

# Summary of Data Collection Operations and Report Methodology

The 1996 data for the Natural Gas Annual are taken primarily from Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition" and Form EIA-895, "Monthly Quantity and Value of Natural Gas Report." Each of these surveys and all other sources of data for this report are discussed separately in the following sections.

## Form EIA-176

### *Survey Design*

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

In 1982, the scope of the revised EIA-176 survey was expanded to collect the number of electric utility consumers in each State, volumes of gas transported to industrial and electric utility consumers, detailed information on volumes transported across State borders by the respondent for others and for the responding company, and detailed information on other disposition. These changes were incorporated to provide more complete survey information with a minimal change in respondent burden. The 1982 revision of the Form EIA-176 continues to be the basis 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 consumers for the account of others. The revised form was approved for use during report years 1987 through 1989. 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In 1990, the Form EIA-176 was revised to include more detailed information for gas withdrawn from storage facilities, gas added to storage facilities, deliveries of company-owned natural gas and natural gas transported for the account of others.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 (OMB) approval in 1993, the Form EIA-176 was 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.

Approval of the Form EIA-176 for use through 1999 was received in 1996 from OMB. The form was modified as outlined in the "Change in Definition of Consumption Sector" below.

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

In February 1997, forms for report year 1996 were mailed to all identified interstate natural gas pipeline companies; intrastate natural gas pipeline companies; investor and municipally owned natural gas distributors; underground natural gas storage operators; synthetic natural gas plant operators; field, well, or processing plant operators that deliver natural gas directly to consumers (including their own industrial facilities) other than for lease or plant use or processing; and field, well, or processing-plant operators that transport gas to, across, or from a State border through field or gathering facilities. Detailed instructions for completing the form were included in each survey package.

Completed forms were returned to the Data Operations Branch of the Reserves and Natural Gas Division, where each was checked for errors, corrected as necessary, and processed into computer-generated State and national data summaries.

### ***Change in Definition of Consumption Sector***

With the 1996 annual reporting cycle, the Energy Information Administration has changed the customer category used for reporting deliveries to consumers in the agricultural industry from commercial to industrial. Most natural gas consumed in agriculture is used to drive irrigation systems and to dry crops. Separate reports of the volumes affected are not available so the direct impact of this change is not known.

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 in the instructions.

## **Response Statistics**

Each company and its parent company or subsidiaries were required to file if they met the survey specifications. The original mailing totaled 1,938 questionnaire packages. To this original mailing, 11 names were added and 63 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 1,887 responses from approximately 1,800 companies.

Following the original mailing, second request mailing, and nonrespondents follow-up, 1,878 responses were entered into the data base. There were 30 nonrespondents.

## **Summary of Form EIA-176 Data Reporting Requirements**

The Form EIA-176 is a five-page form consisting of seven parts. Part I of the form contains identifying information including the company identification number, the company name and address, the State for which the report is filed, and address correction information. Part II contains certification information. The body of the form (Parts III-VII) is a multiline schedule for reporting all supplies of natural gas and supplemental gaseous fuels and their disposition within the State indicated. Respondents filed completed forms with the EIA in Washington, D.C. Data for the year 1996 were due April 1, 1997.

Computer edit programs verified the report year, State code, and arithmetic totals. Further tests were made to ensure that all necessary data elements were present and that the data were reasonable and internally consistent. The computerized edit system produced error listings with messages for each failed edit test. To resolve problems, respondents were contacted by telephone and were required to file amended forms with corrected data.

All natural gas and supplemental gaseous fuels volumes were reported on a physical custody basis in thousand cubic feet, and dollar values were reported to the nearest whole dollar. All volumes were reported at 14.73 pounds per square inch absolute pressure and 60 degrees Fahrenheit. Other minor report standards were specified in the instructions booklet to assure that the filed data were consistent and could be readily processed.

## **Comparison of the Form EIA-176 with Other Data Sources**

Comparison of the EIA-176 data with data from similar series is another method of ensuring the validity of the data published in this report. This comparison on a company-by-company basis showed significant differences that respondents were required to reconcile.

The FPC-14, "Annual Report for Importers and Exporters of Natural Gas," was discontinued in September 1995. Data on imports and exports of natural gas, as collected by the EIA-176 survey, were checked by comparing individual responses with quarterly data reports, "Natural Gas Imports and Exports," filed with the Office of Fossil Energy, U.S. Department of Energy. These quarterly reports are required as a condition of import/export authorizations. Where discrepancies were noted, respondents were required to file corrected reports.

Similarly, data on the underground storage of natural gas were compared with submissions of Form EIA-191, "Underground Gas Storage Report." If significant differences were noted, companies were contacted to reconcile the discrepancies. During 1996, the 113 companies filing the Form EIA-191 reported total injections of 2,872 billion cubic feet and total withdrawals of 2,883 billion cubic feet. This compares to 2,906 billion cubic feet of injections and 2,911 billion cubic feet of withdrawals, as reported on the Form EIA-176.

Data on deliveries to residential, commercial, and industrial consumers were compared with data submitted on Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers." Where discrepancies were noted, respondents were required to file corrected reports for either and sometimes both surveys. Numerous telephone calls were made to clarify any misunderstandings concerning the correct filing of both forms. Typical errors included electric utility volumes combined with industrial volumes, sale for resale volumes reported as industrial consumption, cogeneration volumes not reported on Form EIA-857, and misinterpretation of general instructions.

A discussion of the comparison of the data on deliveries to electric utilities filed on Form EIA-176 and that reported in the EIA publication, *Electric Power Annual*, is included in this Appendix under "Electric Utility Data."

## **Routine Form EIA-176 Edit Checks**

A series of manual and computerized edit checks were used to screen the Form EIA-176. The edits performed included validity, arithmetic, and analytical checks. A computerized check was also made for consistency with previous filings.

The incoming forms for the survey were reviewed prior to keying. This prescan determined if the respondent identification (ID) number and the company name and address were correct, if the data on the form appeared complete and reasonable, and if the certifying information was complete.

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

## **Form EIA-627 and Form EIA-895**

### **Survey Design**

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

In 1993, the Office of Management and Budget approved the Form EIA-627 for use in report years 1994 through 1996. In April 1996, forms for report year 1995 were mailed to the appropriate agencies in 33 States. Completed forms were returned to the Data Operations Branch of the Reserves and Natural Gas Division for review, processing, and compilation.

In 1996, the Reserves and Natural Gas Division redesigned the Form EIA-895, formerly known as the "Monthly Quantity of Natural Gas Report." The Form EIA-895, "Monthly Quantity and Value of Natural Gas Report," has a Monthly and Annual Schedule (replaces the Form EIA-627) for quantity a value of natural gas production. The Annual Schedule is to be filed with the December Monthly Schedule each year and should include any changes or updates in previously reported monthly data.

## **Response Statistics**

Of the 33 natural gas producing States, 30 participated in the voluntary EIA-895 survey by filing the completed form or by responding to telephone contacts. Data for the 3 nonresponding States (Illinois, New York, and West Virginia) were estimated. Data on the quantities of nonhydrocarbon gases removed in 1996 were reported by the appropriate agencies of 21 of the 33 producing States. The 21 States accounted for 63 percent of total 1996 gross withdrawals. In addition, the gross withdrawal data from Kansas, Louisiana, Montana, and Oklahoma, which together accounted for 32 percent of total production, excluded all or most of the nonhydrocarbon gases removed on leases. Gross withdrawals from Louisiana excludes most quantities of nonhydrocarbon gases removed on leases. Nonhydrocarbon gases removed have been excluded from gross withdrawals in Missouri.

The commercial recovery of methane from coalbeds contribute a significant amount to the production totals in a number of States. Coalbed methane seams production quantities (in million cubic feet) are included in gross withdrawals totals for the following States: Alabama (112,852), Colorado (274,622), and New Mexico (590,349).

### **Summary of EIA-895 Data Reporting Requirements**

The Form EIA-895 is a two-page form divided into five parts. Part I requests identifying information including the name and location of the responding State agency and the name and telephone number of a contact person within the agency. Part II collects monthly data on the production 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 lease; and marketed production. Part III of the form is for reporting the monthly volume and value of marketed production. Part IV of the form is for reporting the annual data, including the number of producing gas wells, the production 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 lease; marketed production; value of marketed production; and quantity of marketed production (value based). Part V is space to be used by the respondent to explain data elements reported that may be based on definitions differing from those applied to data in previous years.

**Figure A1. Form EIA-176**

EIA-176 (Revised 1996)

Form Approved  
OMB No. 19050175  
Expires 12/31/99

**U.S. DEPARTMENT OF ENERGY**  
Energy Information Administration  
Washington DC 20585

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

This report is mandatory under the Federal Energy Administration Act of 1974 (Public Law 93-275). For the provisions concerning the confidentiality of information and sanctions statement, see Sections VI and VII of the instructions. Respondents are not required to file or reply to any Federal collection of information unless it has a valid OMB control number. Public reporting burden for this collection of information is estimated to average 20.8 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Energy Information Administration, Office of Statistical Standards, EI-73, 1000 Independence Avenue, S.W., Washington, D.C. 20585; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503.

**EIA USE**

Affix mailing label or enter mail address

Control (ID) No. \_\_\_\_\_

Name: . . . . . \_\_\_\_\_

Operations in (State): . . . . . \_\_\_\_\_

Street or Post Office Box: . . . . . \_\_\_\_\_

City, State, Zip Code: . . . . . \_\_\_\_\_

Attention: . . . . . \_\_\_\_\_

**RESPONDENT COPY.**  
Retain for your files.

<b>PART I: IDENTIFICATION</b>							
1.0 Control No.	2.0 Company Name	3.0 Report State	<table style="width: 100%; border: none;"> <tr> <td style="border: none; text-align: center;">EIA</td> <td style="border: none; text-align: center;">4.0 Resubmittal</td> </tr> <tr> <td style="border: none; text-align: center;"><input type="checkbox"/></td> <td style="border: none; text-align: center;">Date</td> </tr> </table>	EIA	4.0 Resubmittal	<input type="checkbox"/>	Date
EIA	4.0 Resubmittal						
<input type="checkbox"/>	Date						
5.0 Company status, name, and/or address change or correction. (Check appropriate box)							
<p>a. <input type="checkbox"/> Name and address on mailing label are correct.</p> <p>b. <input type="checkbox"/> Change name, attention line, and/or mail address as indicated below.</p> <p>c. <input type="checkbox"/> Company was sold to , or merged with, company entered below.</p> <p>d. <input type="checkbox"/> Company went out of business. Customer accounts taken over by company entered below.</p> <p>e. <input type="checkbox"/> Other changes, corrections, or comments: _____</p>							
5.1 Change company name and/or address to:							
<p>a. Company Name: . . . . . _____</p> <p>b. Operations in (State): . . . . . _____</p> <p>c. Street or Post Office Box: . . . . . _____</p> <p>d. City, State, Zip Code: . . . . . _____</p> <p>e. Attention: . . . . . _____</p>							

<b>PART II: CONTACT PERSON</b>	
1.0 Name (Type or Print)	2.0 Telephone Number (including Area Code and Extension)
3.0 Signature	4.0 Date



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

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

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

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

	Volume (Mcf at 14.73 psia)	e or f	Cost (Including taxes)	e or f
1.0 Company-owned natural gas produced on-system				
2.0 On-system purchases received:				
2.1 From producers, gatherers, and/or gas processors				
2.2 From pipelines and/or distribution companies				
2.3 From synthetic natural gas plants or SNG pipeline				
2.4 At State line or U.S. border from:				
Company _____				
State or Country _____				
(Continue on Part VI, if more space is needed)				
3.0 Transportation and/or exchange receipts:				
3.1 Received within the report State				
3.2 Received at the State line or U.S. border from:				
Company _____				
State or Country _____				
(Continue on Part VI, if more space is needed)				
4.0 Transportated into the report State from:				
State or Country _____				
(Continue on Part VI, if more space is needed)				
5.0 Withdrawn from storage facilities:				
5.1 Withdrawn from company-opeated underground storage:				
5.1.1 Company-owned natural gas				
5.1.2 Natural gas owned by others				
5.2 Company-owned natural gas received directly from underground storage operators				
5.3 Received from underground storage operators for the account of others				
5.4 From liquefied natural gas storage				
6.0 Synthetic natural gas produced				
7.0 Other sources of supply (specify source and/or kind of fuel): _____				
Continue on Part VI, if more space is needed)				
8.0 Total supply within report State				

EIA-176, ANNUAL REPORT OF NATURAL AND SUPPLEMENTAL GAS SUPPLY AND DISPOSITION, 19

1.0 Control No.	2.0 Company Name	3.0 Report State	EIA <input type="checkbox"/>	4.0 Resubmittal <input type="checkbox"/>	Date
<b>PART V: DISPOSITION OF NATURAL AND SUPPLEMENTAL GAS WITHIN OR TRANSPORTED OUT OF REPORT STATE</b>					
		Volume (Mcf at 14.73 psia)	e or f	Cost or Revenue (Including taxes)	e or f
1.0	Used in well, lease, and field operations . . . . .				
2.0	Returned to oil and/or gas reservoirs . . . . .				
3.0	Used, removed, or lost in gas processing or treating plants				
3.1	Company-operated plants:				
3.1.1	Volume delivered to company-operated plants for redelivery . . . . . <input type="text"/> Mcf				
3.1.2	Volume used for plant fuel . . . . .				
3.1.3	Extraction loss estimated gas phase volume of liquids extracted . . . . .				
3.1.4	Volume of nonhydrocarbons removed (e.g. H <sub>2</sub> S & CO <sub>2</sub> ) . . . . .				
3.1.5	Vented, flared, and/or lost . . . . .				
3.2	Plants operated by others:				
3.2.1	Volume delivered to plants operated by others for redelivery . . . . . <input type="text"/> Mcf				
3.2.2	Total volume used, removed, vented and/or flared . . . . .				
4.0	Added to storage facilities:				
4.1	Injected into company-operated underground storage:				
4.1.1	Company-owned natural gas . . . . .				
4.1.2	Natural gas owned by others . . . . .				
4.2	Company owned gas delivered directly to underground storage operators . . . . .				
4.3	Delivered to underground storage operators for the account of others . . . . .				
4.4	Added to liquefied natural gas storage . . . . .				
5.0	Deliveries of company-owned natural gas				
5.1	Delivered to other pipelines within the report State . . . . .				
5.2	Delivered to resellers (e.g., distribution companies) . . . . .				
5.3	Delivered at the State line or U.S. border to: Company _____ State or Country _____ (Continue on Part VI if more space is needed)				
5.4	Delivered directly to consumers <input type="text"/> Number of consumers				
5.4.1	Residential sales <input type="text"/>				
5.4.1.1	Firm . . . . .				
5.4.1.2	Interruptible . . . . .				
5.4.2	Commercial Sales <input type="text"/>				
5.4.2.1	Commercial (excluding nonutility power producer sales)				
5.4.2.1.1	Firm . . . . .				
5.4.2.1.2	Interruptible . . . . .				
5.4.2.2	Commercial nonutility power producer sales				
5.4.2.2.1	Firm . . . . .				
5.4.2.2.2	Interruptible . . . . .				
5.4.3	Industrial Sales <input type="text"/>				
5.4.3.1	Industrial (excluding nonutility power producer sales)				
5.4.3.1.1	Firm . . . . .				
5.4.3.1.2	Interruptible . . . . .				
5.4.3.2	Industrial nonutility power producer sales				
5.4.3.2.1	Firm . . . . .				
5.4.3.2.2	Interruptible . . . . .				
5.4.4	Other Nonutility Power Producer Sales <input type="text"/>				
5.4.4.1	Firm . . . . .				
5.4.4.2	Interruptible . . . . .				

EIA-176, ANNUAL REPORT OF NATURAL AND SUPPLEMENTAL GAS SUPPLY AND DISPOSITION, 19



1.0 Control No.	2.0 Company Name	3.0 Report State	EIA	4.0 Resubmittal	Date
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**PART V: CONTINUATION, DISPOSITION OF NATURAL AND SUPPLEMENTAL GAS WITHIN OR TRANSPORTED OUT OF REPORT STATE**

		Volume (Mcf at 14.73 psia)	e or f	Cost or Revenue (Including taxes)	e or f
<b>Delivered directly to consumers</b>	<b>Number of consumers</b>				
5.4.5 Electric Utility Sales	<input type="text"/>				
5.4.5.1 Firm					
5.4.5.2 Interruptible					
5.4.6 Natural Gas Used as Vehicle Fuel	<input type="text"/>				
5.4.6.1 Firm					
5.4.6.2 Interruptible					
6.0 Average heat content of gas delivered directly to consumers	<input type="text"/> Btu				
7.0 Natural gas transported for the account of others					
7.1 Delivered to other pipelines within the report State					
7.2 Delivered to resellers for the account of others					
7.3 Delivered at the State line or U.S. border to:					
Company _____					
State or Country _____					
(Continue on Part VI if more space is needed)					
<b>7.4 Transported and delivered to consumers for the account of others:</b>	<b>Number of consumers</b>				
7.4.1 Residential Consumers	<input type="text"/>				
7.4.1.1 Firm					
7.4.1.2 Interruptible					
7.4.2 Commercial Consumers	<input type="text"/>				
7.4.2.1 Commercial (excluding nonutility power producer consumers)					
7.4.2.1.1 Firm					
7.4.2.1.2 Interruptible					
7.4.2.2 Commercial nonutility power producer consumers					
7.4.2.2.1 Firm					
7.4.2.2.2 Interruptible					
7.4.3 Industrial Consumers	<input type="text"/>				
7.4.3.1 Industrial (excluding nonutility power producer consumers)					
7.4.3.1.1 Firm					
7.4.3.1.2 Interruptible					
7.4.3.2 Industrial nonutility power producer consumers					
7.4.3.2.1 Firm					
7.4.3.2.2 Interruptible					
7.4.4 Other Nonutility Power Producer Consumers	<input type="text"/>				
7.4.4.1 Firm					
7.4.4.2 Interruptible					
7.4.5 Electric Utility Sales	<input type="text"/>				
7.4.5.1 Firm					
7.4.5.2 Interruptible					
7.4.6 Natural Gas Used as Vehicle Fuel	<input type="text"/>				
7.4.6.1 Firm					
7.4.6.2 Interruptible					
8.0 Deliveries of exchange gas or storage gas					
8.1 Delivered at point(s) within the report State					
8.2 Delivered at the State line or U.S. Border to					
Company _____					
State or Country _____					
(Continue on Part VI if more space is needed)					
9.0 Used in pipeline, storage, and/or distribution operations					
10.0 Other disposition (specify)	<input type="text"/>				
(Continue on Part VI if more space is needed)					
11.0 Total disposition accounted for					
12.0 Unaccounted for gas supply (+) or disposition (-)					



1.0 Control No.	2.0 Company Name	3.0 Report State	EIA <input type="checkbox"/>	4.0 Resubmittal <input type="checkbox"/>	Date:
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**PART VI: CONTINUATION SHEET**  
 (To be used only if insufficient space was provided in Part IV and/or Part V)

Supply (Continued)	Volume (Mcf at 14.73 psia)	e or f	Cost or Revenue (Including taxes)	e or f	
PART IV, 2.4 On-system purchases received at State line or U.S. border from: (Continued) Company _____ State or Country _____					
Company _____ State or Country _____					
PART IV, 3.2 Transportation and or exchange receipts at State line or U.S. border from: (Continued) Company _____ State or Country _____					
Company _____ State or Country _____					
PART IV, 4.0 Transported into the report State from: (Cont'd) State or Country _____ State or Country _____ State or Country _____ State or Country _____					
PART IV, 7.0 Other sources of supply (specify source and/or kind of fuel): (Continued) _____ _____					
<b>Disposition (Continued)</b>					
PART V, 5.3 Company-owned natural gas deliveries at State line or U.S. border to: (Continued) Company _____ State or Country _____					
Company _____ State or Country _____					
PART V, 7.3 Transported for the account of others out of report State to: (Continued) State or Country _____ State or Country _____ State or Country _____ State or Country _____					
PART V, 8.2 Deliveries of exchange gas at State line or U.S. border to: (Continued) Company _____ State or Country _____					
Company _____ State or Country _____					
PART V, 10.0 Other disposition (specify): (Continued) _____ _____ _____					



**Figure A2. Form EIA-176, Short Form**

EIA-176 (Revised 1996)

Form Approved  
OMB No. 19050175  
Expires 12/31/99

**U.S. DEPARTMENT OF ENERGY**  
Energy Information Administration  
Washington DC 20585

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

**SHORT  
FORM**

This report is mandatory under the Federal Energy Administration Act of 1974 (Public Law 93-275). For the provisions concerning the confidentiality of information and sanctions statement, see Sections VI and VII of the instructions. Respondents are not required to file or reply to any Federal collection of information unless it has a valid OMB control number. Public reporting burden for this collection of information is estimated to average 20.8 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Energy Information Administration, Office of Statistical Standards, EI-73, 1000 Independence Avenue, S.W., Washington, D.C. 20585; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503.

**EIA USE**

Affix mailing label or enter mail address

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

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Control (ID) No. \_\_\_\_\_  
Name: . . . . . \_\_\_\_\_  
Operations in (State): . . . . . \_\_\_\_\_  
Street or Post Office Box: . . . . . \_\_\_\_\_  
City, State, Zip Code: . . . . . \_\_\_\_\_  
Attention: . . . . . \_\_\_\_\_

<b>PART I: IDENTIFICATION</b>			
1.0 Control No.	2.0 Company Name	3.0 Report State	EIA <input type="checkbox"/> <input type="checkbox"/> 4.0 Resubmittal <input type="checkbox"/> Date
5.0 Company status, name, and/or address change or correction. (Check appropriate box)			
<p>a. <input type="checkbox"/> Name and address on mailing label are correct.</p> <p>b. <input type="checkbox"/> Change name, attention line, and/or mail address as indicated below.</p> <p>c. <input type="checkbox"/> Company was sold to , or merged with, company entered below.</p> <p>d. <input type="checkbox"/> Company went out of business. Customer accounts taken over by company entered below.</p> <p>e. <input type="checkbox"/> Other changes, corrections, or comments: _____</p>			
5.1 Change company name and/or address to:			
<p>a. Company Name: . . . . . _____</p> <p>b. Operations in (State): . . . . . _____</p> <p>c. Street or Post Office Box: . . . . . _____</p> <p>d. City, State, Zip Code: . . . . . _____</p> <p>e. Attention: . . . . . _____</p>			
<b>PART II: CONTACT PERSON</b>			
1.0 Name (Type or Print)		2.0 Telephone Number (including Area Code and Extension)	
3.0 Signature		4.0 Date	



EIA-176, ANNUAL REPORT OF NATURAL AND SUPPLEMENTAL GAS SUPPLY AND DISPOSITION, 19



1.0 Control No.	2.0 Company Name	3.0 Report State	EIA	4.0 Resubmittal	
				Date	
<b>PART V: CONTINUATION, DISPOSITION OF NATURAL AND SUPPLEMENTAL GAS WITHIN OR TRANSPORTED OUT OF REPORT STATE</b>					
		Volume (Mcf at 14.73 psia)	e or f	Cost or Revenue (Including taxes)	e or f
5.4.4	Other Nonutility Power Producer Sales				
5.4.4.1	Firm				
5.4.4.2	Interruptible				
5.4.5	Electric Utility Sales				
5.4.5.1	Firm				
5.4.5.2	Interruptible				
5.4.6	Natural Gas Used as Vehicle Fuel				
5.4.6.1	Firm				
5.4.6.2	Interruptible				
6.0	Average heat content of gas delivered directly to consumers (Btu per cubic foot)				
10.0	Other disposition (specify)				
(Continue on Part VI, if more space is needed)					
11.0	Total disposition accounted for				
12.0	Unaccounted for gas supply (+) or disposition (-)				



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

Each filing of the Form EIA-895 is manually checked for reasonableness and mathematical accuracy. Volumes are converted, as necessary, to a standard 14.73 psia pressure base. Value data are compared to the previous year's data for reasonableness. When data on nonhydrocarbon gases removed, gas vented and flared, and gas used for repressuring are not reported for a State that historically reported one or more of these items, a volume is imputed. The imputation is based on the average ratio of gas volumes in the missing category to total gross withdrawals in States with values reporting gas in that category. This average ratio is applied to the volume of total gross withdrawals reported by the State to calculate the volume for the missing items. State agencies are contacted by telephone in order to correct errors. Amended filings or resubmissions are not a requirement, since participation in the survey is voluntary.

## **Comparison of the Form EIA-895 with Other Data Sources**

Annual production data, as reported on the Form EIA-895, are compared to the sum of monthly data previously reported on the Monthly Schedule. The comparison is made in order to assure the reasonableness of the data reported on the Form EIA-895, Annual Schedule. Any significant differences are resolved by contacting the reporting State.

For discussion of the comparison of production data collected on Form EIA-895 and that collected on Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves," see the EIA report, *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves, 1996 Annual Report*.

## **Electric Utility Data**

The electric utility data published in this report are taken from the Forms EIA-759, "Monthly Power Plant Report" and FERC-423, "Monthly Report of Cost and Quality of Fuels for Electric Plants." These data were used in order to maintain consistency among EIA publications. Electric data are necessary on the Form EIA-176 to provide a supply/disposition balance on the form. Differences in the two surveys are apparent in the results published in Table 15, "Natural Gas Deliveries to Consumers by State," and Table 18, "Natural Gas Delivered to Electric Utilities for the Account of Others by State," where volumes in Table 18 sometimes exceed volumes in Table 15. A State-by-State comparison of the reported volumes of natural gas, as collected on the Forms EIA-176 and EIA-759 is shown in Table A1. The national totals differ by 236 billion cubic feet or 10 percent in relative terms.

While processing the data reported on the Form EIA-176, the EIA made special efforts to determine the reasons for the differences in reporting of electric utility data on the Forms EIA-176 and EIA-759. Typical instances of misreporting occurred in the reporting of gas delivered to electric utilities for the account of others. Some companies reported these deliveries under sales for resale. Others reported them under transportation, exchange and/or storage deliveries. A few others reported them under transported to industrials. Companies making mistakes were asked to refile, and new companies were asked to file when they were found making deliveries of gas. Most companies were cooperative, and their refilings and new filings improved the accuracy of the data.

## **Other Data Sources**

The U.S. Minerals Management Service (USMMS) supplied data on the quantity and value of natural gas production and the number of producing wells in the Gulf of Mexico Outer Continental Shelf. Volumes of extraction losses were reported on Form EIA-64A, "Annual Report of the Origin of Natural Gas Liquids Production." Heat (Btu) content extraction loss was estimated from data reported on Form EIA-64A and Form EIA-816, "Monthly Natural Gas Liquids Report." Volumes and prices of natural gas imports and exports were reported to the Office of Fossil Energy, U.S. Department of Energy, *Natural Gas Imports and Exports*. These data are nonproprietary and are filed annually by each individual or organization having authorization to import and export natural gas.

## **Report Methodology**

### **Natural Gas Consumed as a Vehicle Fuel**

Data on deliveries of natural gas delivered for use as a vehicle fuel were collected for the first time in 1990. In 1990 and 1991 deliveries of natural gas for vehicle fuel use were included with volumes delivered to commercial consumers. Beginning with the *Natural Gas Annual 1992*, vehicle fuel volumes are no longer included with commercial volumes.

### **Natural Gas Balancing Item**

The natural gas 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. It is calculated for each State as the result of a comparison between total reported supply and total reported disposition (Table 2). In the formula used, total reported supply is the sum of marketed production, net interstate movements, net

Figure A3. Form EIA-895

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U.S. DEPARTMENT OF ENERGY  
Energy Information Administration  
Washington, DC 20585

EIA-895

EIA-895, MONTHLY QUANTITY AND VALUE OF NATURAL GAS REPORT										
PART IV: ANNUAL SCHEDULE (to be completed when a calendar year of monthly reports has been completed)										
Enter the total number of producing gas wells in operation as of December 31 for the reporting year.										
Month	Gas and Condensate Wells	Oil Wells (Casinghead)	Total	Used for Repressuring, Etc.	Vented and Flared	Nonhydrocarbon Gases Removed	Natural Gas Used as Fuel on Leases	Marketed Production	Value of Marketed Production	Quantity of Marketed Production (Value Based)
January										
February										
March										
April										
May										
June										
July										
August										
September										
October										
November										
December										
Total										
PART V: COMMENTS										

movements across U.S. borders, and supplemental gaseous fuels supply. Total reported disposition is the sum of extraction loss, net storage changes (net additions to storage), and consumption. When this calculation results in a negative quantity for the balancing item it represents an excess of reported supply in relation to reported disposition, and positive quantities indicate the opposite situation.

The differences between supply and demand represent quantities lost, the net result of gas company conversions of flow data metered at varying temperature and pressure conditions to a standard temperature and pressure base, metering inaccuracies, the effect of variations in company accounting and billing practices, differences between billing cycle and calendar-period time frames, and imbalances resulting from EIA's merger of data reporting systems, which vary in scope, format, definitions, and type of respondents. The balancing items in individual States may also reflect the underreporting on Form EIA-176 of gas transported across State borders for the account of others by some interstate pipelines.

### **Natural Gas Processed and Extraction Loss**

Extraction loss is the reduction in the volume of natural gas available for disposition resulting from the removal of natural gas liquid constituents at natural gas processing plants. It represents that portion of the "raw" gas stream that is transferred from the natural gas supply chain to the petroleum and natural gas liquids supply chain. Extraction loss does not include the reduction in volume resulting from the removal of nonhydrocarbon constituents or gas used as fuel, vented, flared, or otherwise disposed of within natural gas processing plants. Extraction loss also results in a reduction in the total heat (Btu) content of the natural gas stream equal to the heat content of the liquids extracted.

The Form EIA-64A, "Annual Report of the Origin of Natural Gas Liquids Production," collects data on the volume of natural gas received for processing, the total quantity of natural gas liquids produced, and the resulting shrinkage (defined as extraction loss in this report) from all natural gas processing- and cycling-plant operators. The quantity of natural gas received and liquids produced are reported by State of origin of the natural gas. Shrinkage volumes are calculated and reported by plant operators based upon the chemical composition of the liquids extracted using standard conversion factors specified in the form instructions. A description of the Form EIA-64A survey is presented in the EIA publication, *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves, 1996 Annual Report*.

The heat (Btu) content of liquids extracted is not reported on the Form EIA-64A. Therefore, in order to estimate the extraction loss heat content, data reported on the Form EIA-816, "Monthly Natural Gas Liquids Report," were used to determine the individual products contained in the total liquids

reported on Form EIA-64A. A description of the Form EIA-816 survey is presented in the EIA publication, *Petroleum Supply Annual 1996*, Volume II.

To estimate the quantities of individual products extracted in each State, data from the Form EIA-64A survey were used to determine the total liquids production, and data from the Form EIA-816 survey were used to estimate the quantities of the individual products contained in those total liquids.

The Form EIA-816 captures information on the quantity of individual components (i.e., ethane, propane, normal butane, isobutane, and pentanes plus) produced or contained in mixes of plant liquids as determined by chemical analysis. The volumetric ratios of the individual components to the total liquids, as calculated from the 12 monthly Form EIA-816 reports for each State, were applied to the annual total liquids production, as reported on the Form EIA-64A, to estimate the quantities of individual components removed at gas-processing plants (Table A4).

The heat (Btu) content of extracted liquids was estimated by applying conversion factors to the estimated quantities of products extracted in each State. These conversion factors, in million Btu per barrel of liquid produced, were ethane, 3.082; propane, 3.836; normal butane, 4.326; isobutane, 3.974; and pentane plus, 4.620. It should be noted that, at the State level, extraction losses are not necessarily related to State production. All gas processed in 9 States originated, or was produced in those States; but part of the gas processed in the other 15 States originated outside of the State in which the gas was processed. Gas produced from 9 States (Arizona, Indiana, Maryland, Missouri, New York, Oregon, South Dakota, Tennessee, and Virginia) was not processed.

For comparative purposes, the quantities of natural gas delivered to processing plants, total liquids extracted, and estimated volumetric and heat content extraction losses by State or origin of the gas (i.e., the State in which the gas was produced) are shown in Table A5.

### **Lease and Plant Fuel**

Lease and plant fuel represent those quantities of natural gas used in well, field, and/or lease operations (such as gas used in drilling operations, heaters, dehydrators, and field compressors) and as fuel in natural gas processing plants.

Lease fuel data were collected for report year 1996, on the Form EIA-895, "Monthly Quantity and Value of Natural Gas Report." Of the 30 States reporting on the Form EIA-895, 17 States reported quantities of natural gas used as lease fuel. Most of Nevada's marketed production is consumed as lease fuel, 11 million cubic feet. In the absence of reporting quantities on the Form EIA-895, the Form EIA-176 was used to estimate lease fuel quantities. Although EIA recognizes that lease data collected on the Form EIA-176 do not constitute a census or result from a statistically selected sample, the data

collected in the survey provide the best information available to the EIA for estimating such usage. To estimate lease use during 1996 (Table 14), several simplifying assumptions were made:

- The quantity of gas used for lease fuel was assumed to be a function of gross withdrawals of natural gas from gas and oil wells.
- The average proportion of company-owned on-system production reported as used in lease operations by respondents to the Form EIA-176 was assumed to be typical of the average use by all operators as a proportion of gross withdrawals.
- Average usage was calculated separately for Alaska and for the lower 48 States to reflect the distinctive field operations in Alaska, particularly on the North Slope.

Form EIA-176 respondents reported volumes of company-owned onsystem production amounting to 11 percent of 1996 gross withdrawals (36 percent of withdrawals in Alaska and 6.8 percent of withdrawals in the lower 48 States). Lease use reported by respondents averaged 0.02387 thousand cubic feet per thousand cubic feet of reported production in Alaska and 0.02283 thousand cubic feet per thousand cubic feet of reported production in the lower 48 States. The fuel-use estimates shown in Table 14 were calculated by applying the above ratios to the gross withdrawals from the various States (Table 3), not reporting lease use on the EIA-895.

## Marketed Production

Marketed production of natural gas is taken from responses to Part IV of the Form EIA-895. It is the quantity of natural gas produced that is available for marketing and is reported in Tables 3 and 7. It refers to quantities of gas available after processes related to production are complete. These processes are repressuring, pressure maintenance, cycling, venting and flaring, removing nonhydrocarbon gases, using fuel on the lease.

Average wellhead prices are calculated from volumes and values reported in Part IV of the Form EIA-895. These data are shown as "Reported Wellhead Value" in Table 7. The volumes in this section refer to the actual amounts of natural gas reported to the States as sold.

In many States, the marketed production volumes are larger than the reported wellhead value volumes. Differences in these volumes generally result from differences in definition

and reporting requirements for separate data systems in the State. For example, while production quantities of federal, tribal, and State royalty gas are included in marketed production, some State reporting rules exclude these quantities from reported wellhead value volumes.

## Census Divisions

The Bureau of the Census, U.S. Department of Commerce, has grouped the 50 States and the District of Columbia into Census divisions. Some of the tables and graphs in this report show data by Census division. These groupings are:

**New England:** Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont.

**Middle Atlantic:** New Jersey, New York, and Pennsylvania.

**East North Central:** Illinois, Indiana, Michigan, Ohio, and Wisconsin.

**West North Central:** Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota.

**South Atlantic:** Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, and West Virginia.

**East South Central:** Alabama, Kentucky, Mississippi, and Tennessee.

**West South Central:** Arkansas, Louisiana, Oklahoma, and Texas.

**Mountain:** Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming.

**Pacific Contiguous:** California, Oregon, and Washington.

**Pacific Noncontiguous:** Alaska and Hawaii

**Table A1. Comparison of Electric Utility Natural Gas Consumption Data by State, 1996**  
(Million Cubic Feet)

State	Form EIA-176	Form EIA-759	Difference	MDP <sup>a</sup>
Alabama.....	5,484	6,146	662	12.1
Alaska.....	30,824	31,767	942	3.1
Arizona.....	26,692	19,248	-7,444	38.7
Arkansas.....	27,880	33,988	6,107	21.9
California.....	307,570	318,035	10,465	3.4
Colorado.....	4,788	5,511	722	15.1
Connecticut.....	10,075	10,456	381	3.8
Delaware.....	21,979	23,370	1,391	6.3
Florida.....	270,519	283,557	13,038	4.8
Georgia.....	4,575	4,674	99	2.2
Illinois.....	28,718	25,863	-2,855	11.0
Indiana.....	7,837	4,330	-3,507	81.0
Iowa.....	2,850	3,491	640	22.5
Kansas.....	13,550	22,607	9,057	66.8
Kentucky.....	660	1,836	1,176	178.3
Louisiana.....	224,849	252,139	27,290	12.1
Maryland.....	9,724	8,455	-1,269	15.0
Massachusetts.....	45,756	45,037	-719	1.6
Michigan.....	26,452	32,559	6,107	23.1
Minnesota.....	3,551	5,301	1,749	49.3
Mississippi.....	58,088	83,251	25,163	43.3
Missouri.....	2,832	5,223	2,391	84.4
Montana.....	442	470	29	6.5
Nebraska.....	1,702	2,351	649	38.1
Nevada.....	47,039	46,766	-273	0.6
New Hampshire.....	0	3	3	0
New Jersey.....	25,885	25,825	-60	0.2
New Mexico.....	16,697	29,969	13,272	79.5
New York.....	142,499	142,688	190	0.1
North Carolina.....	2,363	2,381	18	0.8
North Dakota.....	3	3	0	1.4
Ohio.....	2,686	2,867	182	6.8
Oklahoma.....	143,508	136,436	-7,072	5.2
Oregon.....	13,127	14,015	888	6.8
Pennsylvania.....	5,809	7,239	1,430	24.6
Rhode Island.....	25,046	25,071	26	0.1
South Carolina.....	1,718	1,206	-512	42.5
South Dakota.....	0	725	725	—
Tennessee.....	688	572	-116	20.3
Texas.....	899,028	1,039,155	140,127	15.6
Utah.....	4,065	3,428	-636	18.6
Vermont.....	24	24	0	0
Virginia.....	14,402	10,275	-4,127	40.2
Washington.....	6,589	6,590	1	0
West Virginia.....	157	205	47	30.0
Wisconsin.....	7,256	7,303	46	0.6
Wyoming.....	61	87	26	42.1
<b>Total.....</b>	<b>2,496,050</b>	<b>2,732,496</b>	<b>236,447</b>	<b>9.5</b>

<sup>a</sup> Relative comparisons are expressed as the maximum difference percentage (MDP), or the absolute value of the difference between two volumes divided by the smaller of the two volumes, multiplied by 100.

— = Not applicable.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Energy Information Administration (EIA), Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition" and Form EIA-759, "Monthly Power Plant Report."

**Table A2. Natural Gas Unaccounted for by State, 1992-1996**  
(Million Cubic Feet)

State	1992	1993	1994	1995	1996
Alabama.....	3,062	3,937	5,295	9,997	-2,954
Alaska.....	-14	1,206	2,669	-592	1,032
Arizona.....	53,366	168,056	-1,782	2,606	1,191
Arkansas.....	4,424	4,199	5,650	8,881	7,639
California.....	11,493	181,570	217,809	174,506	277,924
Colorado.....	9,372	18,893	9,023	8,734	6,652
Connecticut.....	946	2,682	1,491	3,826	1,055
D.C.....	620	610	528	1,006	784
Delaware.....	170	689	479	2,065	438
Florida.....	-275	2,234	6,063	3,554	-4
Georgia.....	6,624	5,346	2,104	3,712	1,666
Hawaii.....	16	24	53	21	88
Idaho.....	5,755	-6,264	5,572	8,893	-18,969
Illinois.....	17,107	10,576	5,205	30,648	10,867
Indiana.....	8,676	11,840	979	539	-3,307
Iowa.....	9,307	5,666	4,963	4,849	4,500
Kansas.....	17,699	12,330	4,819	14,287	7,904
Kentucky.....	6,660	8,238	4,534	9,808	9,410
Louisiana.....	15,242	16,283	58,677	10,248	19,555
Maine.....	26	24	-131	292	241
Maryland.....	6,019	-5,891	3,620	9,879	5,592
Massachusetts.....	331	-2,960	12,194	1,091	-5,692
Michigan.....	8,913	91,266	-14,398	4,028	16,836
Minnesota.....	-62,450	-183,638	-22,290	-32,466	6,703
Mississippi.....	8,000	9,503	35,595	21,441	13,047
Missouri.....	13,773	6,784	2,253	13,981	1,596
Montana.....	1,491	-1,713	79	-5,345	-6,233
Nebraska.....	2,292	2,227	22,179	2,403	4,354
Nevada.....	2,111	1,393	-1	533	1,479
New Hampshire.....	678	4,008	327	453	466
New Jersey.....	39,471	5,811	-31,893	1,790	-741
New Mexico.....	813	6,205	7,827	9,924	6,859
New York.....	28,140	99,726	84,704	18,129	940
North Carolina.....	2,414	5,208	2,906	7,640	1,300
North Dakota.....	-233	-260	728	-66	1,259
Ohio.....	8,537	17,285	10,641	31,518	16,344
Oklahoma.....	16,062	11,498	8,976	13,742	302
Oregon.....	-764	1,298	57	5,406	1,560
Pennsylvania.....	11,380	6,164	-1,317	18,220	-4,426
Rhode Island.....	-1,100	-960	-1,603	2,362	-646
South Carolina.....	1,110	1,064	298	2,315	846
South Dakota.....	413	445	999	1,107	994
Tennessee.....	6,920	8,280	2,884	8,123	11,613
Texas.....	17,549	-22,703	-28,206	-6,590	51,729
Utah.....	-6,193	5,267	6,461	5,669	15,207
Vermont.....	-3	103	14	802	1,817
Virginia.....	963	6,869	-831	8,328	4,810
Washington.....	247	51,049	68,028	66,580	68,447
West Virginia.....	10,233	3,420	7,790	8,561	5,044
Wisconsin.....	3,614	-345	1,218	5,402	-2,756
Wyoming.....	3,234	1,368	1,681	-1,784	3,911
<b>Total.....</b>	<b>294,236</b>	<b>575,911</b>	<b>514,924</b>	<b>521,057</b>	<b>548,274</b>

Source: Energy Information Administration (EIA), Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition."

**Table A3. Natural Gas Processed and Liquids Extracted at Natural Gas Processing Plants by State, 1996**

Plant Location	Volume of Natural Gas Delivered to Processing Plants <sup>a</sup> (million cubic feet)			Total Liquids Extracted <sup>b</sup> (thousand barrels)	Extraction Loss (million cubic feet)
	State Production	Out of State Production	Natural Gas Processed		
Alabama.....	111,656	1,212	112,868	4,009	5,361
Alaska.....	2,987,364	0	2,987,364	33,346	38,453
Arkansas.....	214,868	4,609	219,477	383	479
California.....	240,566	0	240,566	9,798	12,169
Colorado.....	493,748	215	493,963	16,735	23,362
Florida.....	5,900	2,614	8,514	1,630	1,649
Illinois.....	578	0	578	63	64
Kansas.....	825,825	144,338	970,163	35,285	47,996
Kentucky.....	44,151	1,864	46,015	1,692	2,385
Louisiana.....	4,496,445	156,232	4,652,677	101,716	139,841
Michigan.....	117,119	0	117,119	4,810	6,399
Mississippi.....	4,521	0	4,521	254	340
Montana.....	10,106	35	10,141	431	576
New Mexico.....	1,129,523	75	1,129,598	75,476	108,341
North Dakota.....	47,942	0	47,942	3,860	4,937
Ohio.....	2,477	0	2,477	64	85
Oklahoma.....	1,052,170	1,953	1,054,123	70,165	100,379
Pennsylvania.....	7,728	2,613	10,341	458	603
Texas.....	4,139,267	40,795	4,180,062	279,650	398,442
Utah.....	252,781	12,765	265,546	9,547	10,970
West Virginia.....	70,552	157	70,709	4,849	7,093
Wyoming.....	844,009	1,244	845,253	35,093	48,254
<b>Total.....</b>	<b>17,099,296</b>	<b>370,721</b>	<b>17,470,017</b>	<b>689,314</b>	<b>958,178</b>

<sup>a</sup> "State Production" refers to gas delivered to processing plants located in the same State in which the gas was produced. "Out of State Production" refers to gas produced in other States and delivered to plants located in the State listed for processing.

<sup>b</sup> "Totals Liquids Extracted" represents the total quantity of liquids extracted from natural gas at natural gas processing plants located in the State.

Note: Totals may not equal sum of components due to independent rounding.

Source: Energy Information Administration (EIA), Form EIA-64A, "Annual Report of the Origin of Natural Gas Liquids Production."

**Table A4. Estimated Composition of Liquids Extracted at Natural Gas Processing Plants and the Resulting Heat Content Extraction Loss by State, 1996**  
(Liquid Volumes in Thousand Barrels, Heat Content in Billion Btu)

State	Estimated Components and Products in Liquids Extracted <sup>a</sup>					Estimated Heat Content Extraction Loss <sup>b</sup>
	Ethane	Propane	Isobutane	N-Butane	Pentanes Plus	Heat Content
Alabama.....	54	1,404	208	1,064	1,278	16,890
Alaska .....	0	902	3,176	9,715	19,553	148,444
Arkansas.....	47	81	39	68	148	1,589
California.....	12	3,190	2,571	-168	3,857	41,037
Colorado.....	6,237	4,825	871	1,962	2,839	62,801
Florida.....	623	528	0	330	149	6,061
Illinois.....	0	26	0	0	37	271
Kansas.....	4,790	16,576	4,691	3,541	5,687	138,582
Kentucky.....	209	917	81	290	196	6,640
Louisiana.....	33,909	29,210	9,887	10,118	18,592	385,513
Michigan.....	962	1,565	650	550	1,082	18,933
Mississippi.....	0	75	0	76	103	1,092
Montana.....	0	170	22	120	119	1,808
New Mexico.....	33,634	21,302	3,868	7,831	8,841	275,468
North Dakota.....	3	1,722	0	1,098	1,037	16,156
Ohio.....	0	27	0	18	18	269
Oklahoma.....	30,111	21,017	3,289	7,302	8,446	257,103
Pennsylvania.....	0	213	45	109	91	1,888
Texas.....	109,012	78,314	39,056	7,212	46,056	1,035,573
Utah.....	3,327	2,565	166	1,120	2,369	36,543
West Virginia.....	1,904	1,621	243	522	559	17,893
Wyoming.....	7,447	13,307	2,945	4,796	6,597	136,930
<b>Total.....</b>	<b>232,281</b>	<b>199,557</b>	<b>71,808</b>	<b>57,674</b>	<b>127,654</b>	<b>2,607,484</b>

<sup>a</sup> The liquid quantities shown are the estimated quantities of individual components and products contained in the liquids at the point at which the liquids were extracted from the natural gas. The estimates are based upon the assumption that the liquids extracted in each State were composed of natural gas components and products in the same proportions as those ultimately fractionated at processing and fractionating plants within the State. The quantities ultimately extracted in each State were obtained from unpublished summaries of the 12 monthly reports on Form EIA-816. For each State, ratios of the quantities of each component and product ultimately fractionated to the total quantity of liquids fractionated were developed. Those ratios were applied to the total liquids quantities extracted from natural gas in each State (see Table A3) to derive the estimated component and product quantities shown.

<sup>b</sup> Extraction loss represents that portion of the natural gas stream which was transferred to the petroleum and natural gas liquids supply chain as a result of the removal of part of the natural gas constituents in the form of natural gas liquids at natural gas processing plants. Estimates of the heat content extraction loss, i.e., the heat content of the extracted liquids, were computed using the following average heat content conversion factors (million Btu per barrel): ethane, 3.082; propane, 3.836; normal butane, 4.326; isobutane, 3.974; and pentanes plus, 4.620.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Estimated Components and Products in Liquids Extracted: Total liquids from Form EIA-64A, "Annual Report of the Origin of Natural Gas Liquids Production," apportioned to components and products based upon quantities of components and products fractionated as reported on Energy Information Administration (EIA), Form EIA-816, "Monthly Natural Gas Liquids Report" (see footnote a above). Heat Content extraction loss conversion factors (see footnote b above): Energy Information Administration, *Annual Energy Review*, 1996.

**Table A5. Natural Gas Processed, Liquids Extracted, and Estimated Extraction Loss by State of Origin (Production) of Natural Gas, 1996**

State	Volume of Natural Gas Delivered to Processing Plants (million cubic feet)			Total Liquids Extracted (thousand barrels)	Extraction Loss	
	Located Within the State	Located Outside of the State	Total Processed		Volume (million cubic feet)	Estimated Heat Content (billion Btu)
Alabama.....	111,656	2,614	114,270	4,476	5,810	18,610
Alaska.....	2,987,364	0	2,987,364	33,346	38,453	148,444
Arkansas.....	214,868	161	215,029	237	474	977
California.....	240,566	0	240,566	9,798	12,169	41,037
Colorado.....	493,748	1,249	494,997	16,891	23,420	63,411
Florida.....	5,900	0	5,900	1,130	1,143	4,202
Illinois.....	578	0	578	63	64	271
Kansas.....	825,825	2,731	828,556	30,617	41,115	120,221
Kentucky.....	44,151	24	44,175	2,635	2,291	10,113
Louisiana.....	4,496,445	7,934	4,504,379	99,036	135,902	375,303
Michigan.....	117,119	0	117,119	4,810	6,399	18,933
Mississippi.....	4,521	1,227	5,748	288	398	1,235
Montana.....	10,106	352	10,458	471	594	1,963
New Mexico.....	1,129,523	561	1,130,084	75,477	108,387	275,472
North Dakota.....	47,942	35	47,977	3,864	4,939	16,173
Ohio.....	2,477	0	2,477	64	85	269
Oklahoma.....	1,052,170	83,331	1,135,501	74,315	105,759	272,905
Pennsylvania.....	7,728	133	7,861	385	464	1,585
Tennessee.....	0	1,864	1,864	29	97	114
Texas.....	4,139,267	252,912	4,392,179	282,979	403,822	1,048,895
Utah.....	252,781	215	252,996	9,282	10,453	35,528
West Virginia.....	70,552	2,613	73,165	3,950	7,230	14,609
Wyoming.....	844,009	12,765	856,774	35,171	48,710	137,214
<b>Total.....</b>	<b>17,099,296</b>	<b>370,721</b>	<b>17,470,017</b>	<b>689,314</b>	<b>958,178</b>	<b>2,607,484</b>

Notes: This table shows the volume of natural gas delivered to processing plants, the quantity of natural gas liquids extracted, and the estimated volumetric and heat content extraction losses traced back to the State of origin of the gas, i.e., to the State from which the gas was produced whether processed within or outside of the producing State. Totals may not equal sum of components due to independent rounding.

Sources: Natural gas delivered to plants, and total liquids extracted: Energy Information Administration (EIA), Form EIA-64A, "Annual Report of the Origin of Natural Gas Liquids Production." Extraction Loss: Extraction loss volumes (Table A3) and estimated heat contents (Table A4) apportioned to State of origin based upon the origin of gas processed as reported on Form EIA-64A.