.86        | 5.59        | 5.38        | 5.18        | 5.14        | 5.01        | 5.12        |
| Illinois .....             | 8.69      | 8.09        | 7.94        | 5.79        | 4.90        | 4.91        | 4.88        | 5.95        |
| Indiana .....              | NA        | 8.72        | 8.81        | 7.11        | 6.09        | 6.22        | 6.12        | 6.37        |
| Iowa .....                 | 11.56     | 8.41        | 7.80        | 6.36        | 4.79        | 4.97        | 5.49        | 6.17        |
| Kansas .....               | 7.88      | 7.49        | 6.41        | 5.92        | 5.76        | 5.77        | 5.81        | 6.42        |
| Kentucky .....             | 7.87      | 8.15        | 7.15        | 6.56        | 5.25        | 5.47        | 5.48        | 6.37        |
| Louisiana .....            | 8.85      | 8.36        | 8.95        | 6.46        | 5.28        | 5.60        | 6.10        | 7.16        |
| Maine .....                | 9.11      | 8.33        | 8.66        | 8.75        | 7.90        | 7.90        | 7.90        | 8.47        |
| Maryland .....             | 12.03     | 10.82       | 9.82        | 8.36        | 7.53        | 7.36        | 7.38        | 8.36        |
| Massachusetts .....        | 10.45     | NA          | NA          | 9.64        | 9.37        | 9.26        | 9.19        | 9.43        |
| Michigan .....             | 7.12      | 6.23        | 5.85        | 5.11        | 4.69        | 4.92        | 4.85        | 5.20        |
| Minnesota .....            | 7.57      | 7.15        | 6.45        | 5.60        | 5.18        | 5.11        | 5.07        | 5.76        |
| Mississippi .....          | 7.60      | 7.32        | 6.44        | 5.88        | NA          | 5.39        | NA          | 6.35        |
| Missouri .....             | 9.76      | 8.84        | 7.40        | 6.14        | 5.58        | 5.86        | 6.30        | 6.61        |
| Montana .....              | 6.70      | 6.13        | NA          | 5.15        | 4.97        | 5.03        | 4.87        | 5.05        |
| Nebraska .....             | 6.87      | 6.42        | 5.99        | 5.09        | 4.74        | 4.93        | 5.28        | 5.69        |
| Nevada .....               | 8.69      | 7.74        | 7.30        | 6.90        | 6.80        | 6.79        | 6.53        | 6.27        |
| New Hampshire .....        | 9.15      | 8.20        | 7.07        | 6.50        | 9.41        | 8.38        | 8.30        | 8.48        |
| New Jersey .....           | 9.63      | 9.32        | 6.80        | 7.71        | 7.39        | 7.23        | 7.41        | 7.93        |
| New Mexico .....           | 10.89     | 31.23       | 9.69        | 6.26        | 4.55        | 5.23        | 3.72        | 5.87        |
| New York .....             | 7.01      | NA          | NA          | 9.26        | 8.54        | 8.62        | 8.75        | 9.73        |
| North Carolina .....       | 12.05     | 11.81       | 9.29        | 7.91        | 7.77        | 7.93        | 8.33        | 8.98        |
| North Dakota .....         | 7.09      | 7.03        | 5.96        | 5.12        | 4.79        | 4.68        | 4.52        | 4.99        |
| Ohio .....                 | NA        | 7.35        | 6.56        | 6.22        | 5.97        | 5.75        | 6.25        | 6.75        |
| Oklahoma .....             | 8.91      | 8.37        | 6.84        | 5.56        | 5.43        | 5.73        | 5.56        | 6.23        |
| Oregon .....               | 8.33      | 7.48        | 7.19        | NA          | NA          | 6.44        | 6.09        | 6.21        |
| Pennsylvania .....         | 11.22     | 10.51       | 9.02        | NA          | 8.05        | 8.03        | 9.60        | 8.33        |
| Rhode Island .....         | 11.94     | 10.94       | 9.67        | NA          | 9.03        | 8.86        | 8.83        | 9.61        |
| South Carolina .....       | 10.18     | 9.76        | 8.44        | 7.88        | 8.02        | 8.27        | 8.17        | 8.37        |
| South Dakota .....         | 8.90      | 6.54        | 6.88        | 5.88        | 5.31        | 5.07        | 5.01        | 5.75        |
| Tennessee .....            | 8.68      | 8.15        | 6.95        | 6.42        | 5.96        | 6.31        | NA          | 6.91        |
| Texas .....                | 8.86      | 7.94        | 7.31        | 6.29        | 5.14        | 6.58        | 5.42        | 6.32        |
| Utah .....                 | 6.70      | 5.39        | 5.72        | 4.85        | 5.51        | 5.73        | 5.83        | 5.13        |
| Vermont .....              | 8.91      | 8.08        | 7.28        | 6.45        | 6.30        | 6.23        | 6.19        | 6.41        |
| Virginia .....             | 12.22     | 11.73       | 10.14       | 8.28        | 7.75        | 8.05        | 8.11        | 8.60        |
| Washington .....           | NA        | NA          | NA          | NA          | NA          | NA          | NA          | 5.64        |
| West Virginia .....        | 10.50     | 9.65        | NA          | 7.55        | 6.85        | 6.78        | 6.81        | 6.81        |
| Wisconsin .....            | 7.16      | 6.50        | 6.29        | 6.02        | 6.28        | 5.98        | 5.96        | 6.43        |
| Wyoming .....              | NA        | 5.99        | 5.79        | 5.25        | 5.13        | 5.14        | NA          | 4.58        |
| <b>Total .....</b>         | <b>NA</b> | <b>8.49</b> | <b>8.39</b> | <b>7.60</b> | <b>6.79</b> | <b>6.27</b> | <b>6.40</b> | <b>6.45</b> |
|                            |           |             |             |             |             |             |             | <b>6.94</b> |

<sup>R</sup> Revised Data.

NA Not Available.

**Notes:** Data for 1997 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 22. Average Price of Natural Gas Sold to Commercial Consumers, by State, 1997-1999**

(Dollars per Thousand Cubic Feet)

| State                      | YTD<br>1999 | YTD<br>1998 | YTD<br>1997 | 1999        |              |              |              |             |
|----------------------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|-------------|
|                            |             |             |             | July        | June         | May          | April        | March       |
| Alabama .....              | 6.55        | 6.60        | 7.01        | 7.22        | 7.08         | 6.86         | 6.26         | 6.10        |
| Alaska .....               | 2.22        | 2.34        | 2.43        | 1.83        | 1.76         | 1.95         | 2.28         | 2.34        |
| Arizona .....              | 6.12        | 5.80        | 5.13        | 6.13        | 6.05         | 6.05         | 6.11         | 6.12        |
| Arkansas .....             | NA          | 5.16        | 5.16        | 5.69        | NA           | NA           | 5.24         | 4.85        |
| California .....           | 5.63        | 6.43        | 6.43        | 5.68        | 5.43         | 5.24         | 5.57         | 5.17        |
| Colorado .....             | NA          | NA          | 3.88        | NA          | 4.38         | 4.18         | NA           | 4.14        |
| Connecticut .....          | 6.58        | 7.03        | 7.37        | 5.12        | 5.39         | 6.65         | 6.68         | 6.93        |
| Delaware .....             | 6.87        | 6.92        | 6.55        | 8.29        | 7.89         | 7.36         | 6.82         | 6.69        |
| District of Columbia ..... | NA          | 7.33        | 7.98        | NA          | 6.84         | 6.64         | 6.70         | 6.92        |
| Florida .....              | 6.31        | 6.73        | 6.74        | 6.47        | 6.26         | 6.29         | 6.19         | 6.22        |
| Georgia .....              | NA          | 6.32        | 6.74        | 6.55        | 5.99         | NA           | 3.43         | 2.17        |
| Hawaii .....               | 13.60       | 14.39       | 15.05       | 14.46       | 14.00        | 13.28        | 13.08        | 13.19       |
| Idaho .....                | 4.63        | 4.55        | 4.45        | 4.89        | 4.92         | 4.85         | 4.83         | 4.49        |
| Illinois .....             | 4.84        | 4.93        | 5.42        | 7.98        | 7.15         | 6.61         | 4.83         | 4.46        |
| Indiana .....              | NA          | NA          | 5.58        | NA          | NA           | NA           | NA           | NA          |
| Iowa .....                 | 4.51        | 4.54        | 4.95        | 6.26        | 6.44         | 5.51         | 4.67         | 4.11        |
| Kansas .....               | NA          | 5.07        | 5.41        | 5.48        | 5.85         | 5.49         | 4.94         | NA          |
| Kentucky .....             | 4.89        | 5.51        | 5.74        | 5.76        | 5.59         | 4.36         | 5.03         | 4.39        |
| Louisiana .....            | 5.36        | 5.48        | 6.16        | 5.79        | 5.53         | 5.51         | 5.24         | 5.29        |
| Maine .....                | 6.76        | 7.38        | 7.81        | 6.81        | 6.70         | ^7.20        | 7.01         | 6.81        |
| Maryland .....             | NA          | 6.51        | 6.53        | NA          | 8.29         | NA           | 7.03         | NA          |
| Massachusetts .....        | NA          | 7.35        | 7.49        | NA          | ^6.12        | ^6.24        | ^7.79        | ^7.72       |
| Michigan .....             | 4.80        | 4.83        | 4.93        | 5.86        | 5.67         | 5.14         | 4.94         | 4.69        |
| Minnesota .....            | 4.27        | 4.48        | 4.79        | 4.50        | 4.61         | 4.38         | 4.01         | 4.20        |
| Mississippi .....          | NA          | 4.65        | 5.21        | 4.45        | 4.44         | NA           | NA           | 4.53        |
| Missouri .....             | 5.27        | 5.65        | 5.80        | 5.68        | 3.63         | 5.22         | 5.19         | 5.06        |
| Montana .....              | 4.93        | 5.05        | 4.74        | 5.99        | 5.63         | 4.60         | 4.87         | 4.90        |
| Nebraska .....             | 3.99        | 4.79        | 4.85        | 3.84        | 3.94         | 3.88         | 3.77         | 3.98        |
| Nevada .....               | 6.02        | 5.76        | 4.97        | 6.49        | 6.40         | 6.09         | 6.10         | 5.89        |
| New Hampshire .....        | NA          | NA          | 7.81        | 6.16        | 5.98         | NA           | 5.40         | 6.97        |
| New Jersey .....           | NA          | 4.17        | 6.33        | NA          | NA           | NA           | NA           | NA          |
| New Mexico .....           | 3.42        | 4.22        | 4.21        | 4.41        | 5.59         | 5.25         | 4.08         | 3.53        |
| New York .....             | NA          | NA          | 6.75        | 3.67        | NA           | NA           | NA           | NA          |
| North Carolina .....       | 6.07        | 6.58        | 7.18        | 6.13        | 6.12         | 5.85         | 5.62         | 5.87        |
| North Dakota .....         | 4.15        | 4.20        | 4.04        | 5.07        | 4.98         | 3.94         | 3.94         | 4.09        |
| Ohio .....                 | 5.53        | NA          | 6.33        | 6.60        | 6.55         | 5.82         | 5.37         | 5.26        |
| Oklahoma .....             | 4.88        | 5.30        | 5.43        | 5.43        | 5.62         | 4.98         | 4.70         | 5.09        |
| Oregon .....               | 5.61        | NA          | 4.58        | 5.83        | 5.75         | 5.65         | 5.65         | 5.63        |
| Pennsylvania .....         | 8.97        | NA          | 7.49        | 7.83        | 8.96         | 7.05         | 19.98        | 7.03        |
| Rhode Island .....         | 7.94        | 8.00        | 8.21        | 8.91        | 8.70         | 8.45         | 8.03         | 7.73        |
| South Carolina .....       | 6.47        | 6.55        | 7.13        | 5.90        | 6.00         | 6.04         | 6.45         | 6.40        |
| South Dakota .....         | 4.22        | 4.41        | 4.44        | 5.29        | 5.37         | 4.91         | 4.23         | 3.90        |
| Tennessee .....            | NA          | NA          | 6.03        | 5.79        | 5.48         | 5.39         | NA           | 5.68        |
| Texas .....                | 4.24        | 4.73        | 4.89        | 4.02        | 4.37         | 4.12         | 4.36         | 3.96        |
| Utah .....                 | 3.94        | 4.26        | 3.66        | 4.19        | 3.85         | 3.31         | 3.24         | 4.25        |
| Vermont .....              | 5.36        | 5.22        | 5.24        | 5.72        | 5.64         | 5.57         | 5.50         | 5.49        |
| Virginia .....             | NA          | 6.06        | 6.45        | 6.22        | 5.79         | NA           | 5.82         | 5.67        |
| Washington .....           | NA          | NA          | 4.64        | NA          | NA           | NA           | NA           | NA          |
| West Virginia .....        | NA          | 6.50        | 6.27        | 6.76        | NA           | ^6.86        | ^6.06        | 6.19        |
| Wisconsin .....            | 4.82        | 4.97        | 5.29        | 4.68        | 4.53         | 4.22         | 4.43         | 4.78        |
| Wyoming .....              | 4.50        | NA          | 3.43        | 4.47        | 4.53         | 4.51         | 4.44         | 4.51        |
| <b>Total .....</b>         | <b>5.20</b> | <b>5.55</b> | <b>5.84</b> | <b>5.24</b> | <b>^5.23</b> | <b>^5.15</b> | <b>^5.69</b> | <b>5.03</b> |

See footnotes at end of table.

# Table 22

**Table 22. Average Price of Natural Gas Sold to Commercial Consumers, by State, 1997-1999**

(Dollars per Thousand Cubic Feet) — Continued

| State                      | 1999        |             | 1998        |             |             |             |             |             |
|----------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                            | February    | January     | Total       | December    | November    | October     | September   | August      |
| Alabama .....              | 6.93        | 6.33        | 6.75        | 7.18        | 7.53        | 7.06        | 6.92        | 6.96        |
| Alaska .....               | 2.38        | 2.44        | 2.41        | 2.45        | 2.47        | 2.32        | 3.22        | 2.15        |
| Arizona .....              | 6.18        | 6.15        | 5.95        | 6.25        | 6.38        | 6.45        | 5.78        | 6.30        |
| Arkansas .....             | 5.27        | 4.70        | 5.15        | 5.27        | 5.16        | 4.90        | 5.02        | 4.99        |
| California .....           | 6.28        | 5.82        | 6.26        | 6.28        | 5.98        | 5.64        | 5.83        | 5.88        |
| Colorado .....             | 4.12        | 4.16        | NA          | 4.08        | 3.83        | 4.01        | 4.44        | 4.16        |
| Connecticut .....          | 7.03        | 6.63        | 6.85        | 7.54        | 6.74        | 5.49        | 5.44        | 5.53        |
| Delaware .....             | 6.59        | 6.68        | 7.07        | 6.93        | 6.93        | 8.05        | 8.72        | 8.40        |
| District of Columbia ..... | 7.06        | 7.53        | 7.39        | 7.71        | 7.69        | 7.49        | 7.35        | 7.14        |
| Florida .....              | 6.38        | 6.41        | 6.59        | 6.39        | 6.47        | 6.38        | 6.27        | 6.22        |
| Georgia .....              | 2.35        | 3.78        | 5.93        | 2.75        | 3.34        | 4.90        | 9.08        | 8.96        |
| Hawaii .....               | 13.41       | 13.79       | 14.15       | 13.81       | 14.00       | 14.04       | 16.65       | 10.88       |
| Idaho .....                | 4.59        | 4.46        | 4.62        | 4.58        | 4.83        | 4.91        | 4.94        | 4.88        |
| Illinois .....             | 4.48        | 4.47        | 4.97        | 4.68        | 4.84        | 5.20        | 6.08        | 5.99        |
| Indiana .....              | 4.52        | 4.39        | NA          | NA          | 4.85        | 5.28        | NA          | 6.51        |
| Iowa .....                 | 4.30        | 4.12        | 4.56        | 3.95        | 4.41        | 5.02        | 6.38        | 6.27        |
| Kansas .....               | NA          | NA          | 5.14        | 5.24        | 5.84        | 5.45        | 5.64        | 4.42        |
| Kentucky .....             | 4.92        | 5.09        | 5.41        | 5.06        | 5.05        | 5.58        | 5.69        | 5.69        |
| Louisiana .....            | 5.22        | 5.29        | 5.65        | 6.06        | 6.19        | 6.10        | 5.82        | 5.68        |
| Maine .....                | 6.79        | 6.48        | NA          | 6.96        | NA          | 6.55        | 6.89        | 6.89        |
| Maryland .....             | NA          | 6.94        | 6.63        | 7.03        | 6.07        | 7.74        | 7.27        | 7.40        |
| Massachusetts .....        | NA          | 8.08        | 7.23        | 7.68        | 7.10        | 6.06        | 6.19        | 6.45        |
| Michigan .....             | 4.68        | 4.65        | 4.84        | 4.72        | 4.64        | 5.05        | 5.35        | 5.70        |
| Minnesota .....            | 4.25        | 4.33        | 4.40        | 4.38        | 4.27        | 4.23        | 3.93        | 4.44        |
| Mississippi .....          | 4.23        | NA          | 4.47        | 4.69        | 3.52        | 4.52        | 3.64        | 4.11        |
| Missouri .....             | 5.43        | 5.55        | 5.66        | 5.60        | 5.50        | 6.17        | 5.71        | 6.04        |
| Montana .....              | 4.91        | 4.80        | 5.17        | 5.05        | 5.24        | 5.73        | 6.23        | 5.86        |
| Nebraska .....             | 4.00        | 4.14        | 4.53        | 4.01        | 3.97        | 3.72        | 3.52        | 3.73        |
| Nevada .....               | 5.92        | 5.85        | 5.94        | 5.88        | 6.33        | 6.61        | 6.92        | 6.90        |
| New Hampshire .....        | 7.15        | 6.89        | NA          | 7.38        | 7.30        | 5.94        | 6.40        | NA          |
| New Jersey .....           | NA          | 2.87        |
| New Mexico .....           | 3.40        | 2.45        | 3.95        | 3.05        | 3.34        | 4.11        | 4.49        | 4.71        |
| New York .....             | NA          | 4.68        |
| North Carolina .....       | 6.44        | 6.25        | 6.62        | 7.15        | 6.89        | 6.23        | 6.26        | 6.28        |
| North Dakota .....         | 4.04        | 4.19        | 4.33        | 4.29        | 4.31        | 4.39        | 4.73        | 7.28        |
| Ohio .....                 | 5.33        | 5.67        | NA          | 5.73        | 5.74        | 6.97        | 7.19        | 7.81        |
| Oklahoma .....             | 5.23        | 4.49        | 5.23        | 4.23        | 6.24        | 5.34        | 5.39        | 5.34        |
| Oregon .....               | 5.56        | 5.51        | NA          | 6.01        | 4.43        | 5.53        | 5.55        | 5.89        |
| Pennsylvania .....         | 7.25        | 7.30        | NA          | 6.75        | 6.63        | 7.33        | 7.92        | NA          |
| Rhode Island .....         | 7.75        | 7.74        | 8.12        | 8.02        | 8.11        | 8.65        | 9.14        | 9.35        |
| South Carolina .....       | 6.94        | 6.75        | 6.45        | 6.73        | 6.58        | 5.73        | 5.89        | 5.91        |
| South Dakota .....         | 4.16        | 3.92        | 4.42        | 3.97        | 4.24        | 4.84        | 5.65        | 5.60        |
| Tennessee .....            | 5.72        | 5.77        | NA          | 5.94        | 5.97        | 6.65        | 5.79        | 6.24        |
| Texas .....                | 4.28        | 4.44        | 4.58        | 4.43        | 4.40        | 4.33        | 4.33        | 4.19        |
| Utah .....                 | 4.14        | 4.20        | 4.35        | 4.54        | 4.69        | 4.00        | 4.43        | 4.81        |
| Vermont .....              | 5.23        | 5.12        | 5.08        | 4.72        | 4.95        | 4.81        | 4.63        | 5.17        |
| Virginia .....             | 6.04        | 5.90        | 6.10        | 6.14        | 6.19        | 6.44        | 6.06        | 6.21        |
| Washington .....           | NA          |
| West Virginia .....        | 6.23        | 6.30        | 6.45        | 6.18        | 6.40        | 6.46        | 6.39        | 6.82        |
| Wisconsin .....            | 4.90        | 5.09        | 4.89        | 4.94        | 4.97        | 4.08        | 4.64        | 4.37        |
| Wyoming .....              | 4.47        | 4.55        | NA          | 2.76        | NA          | 4.70        | 4.69        | 5.84        |
| <b>Total .....</b>         | <b>5.18</b> | <b>5.13</b> | <b>5.47</b> | <b>5.22</b> | <b>5.25</b> | <b>5.33</b> | <b>5.56</b> | <b>5.48</b> |

See footnotes at end of table.

**Table 22. Average Price of Natural Gas Sold to Commercial Consumers, by State, 1997-1999**

(Dollars per Thousand Cubic Feet) — Continued

| State                      | 1998        |             |             |              |             |             |             | 1997        |
|----------------------------|-------------|-------------|-------------|--------------|-------------|-------------|-------------|-------------|
|                            | July        | June        | May         | April        | March       | February    | January     | Total       |
| Alabama .....              | 7.25        | 7.24        | 6.80        | 6.52         | 6.27        | 6.47        | 6.65        | 6.98        |
| Alaska .....               | 2.08        | 2.05        | 2.24        | 2.31         | 2.39        | 2.45        | 2.49        | 2.44        |
| Arizona .....              | 6.25        | 6.19        | 6.14        | 5.79         | 5.50        | 5.59        | 5.65        | 5.31        |
| Arkansas .....             | 5.29        | 5.16        | 5.31        | 5.19         | 5.04        | 5.19        | 5.14        | 5.23        |
| California .....           | 5.50        | 5.91        | 5.68        | 6.65         | 7.06        | 6.75        | 6.69        | 6.41        |
| Colorado .....             | NA          | 4.44        | 4.21        | 4.05         | 4.04        | 4.07        | 4.18        | 4.06        |
| Connecticut .....          | 4.66        | 5.88        | 7.03        | 6.86         | 7.42        | 7.28        | 7.73        | 7.23        |
| Delaware .....             | 8.14        | 7.81        | 7.33        | 6.85         | 6.75        | 6.72        | 6.70        | 6.70        |
| District of Columbia ..... | 6.98        | 6.97        | 6.99        | 7.09         | 7.46        | 7.34        | 7.65        | 7.37        |
| Florida .....              | 6.55        | 6.70        | 6.83        | 6.71         | 6.69        | 6.72        | 6.83        | 6.85        |
| Georgia .....              | 9.40        | 7.59        | 7.99        | 5.53         | 5.51        | 5.86        | 6.16        | 6.43        |
| Hawaii .....               | 13.40       | 13.53       | 14.07       | 14.19        | 14.48       | 15.61       | 15.21       | 15.77       |
| Idaho .....                | 4.90        | 4.83        | 4.77        | 4.76         | 4.46        | 4.40        | 4.41        | 4.49        |
| Illinois .....             | 8.15        | 5.72        | 6.81        | 5.21         | 4.70        | 4.25        | 4.76        | 5.43        |
| Indiana .....              | NA          | NA          | 6.35        | ^6.09        | 5.44        | 5.97        | 5.52        | 5.44        |
| Iowa .....                 | 7.53        | 4.17        | 5.48        | 5.19         | 3.72        | 4.08        | 4.71        | 5.18        |
| Kansas .....               | 5.45        | 5.65        | 5.63        | 6.08         | 3.85        | 5.39        | 5.41        | 5.38        |
| Kentucky .....             | 6.14        | 5.57        | 5.33        | 5.67         | 5.44        | 5.63        | 5.32        | 5.79        |
| Louisiana .....            | 5.85        | 5.58        | 6.10        | 5.49         | 4.94        | 5.19        | 5.73        | 6.22        |
| Maine .....                | 6.81        | 6.70        | 7.20        | 7.89         | 7.41        | 7.41        | 7.41        | 7.70        |
| Maryland .....             | 7.88        | 7.02        | 7.35        | 7.06         | 6.16        | 6.08        | 6.43        | 6.52        |
| Massachusetts .....        | 6.22        | 6.55        | 6.86        | 7.65         | 7.46        | 7.73        | 7.39        | 7.34        |
| Michigan .....             | 5.88        | 5.38        | 5.21        | 4.92         | 4.58        | 4.76        | 4.77        | 5.00        |
| Minnesota .....            | 4.66        | 4.46        | 4.63        | 4.53         | 4.41        | 4.42        | 4.50        | 4.80        |
| Mississippi .....          | 4.25        | 4.23        | 4.67        | 4.90         | 4.69        | 4.35        | 5.11        | 5.26        |
| Missouri .....             | 5.93        | 5.65        | 5.52        | 5.37         | 5.27        | 5.63        | 6.08        | 5.88        |
| Montana .....              | 6.06        | 5.84        | ^5.55       | 5.05         | 4.91        | 4.97        | 4.85        | 4.83        |
| Nebraska .....             | 3.91        | 3.91        | 4.25        | 4.42         | 6.13        | 4.44        | 4.66        | 4.88        |
| Nevada .....               | 6.08        | 5.91        | 5.75        | 5.76         | 5.69        | 5.76        | 5.63        | 5.08        |
| New Hampshire .....        | 6.59        | NA          | 5.98        | 6.18         | 7.64        | 7.57        | 7.60        | 7.63        |
| New Jersey .....           | 3.96        | 3.74        | 3.84        | 4.17         | 3.83        | 4.13        | 4.85        | 5.88        |
| New Mexico .....           | 4.88        | 6.66        | 5.15        | 4.42         | 3.91        | 4.35        | 3.66        | 4.01        |
| New York .....             | 5.67        | 5.01        | NA          | 6.20         | NA          | NA          | NA          | 6.49        |
| North Carolina .....       | 6.45        | 6.16        | 6.18        | 6.09         | 6.45        | 6.72        | 7.05        | 7.00        |
| North Dakota .....         | 4.72        | 4.86        | 4.54        | 4.16         | 4.17        | 4.13        | 4.03        | 4.35        |
| Ohio .....                 | NA          | 6.30        | 5.76        | 5.79         | 5.62        | 5.43        | 5.96        | 6.23        |
| Oklahoma .....             | 5.39        | 5.24        | 4.97        | 4.57         | 5.27        | 5.56        | 5.53        | 5.34        |
| Oregon .....               | 5.75        | 5.52        | 5.51        | NA           | NA          | 5.17        | 4.92        | 4.63        |
| Pennsylvania .....         | 8.03        | 8.25        | 8.23        | NA           | 7.33        | 7.36        | 7.14        | 7.35        |
| Rhode Island .....         | 8.98        | 8.88        | 8.37        | ^8.10        | 7.88        | 7.78        | 7.75        | 8.21        |
| South Carolina .....       | 5.94        | 6.00        | 5.98        | 6.40         | 6.55        | 6.91        | 6.92        | 6.74        |
| South Dakota .....         | 6.23        | 4.33        | 5.07        | 4.69         | 4.37        | 4.10        | 4.12        | 4.71        |
| Tennessee .....            | 5.98        | 5.95        | 5.83        | 5.68         | 5.55        | 6.37        | NA          | 6.11        |
| Texas .....                | 4.30        | 4.12        | 5.38        | 4.75         | 4.32        | 5.37        | 4.66        | 4.91        |
| Utah .....                 | 4.37        | 3.93        | 3.93        | 3.76         | 4.36        | 4.35        | 4.54        | 3.92        |
| Vermont .....              | 4.91        | 5.30        | 5.98        | 5.14         | 5.10        | 5.23        | 5.21        | 5.18        |
| Virginia .....             | 5.76        | 6.14        | 5.44        | ^5.84        | 5.82        | 6.33        | 6.41        | 6.45        |
| Washington .....           | NA          | NA          | NA          | NA           | NA          | NA          | NA          | 4.73        |
| West Virginia .....        | 7.21        | 7.14        | 7.59        | 6.60         | 6.32        | 6.31        | 6.28        | 6.34        |
| Wisconsin .....            | 4.82        | 4.44        | 4.16        | 4.75         | 5.24        | 4.96        | 5.12        | 5.35        |
| Wyoming .....              | NA          | 5.06        | 4.77        | 4.62         | 4.55        | 4.56        | NA          | 3.93        |
| <b>Total .....</b>         | <b>5.65</b> | <b>5.51</b> | <b>5.69</b> | <b>^5.59</b> | <b>5.38</b> | <b>5.56</b> | <b>5.59</b> | <b>5.79</b> |

<sup>R</sup> Revised Data.

NA Not Available.

**Notes:** Data for 1997 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 25 for data on

onsystem sales expressed as a percentage of both total commercial and total industrial deliveries. In 1996, consumption of natural gas for agricultural use is classified as industrial use. In 1995 and earlier years, agricultural use was classified as commercial use. See Explanatory Note 5 for further explanation.

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

# Table 23

**Table 23. Average Price of Natural Gas Sold to Industrial Consumers, by State, 1997-1999**

(Dollars per Thousand Cubic Feet)

| State                      | YTD<br>1999 | YTD<br>1998 | YTD<br>1997 | 1999        |             |                   |             |                   |
|----------------------------|-------------|-------------|-------------|-------------|-------------|-------------------|-------------|-------------------|
|                            |             |             |             | July        | June        | May               | April       | March             |
| Alabama .....              | 3.19        | 3.10        | 3.63        | 3.06        | 3.15        | 3.30              | 3.24        | 3.05              |
| Alaska .....               | 1.21        | 1.43        | 1.53        | 1.27        | 1.24        | 1.21              | 1.18        | 1.17              |
| Arizona .....              | 3.38        | 3.48        | 3.88        | 3.26        | 3.62        | 3.11              | 3.26        | 3.71              |
| Arkansas .....             | NA          | 3.54        | 3.60        | 3.64        | NA          | 3.38              | 3.35        | 3.42              |
| California .....           | NA          | 3.80        | 4.14        | 3.48        | 3.34        | 2.86              | 3.12        | 3.09              |
| Colorado .....             | NA          | 2.44        | 3.48        | NA          | 2.41        | 2.46              | 2.28        | 2.16              |
| Connecticut .....          | 4.06        | 4.53        | 4.87        | 3.55        | 3.70        | 3.71              | 3.98        | 4.23              |
| Delaware .....             | 4.01        | 4.21        | 4.31        | 4.16        | 4.11        | 3.48              | 4.27        | 4.00              |
| District of Columbia ..... | 0.00        | 0.00        | 0.00        | —           | —           | —                 | —           | —                 |
| Florida .....              | 3.88        | 4.41        | 4.26        | 3.99        | 4.11        | 3.92              | 3.82        | 3.66              |
| Georgia .....              | NA          | 5.20        | 4.60        | 4.12        | 3.46        | NA                | 3.39        | 2.76              |
| Hawaii .....               | 8.22        | 0.00        | 0.00        | —           | —           | —                 | —           | —                 |
| Idaho <sup>a</sup> .....   | 3.25        | 3.08        | 2.78        | 3.59        | 3.21        | 3.22              | 3.26        | 3.14              |
| Illinois .....             | 3.68        | 4.09        | 3.96        | 4.17        | 4.03        | 3.85              | 3.17        | 3.50              |
| Indiana .....              | NA          | 4.55        | 4.53        | NA          | NA          | NA                | NA          | NA                |
| Iowa .....                 | 3.50        | 2.99        | 3.92        | 2.30        | 6.02        | 3.52              | 3.27        | 3.33              |
| Kansas .....               | NA          | 3.26        | 3.23        | 2.52        | 2.51        | NA                | 3.16        | 3.10              |
| Kentucky .....             | 3.09        | 3.91        | 4.10        | 2.99        | 2.90        | 3.09              | 2.90        | 3.10              |
| Louisiana .....            | 2.03        | 2.41        | 2.82        | 2.28        | 2.08        | 2.00              | 1.89        | 1.88              |
| Maine .....                | 5.09        | 5.46        | 5.66        | 4.17        | 4.10        | 4.61              | 6.11        | 5.76              |
| Maryland .....             | NA          | 5.81        | 3.25        | 5.74        | 6.00        | NA                | 3.80        | <sup>b</sup> 4.25 |
| Massachusetts .....        | NA          | 6.17        | 6.04        | NA          | NA          | 5.46              | NA          | NA                |
| Michigan .....             | 3.85        | 3.94        | 3.99        | 5.11        | 4.46        | 3.83              | 3.69        | 3.76              |
| Minnesota .....            | 2.70        | 2.99        | 3.19        | 2.87        | 2.27        | 3.07              | 2.52        | 2.67              |
| Mississippi .....          | NA          | NA          | 3.46        | 3.09        | 3.09        | 3.22              | NA          | 2.99              |
| Missouri .....             | NA          | 4.58        | 4.72        | 3.69        | 3.91        | 4.00              | 3.97        | 4.00              |
| Montana .....              | 4.44        | 5.09        | 4.75        | 5.67        | 5.99        | 4.33              | 4.79        | 4.79              |
| Nebraska .....             | 3.20        | 3.31        | 3.73        | 3.16        | 3.41        | 3.14              | 3.05        | 3.21              |
| Nevada .....               | 4.55        | 5.92        | 7.16        | 4.71        | 4.76        | 4.62              | 4.51        | 4.45              |
| New Hampshire .....        | 4.24        | 4.74        | 4.95        | 3.49        | 3.69        | 1.79              | 2.06        | 6.42              |
| New Jersey .....           | NA          | 3.41        | 4.04        | NA          | NA          | NA                | NA          | NA                |
| New Mexico .....           | NA          | 3.46        | 3.15        | 3.39        | 3.35        | 3.36              | NA          | 3.60              |
| New York .....             | NA          | NA          | 5.30        | 4.85        | 4.83        | NA                | NA          | NA                |
| North Carolina .....       | 3.33        | 4.04        | 4.74        | 3.03        | 3.22        | 3.07              | 3.09        | 3.79              |
| North Dakota .....         | 2.56        | 3.06        | 2.88        | 2.73        | 2.59        | 2.77              | 2.37        | 2.47              |
| Ohio .....                 | 5.07        | NA          | 5.01        | 6.61        | 5.45        | 3.45              | 5.17        | 4.90              |
| Oklahoma .....             | 3.45        | 3.81        | 4.21        | 3.48        | 3.72        | 3.25              | 3.28        | 3.50              |
| Oregon .....               | 2.44        | NA          | 3.06        | 3.93        | 3.94        | 3.96              | 3.89        | 0.81              |
| Pennsylvania .....         | 4.23        | 4.40        | 4.78        | 3.77        | 3.80        | 3.93              | 4.21        | 4.42              |
| Rhode Island .....         | 3.91        | 4.01        | 2.04        | 3.33        | 3.29        | 3.74              | 3.52        | 4.32              |
| South Carolina .....       | 3.03        | 3.42        | 3.68        | 3.10        | 3.22        | 3.07              | 2.79        | 2.93              |
| South Dakota .....         | 3.17        | 3.34        | 3.95        | 3.53        | 3.54        | 3.26              | 3.02        | 3.03              |
| Tennessee .....            | NA          | 3.80        | 4.08        | 2.69        | 3.31        | 3.19              | NA          | 3.35              |
| Texas .....                | NA          | 2.51        | 2.70        | 2.53        | 2.42        | NA                | 2.10        | 1.91              |
| Utah .....                 | 2.99        | 3.02        | 2.36        | 2.85        | 2.86        | 2.92              | 2.99        | 3.31              |
| Vermont .....              | 2.80        | 2.91        | 3.09        | 2.83        | 2.82        | 2.80              | 2.74        | 2.72              |
| Virginia .....             | NA          | 4.28        | 4.75        | 3.39        | 3.49        | NA                | 3.13        | 3.76              |
| Washington .....           | NA          | NA          | 3.30        | NA          | NA          | NA                | NA          | NA                |
| West Virginia .....        | NA          | 2.88        | 2.92        | 2.84        | NA          | <sup>b</sup> 2.80 | NA          | NA                |
| Wisconsin .....            | 3.73        | 4.01        | 4.03        | 3.30        | 3.60        | 3.43              | 3.87        | 3.73              |
| Wyoming .....              | NA          | 3.30        | 3.47        | NA          | 3.20        | 3.66              | 4.05        | 3.87              |
| <b>Total .....</b>         | <b>2.80</b> | <b>3.32</b> | <b>3.56</b> | <b>2.68</b> | <b>2.67</b> | <b>2.65</b>       | <b>2.80</b> | <b>2.77</b>       |

See footnotes at end of table.

**Table 23. Average Price of Natural Gas Sold to Industrial Consumers, by State, 1997-1999**

(Dollars per Thousand Cubic Feet) — Continued

| State                      | 1999        |             | 1998        |             |             |             |             |             |
|----------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                            | February    | January     | Total       | December    | November    | October     | September   | August      |
| Alabama .....              | 3.34        | 3.24        | 3.08        | 3.35        | 3.10        | 3.06        | 2.85        | 2.95        |
| Alaska .....               | 1.18        | 1.20        | NA          | NA          | NA          | NA          | 1.21        | NA          |
| Arizona .....              | 3.42        | 3.48        | 3.39        | 3.52        | 3.37        | 3.11        | 3.22        | 3.20        |
| Arkansas .....             | 3.48        | 3.40        | 3.44        | 3.76        | 3.32        | 3.24        | 3.04        | 3.09        |
| California .....           | NA          | 4.02        | 3.59        | 3.45        | 3.48        | 2.77        | 3.46        | 3.28        |
| Colorado .....             | 2.32        | 2.20        | 2.35        | 2.31        | 2.41        | 2.12        | 1.90        | 2.27        |
| Connecticut .....          | 4.39        | 4.49        | 4.32        | 4.55        | 4.19        | 3.85        | 3.46        | 3.63        |
| Delaware .....             | 3.93        | 4.33        | 4.13        | 3.71        | 3.85        | 3.75        | 4.39        | 5.12        |
| District of Columbia ..... | —           | —           | 0.00        | —           | —           | —           | —           | —           |
| Florida .....              | 3.93        | 3.81        | 4.30        | 3.97        | 4.18        | 4.47        | 4.05        | 4.02        |
| Georgia .....              | 2.83        | 2.63        | 4.75        | 2.61        | 3.01        | 3.86        | 4.51        | 5.06        |
| Hawaii .....               | —           | —           | 0.00        | —           | —           | —           | —           | —           |
| Idaho <sup>a</sup> .....   | 3.23        | 3.19        | 3.09        | 3.08        | 3.16        | 3.02        | 2.94        | 3.32        |
| Illinois .....             | 3.71        | 3.81        | 3.93        | 3.78        | 3.61        | 3.32        | 3.71        | 4.38        |
| Indiana .....              | 3.01        | NA          | 4.39        | 4.21        | 3.89        | 3.38        | 3.91        | 5.52        |
| Iowa .....                 | 3.52        | 3.32        | 3.19        | 3.28        | 3.51        | 3.40        | 3.31        | 3.65        |
| Kansas .....               | 3.41        | NA          | NA          | NA          | 3.08        | 2.76        | 2.35        | 2.71        |
| Kentucky .....             | 3.34        | 3.17        | 3.79        | 3.83        | 3.30        | 3.71        | 3.66        | 3.71        |
| Louisiana .....            | 1.95        | 2.12        | NA          | 1.49        | 2.13        | NA          | 1.85        | 1.98        |
| Maine .....                | 6.05        | 5.20        | 5.08        | 6.07        | 4.92        | 4.22        | 3.92        | 3.80        |
| Maryland .....             | 6.65        | 6.18        | 5.31        | 5.31        | 4.76        | 4.21        | 5.86        | 4.57        |
| Massachusetts .....        | 6.88        | 4.62        | NA          | NA          | 5.75        | 4.34        | NA          | 4.36        |
| Michigan .....             | 3.66        | 3.92        | 3.99        | 3.96        | 3.60        | 4.29        | 4.67        | 5.21        |
| Minnesota .....            | 2.81        | 2.86        | 2.93        | 3.01        | 2.82        | 2.67        | 2.68        | 2.91        |
| Mississippi .....          | 3.11        | NA          | NA          | 3.30        | 2.84        | 3.02        | 3.03        | NA          |
| Missouri .....             | NA          | 4.74        | 4.47        | 4.27        | 4.46        | 4.16        | 4.13        | 4.27        |
| Montana .....              | 4.78        | 3.40        | 5.35        | 4.82        | 5.31        | 5.54        | 11.14       | 7.57        |
| Nebraska .....             | 3.12        | 3.35        | 3.20        | 3.30        | 3.28        | 2.86        | 2.56        | 2.72        |
| Nevada .....               | 4.50        | 4.50        | 4.74        | 4.59        | 4.53        | 4.39        | 4.35        | 4.46        |
| New Hampshire .....        | 6.73        | 6.51        | NA          | 4.95        | NA          | 2.82        | 3.67        | NA          |
| New Jersey .....           | NA          | 2.88        |
| New Mexico .....           | 3.58        | NA          | 3.15        | 1.54        | 2.60        | 2.95        | 2.99        | 3.19        |
| New York .....             | NA          |
| North Carolina .....       | 3.60        | 3.63        | 3.95        | 4.12        | 3.90        | 3.63        | 3.55        | 3.62        |
| North Dakota .....         | 2.53        | 2.66        | 2.88        | 3.14        | 2.64        | 2.51        | 2.11        | 2.53        |
| Ohio .....                 | 5.13        | 5.42        | NA          | 5.76        | 4.69        | 5.78        | 5.78        | 7.46        |
| Oklahoma .....             | 3.50        | 3.45        | 3.71        | 3.49        | 3.39        | 3.64        | 3.40        | 3.44        |
| Oregon .....               | 4.37        | 3.87        | NA          | 4.25        | 3.50        | 3.96        | 3.57        | 3.74        |
| Pennsylvania .....         | 4.45        | 4.60        | 4.27        | 4.26        | 4.10        | 3.98        | 4.04        | 3.88        |
| Rhode Island .....         | 4.77        | 5.00        | 3.82        | 3.85        | 3.68        | 3.93        | 3.08        | 2.98        |
| South Carolina .....       | 3.15        | 3.00        | 3.24        | 3.25        | 3.17        | 3.11        | 2.93        | 2.47        |
| South Dakota .....         | 3.12        | 3.13        | 3.27        | 3.10        | 3.12        | 3.27        | 3.38        | 3.17        |
| Tennessee .....            | 3.54        | 3.85        | 3.70        | 3.88        | 3.79        | 3.30        | 3.30        | 3.26        |
| Texas .....                | 2.02        | 2.10        | NA          | 2.30        | 2.18        | NA          | 1.87        | 2.15        |
| Utah .....                 | 3.16        | 2.85        | 3.09        | 3.29        | 3.24        | 3.03        | 3.08        | 3.36        |
| Vermont .....              | 2.75        | 3.00        | 2.80        | 2.61        | 2.30        | 2.84        | 2.74        | 2.77        |
| Virginia .....             | 3.88        | 5.31        | 4.24        | 5.50        | 4.62        | 4.00        | 3.16        | 3.33        |
| Washington .....           | NA          |
| West Virginia .....        | 2.82        | 2.68        | 2.90        | 2.86        | 2.82        | 3.09        | 2.92        | 2.95        |
| Wisconsin .....            | 3.82        | 3.92        | 3.92        | 4.01        | 4.17        | 3.40        | 3.13        | 3.56        |
| Wyoming .....              | NA          | 3.74        | 3.28        | 3.29        | 3.28        | 3.20        | 3.23        | 3.27        |
| <b>Total .....</b>         | <b>3.00</b> | <b>3.09</b> | <b>3.11</b> | <b>2.92</b> | <b>2.95</b> | <b>2.75</b> | <b>2.66</b> | <b>2.75</b> |

See footnotes at end of table.

# Table 23

**Table 23. Average Price of Natural Gas Sold to Industrial Consumers, by State, 1997-1999**

(Dollars per Thousand Cubic Feet) — Continued

| State                      | 1998              |                   |             |             |             |                         |                         | 1997        |
|----------------------------|-------------------|-------------------|-------------|-------------|-------------|-------------------------|-------------------------|-------------|
|                            | July              | June              | May         | April       | March       | February                | January                 | Total       |
| Alabama .....              | 3.01              | 2.98              | 2.99        | 3.26        | 2.75        | 3.34                    | 3.35                    | 3.65        |
| Alaska .....               | 1.22              | 1.40              | 1.43        | 1.42        | 1.45        | 1.52                    | 1.56                    | 1.54        |
| Arizona .....              | 3.36              | 3.51              | 3.44        | 3.45        | 3.33        | 3.76                    | 3.53                    | 3.60        |
| Arkansas .....             | 3.47              | 3.28              | 3.28        | 3.39        | 3.78        | 3.62                    | 3.77                    | 3.71        |
| California .....           | 3.48              | 3.38              | 2.88        | 3.97        | 3.31        | 5.34                    | 4.55                    | 4.18        |
| Colorado .....             | <sup>R</sup> 2.26 | <sup>R</sup> 2.27 | 2.48        | 2.26        | 2.62        | 2.58                    | 2.69                    | 3.66        |
| Connecticut .....          | 3.61              | 3.69              | 4.13        | 4.55        | 4.74        | 5.13                    | 5.12                    | 4.73        |
| Delaware .....             | 4.32              | 4.35              | 4.32        | 4.63        | 3.79        | 4.08                    | 4.22                    | 4.40        |
| District of Columbia ..... | —                 | —                 | —           | —           | —           | —                       | —                       | —           |
| Florida .....              | 4.37              | 4.20              | 4.46        | 4.58        | 4.40        | <sup>R</sup> 4.26       | 4.59                    | 4.41        |
| Georgia .....              | 3.85              | 4.90              | 5.30        | 5.15        | 5.18        | 5.37                    | 5.63                    | 4.56        |
| Hawaii .....               | —                 | —                 | —           | —           | —           | —                       | —                       | 10.79       |
| Idaho <sup>a</sup> .....   | 2.97              | 3.10              | 3.09        | 3.10        | 3.25        | 3.02                    | 3.06                    | 2.76        |
| Illinois .....             | 3.10              | 4.49              | 4.18        | 4.02        | 4.08        | 4.12                    | 4.22                    | 3.97        |
| Indiana .....              | 5.05              | 3.74              | 4.51        | 4.91        | 4.56        | 4.29                    | 4.68                    | 4.33        |
| Iowa .....                 | 4.14              | 2.25              | 4.17        | 2.97        | 2.25        | 2.42                    | 3.43                    | 4.11        |
| Kansas .....               | 2.78              | 3.05              | 3.53        | 3.56        | 3.61        | 3.65                    | 3.89                    | 3.32        |
| Kentucky .....             | 3.61              | 3.48              | 3.21        | 3.85        | 3.79        | 4.51                    | 4.59                    | 4.19        |
| Louisiana .....            | 2.30              | 2.43              | 2.62        | 2.19        | 2.26        | 2.22                    | 2.90                    | 2.87        |
| Maine .....                | 4.17              | 4.10              | 4.70        | 6.13        | 6.02        | 6.62                    | 6.02                    | 5.55        |
| Maryland .....             | 8.24              | 5.60              | 4.54        | 5.10        | 5.88        | 5.59                    | 7.46                    | 3.25        |
| Massachusetts .....        | 4.83              | 4.89              | 4.66        | 6.64        | 6.77        | 6.70                    | 6.79                    | 5.78        |
| Michigan .....             | 4.77              | 4.32              | 4.01        | 3.81        | 3.61        | 4.11                    | 3.90                    | 4.02        |
| Minnesota .....            | 2.84              | 2.58              | 3.03        | 3.06        | 3.08        | 3.00                    | <sup>R</sup> 3.24       | 3.28        |
| Mississippi .....          | 3.35              | NA                | NA          | NA          | NA          | 3.22                    | NA                      | 3.55        |
| Missouri .....             | 4.19              | 4.27              | 4.25        | 4.30        | 4.27        | 4.69                    | 5.30                    | 4.78        |
| Montana .....              | 6.88              | 6.44              | 5.89        | 5.22        | 5.02        | 4.85                    | 4.82                    | 4.79        |
| Nebraska .....             | 3.20              | 3.34              | 3.34        | 3.35        | 3.34        | 3.27                    | 3.30                    | 3.85        |
| Nevada .....               | 5.86              | 5.81              | 5.94        | 5.84        | 6.00        | 6.06                    | 5.90                    | 7.77        |
| New Hampshire .....        | 3.58              | 3.38              | 3.90        | 3.77        | 5.72        | 5.84                    | 7.08                    | 4.90        |
| New Jersey .....           | 3.17              | 3.39              | 3.43        | 3.42        | 3.24        | 3.42                    | 3.71                    | 3.78        |
| New Mexico .....           | 3.13              | 3.45              | 3.77        | 4.00        | 4.09        | 5.69                    | 2.18                    | 2.99        |
| New York .....             | NA                | 3.92              | NA          | 4.49        | 15.18       | NA                      | NA                      | 5.05        |
| North Carolina .....       | 3.60              | 3.57              | 3.68        | 3.63        | 4.19        | 4.41                    | 4.95                    | 4.66        |
| North Dakota .....         | 2.85              | 2.60              | 3.15        | 3.10        | 3.22        | 3.01                    | 3.22                    | 3.05        |
| Ohio .....                 | NA                | 5.05              | 4.98        | 5.21        | 5.67        | 5.06                    | 5.62                    | 4.93        |
| Oklahoma .....             | 3.41              | 3.43              | 3.13        | 3.32        | 4.12        | 4.18                    | 4.10                    | 4.18        |
| Oregon .....               | 3.80              | 3.77              | 3.75        | NA          | NA          | 3.73                    | 3.67                    | 3.03        |
| Pennsylvania .....         | 3.94              | 4.09              | 4.05        | 4.40        | 4.57        | 4.55                    | 4.80                    | 4.61        |
| Rhode Island .....         | 3.59              | 3.58              | 3.75        | 4.04        | 4.06        | 4.25                    | 4.59                    | 4.33        |
| South Carolina .....       | 3.37              | 3.21              | 3.31        | 3.42        | 3.53        | 3.38                    | 3.67                    | 3.72        |
| South Dakota .....         | 3.21              | 3.54              | 3.44        | 3.37        | 3.38        | 3.25                    | 3.30                    | 4.02        |
| Tennessee .....            | 4.21              | 3.38              | 3.54        | 3.64        | 3.59        | 3.98                    | <sup>R</sup> 4.32       | 4.18        |
| Texas .....                | 2.53              | 2.24              | 2.44        | 2.49        | 2.49        | <sup>R</sup> 2.72       | 2.66                    | 2.82        |
| Utah .....                 | 3.20              | 2.78              | 2.90        | 2.95        | 3.05        | 3.19                    | 3.06                    | 2.55        |
| Vermont .....              | 2.78              | 2.78              | 2.87        | 2.86        | 2.94        | 3.01                    | 3.06                    | 3.07        |
| Virginia .....             | 4.21              | 3.79              | 3.45        | 3.45        | 4.49        | 4.99                    | 4.81                    | 4.68        |
| Washington .....           | NA                | NA                | NA          | NA          | NA          | NA                      | NA                      | 3.16        |
| West Virginia .....        | 3.00              | 2.90              | 2.74        | 2.97        | 2.90        | 2.87                    | 2.78                    | 2.91        |
| Wisconsin .....            | 3.76              | 3.44              | 3.69        | 4.20        | 4.17        | 4.48                    | 3.79                    | 4.13        |
| Wyoming .....              | 3.26              | 3.23              | 3.40        | 3.29        | 3.31        | 3.33                    | 3.29                    | 3.49        |
| <b>Total .....</b>         | <b>3.01</b>       | <b>2.95</b>       | <b>3.10</b> | <b>3.26</b> | <b>3.43</b> | <b><sup>R</sup>3.57</b> | <b><sup>R</sup>3.69</b> | <b>3.59</b> |

<sup>R</sup> Revised Data.

NA Not Available.

— Not Applicable.

**Notes:** Data for 1997 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 25 for data on

onsystem sales expressed as a percentage of both total commercial and total industrial deliveries. In 1996, consumption of natural gas for agricultural use is classified as industrial use. In 1995 and earlier years, agricultural use was classified as commercial use. See Explanatory Note 5 for further explanation.

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

**Table 24. Average Price of Natural Gas Delivered to Electric Utility<sup>a</sup> Consumers,  
by State, 1997-1999**  
(Dollars per Thousand Cubic Feet)

| State                      | YTD<br>1999 | YTD<br>1998 | YTD<br>1997 | 1999        |             |             |             |             |
|----------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                            |             |             |             | June        | May         | April       | March       | February    |
| Alabama .....              | 2.52        | 2.56        | 2.71        | 2.73        | 2.70        | 2.52        | 2.25        | 2.07        |
| Alaska .....               | 1.65        | 1.85        | 1.66        | 1.59        | 1.61        | 1.60        | 1.72        | 1.70        |
| Arizona .....              | 2.43        | 2.85        | 3.38        | 2.62        | 2.67        | 2.22        | 2.13        | 2.29        |
| Arkansas .....             | 2.31        | 2.36        | 2.45        | 2.49        | 2.52        | 2.22        | 1.88        | 1.94        |
| California .....           | 2.62        | 2.83        | 3.13        | 2.57        | 2.72        | 2.42        | 2.75        | 2.55        |
| Colorado .....             | 2.62        | 2.69        | 3.52        | 3.18        | 2.60        | 2.25        | 2.18        | 2.24        |
| Connecticut .....          | 2.49        | 2.54        | 2.49        | 2.52        | 2.50        | 2.54        | 2.12        | 2.02        |
| Delaware .....             | 2.71        | 2.74        | 3.09        | 2.71        | 2.53        | 2.46        | 2.46        | 2.98        |
| District of Columbia ..... | 0.00        | 0.00        | 0.00        | —           | —           | —           | —           | —           |
| Florida .....              | 2.32        | 2.41        | 2.35        | 2.36        | 2.37        | 2.31        | 2.01        | 2.86        |
| Georgia .....              | 2.30        | 3.08        | 2.98        | 2.47        | 2.58        | 2.13        | 1.37        | 2.15        |
| Hawaii .....               | 0.00        | 0.00        | 0.00        | —           | —           | —           | —           | —           |
| Idaho .....                | 0.00        | 0.00        | 0.00        | —           | —           | —           | —           | —           |
| Illinois .....             | 2.21        | 2.37        | 2.36        | 2.44        | 2.36        | 2.20        | 1.86        | 1.81        |
| Indiana .....              | 2.90        | 3.04        | 3.20        | 2.79        | 3.19        | 3.14        | 2.71        | 2.78        |
| Iowa .....                 | 3.06        | 3.09        | 3.35        | 2.97        | 3.01        | 2.77        | 3.13        | 3.45        |
| Kansas .....               | 2.15        | 2.24        | 2.33        | 2.35        | 2.35        | 2.08        | 1.80        | 1.96        |
| Kentucky .....             | 3.32        | 3.74        | 3.46        | 3.15        | 5.12        | 3.77        | 3.33        | 2.99        |
| Louisiana .....            | 2.31        | 2.51        | 2.70        | 2.52        | 2.58        | 2.25        | 2.01        | 2.08        |
| Maine .....                | 0.00        | 0.00        | 0.00        | —           | —           | —           | —           | —           |
| Maryland .....             | 2.88        | 3.08        | 3.11        | 2.88        | 3.27        | 2.55        | 2.60        | 3.46        |
| Massachusetts .....        | 2.54        | 3.03        | 2.94        | 2.75        | 2.58        | 2.26        | 2.10        | 2.13        |
| Michigan .....             | 1.50        | 1.03        | 0.63        | 1.79        | 1.74        | 1.09        | 0.88        | 1.33        |
| Minnesota .....            | 2.54        | 2.61        | 2.32        | 2.48        | 2.32        | 2.31        | 2.56        | 3.49        |
| Mississippi .....          | 2.25        | 2.43        | 2.63        | 2.43        | 2.45        | 2.30        | 1.91        | 1.95        |
| Missouri .....             | 2.38        | 2.41        | 2.73        | 2.48        | 2.41        | 2.31        | 2.16        | 2.29        |
| Montana .....              | 3.86        | 6.20        | 5.60        | 4.40        | 10.99       | 5.69        | 7.37        | 5.20        |
| Nebraska .....             | 2.50        | 2.39        | 2.18        | 2.63        | 2.72        | 2.46        | 1.37        | 2.79        |
| Nevada .....               | 2.36        | 2.40        | 2.06        | 2.46        | 2.43        | 2.55        | 2.07        | 2.40        |
| New Hampshire .....        | 2.44        | 0.00        | 2.72        | 2.44        | —           | —           | —           | —           |
| New Jersey .....           | 2.85        | 2.81        | 2.94        | 2.88        | 2.85        | 2.94        | 2.46        | 2.76        |
| New Mexico .....           | 2.03        | 2.33        | 2.56        | 2.31        | 2.22        | 2.05        | 1.79        | 1.89        |
| New York .....             | 2.62        | 2.77        | 2.80        | 2.72        | 2.71        | 2.49        | 2.37        | 2.55        |
| North Carolina .....       | 2.87        | 2.83        | 2.85        | 2.70        | 2.71        | 3.31        | 3.32        | 3.33        |
| North Dakota .....         | 0.00        | 0.00        | 3.49        | —           | —           | —           | —           | —           |
| Ohio .....                 | 2.77        | 3.15        | 3.63        | 2.99        | 2.42        | 2.06        | 2.99        | 3.32        |
| Oklahoma .....             | 2.50        | 2.76        | 3.07        | 2.59        | 2.66        | 2.58        | 2.28        | 2.48        |
| Oregon .....               | 1.91        | 1.24        | 1.71        | 1.99        | 1.91        | 1.79        | 1.67        | 1.83        |
| Pennsylvania .....         | 2.56        | 3.16        | 2.95        | 2.29        | 3.18        | 2.55        | 3.02        | 2.98        |
| Rhode Island .....         | 0.00        | 3.37        | 3.21        | —           | —           | —           | —           | —           |
| South Carolina .....       | 3.45        | 3.74        | 3.61        | 3.70        | 3.46        | 2.94        | 3.02        | 2.86        |
| South Dakota .....         | 0.00        | 0.00        | 0.00        | —           | —           | —           | —           | —           |
| Tennessee .....            | 0.00        | 0.00        | 0.00        | —           | —           | —           | —           | —           |
| Texas .....                | 2.24        | 2.41        | 2.60        | 2.40        | 2.44        | 2.17        | 1.99        | 2.09        |
| Utah .....                 | 2.37        | 1.94        | 4.82        | 2.43        | 2.36        | 2.36        | 2.56        | 2.19        |
| Vermont .....              | 2.56        | 2.92        | 3.07        | 2.94        | 3.03        | 2.56        | 2.44        | 2.47        |
| Virginia .....             | 3.07        | 3.22        | 2.84        | 3.39        | 2.89        | 2.79        | 3.09        | 3.12        |
| Washington .....           | 0.00        | 2.79        | NA          | —           | —           | —           | —           | —           |
| West Virginia .....        | 2.99        | 3.56        | 4.08        | 3.08        | 2.81        | 3.12        | 2.96        | 2.93        |
| Wisconsin .....            | 2.77        | 2.81        | 2.93        | 2.80        | 2.92        | 2.63        | 2.51        | 2.79        |
| Wyoming .....              | 4.16        | 8.52        | 11.54       | 2.60        | 6.59        | 13.06       | 6.02        | 4.83        |
| <b>Total .....</b>         | <b>2.33</b> | <b>2.50</b> | <b>2.66</b> | <b>2.47</b> | <b>2.48</b> | <b>2.25</b> | <b>2.11</b> | <b>2.27</b> |

See footnotes at end of table.

# Table 24

**Table 24. Average Price of Natural Gas Delivered to Electric Utility<sup>a</sup> Consumers,  
by State, 1997-1999**

(Dollars per Thousand Cubic Feet) — Continued

| State                      | 1999        | 1998        |             |             |             |             |             |             |
|----------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                            | January     | Total       | December    | November    | October     | September   | August      | July        |
| Alabama .....              | 2.22        | 2.55        | 2.68        | 2.47        | 2.62        | 2.46        | 2.50        | 2.63        |
| Alaska .....               | 1.68        | 1.80        | 1.72        | 1.74        | 1.72        | 1.73        | 1.76        | 1.80        |
| Arizona .....              | 2.32        | 2.43        | 2.38        | 2.77        | 2.11        | 2.33        | 2.28        | 2.41        |
| Arkansas .....             | 2.04        | 2.28        | 2.35        | —           | 2.25        | 2.15        | 2.05        | 2.49        |
| California .....           | 2.70        | 2.79        | 2.96        | 2.86        | 2.56        | 2.50        | 2.83        | 2.92        |
| Colorado .....             | 3.26        | 2.91        | 3.33        | 3.15        | 2.71        | 2.82        | 3.31        | 2.77        |
| Connecticut .....          | 2.11        | 2.42        | 1.90        | 2.45        | 2.07        | 2.22        | 2.34        | 2.46        |
| Delaware .....             | 3.34        | 2.89        | 3.34        | 3.24        | 2.66        | 2.41        | 2.66        | 3.47        |
| District of Columbia ..... | —           | 0.00        | —           | —           | —           | —           | —           | —           |
| Florida .....              | 2.08        | 2.27        | 1.39        | 2.30        | 2.30        | 2.18        | 2.18        | 2.27        |
| Georgia .....              | 4.83        | 3.19        | 2.11        | 2.67        | 3.80        | 4.00        | 2.82        | 3.18        |
| Hawaii .....               | —           | 0.00        | —           | —           | —           | —           | —           | —           |
| Idaho .....                | —           | 0.00        | —           | —           | —           | —           | —           | —           |
| Illinois .....             | 2.27        | 2.25        | 2.12        | 2.31        | 2.20        | 2.01        | 1.95        | 2.27        |
| Indiana .....              | 2.99        | 2.88        | 3.36        | 2.86        | 3.23        | 2.74        | 2.58        | 2.80        |
| Iowa .....                 | 3.62        | 3.00        | 3.38        | 3.11        | 2.93        | 2.91        | 2.80        | 3.01        |
| Kansas .....               | 2.24        | 2.13        | 2.21        | 2.25        | 2.03        | 1.87        | 1.99        | 2.28        |
| Kentucky .....             | 2.51        | 3.11        | 2.90        | 3.11        | 2.85        | 2.42        | 2.43        | 2.86        |
| Louisiana .....            | 2.13        | 2.38        | 2.16        | 2.32        | 2.25        | 2.12        | 2.17        | 2.59        |
| Maine .....                | —           | 0.00        | —           | —           | —           | —           | —           | —           |
| Maryland .....             | 3.52        | 2.77        | 2.64        | 3.85        | 3.13        | 2.53        | 2.49        | 2.84        |
| Massachusetts .....        | 2.43        | 2.78        | 2.26        | 2.44        | 2.28        | 2.13        | 2.35        | 2.62        |
| Michigan .....             | 2.07        | 1.23        | 1.25        | 1.10        | 1.46        | 1.67        | 1.38        | 1.34        |
| Minnesota .....            | 3.02        | 2.42        | 3.43        | 2.69        | 2.32        | 2.00        | 2.41        | 2.48        |
| Mississippi .....          | 2.05        | 2.32        | 1.97        | 2.28        | 2.21        | 2.16        | 2.16        | 2.47        |
| Missouri .....             | 2.34        | 2.23        | 2.31        | 2.32        | 2.14        | 2.13        | 1.95        | 2.39        |
| Montana .....              | 2.04        | 3.65        | 1.48        | 1.37        | 1.30        | 1.02        | 4.99        | 2.47        |
| Nebraska .....             | 2.28        | 2.38        | 2.92        | 2.81        | 2.10        | 1.93        | 2.49        | 2.62        |
| Nevada .....               | 2.20        | 2.37        | 2.01        | 2.61        | 2.33        | 2.42        | 2.42        | 2.34        |
| New Hampshire .....        | —           | 0.00        | —           | —           | —           | —           | —           | —           |
| New Jersey .....           | 2.95        | 2.74        | 2.44        | 3.11        | 2.74        | 2.56        | 2.46        | 2.92        |
| New Mexico .....           | 2.03        | 2.22        | 2.14        | 2.34        | 2.02        | 1.90        | 2.03        | 2.32        |
| New York .....             | 2.80        | 2.56        | 2.43        | 2.80        | 2.30        | 2.21        | 2.29        | 2.63        |
| North Carolina .....       | 3.34        | 2.73        | 3.93        | 3.59        | 3.00        | 2.53        | 2.55        | 2.92        |
| North Dakota .....         | —           | 0.00        | —           | —           | —           | —           | —           | —           |
| Ohio .....                 | 3.88        | 3.51        | 3.88        | 4.36        | 3.88        | 4.09        | 3.93        | 2.98        |
| Oklahoma .....             | 2.32        | 2.47        | 2.28        | 2.50        | 2.41        | 2.16        | 2.07        | 2.52        |
| Oregon .....               | 2.01        | 1.55        | 1.92        | 1.88        | 1.63        | 1.48        | 1.56        | 1.46        |
| Pennsylvania .....         | 2.94        | 3.30        | 4.88        | 6.91        | 2.50        | 3.74        | 2.63        | 3.18        |
| Rhode Island .....         | —           | 3.38        | —           | —           | —           | —           | 3.40        | 3.38        |
| South Carolina .....       | 3.00        | 3.60        | 4.05        | 3.71        | 3.21        | 3.37        | 3.53        | 3.58        |
| South Dakota .....         | —           | 1.77        | —           | —           | —           | 1.77        | —           | —           |
| Tennessee .....            | —           | 0.00        | —           | —           | —           | —           | —           | —           |
| Texas .....                | 2.10        | 2.30        | 2.24        | 2.25        | 2.16        | 2.05        | 2.11        | 2.46        |
| Utah .....                 | 2.24        | 2.11        | 2.45        | 2.42        | 2.20        | 1.95        | 2.04        | 2.15        |
| Vermont .....              | 2.55        | 2.90        | 2.87        | 2.84        | 2.86        | 2.54        | 2.67        | 3.09        |
| Virginia .....             | 3.18        | 3.04        | 4.03        | 3.72        | 3.09        | 2.76        | 2.60        | 3.02        |
| Washington .....           | —           | 2.79        | —           | —           | —           | —           | —           | —           |
| West Virginia .....        | 3.19        | 3.53        | 3.02        | 3.25        | 1.20        | 2.94        | 3.85        | 6.31        |
| Wisconsin .....            | 2.64        | 2.68        | 2.73        | 2.63        | 2.42        | 2.31        | 2.49        | 2.80        |
| Wyoming .....              | 6.92        | 8.61        | 11.18       | 14.27       | 5.33        | 6.64        | 67.70       | 8.23        |
| <b>Total .....</b>         | <b>2.26</b> | <b>2.37</b> | <b>2.22</b> | <b>2.37</b> | <b>2.22</b> | <b>2.15</b> | <b>2.21</b> | <b>2.50</b> |

See footnotes at end of table.

**Table 24. Average Price of Natural Gas Delivered to Electric Utility<sup>a</sup> Consumers, by State, 1997-1999**

(Dollars per Thousand Cubic Feet) — Continued

| State                      | 1998        |             |             |             |             |             | 1997        |             |
|----------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                            | June        | May         | April       | March       | February    | January     | Total       | December    |
| Alabama .....              | 2.49        | 2.62        | 2.69        | 2.55        | 2.44        | 2.86        | 2.86        | 2.90        |
| Alaska .....               | 1.87        | 1.84        | 1.84        | 1.85        | 1.88        | 1.85        | 1.74        | 1.84        |
| Arizona .....              | 2.79        | 3.20        | 2.82        | 3.07        | 2.56        | 2.84        | 2.99        | 2.86        |
| Arkansas .....             | 2.33        | 2.33        | 2.56        | 2.36        | 2.16        | 2.25        | 2.69        | 2.24        |
| California .....           | 2.70        | 2.94        | 2.71        | 2.85        | 2.79        | 2.94        | 3.08        | 2.96        |
| Colorado .....             | 2.83        | 2.56        | 2.53        | 2.61        | 2.65        | 3.01        | 3.16        | 2.93        |
| Connecticut .....          | 2.38        | 2.56        | 2.70        | 2.79        | 2.63        | 2.74        | 2.47        | 2.74        |
| Delaware .....             | 3.27        | 1.34        | 1.41        | 4.15        | 3.21        | 5.34        | 3.15        | 4.28        |
| District of Columbia ..... | —           | —           | —           | —           | —           | —           | —           | —           |
| Florida .....              | 2.31        | 2.31        | 2.68        | 2.64        | 2.49        | 2.25        | 2.51        | 2.52        |
| Georgia .....              | 2.91        | 3.72        | 1.94        | 1.72        | 2.88        | 2.35        | 2.72        | 4.97        |
| Hawaii .....               | —           | —           | —           | —           | —           | —           | —           | —           |
| Idaho .....                | —           | —           | —           | —           | —           | —           | —           | —           |
| Illinois .....             | 2.37        | 2.37        | 2.55        | 2.34        | 2.28        | 2.25        | 2.55        | 2.48        |
| Indiana .....              | 2.95        | 2.98        | 3.37        | 3.25        | 2.64        | 3.84        | 3.23        | 3.67        |
| Iowa .....                 | 2.86        | 3.16        | 3.14        | 3.35        | 3.00        | 3.36        | 3.41        | 2.99        |
| Kansas .....               | 2.14        | 2.20        | 2.40        | 2.36        | 1.97        | 3.35        | 2.53        | 3.33        |
| Kentucky .....             | 3.68        | 3.59        | 5.25        | 4.04        | 3.58        | 3.46        | 3.45        | 3.47        |
| Louisiana .....            | 2.40        | 2.52        | 2.66        | 2.51        | 2.47        | 2.61        | 2.79        | 2.86        |
| Maine .....                | —           | —           | —           | —           | —           | —           | —           | —           |
| Maryland .....             | 2.93        | 2.96        | 3.33        | 3.18        | 3.32        | 3.75        | 2.97        | 3.61        |
| Massachusetts .....        | 2.24        | 2.86        | 3.66        | 3.64        | 2.95        | 3.16        | 3.11        | 3.57        |
| Michigan .....             | 1.29        | 1.20        | 1.35        | 0.75        | 0.84        | 0.51        | 0.79        | 0.47        |
| Minnesota .....            | 2.42        | 2.74        | 2.76        | 2.83        | 2.62        | 2.63        | 2.44        | 2.99        |
| Mississippi .....          | 2.36        | 2.41        | 2.56        | 2.46        | 2.46        | 2.48        | 2.72        | 2.80        |
| Missouri .....             | 2.41        | 2.31        | 2.56        | 2.52        | 2.82        | 2.63        | 2.81        | 2.77        |
| Montana .....              | 2.59        | 5.34        | 1.40        | 12.33       | 8.49        | 4.61        | NA          | 4.18        |
| Nebraska .....             | 2.37        | 2.40        | 1.98        | 2.72        | 4.47        | 2.72        | 2.86        | 4.94        |
| Nevada .....               | 2.73        | 2.44        | 2.31        | 2.02        | 2.37        | 2.41        | 2.18        | 2.16        |
| New Hampshire .....        | —           | —           | —           | —           | —           | —           | 2.71        | —           |
| New Jersey .....           | 2.73        | 2.77        | 3.05        | 2.88        | 2.83        | 2.98        | 3.06        | 3.20        |
| New Mexico .....           | 2.20        | 2.33        | 2.41        | 2.39        | 2.30        | 2.43        | 2.64        | 2.55        |
| New York .....             | 2.51        | 2.64        | 2.87        | 2.96        | 2.95        | 3.00        | 2.88        | 3.38        |
| North Carolina .....       | 2.78        | 2.89        | 3.37        | 4.03        | —           | 3.02        | 3.22        | 3.60        |
| North Dakota .....         | —           | —           | —           | —           | —           | —           | 3.43        | —           |
| Ohio .....                 | 2.79        | 3.06        | 4.01        | 4.14        | 3.16        | 3.32        | 3.72        | 4.13        |
| Oklahoma .....             | 2.41        | 2.52        | 2.88        | 2.62        | 2.72        | 4.47        | 2.97        | 2.89        |
| Oregon .....               | 1.31        | 1.50        | 1.36        | 1.23        | 1.03        | 1.14        | 1.49        | 1.48        |
| Pennsylvania .....         | 2.32        | 5.37        | 5.94        | 2.69        | 2.64        | 2.79        | 3.02        | 3.16        |
| Rhode Island .....         | 3.40        | 3.43        | 3.45        | 3.19        | 3.24        | 3.48        | 3.35        | 3.78        |
| South Carolina .....       | 3.92        | 3.41        | 3.44        | 3.58        | 3.53        | 4.05        | 4.07        | 4.46        |
| South Dakota .....         | —           | —           | —           | —           | —           | —           | —           | —           |
| Tennessee .....            | —           | —           | —           | —           | —           | —           | —           | —           |
| Texas .....                | 2.34        | 2.38        | 2.52        | 2.43        | 2.41        | 2.49        | 2.69        | 2.74        |
| Utah .....                 | 1.94        | —           | —           | —           | —           | —           | 2.09        | —           |
| Vermont .....              | 2.81        | 3.03        | 3.08        | 2.81        | 2.77        | 3.02        | 3.16        | 3.42        |
| Virginia .....             | 2.93        | 2.99        | 4.46        | 3.34        | 3.78        | 3.05        | 2.93        | 2.54        |
| Washington .....           | —           | —           | 5.59        | 3.86        | 4.11        | 1.64        | NA          | 5.73        |
| West Virginia .....        | 2.62        | 3.58        | —           | —           | —           | 5.59        | 3.35        | 3.31        |
| Wisconsin .....            | 2.64        | 2.95        | 3.13        | 2.75        | 2.91        | 2.90        | 3.17        | 2.92        |
| Wyoming .....              | 7.66        | 11.70       | 4.77        | 10.42       | 8.72        | 5.39        | NA          | 1.63        |
| <b>Total .....</b>         | <b>2.40</b> | <b>2.47</b> | <b>2.59</b> | <b>2.53</b> | <b>2.51</b> | <b>2.64</b> | <b>2.74</b> | <b>2.77</b> |

<sup>a</sup> Includes all steam electric utility generating plants with a combined capacity of 50 megawatts or greater.

NA Not Available.

— Not Applicable.

**Notes:** Data for 1997 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 25****Table 25. Percentage of Total Deliveries Represented by Onsystem Sales, by State, 1997-1999**

| State                      | YTD<br>1999 |             | YTD<br>1998 |             | YTD<br>1997 |             | 1999        |             |
|----------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                            | Commercial  | Industrial  | Commercial  | Industrial  | Commercial  | Industrial  | July        |             |
|                            |             |             |             |             |             |             | Commercial  | Industrial  |
| Alabama .....              | 72.3        | 15.7        | 77.3        | 19.2        | 69.3        | 23.8        | 50.9        | 14.7        |
| Alaska .....               | 56.8        | 99.7        | 49.9        | 99.5        | 56.7        | 97.4        | 56.3        | 98.4        |
| Arizona .....              | 83.9        | 34.9        | 85.8        | 32.7        | 85.5        | 20.7        | 83.0        | 43.0        |
| Arkansas .....             | NA          | NA          | 93.1        | 9.1         | 94.9        | 11.3        | 83.6        | 7.9         |
| California .....           | 50.7        | 10.9        | 52.1        | 11.2        | 53.5        | 9.9         | 40.1        | 8.8         |
| Colorado .....             | NA          | NA          | NA          | 8.6         | 94.0        | 22.8        | NA          | NA          |
| Connecticut .....          | 65.7        | 58.9        | 71.6        | 57.2        | 86.2        | 68.3        | 55.4        | 54.9        |
| Delaware .....             | 100.0       | 19.2        | 100.0       | 23.7        | 100.0       | 32.8        | 100.0       | 12.3        |
| District of Columbia ..... | NA          | —           | 54.6        | —           | 57.5        | —           | NA          | —           |
| Florida .....              | 92.1        | 3.4         | 96.4        | 4.3         | 97.8        | 10.9        | 94.7        | 2.7         |
| Georgia .....              | NA          | NA          | 85.7        | 14.3        | 90.1        | 26.7        | 55.3        | 11.0        |
| Hawaii .....               | 100.0       | —           | 100.0       | —           | 100.0       | —           | 100.0       | 100.0       |
| Idaho .....                | 87.6        | 2.8         | 87.8        | 2.4         | 87.4        | 2.1         | 83.7        | 2.8         |
| Illinois .....             | 43.7        | 8.7         | 49.1        | 8.5         | 56.4        | 12.6        | 26.3        | 5.3         |
| Indiana .....              | NA          | NA          | NA          | 8.8         | 87.9        | 16.5        | NA          | NA          |
| Iowa .....                 | 84.4        | 7.3         | 85.3        | 6.2         | 89.8        | 7.8         | 72.2        | 7.1         |
| Kansas .....               | NA          | NA          | 71.2        | 8.0         | 72.8        | 9.4         | 52.3        | 12.4        |
| Kentucky .....             | 87.6        | 16.3        | 87.2        | 14.3        | 90.4        | 20.5        | 79.7        | 16.1        |
| Louisiana .....            | 96.4        | 7.1         | 95.7        | 6.8         | 96.2        | 10.7        | 96.1        | 7.3         |
| Maine .....                | 100.0       | 86.4        | 100.0       | 88.1        | 100.0       | 93.6        | 100.0       | 84.1        |
| Maryland .....             | NA          | NA          | 39.6        | 5.4         | 74.3        | 11.2        | NA          | 3.9         |
| Massachusetts .....        | NA          | NA          | 59.7        | NA          | 66.3        | 21.9        | NA          | NA          |
| Michigan .....             | 60.3        | 9.8         | 60.5        | 7.2         | 66.1        | 10.5        | 37.5        | 4.5         |
| Minnesota .....            | 95.7        | 37.4        | 94.6        | 39.7        | 99.0        | 40.7        | 96.7        | 36.7        |
| Mississippi .....          | NA          | NA          | 93.6        | NA          | 95.6        | 39.3        | 94.1        | 33.4        |
| Missouri .....             | 79.1        | 19.9        | 81.9        | 18.9        | 81.2        | 21.9        | 47.4        | 11.0        |
| Montana .....              | 80.2        | 1.6         | 82.1        | 2.7         | 92.1        | 3.4         | 70.1        | 1.0         |
| Nebraska .....             | 63.2        | 22.2        | 75.9        | 17.5        | 77.3        | 27.7        | 68.6        | 9.0         |
| Nevada .....               | 61.7        | 9.0         | 74.6        | 1.8         | 73.3        | 2.0         | 33.0        | 18.1        |
| New Hampshire .....        | NA          | 24.4        | NA          | 36.7        | 93.6        | 53.6        | 86.6        | 26.3        |
| New Jersey .....           | NA          | NA          | 57.2        | 47.0        | 60.2        | 46.0        | NA          | NA          |
| New Mexico .....           | 49.3        | NA          | 61.7        | 11.5        | 74.3        | 25.1        | 27.3        | 5.7         |
| New York .....             | NA          | NA          | NA          | NA          | 66.2        | 8.4         | 46.8        | 22.2        |
| North Carolina .....       | 77.1        | 46.7        | 90.7        | 27.2        | 94.2        | 42.8        | 87.4        | 56.1        |
| North Dakota .....         | 87.5        | 13.5        | 85.0        | 13.2        | 91.5        | 21.8        | 79.6        | 10.9        |
| Ohio .....                 | 46.4        | 2.5         | NA          | NA          | 67.0        | 6.5         | 30.8        | 0.6         |
| Oklahoma .....             | 75.5        | 4.6         | 77.3        | 4.1         | 84.9        | 5.2         | 57.6        | 3.4         |
| Oregon .....               | 98.8        | 22.3        | NA          | NA          | 98.7        | 18.6        | 98.8        | 12.2        |
| Pennsylvania .....         | 59.5        | 11.8        | NA          | 14.0        | 65.4        | 14.6        | 53.6        | 10.7        |
| Rhode Island .....         | 57.0        | 6.5         | 63.0        | 7.4         | 85.3        | 18.2        | 44.1        | 28.7        |
| South Carolina .....       | 90.7        | 82.3        | 98.1        | 86.4        | 98.8        | 86.6        | 94.7        | 87.0        |
| South Dakota .....         | 82.2        | 41.6        | 84.1        | 34.0        | 85.4        | 23.8        | 73.9        | 20.7        |
| Tennessee .....            | NA          | NA          | NA          | 26.2        | 92.6        | 40.8        | 74.1        | 28.3        |
| Texas .....                | 75.3        | NA          | 62.0        | 14.0        | 62.5        | 19.0        | 72.5        | 25.4        |
| Utah .....                 | 83.0        | 10.0        | 82.8        | 8.3         | 83.9        | 8.8         | 76.0        | 8.7         |
| Vermont .....              | 100.0       | 76.6        | 100.0       | 100.0       | 100.0       | 100.0       | 100.0       | 68.6        |
| Virginia .....             | NA          | NA          | 72.8        | 12.3        | 79.5        | 10.6        | 62.5        | 7.9         |
| Washington .....           | NA          | NA          | NA          | NA          | 90.2        | 25.8        | NA          | NA          |
| West Virginia .....        | NA          | NA          | 48.3        | 5.9         | 58.9        | 12.3        | 33.9        | 30.2        |
| Wisconsin .....            | 73.7        | 21.6        | 74.0        | 20.5        | 84.7        | 28.8        | 47.7        | 18.8        |
| Wyoming .....              | 91.1        | NA          | NA          | 1.7         | 81.5        | 2.4         | 84.3        | NA          |
| <b>Total .....</b>         | <b>65.9</b> | <b>16.8</b> | <b>67.7</b> | <b>14.6</b> | <b>72.9</b> | <b>18.6</b> | <b>54.9</b> | <b>18.8</b> |

See footnotes at end of table.

**Table 25. Percentage of Total Deliveries Represented by Onsystem Sales, by State, 1997-1999 — Continued**

| State                      | 1999         |             |              |              |              |             |              |             |
|----------------------------|--------------|-------------|--------------|--------------|--------------|-------------|--------------|-------------|
|                            | June         |             | May          |              | April        |             | March        |             |
|                            | Commercial   | Industrial  | Commercial   | Industrial   | Commercial   | Industrial  | Commercial   | Industrial  |
| Alabama .....              | 53.4         | 15.3        | 67.4         | 15.0         | 76.0         | 15.2        | 76.3         | 15.5        |
| Alaska .....               | 57.4         | 100.0       | 58.9         | 99.9         | 53.5         | 99.9        | 57.5         | 99.9        |
| Arizona .....              | 82.1         | 37.2        | 82.4         | 42.3         | 82.5         | 30.5        | 84.6         | 26.3        |
| Arkansas .....             | NA           | NA          | NA           | 8.6          | 89.6         | 8.7         | 90.1         | 9.6         |
| California .....           | 48.6         | 10.1        | 41.9         | 12.7         | 51.1         | 12.7        | 59.5         | 13.4        |
| Colorado .....             | 95.8         | 0.6         | 96.7         | 0.6          | NA           | 0.8         | 96.7         | 0.4         |
| Connecticut .....          | 56.8         | 62.3        | 53.6         | 55.2         | 72.9         | 64.0        | 67.4         | 58.6        |
| Delaware .....             | 100.0        | 16.4        | 100.0        | 22.4         | 100.0        | 17.6        | 100.0        | 22.7        |
| District of Columbia ..... | 33.9         | —           | 39.4         | —            | 43.5         | —           | 53.8         | —           |
| Florida .....              | 96.3         | 3.2         | 91.6         | 4.2          | 92.0         | 3.4         | 90.3         | 4.2         |
| Georgia .....              | 60.0         | 10.9        | NA           | NA           | 82.0         | 6.0         | 83.0         | 13.5        |
| Hawaii .....               | 100.0        | 100.0       | 100.0        | 100.0        | 100.0        | 100.0       | 100.0        | —           |
| Idaho .....                | 83.3         | 2.8         | 85.5         | 2.3          | 87.0         | 2.6         | 87.8         | 2.8         |
| Illinois .....             | 33.7         | 6.7         | 34.9         | 6.6          | 40.9         | 10.3        | 47.7         | 9.1         |
| Indiana .....              | NA           | NA          | NA           | NA           | NA           | NA          | NA           | NA          |
| Iowa .....                 | 76.4         | 5.9         | 93.5         | 5.9          | 77.2         | 6.2         | 87.3         | 7.5         |
| Kansas .....               | 55.9         | 6.6         | 68.4         | NA           | 69.1         | 4.9         | NA           | 5.0         |
| Kentucky .....             | 80.4         | 12.9        | 84.4         | 16.5         | 83.9         | 16.3        | 88.8         | 16.6        |
| Louisiana .....            | 97.1         | 6.7         | 96.6         | 6.4          | 97.2         | 7.0         | 96.2         | 7.5         |
| Maine .....                | 100.0        | 87.9        | R100.0       | 84.4         | 100.0        | 75.1        | 100.0        | 80.7        |
| Maryland .....             | 19.8         | 4.9         | NA           | NA           | 25.1         | 1.6         | NA           | R9.5        |
| Massachusetts .....        | R44.2        | NA          | R54.1        | 41.5         | R46.8        | NA          | R67.0        | NA          |
| Michigan .....             | 39.5         | 4.9         | 47.1         | 7.2          | 58.0         | 14.2        | 63.3         | 16.2        |
| Minnesota .....            | 92.1         | 47.2        | 96.6         | 29.3         | 91.7         | 38.0        | 96.5         | 39.3        |
| Mississippi .....          | 94.4         | 35.2        | NA           | 38.1         | NA           | NA          | 88.4         | 35.1        |
| Missouri .....             | 71.0         | 13.6        | 75.8         | 14.0         | 81.4         | 17.2        | 83.3         | 24.6        |
| Montana .....              | 67.9         | R0.4        | R92.8        | R1.7         | 77.3         | R1.7        | 78.1         | R1.8        |
| Nebraska .....             | 63.2         | 18.1        | 59.4         | 22.4         | 65.0         | 64.6        | 67.6         | 23.8        |
| Nevada .....               | 55.6         | 18.7        | 60.2         | 18.7         | 63.2         | 25.4        | 67.7         | 28.0        |
| New Hampshire .....        | 89.1         | 23.2        | NA           | 26.2         | 94.2         | 27.2        | 94.5         | 19.6        |
| New Jersey .....           | NA           | NA          | NA           | NA           | NA           | NA          | NA           | NA          |
| New Mexico .....           | 28.9         | 5.9         | 27.2         | 4.9          | 40.8         | NA          | 58.1         | 4.2         |
| New York .....             | NA           | 22.4        | NA           | NA           | NA           | NA          | NA           | NA          |
| North Carolina .....       | 88.0         | 49.9        | 89.9         | 50.0         | 90.7         | 42.0        | 55.1         | 44.4        |
| North Dakota .....         | 77.0         | 16.4        | 85.3         | 6.0          | 86.8         | 14.5        | 89.7         | 13.7        |
| Ohio .....                 | 30.1         | 1.1         | 34.5         | 1.8          | 38.7         | 2.0         | 48.5         | 3.6         |
| Oklahoma .....             | 24.2         | 4.0         | 68.1         | 3.8          | 75.7         | 4.3         | 79.2         | 5.0         |
| Oregon .....               | 98.5         | 14.1        | 98.7         | 14.1         | 98.7         | 15.1        | 98.7         | 47.4        |
| Pennsylvania .....         | 50.3         | 11.0        | 59.1         | 11.8         | 56.1         | 11.1        | 61.4         | 12.5        |
| Rhode Island .....         | 46.8         | 32.0        | 48.9         | 31.4         | 56.2         | 38.8        | 60.4         | 50.1        |
| South Carolina .....       | 94.9         | 81.2        | 95.4         | 86.1         | 85.3         | 72.8        | 78.0         | 83.3        |
| South Dakota .....         | 60.2         | 33.2        | 78.7         | 38.8         | 83.2         | 41.8        | 84.3         | 47.4        |
| Tennessee .....            | 58.7         | 27.0        | 77.6         | 26.4         | NA           | NA          | 83.9         | 22.5        |
| Texas .....                | 72.4         | 21.4        | 74.4         | NA           | 77.2         | 20.5        | 78.2         | 16.3        |
| Utah .....                 | 72.9         | 14.8        | 80.1         | 8.7          | 83.0         | 8.0         | 82.8         | 8.3         |
| Vermont .....              | 100.0        | 68.7        | 100.0        | 68.8         | 100.0        | 76.3        | 100.0        | 82.2        |
| Virginia .....             | 56.6         | 5.3         | NA           | NA           | 55.7         | 7.4         | 65.8         | 15.2        |
| Washington .....           | NA           | NA          | NA           | NA           | NA           | NA          | NA           | NA          |
| West Virginia .....        | NA           | NA          | R47.0        | R11.8        | R51.4        | NA          | 54.2         | NA          |
| Wisconsin .....            | 51.4         | 19.9        | 62.8         | 18.3         | 70.9         | 21.3        | 76.6         | 21.9        |
| Wyoming .....              | 83.8         | 3.2         | 87.5         | 3.5          | 88.6         | 2.4         | 88.1         | 2.9         |
| <b>Total .....</b>         | <b>R57.2</b> | <b>18.3</b> | <b>R59.9</b> | <b>R17.1</b> | <b>R63.7</b> | <b>15.7</b> | <b>R68.4</b> | <b>16.6</b> |

See footnotes at end of table.

Table 25

**Table 25. Percentage of Total Deliveries Represented by Onsystem Sales, by State, 1997-1999 — Continued**

| State                      | 1999        |             |             |             | 1998         |             |              |             |
|----------------------------|-------------|-------------|-------------|-------------|--------------|-------------|--------------|-------------|
|                            | February    |             | January     |             | Total        |             | December     |             |
|                            | Commercial  | Industrial  | Commercial  | Industrial  | Commercial   | Industrial  | Commercial   | Industrial  |
| Alabama .....              | 77.4        | 16.1        | 81.0        | 18.4        | 74.5         | 18.4        | 68.2         | 16.7        |
| Alaska .....               | 53.8        | 99.9        | 59.8        | 99.9        | 49.5         | NA          | 48.8         | NA          |
| Arizona .....              | 84.6        | 34.0        | 86.3        | 32.3        | 84.7         | 33.4        | 83.7         | 33.5        |
| Arkansas .....             | 91.4        | 10.6        | 93.3        | 11.7        | 90.7         | 9.0         | 88.9         | 8.8         |
| California .....           | 52.6        | 14.4        | 55.7        | 11.8        | 43.1         | 10.8        | 43.6         | 12.0        |
| Colorado .....             | 93.2        | 0.3         | 97.1        | 0.1         | NA           | R8.5        | 93.0         | —           |
| Connecticut .....          | 69.7        | 67.0        | 69.6        | 60.4        | 68.8         | 56.6        | 62.8         | 63.5        |
| Delaware .....             | 100.0       | 24.0        | 100.0       | 18.1        | 100.0        | 21.8        | 100.0        | 24.4        |
| District of Columbia ..... | 52.4        | —           | 58.2        | —           | 52.0         | —           | 59.4         | —           |
| Florida .....              | 90.9        | 3.4         | 91.5        | 3.6         | 96.1         | R4.1        | 95.0         | 3.7         |
| Georgia .....              | 81.6        | 9.7         | 85.4        | 10.1        | 81.9         | 12.5        | 77.6         | 10.7        |
| Hawaii .....               | 100.0       | —           | 100.0       | —           | 100.0        | —           | 100.0        | —           |
| Idaho .....                | 88.8        | 3.1         | 89.4        | 3.6         | 86.1         | 2.6         | 85.8         | 3.6         |
| Illinois .....             | 46.1        | 10.0        | 46.9        | 10.9        | 46.5         | 8.5         | 44.0         | 11.4        |
| Indiana .....              | 79.3        | 9.2         | 79.9        | NA          | NA           | 7.9         | NA           | 8.7         |
| Iowa .....                 | 84.7        | 8.0         | 86.7        | 9.2         | R84.6        | 7.0         | 88.3         | 10.4        |
| Kansas .....               | NA          | 5.4         | NA          | NA          | 67.6         | NA          | 58.9         | NA          |
| Kentucky .....             | 89.2        | 18.0        | 90.3        | 16.9        | 86.6         | 14.5        | 88.4         | 19.2        |
| Louisiana .....            | 95.9        | 7.8         | 96.2        | 7.5         | 95.5         | NA          | 94.1         | 20.9        |
| Maine .....                | 100.0       | 97.3        | 100.0       | 93.8        | NA           | 87.3        | 100.0        | 84.2        |
| Maryland .....             | NA          | 6.5         | 39.3        | 7.5         | 36.7         | 6.3         | 36.7         | 9.8         |
| Massachusetts .....        | NA          | 32.3        | 78.5        | 28.3        | R60.9        | NA          | R83.1        | NA          |
| Michigan .....             | 64.5        | 17.3        | 67.3        | 16.2        | 58.2         | 6.5         | 63.6         | 9.6         |
| Minnesota .....            | 96.5        | 33.8        | 96.6        | 37.9        | 95.4         | R38.2       | 96.5         | 38.3        |
| Mississippi .....          | 96.9        | 38.2        | NA          | NA          | 94.1         | NA          | 95.8         | 34.8        |
| Missouri .....             | 79.1        | 33.9        | 85.5        | 26.3        | 77.9         | 17.5        | 78.6         | 21.2        |
| Montana .....              | 80.1        | R1.7        | 83.5        | R2.4        | 80.1         | 2.3         | 79.9         | 2.4         |
| Nebraska .....             | 63.5        | 28.7        | 59.8        | 23.5        | 71.9         | 17.1        | 50.7         | 26.9        |
| Nevada .....               | 69.2        | 30.9        | 72.6        | 31.4        | 71.1         | 5.5         | 70.9         | 35.4        |
| New Hampshire .....        | 95.3        | 24.1        | 95.5        | 24.2        | NA           | NA          | 95.3         | 24.4        |
| New Jersey .....           | NA          | NA          | NA          | NA          | NA           | NA          | NA           | NA          |
| New Mexico .....           | 52.8        | 3.6         | 66.7        | NA          | 62.5         | 12.6        | 75.9         | 4.1         |
| New York .....             | NA          | NA          | NA          | NA          | NA           | NA          | NA           | NA          |
| North Carolina .....       | 73.8        | 43.2        | 97.0        | 41.1        | 88.8         | 25.4        | 88.4         | 25.9        |
| North Dakota .....         | 83.6        | 13.6        | 92.4        | 18.4        | 84.2         | 14.2        | 87.5         | 18.9        |
| Ohio .....                 | 47.1        | 3.6         | 57.0        | 4.1         | NA           | NA          | 49.3         | 3.1         |
| Oklahoma .....             | 78.9        | 5.1         | 83.2        | 5.7         | 73.5         | 3.5         | 72.5         | 5.0         |
| Oregon .....               | 99.0        | 15.8        | 99.1        | 16.9        | NA           | NA          | 99.1         | 14.8        |
| Pennsylvania .....         | 56.4        | 11.1        | 66.5        | 14.6        | NA           | 13.4        | 64.1         | 13.4        |
| Rhode Island .....         | 61.5        | 30.8        | 59.4        | 24.4        | R60.4        | 7.6         | 53.7         | 38.3        |
| South Carolina .....       | 97.8        | 83.0        | 97.6        | 84.8        | 97.6         | 86.8        | 96.7         | 86.7        |
| South Dakota .....         | 84.1        | 50.0        | 86.6        | 51.8        | 84.1         | 34.0        | 84.6         | 46.2        |
| Tennessee .....            | 84.8        | 23.3        | 89.7        | 25.4        | NA           | R24.7       | 85.2         | 26.0        |
| Texas .....                | 81.3        | 13.0        | 71.0        | 13.8        | 60.2         | 14.1        | 61.7         | 12.8        |
| Utah .....                 | 85.7        | 10.8        | 85.8        | 12.2        | 82.5         | 8.9         | 85.2         | 10.0        |
| Vermont .....              | 100.0       | 81.5        | 100.0       | 81.4        | 100.0        | 100.0       | 100.0        | 100.0       |
| Virginia .....             | 68.2        | 13.6        | 76.4        | 20.7        | R70.7        | 12.2        | 74.2         | 14.8        |
| Washington .....           | NA          | NA          | NA          | NA          | NA           | NA          | NA           | NA          |
| West Virginia .....        | 54.8        | 10.1        | 49.9        | 5.5         | 45.8         | 6.1         | 50.9         | 7.1         |
| Wisconsin .....            | 78.8        | 22.5        | 80.6        | 25.4        | 71.1         | 19.4        | 76.7         | 20.9        |
| Wyoming .....              | 97.3        | 4.2         | 96.5        | 4.3         | NA           | 1.7         | 97.7         | 2.0         |
| <b>Total .....</b>         | <b>68.3</b> | <b>15.4</b> | <b>71.5</b> | <b>15.7</b> | <b>R64.8</b> | <b>14.6</b> | <b>R66.2</b> | <b>16.4</b> |

See footnotes at end of table.

**Table 25. Percentage of Total Deliveries Represented by Onsystem Sales, by State, 1997-1999 — Continued**

| State                      | 1998         |             |              |             |              |             |              |             |
|----------------------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
|                            | November     |             | October      |             | September    |             | August       |             |
|                            | Commercial   | Industrial  | Commercial   | Industrial  | Commercial   | Industrial  | Commercial   | Industrial  |
| Alabama .....              | 66.0         | 19.1        | 63.6         | 17.6        | 69.1         | 17.0        | 72.0         | 15.6        |
| Alaska .....               | 51.0         | NA          | 48.6         | 100.0       | 47.2         | 100.0       | 48.6         | NA          |
| Arizona .....              | 82.6         | 35.2        | 79.5         | 36.6        | 83.4         | 33.3        | 82.7         | 32.6        |
| Arkansas .....             | 86.0         | 10.0        | 81.4         | 10.1        | 82.3         | 9.4         | 84.8         | 7.8         |
| California .....           | 33.6         | 10.8        | 32.4         | 11.6        | 28.4         | 9.3         | 24.6         | 8.2         |
| Colorado .....             | 94.9         | 0.1         | 85.2         | 0.2         | 85.8         | —           | 91.3         | 1.1         |
| Connecticut .....          | 76.2         | 58.2        | 61.4         | 54.1        | 55.3         | 59.6        | 58.1         | 51.5        |
| Delaware .....             | 100.0        | 22.7        | 100.0        | 17.8        | 100.0        | 17.5        | 100.0        | 11.3        |
| District of Columbia ..... | 49.8         | —           | 37.5         | —           | 36.5         | —           | 35.4         | —           |
| Florida .....              | 94.6         | 3.3         | 95.1         | 3.2         | 96.5         | 3.9         | 96.3         | 6.1         |
| Georgia .....              | 75.3         | 9.5         | 72.2         | 9.4         | 71.1         | 14.4        | 68.9         | 7.0         |
| Hawaii .....               | 100.0        | —           | 100.0        | —           | 100.0        | —           | 100.0        | —           |
| Idaho .....                | 83.7         | 2.2         | 74.9         | 2.6         | 80.3         | 2.5         | 83.1         | 3.5         |
| Illinois .....             | 44.1         | 9.1         | 40.5         | 8.2         | 36.4         | 7.0         | 37.9         | 6.0         |
| Indiana .....              | 75.5         | 7.4         | 70.1         | 6.7         | NA           | 5.6         | R71.2        | 4.5         |
| Iowa .....                 | 82.9         | 10.1        | 76.2         | 7.2         | 76.8         | 6.4         | 79.7         | 5.2         |
| Kansas .....               | 59.9         | R4.2        | 58.5         | 5.4         | 55.4         | 10.9        | 59.9         | 11.2        |
| Kentucky .....             | 87.0         | 16.9        | 82.3         | 13.0        | 81.6         | 12.0        | 78.9         | 11.6        |
| Louisiana .....            | 95.5         | 9.8         | R95.6        | NA          | 95.4         | 8.8         | 95.5         | 7.5         |
| Maine .....                | NA           | 87.1        | 100.0        | 86.8        | 100.0        | 87.1        | 100.0        | 85.7        |
| Maryland .....             | 38.4         | 8.7         | 25.6         | 8.3         | 23.1         | 3.5         | 22.7         | 7.2         |
| Massachusetts .....        | 59.7         | 26.3        | 47.6         | 26.5        | R81.8        | NA          | 51.3         | 18.1        |
| Michigan .....             | 56.3         | 8.7         | 45.9         | 5.1         | 41.1         | 5.0         | 35.9         | 3.8         |
| Minnesota .....            | 95.6         | 37.2        | 97.5         | 35.5        | 98.3         | 35.1        | 98.1         | 33.5        |
| Mississippi .....          | 94.7         | 34.8        | 94.3         | 33.8        | 93.8         | 32.7        | 96.2         | NA          |
| Missouri .....             | 73.7         | 17.7        | 65.7         | 12.3        | 69.2         | 12.7        | 43.6         | 12.2        |
| Montana .....              | 78.1         | 2.3         | 73.9         | 1.6         | 68.2         | 0.9         | 73.4         | 1.2         |
| Nebraska .....             | 66.0         | 18.9        | 80.1         | 15.9        | 75.1         | 13.9        | 81.5         | 10.4        |
| Nevada .....               | 64.6         | 29.5        | 63.7         | 27.4        | 56.6         | 20.7        | 56.4         | 19.1        |
| New Hampshire .....        | R95.6        | NA          | 93.1         | 21.5        | 91.9         | 21.5        | NA           | NA          |
| New Jersey .....           | NA           | NA          | NA           | NA          | NA           | NA          | 50.0         | 33.4        |
| New Mexico .....           | 66.6         | 11.0        | 52.4         | 7.9         | 45.9         | 12.9        | 45.9         | 15.1        |
| New York .....             | NA           | NA          | NA           | NA          | NA           | NA          | 45.7         | NA          |
| North Carolina .....       | 85.2         | 27.1        | 80.3         | 21.1        | 82.3         | 18.0        | 83.8         | 21.3        |
| North Dakota .....         | 86.5         | 19.3        | 81.1         | 21.5        | 68.6         | 13.4        | 67.7         | 8.3         |
| Ohio .....                 | 49.7         | 2.5         | 55.4         | 1.5         | 41.7         | 1.2         | 35.3         | 0.8         |
| Oklahoma .....             | 65.2         | 3.6         | 57.4         | 1.8         | 57.9         | 1.8         | 56.4         | 1.8         |
| Oregon .....               | 99.0         | 15.6        | 98.4         | 12.2        | 98.7         | 12.0        | 98.7         | 12.2        |
| Pennsylvania .....         | 61.0         | 13.5        | 54.4         | 11.4        | 57.4         | 12.1        | NA           | 11.6        |
| Rhode Island .....         | 53.4         | 41.9        | 49.2         | 34.6        | 49.3         | 33.7        | 100.0        | 34.2        |
| South Carolina .....       | 96.4         | 86.6        | 96.4         | 87.5        | 96.7         | 88.3        | 96.8         | 88.1        |
| South Dakota .....         | 84.4         | 45.0        | 95.7         | 33.9        | 73.5         | 20.8        | 74.8         | 17.1        |
| Tennessee .....            | 81.5         | 25.0        | 68.2         | 14.9        | 66.7         | 24.3        | 63.0         | 24.4        |
| Texas .....                | 64.0         | 13.5        | 47.7         | 15.1        | 57.7         | 15.8        | 54.4         | 14.7        |
| Utah .....                 | 82.2         | 10.9        | 80.2         | 10.2        | 77.6         | 9.2         | 71.6         | 8.7         |
| Vermont .....              | 100.0        | 100.0       | 100.0        | 100.0       | 100.0        | 100.0       | 100.0        | 100.0       |
| Virginia .....             | 69.6         | 15.7        | 61.6         | 8.7         | 57.6         | 8.5         | 50.8         | 13.2        |
| Washington .....           | NA           | NA          | NA           | NA          | NA           | NA          | NA           | NA          |
| West Virginia .....        | 46.2         | 6.4         | 35.0         | 5.7         | 32.7         | 6.5         | 28.5         | 6.2         |
| Wisconsin .....            | 69.9         | 20.5        | 67.7         | 16.5        | 40.0         | 15.5        | 48.0         | 12.8        |
| Wyoming .....              | NA           | 1.9         | 82.5         | 2.1         | 83.8         | 2.2         | 91.8         | 2.4         |
| <b>Total .....</b>         | <b>R62.1</b> | <b>15.0</b> | <b>R55.6</b> | <b>14.1</b> | <b>R53.6</b> | <b>14.2</b> | <b>R50.1</b> | <b>13.4</b> |

See footnotes at end of table.

**Table 25. Percentage of Total Deliveries Represented by Onsystem Sales, by State, 1997-1999 — Continued**

| State                      | 1998        |              |             |             |             |             |              |             |
|----------------------------|-------------|--------------|-------------|-------------|-------------|-------------|--------------|-------------|
|                            | July        |              | June        |             | May         |             | April        |             |
|                            | Commercial  | Industrial   | Commercial  | Industrial  | Commercial  | Industrial  | Commercial   | Industrial  |
| Alabama .....              | 71.8        | 17.6         | 74.7        | 17.9        | 75.7        | 17.5        | 77.4         | 18.6        |
| Alaska .....               | 47.1        | 96.5         | 45.3        | 100.0       | 47.7        | 100.0       | 49.5         | 100.0       |
| Arizona .....              | 84.1        | 32.8         | 86.2        | 33.8        | 83.3        | 35.8        | 84.9         | 32.7        |
| Arkansas .....             | 86.0        | 7.0          | 86.7        | 8.1         | 88.7        | 9.0         | 92.9         | 9.1         |
| California .....           | 31.4        | 9.5          | 52.9        | 11.2        | 48.3        | 11.7        | 52.7         | 10.9        |
| Colorado .....             | NA          | R2.0         | 91.8        | R2.1        | 95.0        | 1.0         | 95.8         | 0.8         |
| Connecticut .....          | 62.4        | 57.1         | 61.2        | 52.9        | 76.3        | 55.7        | 62.3         | 61.9        |
| Delaware .....             | 100.0       | 17.8         | 100.0       | 19.3        | 100.0       | 19.5        | 100.0        | 23.3        |
| District of Columbia ..... | 40.4        | —            | 41.9        | —           | 47.7        | —           | 52.5         | —           |
| Florida .....              | 96.0        | 4.2          | 96.6        | 4.3         | 96.7        | 3.5         | 96.8         | 4.5         |
| Georgia .....              | 68.9        | 5.1          | 79.0        | 15.1        | 82.0        | 15.7        | 85.5         | 13.4        |
| Hawaii .....               | 100.0       | —            | 100.0       | —           | 100.0       | —           | 100.0        | —           |
| Idaho .....                | 83.9        | 2.7          | 85.3        | 1.8         | 85.4        | 2.2         | 86.4         | 2.2         |
| Illinois .....             | 27.0        | 4.9          | 45.8        | 5.2         | 34.8        | 6.8         | 44.3         | 9.1         |
| Indiana .....              | NA          | 5.6          | NA          | 5.1         | 76.7        | 6.2         | R79.7        | 9.0         |
| Iowa .....                 | 69.6        | 5.3          | 70.3        | 4.9         | 87.3        | 4.7         | 82.8         | 5.8         |
| Kansas .....               | 58.8        | 13.5         | 54.2        | 10.8        | 67.5        | 7.7         | 69.5         | 5.6         |
| Kentucky .....             | 76.4        | 15.2         | 82.6        | 13.8        | 84.2        | 14.7        | 85.7         | 14.7        |
| Louisiana .....            | 95.3        | 6.9          | 96.2        | 7.0         | 96.5        | 7.3         | 98.1         | 7.2         |
| Maine .....                | 100.0       | 84.1         | 100.0       | 87.9        | 100.0       | 84.1        | 100.0        | 83.8        |
| Maryland .....             | 22.2        | 2.7          | 25.2        | 3.8         | 27.8        | 6.7         | 32.2         | 2.3         |
| Massachusetts .....        | 48.4        | 16.8         | 46.3        | NA          | 52.8        | 28.8        | 60.0         | 27.5        |
| Michigan .....             | 38.1        | 4.4          | 40.8        | 4.8         | 42.2        | 5.9         | 58.3         | 9.6         |
| Minnesota .....            | 97.2        | 34.8         | 98.2        | 41.1        | 98.5        | 35.1        | 96.1         | 38.9        |
| Mississippi .....          | 94.3        | 33.9         | 94.9        | NA          | 93.6        | NA          | 93.3         | NA          |
| Missouri .....             | 65.6        | 14.1         | 69.4        | 12.6        | 75.7        | 14.0        | 82.0         | 17.4        |
| Montana .....              | 69.1        | 0.7          | 70.5        | 0.7         | R75.5       | 1.2         | 79.4         | 2.2         |
| Nebraska .....             | 65.6        | 5.7          | 66.3        | 13.5        | 74.0        | 14.8        | 71.5         | 21.3        |
| Nevada .....               | 66.3        | 4.0          | 70.9        | 4.6         | 71.9        | 4.8         | 73.2         | 5.8         |
| New Hampshire .....        | 89.1        | 34.9         | NA          | 32.7        | 94.3        | 38.9        | 95.5         | 47.0        |
| New Jersey .....           | 47.4        | 25.6         | 51.5        | 27.7        | 46.0        | 26.4        | 55.2         | 29.2        |
| New Mexico .....           | 46.7        | 17.9         | 39.7        | 13.9        | 48.8        | 10.0        | 57.3         | 6.5         |
| New York .....             | 49.6        | NA           | 47.4        | 6.9         | NA          | NA          | 58.1         | 10.1        |
| North Carolina .....       | 83.3        | 26.4         | 82.5        | 24.3        | 86.7        | 26.9        | 90.6         | 31.2        |
| North Dakota .....         | 80.8        | 11.0         | 82.1        | 10.4        | 79.2        | 6.1         | 80.0         | 12.3        |
| Ohio .....                 | NA          | NA           | 44.7        | 1.3         | 41.4        | 1.5         | 53.9         | 2.7         |
| Oklahoma .....             | 63.5        | 2.1          | 63.6        | 2.2         | 70.4        | 2.9         | 75.0         | 4.9         |
| Oregon .....               | 98.9        | 12.8         | 98.9        | 14.9        | 98.8        | 15.0        | NA           | NA          |
| Pennsylvania .....         | 51.4        | 12.3         | 54.9        | 12.7        | 59.4        | 13.2        | NA           | 13.3        |
| Rhode Island .....         | 48.5        | 31.2         | 53.3        | 33.4        | 58.6        | 34.2        | R59.3        | 37.9        |
| South Carolina .....       | 97.4        | 87.5         | 97.4        | 88.2        | 98.2        | 87.7        | 98.4         | 86.0        |
| South Dakota .....         | 75.4        | 22.5         | 72.8        | 24.9        | 65.9        | 15.8        | 93.7         | 56.2        |
| Tennessee .....            | 63.7        | 24.5         | 66.6        | 27.2        | 77.4        | 23.9        | 75.8         | 29.3        |
| Texas .....                | 48.8        | 12.1         | 63.8        | 15.2        | 55.8        | 14.1        | 59.8         | 14.5        |
| Utah .....                 | 70.7        | 7.5          | 75.6        | 9.1         | 73.7        | 8.9         | 82.5         | 7.9         |
| Vermont .....              | 100.0       | 100.0        | 100.0       | 100.0       | 100.0       | 100.0       | 100.0        | 100.0       |
| Virginia .....             | 69.4        | 8.0          | 66.8        | 8.7         | 70.0        | 11.5        | R69.7        | 11.2        |
| Washington .....           | NA          | NA           | NA          | NA          | NA          | NA          | NA           | NA          |
| West Virginia .....        | 27.3        | 5.5          | 29.1        | 5.5         | 32.9        | 5.7         | 50.3         | 5.8         |
| Wisconsin .....            | 45.1        | 12.6         | 52.4        | 15.5        | 53.8        | 15.1        | 72.9         | 19.3        |
| Wyoming .....              | NA          | 2.2          | 85.6        | 2.2         | 89.8        | 1.4         | 92.1         | 2.2         |
| <b>Total .....</b>         | <b>52.7</b> | <b>R12.6</b> | <b>60.2</b> | <b>14.0</b> | <b>60.6</b> | <b>13.9</b> | <b>R66.2</b> | <b>14.7</b> |

See footnotes at end of table.

**Table 25. Percentage of Total Deliveries Represented by Onsystem Sales, by State, 1997-1999 — Continued**

| State                      | 1998         |             |             |             |             |              | 1997        |             |
|----------------------------|--------------|-------------|-------------|-------------|-------------|--------------|-------------|-------------|
|                            | March        |             | February    |             | January     |              | Total       |             |
|                            | Commercial   | Industrial  | Commercial  | Industrial  | Commercial  | Industrial   | Commercial  | Industrial  |
| Alabama .....              | 77.8         | 21.4        | 80.1        | 20.7        | 76.7        | 20.7         | 64.7        | 24.6        |
| Alaska .....               | 49.9         | 100.0       | 52.6        | 100.0       | 52.6        | 100.0        | 54.5        | 97.8        |
| Arizona .....              | 86.7         | 34.0        | 87.2        | 27.7        | 86.9        | 32.3         | 84.6        | 25.1        |
| Arkansas .....             | 93.9         | 10.2        | 95.3        | 10.9        | 95.5        | 10.5         | 94.2        | 10.5        |
| California .....           | 71.1         | 16.5        | 54.3        | 8.7         | 58.1        | 11.0         | 50.7        | 8.9         |
| Colorado .....             | 96.0         | 1.2         | 95.2        | 1.2         | 95.4        | 2.5          | 92.8        | 23.6        |
| Connecticut .....          | 71.2         | 59.4        | 78.2        | 57.8        | 78.4        | 61.0         | 81.9        | 66.4        |
| Delaware .....             | 100.0        | 27.9        | 100.0       | 28.6        | 100.0       | 26.4         | 100.0       | 31.0        |
| District of Columbia ..... | 60.1         | —           | 59.0        | —           | 60.2        | —            | 54.9        | 100.0       |
| Florida .....              | 96.2         | R5.0        | 96.3        | R4.7        | 96.3        | R5.2         | 97.5        | 10.0        |
| Georgia .....              | 87.5         | 17.2        | 90.3        | 16.7        | 88.7        | 16.5         | 89.1        | 26.7        |
| Hawaii .....               | 100.0        | —           | 100.0       | —           | 100.0       | —            | 100.0       | 100.0       |
| Idaho .....                | 88.1         | 2.0         | 88.7        | 3.0         | 90.0        | 2.5          | 86.1        | 2.0         |
| Illinois .....             | 55.3         | 10.6        | 50.4        | 9.8         | 53.7        | 10.7         | 54.3        | 11.5        |
| Indiana .....              | 88.6         | 12.3        | 84.6        | 11.1        | 85.7        | 11.2         | 89.8        | 16.0        |
| Iowa .....                 | R86.8        | 7.1         | 88.7        | 7.1         | 87.4        | 7.4          | 88.2        | 8.6         |
| Kansas .....               | 76.9         | 5.5         | 73.6        | 5.3         | 71.9        | 5.1          | 70.7        | 9.5         |
| Kentucky .....             | 90.0         | 13.1        | 86.5        | 17.2        | 90.0        | 12.3         | 90.0        | 19.2        |
| Louisiana .....            | 96.0         | 8.1         | 93.8        | 6.0         | 95.2        | 5.4          | 95.9        | 10.1        |
| Maine .....                | 100.0        | 85.5        | 100.0       | 91.4        | 100.0       | 97.9         | 100.0       | 91.4        |
| Maryland .....             | 45.7         | 8.3         | 49.5        | 10.6        | 47.1        | 3.4          | 67.1        | 7.4         |
| Massachusetts .....        | 65.5         | 29.0        | 61.4        | 32.5        | 64.3        | 30.3         | 62.6        | 20.2        |
| Michigan .....             | 64.3         | 12.1        | 65.2        | 12.6        | 69.5        | 13.5         | 63.7        | 9.0         |
| Minnesota .....            | 96.2         | 48.8        | 93.3        | 37.4        | 91.9        | R40.5        | 98.8        | 40.4        |
| Mississippi .....          | 89.6         | NA          | 94.8        | 38.5        | 95.3        | NA           | 94.8        | 39.6        |
| Missouri .....             | 83.3         | 21.5        | 85.4        | 24.0        | 85.2        | 23.7         | 79.9        | 21.8        |
| Montana .....              | 83.1         | 3.5         | 83.1        | 4.3         | 88.3        | 4.7          | 91.4        | 3.1         |
| Nebraska .....             | 77.3         | 24.0        | 78.0        | 23.2        | 79.9        | 30.1         | 74.2        | 27.0        |
| Nevada .....               | 75.9         | 7.1         | 79.8        | 15.3        | 77.3        | 7.2          | 71.4        | 1.8         |
| New Hampshire .....        | 96.1         | 36.1        | 96.2        | 37.2        | 96.4        | 30.4         | 92.4        | 48.8        |
| New Jersey .....           | 62.4         | 29.5        | 62.1        | 34.6        | 59.4        | 31.7         | 56.2        | 47.0        |
| New Mexico .....           | 66.7         | 1.5         | 63.8        | 1.8         | 71.1        | 8.2          | 74.6        | 5.7         |
| New York .....             | NA           | 10.1        | NA          | NA          | NA          | NA           | 64.7        | 8.5         |
| North Carolina .....       | 91.1         | 26.6        | 93.1        | 27.3        | 93.4        | 27.6         | 94.4        | 45.5        |
| North Dakota .....         | 87.0         | 17.0        | 84.9        | 17.1        | 89.1        | 17.6         | 88.9        | 18.5        |
| Ohio .....                 | 60.1         | 3.2         | 60.2        | 4.7         | 60.5        | 4.5          | 65.6        | 5.7         |
| Oklahoma .....             | 77.7         | 5.2         | 83.2        | 5.2         | 81.1        | 6.3          | 81.8        | 4.7         |
| Oregon .....               | NA           | NA          | 99.2        | 15.3        | 99.3        | 19.7         | 98.5        | 16.3        |
| Pennsylvania .....         | 57.7         | 14.2        | 57.2        | 15.2        | 58.7        | 16.3         | 63.6        | 14.2        |
| Rhode Island .....         | 64.7         | 49.9        | 71.6        | 38.5        | 64.5        | 39.7         | 80.5        | 17.5        |
| South Carolina .....       | 98.2         | 84.9        | 98.4        | 85.4        | 98.1        | 85.8         | 98.8        | 86.9        |
| South Dakota .....         | 85.6         | 37.9        | 85.7        | 45.9        | 86.5        | 45.2         | 83.3        | 24.1        |
| Tennessee .....            | 93.1         | 28.1        | 87.8        | 25.5        | NA          | R24.4        | 92.2        | 38.3        |
| Texas .....                | 61.3         | 15.2        | 71.6        | R15.3       | 68.3        | 12.3         | 61.4        | 17.3        |
| Utah .....                 | 81.2         | 8.6         | 89.1        | 8.5         | 85.7        | 7.8          | 83.3        | 8.9         |
| Vermont .....              | 100.0        | 100.0       | 100.0       | 100.0       | 100.0       | 100.0        | 100.0       | 100.0       |
| Virginia .....             | 73.4         | 17.8        | 76.7        | 14.6        | 74.4        | 18.7         | 77.9        | 13.0        |
| Washington .....           | NA           | NA          | NA          | NA          | NA          | NA           | 84.1        | 23.5        |
| West Virginia .....        | 51.9         | 6.1         | 55.5        | 6.1         | 56.0        | 6.4          | 54.6        | 12.2        |
| Wisconsin .....            | 77.6         | 23.4        | 80.3        | 23.8        | 85.4        | 26.0         | 82.1        | 27.1        |
| Wyoming .....              | 87.4         | 1.8         | 80.3        | R1.6        | NA          | 1.5          | 84.2        | 2.5         |
| <b>Total .....</b>         | <b>R72.0</b> | <b>16.3</b> | <b>71.1</b> | <b>15.4</b> | <b>72.1</b> | <b>R15.0</b> | <b>70.8</b> | <b>17.7</b> |

<sup>R</sup> Revised Data.

NA Not Available.

— Not Applicable.

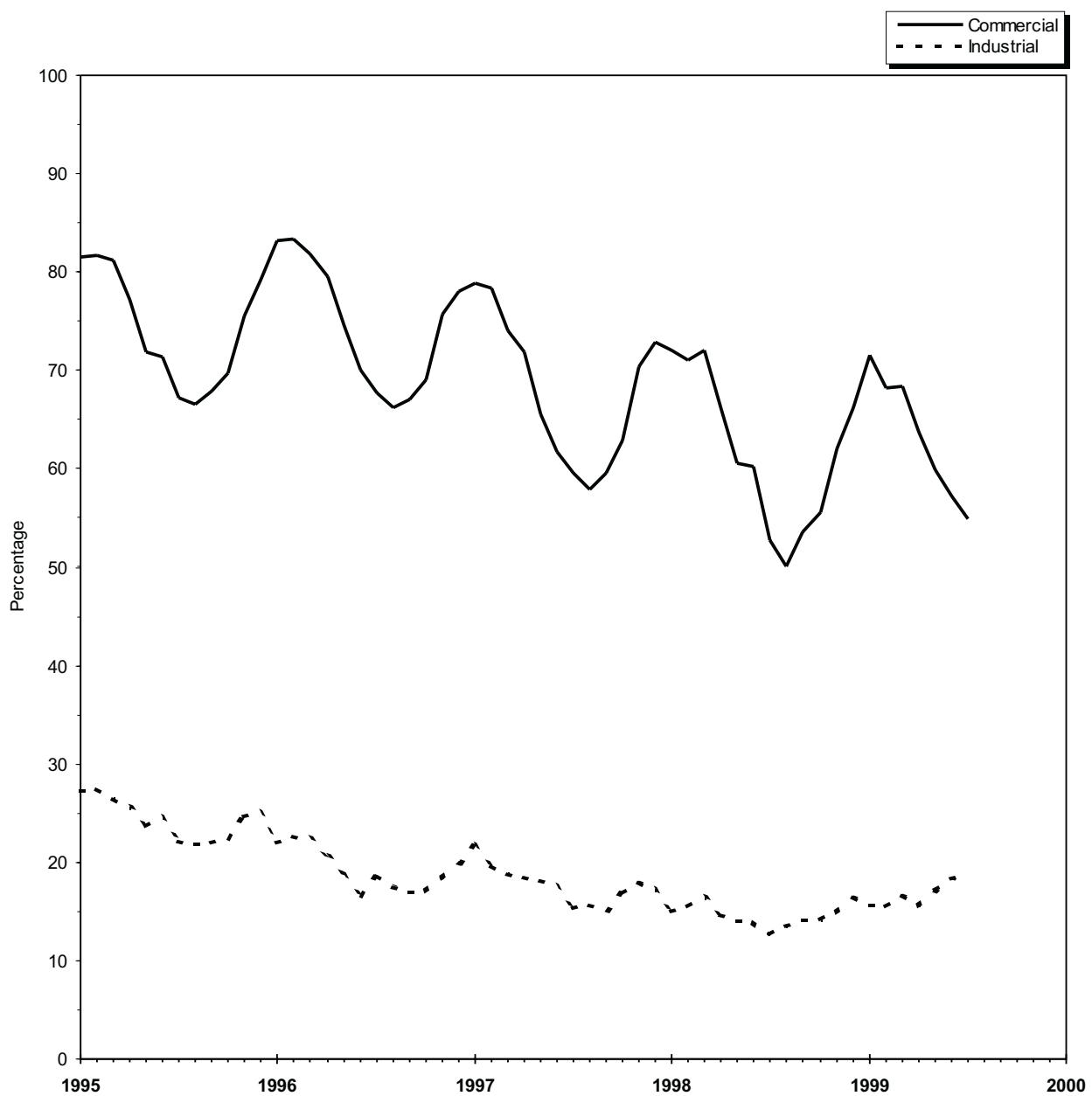
**Notes:** Volumes of natural gas reported for the commercial and industrial sectors in this publication include data for both sales and deliveries for the account of others. This table shows the percent of the total State volume that represents natural gas sales to the commercial and

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

**Figure 6. Percentage of Total Deliveries Represented by Onsystem Sales, 1995-1999**



**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."

## Appendix A

### Explanatory Notes

The Energy Information Administration (EIA) publishes monthly data for the supply and disposition of natural gas in the United States in the *Natural Gas Monthly* (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.

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

| <b>Components</b>             | <b>Reporting Methodology</b>   |
|-------------------------------|--|
| <b>Supply and Disposition</b> |  |
| 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   |
| <b>Consumption by Sector</b>  |  |
| 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   |

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

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 productioncarbon dioxide, helium, hydrogen sulfide, and nitrogenare reported by State agencies on the voluntary Form EIA-895. 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. Seven States report monthly data on nonhydrocarbon gases removed: Alabama, Arizona, Mississippi, New Mexico, North Dakota, Oregon and Texas. Monthly data for California, Colorado, Florida, and Wyoming are estimated based on annual data reported on Form EIA-895. 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. In 1997 the Form EIA-627 was discontinued. States were requested to file an annual schedule on the monthly Form EIA-895, "Monthly Quantity and Value of Natural Gas Report."

For States not supplying monthly data on the annual schedule of the EIA-895, final monthly data are calculated by proportionally allocating the differences between total annual data reported on the Form EIA-895 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-895 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-895 for the previous year.

Estimates for total U.S. marketed production are based on final monthly data reported on the Form EIA-895 for the previous year. State estimates for nonhydrocarbon gas removed, gas used for repressuring, and gas vented and flared are based on the ratio of the item to gross withdrawals as reported on the EIA-895. These ratios are applied to the month's estimates for gross withdrawals to calculate

figures for nonhydrocarbon gases removed, gas used for repressuring, and gas vented and flared. Estimates for gross withdrawal data are calculated from final monthly data filed on Form EIA-895 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. De-

partment 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 off 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.

### Agricultural Use

Beginning with the reporting of 1996 annual data, the EIA changed the customer category used for reporting deliveries to consumers in the agricultural industry from commercial to industrial. In 1995 and earlier years, consumption of natural gas for agricultural use was classified as commercial use. Separate reports of the volumes affected are not available so the direct impact of this change is not known. Most natural gas consumed in agriculture is used to drive irrigation systems and to dry crops.

For the reporting of monthly data, the customer category will not be changed until 1998. In 1996, the monthly data reported under the old classification were adjusted to the annual data reported under the new classification. Monthly 1997 data will be adjusted in the same way as the 1996 data.

In comparing sectoral use over time, note that:

- There is an inherent shift in natural gas volumes from the commercial to industrial sectors due simply to changes in the reporting requirements. This break in series may indicate a spurious increase in industrial consumption with a corresponding decrease in the commercial sector.
- The sum of natural gas volumes consumed by the commercial and industrial sectors will not be changed by this modification of the instructions.

### 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 Nat-

ural 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 1991 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.

### Types of Underground Storage Facilities

There are three principal types of underground storage facilities in operation in the United States today: salt caverns (caverns hollowed out in salt "bed" or

“dome” formations), depleted fields (depleted reservoirs in oil and/or gas fields), and aquifer reservoirs (water-only reservoirs conditioned to hold natural gas). A storage facility’s daily deliverability or withdrawal capability is the amount of gas that can be withdrawn from it in a 24-hour period. Salt cavern storage facilities generally have high deliverability because all of the working gas in a given facility can be withdrawn in a relatively short period of time. (A typical salt cavern cycle is 10 days to deplete working gas, and 20 days to refill working gas.) By contrast, depleted field and aquifer reservoirs are designed and operated to withdraw all working gas over the course of an entire heating season (about 150 days). Further, while both traditional and salt cavern facilities can be switched from withdrawal to injection operations during the heating season, this is usually more quickly and easily done in salt cavern facilities, reflecting their greater operational flexibility.

## Note 8. Average Wellhead Value

### Annual Data

Form EIA-895 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.

### Preliminary Monthly Data

Preliminary values for the monthly U.S. Natural gas wellhead price are estimated from the prevailing cash market prices at 5 major trading hubs: Henry Hub, LA; Carthage, TX; Katy, TX; Waha, TX; and Blanco, NM. These prices appear initially in the trade publication, *Natural Gas Week*, and they reflect the spot delivered-to-pipeline, volume-weighted average prices for natural gas bought and sold at the specified trading hubs. Prices include processing,

gathering, and transportation fees to the hubs. The estimated wellhead prices are derived with a statistical procedure based on analysis of monthly time series data for the period 1995 through 1997. The preliminary estimates are replaced when annual survey data become available. This procedure was adopted beginning with publication of the February 1999 issue of the *Natural Gas Monthly* and it affects price estimates from January 1998 to the present.

### Final Monthly Data

The Form EIA-895 requests State agencies to report monthly values of marketed production. Preliminary monthly gas price data are replaced by these final monthly data.

## 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 temperature of 40 degrees Fahrenheit would report 25 heating degree-days. There are several degree-day data bases maintained by the National Oceanic and Atmospheric Administration. The information published in the 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 State-wide degree-day averages weighted by gas home customers. The State figures are then aggregated into Census Divisions and into the national average.

## Appendix B

### Data Sources

The data in this publication are taken from survey reports authorized by the U.S. Department of Energy (DOE), Energy Information Administration (EIA) and by the Federal Energy Regulatory Commission (FERC). The EIA is the independent statistical and analytical agency within the DOE. The FERC is an independent regulatory commission within the DOE which has jurisdiction primarily in the regulation of electric utilities and the interstate natural gas industry. The EIA conducts and processes some of the surveys authorized by the FERC. Data are collected from two annual surveys and 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 follow-up, 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-895, "Monthly Quantity of Natural Gas Report"**

### **Survey Design**

In 1996, an annual schedule was added to the Form EIA-895 to replace the Form EIA-627. 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.

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. In 1996, the Form EIA-627 was discontinued. The information is collected on an annual schedule on the Form EIA-895.

### **Survey Universe and Response Statistics**

Form EIA-895 is mailed to energy or conservation agencies in all 33 natural gas producing States. All producing States participate voluntarily in the EIA-895 survey by filing the completed form or by responding to telephone contacts.

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.) The annual schedule of the Form EIA-895 is due with the December data report.

### **Summary of Data Requirements**

The Form EIA-895 monthly schedule consists of nine questions on one page, and requires volumetric information on gross production (gas and oil wells individually), gas used for repressuring, gas vented and flared, nonhydrocarbon gases removed, natural gas used as fuel on leases, marketed production, value based marketed production and the value in dollar amount of the marketed production.

Form EIA-895 annual schedule 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 thousand cubic feet at the State's standard pressure base and at 60 degrees Fahrenheit. All dollar values are reported in thousands.

### **Routine Form EIA-895 Edit Checks**

Each filing of Form EIA-895 is manually checked for reasonableness and mathematical accuracy. Information on the forms is compared to totals of monthly data reported. 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-895**

Data from Form EIA-895 are also published in the EIA publication, *Natural Gas Annual*.

## 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 com-

panies 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.

## Appendix C

### 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 1,538 companies. These companies were respondents to the Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition," for reporting year 1995 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 us-

ing 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 1995. 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 387 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

# Appendix C

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,

$X_r$  = 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:

$$m = n \frac{X2}{X..} \quad (2)$$

where:

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

$X2$  = 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:

A uniform random number R was selected between zero and  $\left( I = \frac{X2}{m} \right) I$ . 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  $X2$  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 industrial gas and companies delivering only to residential or commercial customers.

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).

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

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

## 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 1995 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 25 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,

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

## Final Revisions

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

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

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

The formula for revising the estimated consumption is:

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

where:

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

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

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

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

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

The formula for revising the estimated revenue is:

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

where:

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

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

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

$R'_{jm}$  = The annual sum of estimated monthly revenues. Revision of Volumes and Prices for Deliveries to Electric Utilities. Revisions to monthly electric utilities data are published throughout the year as they become available.

## Reliability of Monthly Data

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

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

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

The standard errors for monthly natural gas volume estimates by State are given in Table C1. Ninety-five percent of the time, the volume that would have been obtained from a complete enumeration will lie in the range between the estimated volume minus two

standard errors and the estimated volume plus two standard errors.

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:

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

where:

$H$  = the total number of strata

$N_h$  = the total number of companies in stratum h

$n_h$  = the sample size in stratum h

$y_i$  = the reported monthly volume for company i

$x_i$  = the reported annual volume for company i

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

# Appendix C

**Table C-1. Standard Error for Natural Gas Deliveries and Price to Consumers by State,  
July 1999**

| State                      | Volume<br>Million Cubic Feet |              |               |               | Price<br>Dollars per Thousand Cubic Feet |             |             |
|----------------------------|------------------------------|--------------|---------------|---------------|--|-------------|-------------|
|                            | Residential                  | Commercial   | Industrial    | Total         | Residential                              | Commercial  | Industrial  |
| Alabama .....              | 140                          | 216          | 5,147         | 5,153         | 0.47                                     | 1.69        | 0.69        |
| Alaska .....               | 0                            | 0            | 0             | 0             | —  | —           | —           |
| Arizona .....              | 11                           | 90           | 0             | 91            | 0.19                                     | 0.04        | —           |
| Arkansas .....             | 33                           | 62           | 48            | 85            | 0.06                                     | 0.03        | 0.14        |
| California .....           | 252                          | 250          | 1,896         | 1,929         | 0.05                                     | 0.08        | 0.13        |
| Colorado .....             | NA                           | NA           | NA            | NA            | NA                                       | NA          | NA          |
| Connecticut .....          | 0                            | 0            | 0             | 0             | —  | —           | —           |
| Delaware .....             | 0                            | 0            | 0             | 0             | —  | —           | —           |
| District of Columbia ..... | NA                           | NA           | 0             | NA            | NA                                       | NA          | —           |
| Florida .....              | 34                           | 171          | 1,279         | 1,291         | 0.59                                     | 0.38        | 0.24        |
| Georgia .....              | 8                            | 8,635        | 3,673         | 9,384         | 0.42                                     | 0.34        | 6.34        |
| Hawaii .....               | 0                            | 0            | 0             | 0             | —  | —           | —           |
| Idaho .....                | 0                            | 0            | 0             | 0             | —  | —           | —           |
| Illinois .....             | 410                          | 647          | 2,127         | 2,261         | 0.20                                     | 1.27        | 0.26        |
| Indiana .....              | NA                           | NA           | NA            | NA            | NA                                       | NA          | NA          |
| Iowa .....                 | 12                           | 18           | 60            | 64            | 0.07                                     | 0.06        | 0.09        |
| Kansas .....               | 1,252                        | 258          | 931           | 1,582         | 2.81                                     | 1.33        | 0.43        |
| Kentucky .....             | 194                          | 107          | 318           | 387           | 0.84                                     | 0.07        | 1.22        |
| Louisiana .....            | 5                            | 55           | 4,148         | 4,148         | 0.03                                     | 0.07        | 0.03        |
| Maine .....                | 0                            | 0            | 0             | 0             | —  | —           | —           |
| Maryland .....             | NA                           | NA           | 9             | NA            | NA                                       | NA          | 0.02        |
| Massachusetts .....        | NA                           | NA           | NA            | NA            | NA                                       | NA          | NA          |
| Michigan .....             | 98                           | 174          | 2,934         | 2,941         | 0.09                                     | 0.07        | 0.30        |
| Minnesota .....            | 83                           | 253          | 559           | 619           | 0.45                                     | 0.25        | 0.18        |
| Mississippi .....          | 70                           | 61           | 2,235         | 2,237         | 0.70                                     | 0.13        | 1.13        |
| Missouri .....             | 173                          | 921          | 306           | 986           | 0.14                                     | 0.22        | 3.11        |
| Montana .....              | 1                            | 1            | 0             | 1             | 0.02                                     | 0.05        | —           |
| Nebraska .....             | 21                           | 18           | 186           | 188           | 0.15                                     | 0.07        | 0.01        |
| Nevada .....               | 0                            | 0            | 0             | 0             | —  | —           | —           |
| New Hampshire .....        | 0                            | 0            | 0             | 0             | —  | —           | —           |
| New Jersey .....           | NA                           | NA           | NA            | NA            | NA                                       | NA          | NA          |
| New Mexico .....           | 174                          | 28           | 9,502         | 9,504         | 0.69                                     | 0.17        | 2.11        |
| New York .....             | 397                          | 2,024        | 2,919         | 3,574         | 0.06                                     | 0.22        | 0.26        |
| North Carolina .....       | 235                          | 4            | 623           | 666           | 2.48                                     | 0.02        | 0.13        |
| North Dakota .....         | 0                            | 0            | 0             | 0             | —  | —           | —           |
| Ohio .....                 | 27                           | 223          | 1,803         | 1,817         | 0.60                                     | 0.09        | 0.54        |
| Oklahoma .....             | 171                          | 204          | 933           | 970           | 0.62                                     | 0.10        | 0.65        |
| Oregon .....               | 0                            | 0            | 0             | 0             | —  | —           | —           |
| Pennsylvania .....         | 45                           | 7            | 1,241         | 1,242         | 0.03                                     | 0.02        | 0.12        |
| Rhode Island .....         | 0                            | 0            | 0             | 0             | —  | —           | —           |
| South Carolina .....       | 12                           | 76           | 693           | 697           | 0.67                                     | 0.20        | 0.08        |
| South Dakota .....         | 0                            | 0            | 0             | 0             | —  | —           | —           |
| Tennessee .....            | 78                           | 120          | 2,172         | 2,177         | 0.60                                     | 0.06        | 0.51        |
| Texas .....                | 9                            | 1,353        | 0             | 1,353         | —  | 0.24        | —           |
| Utah .....                 | 0                            | 0            | 0             | 0             | —  | —           | —           |
| Vermont .....              | 0                            | 0            | 0             | 0             | —  | —           | —           |
| Virginia .....             | 130                          | 193          | 116           | 260           | 0.24                                     | 0.11        | 0.41        |
| Washington .....           | NA                           | NA           | NA            | NA            | NA                                       | NA          | NA          |
| West Virginia .....        | 30                           | 594          | 5,039         | 5,074         | 0.38                                     | 0.80        | 1.68        |
| Wisconsin .....            | 349                          | 841          | 118           | 918           | 0.09                                     | 0.40        | 0.13        |
| Wyoming .....              | 10                           | 62           | NA            | NA            | 0.25                                     | 0.66        | NA          |
| <b>Total .....</b>         | <b>1,712</b>                 | <b>9,141</b> | <b>14,983</b> | <b>17,635</b> | <b>0.09</b>                              | <b>0.09</b> | <b>0.16</b> |

NA Not Available.  
— Not Applicable.

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

## Appendix D

### 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.
- *Natural Gas 1996 Issues and Trends*, DOE 0560(96), December 1996.

#### **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.

#### **Feature Articles**

##### **May 1997**

##### **Restructuring Energy Industries: Lessons from Natural Gas**

(Compares and contrasts the natural gas and electric power industries.)

## **July 1997**

### **Intricate Puzzle of Oil and Gas "Reserves Growth"**

(Discusses the factors that affect ultimate recovery estimates of a field or reservoir.)

### **Revisions to Monthly Natural Gas Data**

(Discusses the revision errors for natural gas data.)

## **August 1997**

### **Natural gas Residential Pricing Developments During the 1996-97 Winter**

(Discusses key factors that affect pricing patterns, highlights the effects of weather, utilization patterns of natural gas storage, and pricing mechanisms used in natural gas markets.)

## **December 1997**

### **Recent Trends in Natural Gas Spot Prices**

(Focuses primarily on conditions and developments in the East Consuming Region and their connection to prices at the Henry Hub in the Producing Region.)

## **March 1998**

### **EIA Corrects Errors in EIA's Drilling Activity Estimates Series**

(Discusses and corrects errors in EIA's monthly and annual estimates of oil and gas drilling activity.)

## **July 1998**

### **Revisions to Monthly Natural Gas Data**

(Discusses the revision errors for natural gas data.)

## **April 1999**

### **Natural Gas 1998: Issues and Trends - Executive Summary**

(Examines the current natural marketplace from a series of vantage points.)

## **Special Focuses**

### **January 1997**

#### **Natural Gas Productive Capacity**

(Analyzes monthly natural gas wellhead productive capacity in the lower 48 States from 1985 and 1996 and project this capacity for 1996 and 1997.)

### **Outlook for Natural Gas Through 2015**

(Presents an outlook for natural gas through 2015.)

## **August 1997**

### **Worldwide Natural Gas Supply and Demand And the Outlook For Global LNG Trade**

(Focuses on natural gas into the next century with emphasis on world natural gas supply and demand to 2015.)

## **September 1997**

### **Advance Summary: U.S. Crude Oil, Natural Gas, and Natural gas Liquids Reserves, 1996 Annual Report - Advance Summary**

(Focuses on proved reserves of domestic crude oil, natural gas, and natural gas liquids.)

## **May 1998**

### **Deliverability on the Interstate Natural Gas Pipeline System**

(Examines the capability of the interstate pipeline network to move gas to various U.S. markets and discusses changes occurring since 1990.)

## **Special Reports**

### **March 1997**

#### **Natural Gas Analysis and Geographic Information Systems**

(Explores how geographic information system techniques and methodologies are being used by the Energy Information Administration.)

## **April 1997**

### **Natural Gas Pipeline and System Expansions**

(Examines recent expansions to the North American natural gas)

### **Natural Gas 1996: Highlights**

(Reviews data for 1996 based on Energy Information Administration surveys.) pipeline network.)

## **July 1997**

### **Revisions to Monthly Natural Gas Data**

(Discusses the revision errors for natural gas data.)

## **August 1997**

### **U.S. Natural Gas Imports and Exports - 1996**

(Contains final 1996 data on all U.S. imports and exports of natural gas.)

## **September 1997**

### **U.S. Underground Storage of Natural Gas in 1997: Existing and Proposed**

(Examines recent and proposed expansions of underground natural gas storage capacity and deliverability in the United States as of September 1, 1997.)

## **October 1997**

### **Comparison of Natural Gas Storage Estimates from the EIA and AGA**

(Compares EIA and AGA estimates from January 1994 through July 1997.)

## **April 1998**

### **Natural Gas 1997: A Preliminary Summary**

(Reviews data for 1997 based on Energy Information Administration surveys.)

## **July 1998**

### **Revisions to Monthly Natural Gas Data**

(Discusses the revision errors for natural gas data.)

## **August 1998**

### **U.S. Natural Gas Imports and Exports - 1997**

(Contains final 1997 data on all U.S. imports and exports of natural gas.)

## **April 1999**

### **Natural Gas 1998: A Preliminary Summary**

(Reviews data for 1998 based on Energy Information Administration surveys.)

## **July 1999**

### **Retail Unbundling**

(This report provides a brief summary of the status of retail unbundling programs.)

## **August 1999**

### **U.S. Natural Gas Imports and Exports - 1998**

(Contains final 1998 data on all U.S. imports and exports of natural gas.)

## Appendix E

### Technical Contacts

| Section   | Tables               |                     | Principal Data Sources  | Technical Contact               |
|---|----------------------|---------------------|---|---------------------------------|
| Summary Statistics:<br>Natural Gas Production                   | 1,2,3                | Monthly:            | EIA-895, "Monthly Quantity of Natural Gas Report"   | Sharon Belcher<br>(202)586-6119 |
|   |                      | Annual:             | Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers"   | Roy Kass<br>(202)586-4790       |
| Extraction Loss   | 1                    | Monthly:<br>Annual: | EIA computations<br>Form EIA-816, "Monthly Natural Gas Liquids Report" and<br>Form EIA-64A, "Annual Report of the Origin of Natural Gas Liquids Production" | Margo Natof<br>(202)586-6303    |
| Supplemental Gaseous Fuels                                      | 2                    | Monthly:<br>Annual: | EIA computations<br>Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition"  | Margo Natof<br>(202)586-6303    |
| Imports and Exports   | 2                    | Monthly:<br>Annual: | EIA computations<br>Office of Fossil Energy, U.S. Department of Energy, "Natural Gas Import and Exports"  | Ann Ducca<br>(202)586-6137      |
| Price:<br>City Gate, Residential,<br>Commercial, and Industrial | 4                    | Monthly:            | Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers"   | Roy Kass<br>(202)586-4790       |
| Wellhead  | 4                    | Monthly:<br>Annual: | EIA computations<br>Form EIA-895, "Monthly Quantity and Value of Natural Gas Report"  | Sylvia Norris<br>(202)586-6106  |
| Electric Utility  | 4                    | Monthly:            | Form FPC-423, "Cost and Quality of Fuels for Electric Power Plants"   | Roy Kass<br>(202)586-4790       |
| Summary of Natural Gas Imports and Exports                      | 5,6                  | Monthly:            | Quarterly Natural Gas Import and Export Sales and Price Report  | Ann Ducca<br>(202)586-6137      |
| Producer Related Activities:<br>Natural Gas Production          | 7,8                  | Monthly:            | EIA-895, "Monthly Quantity of Natural Gas Report"   | Sharon Belcher<br>(202)586-6119 |
| Underground Storage:  | 9,10,11,<br>12,13,14 | Monthly:            | Forms FERC-8 and EIA-191, "Underground Gas Storage Report"  | Carol Jones<br>(202)586-6168    |
| Distribution and Consumption:<br>Deliveries to:                 |                      |                     |   |                                 |
| Residential,  | 15                   | Monthly:            | Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers"   | Roy Kass<br>(202)586-4790       |
| Commercial,   | 16                   |                     |   |                                 |
| Industrial,   | 17                   |                     |   |                                 |
| Electric Utility,   | 18                   |                     |   |                                 |
| All Consumers   | 19                   |                     |   |                                 |
| Average Price to:<br>City Gate,                                 | 20                   | Monthly:            | Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers"   | Roy Kass<br>(202)586-4790       |
| Residential,  | 21                   |                     |   |                                 |
| Commercial,   | 22                   |                     |   |                                 |
| Industrial,   | 23                   |                     |   |                                 |
| Electric Utility  | 24                   |                     |   |                                 |
| Onsystem Sales  | 25                   | Monthly:            | Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers"   | Roy Kass<br>(202)586-4790       |
| Heating Degree Days   | 26                   | Seasonal:           | National Oceanic and Atmospheric Administration   | Patricia Wells<br>(202)586-6077 |
| Highlights  |                      |                     |   | Mary Carlson<br>(202)586-4749   |

## 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 de-

mand 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.

# Glossary

**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.

**Salt Cavern Storage Field:** A storage facility that is a cavern hollowed out in either a salt "bed" or "dome" formation.

**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 certified 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.