REPORT OF THE COMPTROLLER GENERAL OF THE UNITED STATES

Reliable Contract Sales Data Needed For Projecting Amounts Of Natural Gas That Could Be Deregulated

Federal Power Commission

This report provides data on the amount of natural gas under contract which could be expected to be released from Federal price regulations when contracts expire between producers and interstate pipelines from 1975 through 1985.

GAO recommended that FPC take action insuring that such data is current and reliable. FPC used 1972 data to study deregulation effects. Data reliability was questionable because FPC did only limited verification to determine it was complete and accurate.

RED-76-11

SEPT. 8, 1975

COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

B-178205

The Honorable Henry M. Jackson
United States Senate and
The Honorable John E. Moss
House of Representatives

This is our report on reliable contract sales data needed for projecting amounts of natural gas that could be deregulated, Federal Power Commission. Our review was undertaken in response to your joint request for information on interstate pipeline company contracts including data on the amount of natural gas which could be released from Federal regulations upon expiration of contracts from 1975 to 1985.

We invite your attention to the fact that this report contains a recommendation to the Chairman of the Commission which is set forth on page 17. As you know, section 236 of the Legislative Reorganization Act of 1970 requires the head of a Federal agency to submit a written statement on actions taken on our recommendations to the House and Senate Committees on Government Operations not later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report. We will be in touch with your office in the near future to arrange for the release of the report so that the requirements of section 236 can be set in motion.

Comptroller General
of the United States

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ABBREVIATIONS

BCF	billion cubic feet
FPC	Federal Power Commission
GAO	General Accounting Office
NAC	National Availability Curve
TCF	trillion cubic feet
TERA	Total Energy Resources Analysis

COMPTROLLER GENERAL'S REPORT TO THE HONORABLE HENRY M. JACKSON UNITED STATES SENATE AND THE HONORABLE JOHN E. MOSS HOUSE OF REPRESENTATIVES

RELIABLE CONTRACT SALES DATA NEEDED FOR PROJECTING AMOUNTS OF NATURAL GAS THAT COULD BE DEREGULATED
Federal Power Commission

D I G E S T

Several legislative proposals have been made to deregulate natural gas. GAO was asked to provide data on the amount of natural gas currently under contract which could be expected to be released from Federal price regulations upon expiration of contracts between producers and interstate pipelines from 1975 to 1985.

On the basis of Federal Power Commission data for 1972 which received limited verification and, in some cases, was incomplete, GAO has estimated the amount of natural gas which may be released during the period.

GAO is recommending that the Commission take action to ensure that such data is reasonably current and reliable. The Chairman of the Commission agreed to implement GAO's recommendation. (See pp. 17 and 18.)

Natural gas produced in the Nation to be sold in interstate commerce peaked during 1971 and 1972 at 14.2 trillion cubic feet. Annual interstate production in 1974 was 12.9 trillion cubic feet, a 9.2 percent decline from the 1972 level. Analysis of the Commission's contract sales data showed that about 29 trillion cubic feet of gas would be released from contract from 1975 to 1985 assuming a constant rate of production.

Gas does not flow from reservoirs at a constant rate indefinitely. Considering the production decline occurring over the life of a well, the amount of gas released from contract from 1975 to 1985 would range from 7.7 trillion cubic feet to about 12.7 trillion cubic feet, depending on which of the three most generally accepted production decline curves is used in the calculation. (See p. 3.)

Many sales contracts between producers and interstate pipeline companies contain indefinite pricing clauses which may affect the amount of gas released from price controls if deregulation occurs. The amount of gas deregulated because of indefinite pricing clauses would depend on provisions of the deregulating statute and/or Commission rulemaking actions. (See p. 12.)

The Commission used 1972 gas contract sales data to study the deregulation effects. GAO also used the 1972 data to make its computations. Reliability of such data was questionable because the Commission did only limited verification to determine that the data was complete and accurate.

Although the type of data the Commission obtained for 1972 was primarily for establishing just and reasonable gas rates, it became critical to the various deregulation studies on which important decisions may be based. (See p. 15.)

CHAPTER 1

INTRODUCTION

The Natural Gas Act of 1938 (15 U.S.C. 717) authorized the Federal Power Commission (FPC) to regulate companies which transport and sell natural gas in interstate commerce. The act is to ensure that the ultimate natural gas consumer receives the lowest reasonable rate and protection from exploitation. Intrastate sales--the gas that is used in the same State in which it is produced--are generally State regulated.

Before 1954, FPC construed the act as authorizing only the regulation of interstate gas sales by pipeline companies. In 1954 the Supreme Court in Phillips Petroleum Company v. Wisconsin held that FPC must also regulate prices charged by gas producers to interstate pipeline companies. Since then, FPC has, under the Natural Gas Act, regulated gas producer sales, to insure just and reasonable rates for these sales.

The natural gas industry is composed of three segments: production, transmission, and distribution. The industry is physically interconnected by a pipeline network extending through the lower 48 States and across the Mexican and Canadian borders.

At one end of the network are more than 7,000 producers, consisting of large petroleum companies most of whose production is sold in interstate commerce and of small independent producers much of whose production is sold in intrastate commerce. FPC has no jurisdiction over producers' operations but when gas is sold in interstate commerce for resale, it has the authority to determine whether the sales should be permitted in the interests of public convenience and necessity, and, if so, at what price and on what terms.

The transmission segment consists of over 100 interstate pipeline companies, whose operations are subject to FPC regulation, and intrastate pipelines, which are generally State regulated. By the end of 1972, more than 187,000 miles of transmission pipe had been constructed by FPC-regulated companies. FPC regulates both the price paid to producers by the pipelines and the price at which the pipelines sell it to distributors to insure that the pipeline companies meet their operating expenses and earn a return on investment in facilities, while at the same time protecting the consumer. State regulatory commissions generally serve a similar function in regulating intrastate pipelines.

Distribution comprises some 1,600 companies which sell most of the gas to the ultimate consumers. The distributors depend on FPC for protecting their ability to buy gas from interstate pipelines at fair prices and on reasonable terms. A few companies engage in production, transmission, and distribution activities, and many others engage in transmission and gas production.

Since the 1954 Supreme Court decision involving the Phillips Petroleum Company, attempts have been made to amend the Natural Gas Act to divest FPC of jurisdiction over natural gas sales by producers, thereby deregulating wellhead sales. In 1956 the Congress passed legislation exempting wellhead gas prices from direct FPC regulation; however, the President vetoed the bill.

More recent deregulation proposals by Members of Congress and FPC commissioners differ in the degree to which gas should be deregulated. Proposals range from total deregulation of all gas production to deregulation of gas not previously contracted for and of gas released upon expiration of sales contracts.

Senator Henry M. Jackson and Congressman John E. Moss asked us to review the terms of natural gas sales contracts. Specifically, after the request was modified (see app. II), we were asked to provide information on the

--volumes of natural gas, unadjusted for production decline, to be released under expiring contracts for each year from 1975 through 1985 and cumulatively,

--same volumes of gas as above but with adjustments for production decline according to various methods used with an explanation of these methods,

--amount of gas under contracts with indefinite pricing clauses, including comments on the various clauses and their prevalence in natural gas contracts, and

--adequacy of the FPC data used in projecting the volumes of gas to be released and of FPC's system for obtaining such data.

CHAPTER 2

GAS TO BE RELEASED FROM CONTRACTS EXPIRING FROM 1975 TO 1985

If the law removes the regulation over natural gas, existing gas supplies may also be freed from controls as contracts expire. We have computed the volume of gas that will be released from expiring contracts from 1975 to 1985 and therefore will potentially be available at deregulated prices. These computed volumes range from about 29 trillion cubic feet (TCF) to 7.7 TCF, depending on assumptions as to the rate of gas flow over the periods in which it is economically recoverable.

FPC DATA

The Nation's natural gas production for interstate commerce peaked during 1971 and 1972 at 14.2 TCF. Annual interstate production declined 3.5 percent in 1973 to 13.7 TCF and 5.8 percent in 1974 to 12.9 TCF; in 1975 it is about 8 percent below the 1974 level according to preliminary monthly data for the first few months of 1975. Most gas sold in interstate commerce is sold under long-term contracts, generally 20 years, between producers and interstate pipeline companies. Even though the contracts expire in 20 years, the gas wells do not necessarily stop production. Rather, the gas continues to flow until the operation becomes uneconomical and FPC authorizes abandonment of operations. Generally FPC does not maintain cumulative data on the volume of gas under contract and the expiration dates involved. However, in August 1973, it requested companies producing more than 10 billion cubic feet (BCF) of gas a year to provide it with 1972 sales volume data, including information on expiring contracts. Some pipeline affiliates and pipeline companies were also required to report expiring contract volume data.

FPC sought information for use in its consideration of a rulemaking procedure for establishing just and reasonable gas rates. Among other things, the order required large producers to report their 1972 sales volumes and contract dates and terms for each contract on file with FPC when sales commenced before January 1, 1973. The data represented the most current cumulative data available at FPC on volumes of gas under expiring contracts. Because of the large number of reports filed and incorrect or incomplete data submitted by producers, necessitating followup requests, FPC spent over a year gathering and tabulating the 1972 sales volume information. This task was completed in February 1975.

Before completing its summary, FPC used the 1972 data, in late 1974, to prepare preliminary data on gas volumes under expiring contracts. An FPC task force also used the 1972 data in preparing its January 1975 report, "A Preliminary Evaluation of the Cost of Natural Gas Deregulation."

To make our computations, we updated the 1972 FPC data to include about 52 BCF of estimated annual gas sales under contracts entered into in 1973 and 1974 which will expire during the 1975-85 period. Such shorter term contracts (10 years or less) have recently become more prevalent apparently because of the uncertainty over gas prices. Available FPC records showed that total gas volumes under producer contracts with terms of 10 years or less represented 17.6 and 22.6 percent of the total gas sold in the third and fourth quarters of 1974, respectively.

Using FPC's 1972 sales volume data and the 1973 and 1974 contract data described above, we prepared the following schedule showing the volumes of gas that would be released from contracts each year, the amount of gas that would be flowing each year where contracts had expired beginning in 1975, and the cumulative amount of gas that will be released from contracts during the 1975-85 period.

Expiring Interstate Contract Volumes for 1975-85 (note a)

Year of expiration (note b)	Volumes expiring	Total gas flowing (note c)	Cumulative volume released (note d)
	(BCF)		
1975	124		
1976	423	546	670
1977	376	922	1,592
1978	507	1,430	3,022
1979	781	2,210	5,232
1980	661	2,872	8,104
1981	667	3,538	11,642
1982	347	3,885	15,527
1983	382	4,267	19,794
1984	389	4,655	24,449
1985	304	4,960	29,409

[a] Volumes are based on an assumed constant production rate.

[b] Year in which the stated volumes first receive a whole year's exposure to any deregulatory proposal.

[c] May not add due to rounding.

[d] Includes cumulative volumes released in previous years plus amount flowing that year.

EFFECTS OF PRODUCTIVITY DECLINE ON GAS AVAILABILITY

Gas does not continue to flow from reservoirs at a constant rate indefinitely. Therefore, any projection of the gas availability in the future depends on the rate at which gas will be forced from the reservoir.

Three methods which have been developed over the past several years--the Davis decline curve, the National Availability Curve (NAC), and the Total Energy Resources Analysis (TERA) curve--can be used to determine at what rate productivity from existing reservoirs will decline.

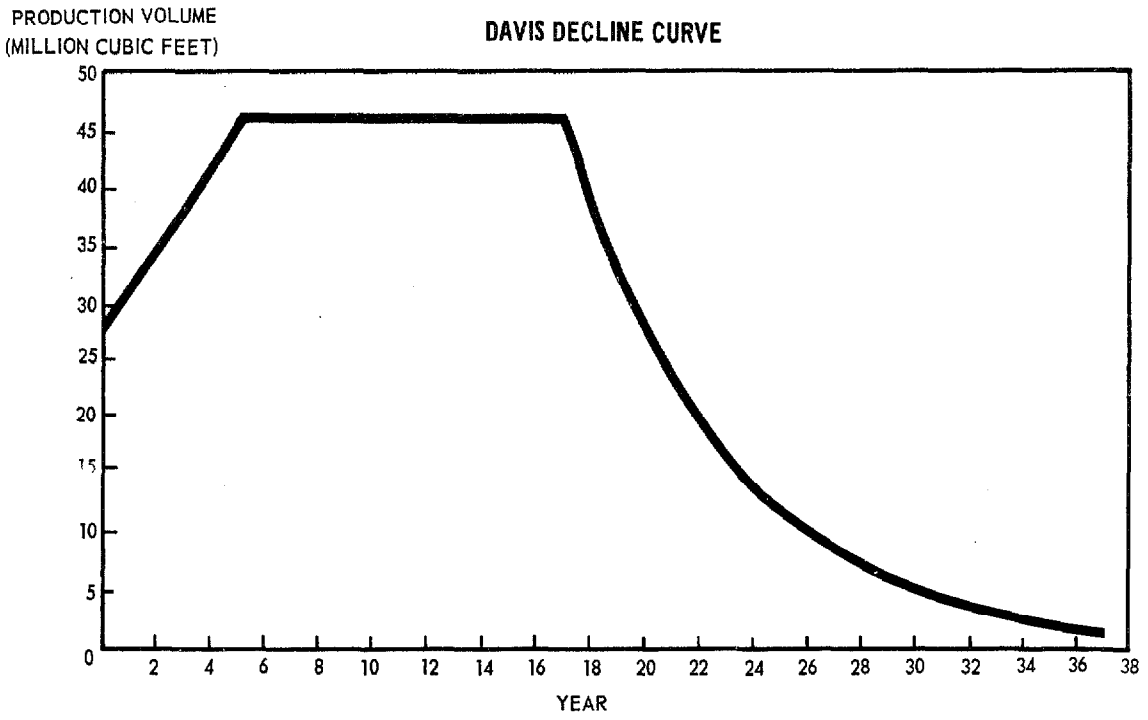
Davis decline curve

Mr. Warren B. Davis developed the Davis decline curve and presented it at an FPC hearing in the early 1960s relative to a petition for a rate increase by the Gulf Oil Corporation. The curve, based on the production pattern for the producer's operations, was used to project future revenues from the production of natural gas.

On September 25, 1968, FPC stated that the Davis decline curve provided a reasonably reliable estimate of gas production for determining future revenues. More recently, in January 1975, FPC used the Davis decline curve to estimate future production volumes for expiring contracts.

This curve assumes that individual gas reservoirs have a 37-year production life; it also assumes that production from such reservoirs increases during the first 5 years, remains constant from the fifth through the seventeenth years, and declines about 15 percent annually after that.

Using the Davis decline curve, theoretical gas production from a reservoir having 1 BCF of proved reserves is shown in the following graph.



NAC method

The FPC staff developed the NAC method during the early 1970s to help project the amount of natural gas that will be available through 1990.

The NAC method is a two-step procedure. The first step involves developing a curve which represents the maximum production capability of the average gas field at every stage of depletion. NAC was constructed by FPC staff from over 900 individual gas sources as reported in FPC Form 15, Annual Report of Gas Supply which is filed annually by interstate pipeline companies.

The second step involves segregating all reserves into "vintages" according to size and the year added to the inventory of previous and projected national reserves. The annual national production capability of the reserves existing in any given year is then calculated by first determining the productive capability of each vintage using NAC and then summing the productive capability of all vintages. Each vintage year has a different production decline pattern, with the most recent vintage years having a more rapid rate (7.5 percent) of production because of the increased demand for natural gas.

For our study, FPC used its computer program in determining the proper decline rates for various gas vintages at specific times and then applied those rates to the expiring contract volume data. Certain assumptions regarding the term of the contract, the year reserves were added to the inventory, the reserve-production relationship, and the more rapid production rate from recent shorter term contracts were necessary to adapt the NAC method to the expiring contract volume data.

A typical production decline curve cannot be graphically depicted since the decline rate is determined on the year the gas was dedicated to the market. Information which would show the complete production pattern beginning with the first year of production for a particular vintage year was not readily available.

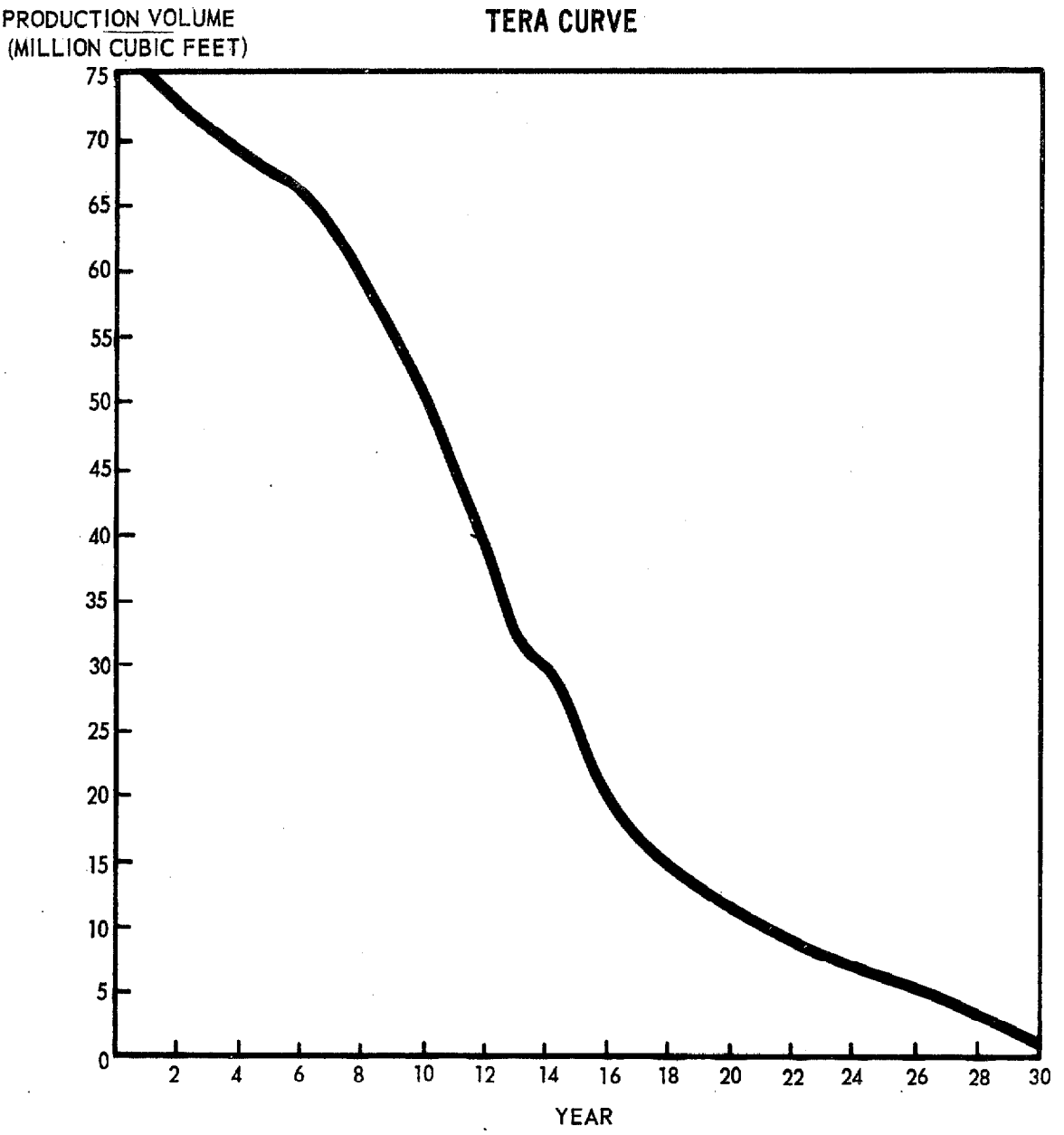
TERA curve

The American Gas Association designed TERA which is a computerized simulation model of energy supply, demand, and prices, with special emphasis on the gas industry.

A submodel of TERA, TERA Wellhead Deliverability and Pricing Submodel, employs a production decline curve which we will refer to as the TERA curve. The TERA curve is a modification of the NAC and assumes that production declines on a percentage basis. The American Gas Association does not accept, however, that gas production declines according to the smoothness of NAC.

The TERA curve does assume that any given well will produce 95 percent of its ultimate production within 30 years. When using the curve, the American Gas Association does not consider any production after 30 years.

Using the TERA curve, theoretical production of gas from a reservoir having 1 BCF of proved reserves is shown on the following graph.



Gas to be released from expiring contracts assuming production decline

The following schedule shows the amount of gas that would be released under expiring contracts from 1975 to 1985, both annually and cumulatively, using various production decline curves.

Comparative Schedule of Volumes of Natural Gas Under Expiring Contracts Assuming Various Production Decline Methods for 1975-85 Period

Year of expiration (note b)	Davis curve			NAC (note a)			TERA curve		
	Volumes expiring	Total gas flowing (note c)	Cumulative volume released (note d)	Volumes expiring	Total gas flowing (note c)	Cumulative volume released (note d)	Volumes expiring	Total gas flowing (note c)	Cumulative Volume Rel. (note d)
	(BCF)								
1975	76			93			83		
1976	224	290	366	306	387	480	243	318	401
1977	168	416	782	261	598	1,078	188	474	875
1978	230	584	1,366	339	858	1,936	215	638	1,513
1979	350	849	2,215	497	1,239	3,175	262	828	2,341
1980	311	1,034	3,249	410	1,480	4,655	225	956	3,297
1981	299	1,185	4,434	393	1,668	6,323	170	1,008	4,305
1982	156	1,170	5,604	198	1,630	7,953	81	954	5,259
1983	171	1,169	6,773	209	1,607	9,560	76	889	6,148
1984	175	1,175	7,948	207	1,584	11,144	72	811	6,959
1985	138	1,143	9,091	158	1,517	12,661	55	717	7,676

[a]Volumes derived from FPC staff's application of NAC decline rates to the input data.

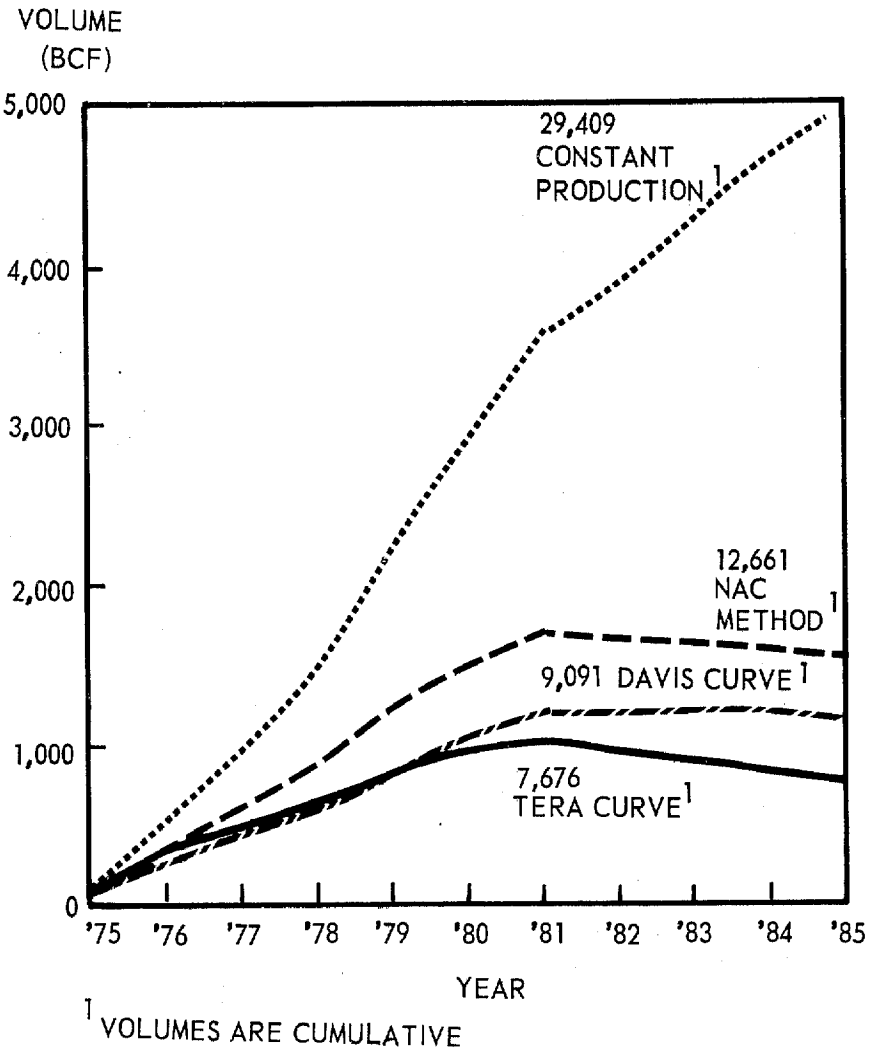
[b]Year in which the stated volumes first receive a whole year's exposure to any deregulatory proposal.

[c]Volume expiring totals do not add to the total gas flowing because of declining production in previous years under expiring contracts.

[d]Cumulative volume released includes cumulative volumes released in previous years plus amount flowing that year.

The following graph shows the cumulative gas volumes that will be released from regulation because of the expiring contracts and highlights the differences between constant production and declining production using the three production decline curves.

PROJECTED VOLUMES OF NATURAL GAS UNDER VARIOUS PRODUCTION CURVES FOR CONTRACTS EXPIRING DURING THE PERIOD 1975 TO 1985



CHAPTER 3

INDEFINITE PRICING CLAUSES IN NATURAL GAS CONTRACTS

Indefinite pricing clauses included in many of the natural gas sales contracts between producers and interstate pipelines provide for future changes in the price of gas sold, depending on certain economic factors occurring. Some indefinite pricing clauses may have an effect on the amounts of gas that would be freed from price controls if deregulation legislation were enacted. Assuming this occurs, the amount of gas currently under contract which would be deregulated because of indefinite pricing clauses would depend on the provisions of the deregulating statute and/or FPC rulemaking actions.

A natural gas contract may contain one or more of the following indefinite pricing clauses.

--The renegotiation clause allows for price changes at some specific time.

--The redetermination clause is similar to the renegotiation clause in its effect and provides for price escalations to the fair-market price or some negotiated price that may be higher than the FPC-accepted price level.

--The favored-nation clause allows for increased rates if other contracts in the area specify higher rates.

--The deregulation clause permits higher rates if regulatory control is removed.

--The area rate clause allows prices to escalate to the future FPC-established rates for the area covered by the contract.

Of the above clauses, only the area rate clause appears to be permissible under FPC regulations.

AMOUNT OF GAS SUBJECT TO INDEFINITE PRICING CLAUSES

Data filed by producers pursuant to an August 17, 1973, FPC order showed that about 4.3 TCF, or 33 percent, of the gas was sold under long-term contracts subject to one or more of the impermissible indefinite pricing clauses. Further data breakdown showed that about 26 percent of the gas was sold under long-term contracts having renegotiation or redetermination clauses, 10 percent was under contracts having favored-nation clauses, and about 2 percent was under contracts having deregulation

clauses. The above breakdown totals more than 33 percent because some contracts have more than one indefinite pricing clause.

Recent trends in long-term contracting by gas producers seem to be toward including deregulation clauses in contracts. Over half the long-term contracts filed with FPC in recent months contained such clauses, presumably anticipating some form of gas deregulation by the Congress.

Data filed by producers showed that about 3.9 TCF, or 30 percent, of gas was sold under contracts having the permissible area rate clauses.

EFFECT OF CLAUSES IF DEREGULATION OCCURS

Assuming natural gas deregulation occurs, the amount of gas currently under contract which would also be deregulated because of indefinite pricing clauses would depend on the provisions of the deregulating statute and/or FPC rulemaking actions.

FPC believes that legislation which removes price controls on new gas will not necessarily permit gas under existing contracts to be released from regulation because of indefinite pricing clauses. FPC regulations (18 CFR 154.93) make such clauses inoperative and of no effect at law. The regulations read, in part:

> "* * *Provided, That in contracts executed on or after April 3, 1961, for the sale or transportation of natural gas subject to the jurisdiction of the Commission, any provision for a change of price other than the following provisions shall be inoperative and of no effect at law; the permissible provisions for a change in price are:
>
> (a) Provisions that change a price in order to reimburse the seller for all or any part of the changes in production, severance, or gathering taxes levied upon the seller;
>
> (b) Provisions that change a price to a specific amount at a definite date;
>
> (b-1) Provisions that permit a change in price to the applicable just and reasonable area ceiling rate which has been, or which may be, prescribed by the Commission for the quality of the gas involved."

In addition, paragraph (c) of the regulations permit a price redetermination once every 5 years to an amount which is not higher than the FPC-accepted price level in effect for the same area at that time. Contracts can have either provision (b), above, or a paragraph (c) price redetermination provision, but not both.

The Supreme Court expressly upheld FPC's power to prohibit using indefinite pricing clauses in FPC v. Texaco, 377 U.S. 33 (1964).

CHAPTER 4

DEREGULATION STUDY DATA SHOULD BE RELIABLE AND CURRENT

The Natural Gas Act authorizes FPC to require natural gas companies under its jurisdiction to file periodic or special reports as it may prescribe necessary or appropriate to help it properly administer the act. The August 17, 1973, FPC order required producers to provide 1972 sales data under their contracts with interstate pipelines along with other information, including the date and term of the contracts.

FPC used sales volume data for a single year--1972--to project gas volumes under expiring contracts. The projections' reliability was questionable, however, since FPC did limited verification of the data to determine if it was complete and accurate. The FPC staff used, and the Congress will use, these projections of gas volumes to estimate the cost to consumers of gas that could be freed from price controls under deregulation legislation. Therefore, as long as the natural gas deregulation issue confronts the Congress and FPC, FPC should maintain current data so that it is readily available to the Congress and others for decisionmaking.

ACCURATE AND COMPLETE DATA NEEDED

The 1972 sales data obtained by the August 17, 1973, FPC order was obtained on a one-time only basis as part of a rulemaking procedure to establish just and reasonable rates for natural gas. This data was the only available basis for projecting the amount of gas that would be released from price controls if deregulation legislation were enacted. Therefore, reliable information was important.

To insure the projections' reliability, the base year data's accuracy and completeness must be verified. FPC did only limited verification of the data reported. We noted several differences in the 1972 sales data submitted by producers pursuant to the August 17, 1973, order and the 1972 sales data that they submitted on FPC Form 301-B, Independent Producers Report.

For example, the following schedule shows important differences in the data reported for five companies.

Company	1972 Natural gas sales	
	August 17 order	Form 301-B
	(BCF)	
A	454	278
B	697	780
C	15	232
D	27	15
E	9	30

FPC officials said that they were aware of some of the differences in reported sales volumes, but they could not explain such differences. In their opinion, the data obtained pursuant to the August 17 order was the most accurate data available. Without verification, however, we can see no basis for considering either set of data as being accurate and reliable.

We recognize that the total 1972 sales volume reported under the August 17 order differs by about 590 BCF, or only about 4 percent from the Form 301-B total. Total sales volumes, however, are inappropriate for making projections of gas volumes to be released under expiring contracts. The volumes should be analyzed on an individual producer basis since some producers could have relatively small percentages of their total sales volume expiring under contracts from 1975 to 1985, whereas other producers could have relatively large percentages expiring. Thus the data for each producer must be accurate and complete to ensure the reliability of the projections.

FPC officials stated that data collection and compilation took a year and 3 months because of (1) the large number of reports filed, (2) incorrect or incomplete data submitted by the producers, necessitating followup requests by FPC, and (3) some producers did not file the data promptly.

Nevertheless, the summary did not contain all required data for the following reasons.

--Four producers simply did not file the data requested. According to the Forms 301-B filed by these producers, they sold 108 BCF of gas in 1972. Although this amount is not great compared with the amount sold nationally by all producers selling to interstate pipelines, we believe FPC should not allow their requests to go unheeded and should actively pursue the data to make its report all inclusive. Certainly 1 year and 3 months

gave FPC enough time to obtain the data from all companies.

--Many producers filed incomplete data. Of primary concern are those producers which did not provide contract dates and terms which were critical in determining the amount of gas that would be released from contract during certain periods. In such instances, FPC showed the contracts expiring prior to 1975. In all, about 218 BCF of gas were considered to have been released from contract before 1975 even though FPC did not know when it would be released. We could not determine how many of these contracts would expire during 1975-85, but many conceivably would, because a large number of these long-term contracts, usually 20 years, were entered into between 1955 and 1965.

CONCLUSIONS

Although gathering and compiling voluminous data on a one-time basis from many gas producers is difficult and time consuming (15 months), it is, nevertheless, important and should be approached aggressively and conscientiously. Important decisions may be based on the data obtained; it should, therefore, be as complete and reliable as possible.

Although we recognize that the data obtained by the FPC was primarily for establishing just and reasonable gas rates, it nevertheless became critical to the various deregulation studies on which important decisions may be based.

Considering the trend toward shorter term contracts and the inclusion of deregulation clauses, we believe that FPC must maintain current information so that needed data is readily available for use in future congressional and FPC decisionmaking.

RECOMMENDATION TO THE CHAIRMAN, FPC

While debates over natural gas deregulation continue before the Congress, we recommend that the Chairman, FPC, institute procedures aimed at keeping FPC apprised of the status of gas flowing under contracts subject to its jurisdiction. In doing so FPC should, to the extent possible, use (1) data regularly supplied, such as gas sales volumes data on Form 301 and (2) the data received pursuant to the August 17 order.

If available information is inadequate, FPC should consider requesting the additional data needed to form a base which could then be periodically updated.

In any case, however, FPC should institute procedures to independently verify, at least on a sample basis, that the data received is complete, accurate, and reliable.

AGENCY COMMENTS

In a July 10, 1975, letter, the Chairman, FPC expressed general agreement with our recommendation and described the actions that had been taken or were planned to implement it. (See app. III.)

The Chairman said that FPC recognized that the data received under the August 17, 1973, order had limitations with respect to its use in deregulation studies and that procedures were being developed to update and verify the data. He said that the FPC staff would incorporate the data into its Regulatory Information System at an appropriate time.

The Chairman said that the large volume of data filed with FPC dictates selective and limited verification within existing manpower and budget limitations. He explained that the usefulness of any increased level of reliability or accuracy, through intensified verification measures, must be balanced against the required increases in manpower and budget or the decrease in timelinesss of the data.

We believe that the actions being taken or planned by FPC, if done effectively and promptly, will provide FPC and the Congress with accurate and reliable data on gas under contracts subject to FPC jurisdiction, thereby enhancing the decision making process.

CHAPTER 5

SCOPE OF REVIEW

Our examination was conducted at FPC headquarters in Washington, D.C.

We reviewed FPC's records, policies, and procedures for collecting and reporting natural gas data. We also reviewed recent studies prepared by FPC and others relating to natural gas deregulation.

We discussed pertinent matters with agency officials.

APPENDIX I

United States Senate

WASHINGTON, D.C. 20510

December 4, 1974

B-178205

The Honorable Elmer B. Staats
Comptroller General of the
United States
Washington, D. C. 20548

Dear Mr. Staats:

Congress is now considering proposals to deregulate "new"natural gas, meaning that gas which is not now flowing under contract for interstate sale. This proposal would repeal provisions of present Federal law that grant the Federal Power Commission regulatory authority over the field prices of natural gas.

Under the principal deregulation proposal now being advanced, the so-called Buckley Amendment, even that natural gas that is presently flowing under contract would be reclassified as "new" gas and thereby freed from price controls upon expiration of the primary term of such contracts. The result would apparently be a several-fold increase in the price of such flowing gas, without any compensating benefits to consumers in the form of enhanced supplies.

We would be reluctant to support legislation at this time that would result in significantly higher consumer prices without compelling evidence that its benefits justify its costs. It is imperative that Congress and the public know just what the likely cost of this proposal to American consumers will be. A confident estimate of the cost of deregulating "new" natural gas (including gas released at the expiration of existing contracts) can only be made with the aid of an audit of the contracts for natural gas that are now subject to Federal Power Commission price jurisdiction.

Accordingly, with this letter, we are requesting that the General Accounting Office investigate the terms of present inter- and intrastate natural gas field sale contracts. The audit would have as its objective a determination of the volume of flowing gas whose prices could be expected to be released from price regulation, annually and cumulatively, for the years 1975 through 1985. It would cover, among other things, an

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accounting of --

(a) How much gas is currently flowing under contract in the interstate market?

(b) Taking into account the natural decline in production in individual fields, how much gas is expected to be produced under these contracts or (where contracts are scheduled to expire) those properties now subject to such contracts in each year, 1975 through 1985?

(c) When will these contracts expire; that is, how much production is covered by contracts whose primary term expires each year? Taking into account both the natural decline in production and the expiration of contracts, how much gas can be expected to be produced (1) subject to existing contracts, and (2) free from the control of such contracts, from properties now dedicated to interstate commerce, in each year?

(d) How many contracts have provisions for renegotiation at new higher rates; how much production is covered by such contracts? Here again, we would like an estimate of the volume of gas expected to be produced each year from properties subject to such renegotiable rates?

A similar review, to the extent possible, of natural gas sold in the producing states ("intrastate" gas) would also be helpful since deregulation of interstate gas sales will result in higher interstate prices, which will in turn tend to pull up at least some intrastate gas prices. This review should examine the volume of intrastate natural gas sold, along with the kinds of contractual controls on the price of such gas that would be subject to likely price increases by virtue of renegotiation clauses or contract expiration in each year, 1975 to 1985.

It should be noted that a Federal Power Commission staff study shows that 1.6 trillion cubic feet (annual rate) of natural gas would be released from control of current interstate contracts in 1975. On the basis of this estimate and a rather conservative assumption regarding the increase in "new" gas prices under deregulation, an FPC official estimated that

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release of new natural gas from price control would cost consumers a cumulative $60 billion through 1980. A similar estimate was made in an economic impact report recently prepared for us by the Economics Division of the Congressional Research Service.

The foregoing estimates may in fact be conservative, because, among other things, they do not include an estimate for higher prices of gas sold in the producing states ("intrastate" gas), resulting from the additional competition by interstate buyers who would be able, under deregulation, to bid what the market will bear for gas newly released from contract. In any event, it is imperative that Congress, before it acts on any deregulation proposal, have a credible projection of the volumes of gas that they would actually free from controls.

As energy costs and supplies, and their impact upon the Nation's economy, will be major Congressional concerns, not only during the remaining weeks of the 93rd Congress but throughout at least the first months of the 94th Congress, we would appreciate if possible your office placing this audit and review request in a priority position.

Sincerely yours,

Henry M. Jackson
U.S. Senate

John E. Moss
U.S. House of Representatives

APPENDIX II

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GOVERNMENT OPERATIONS COMMITTEE:
RANKING MAJORITY MEMBER SUBCOMMITTEES ON
FOREIGN OPERATIONS & GOVERNMENT INFORMATION
CONSERVATION & NATURAL RESOURCES

INTERSTATE AND FOREIGN COMMERCE COMMITTEE:
CHAIRMAN,
COMMERCE & FINANCE SUBCOMMITTEE

DEMOCRATIC STEERING AND POLICY COMMITTEE

February 21, 1975

Mr. Henry Eschwege
Director
Resources and Economic
Development Division
U.S. General Accounting Office
Washington, D.C. 20548

Dear Mr. Eschwege:

This is to confirm receipt of your February 7, 1975, letter as well as to outline four elements which we view as essential in the investigation of present interstate and intrastate natural gas contracts for purposes of determining the cost deregulating "new" natural gas we have requested. They are as follows:

(1) Provide figures for the volume of gas to be released under expiring contracts for each of the years 1975 through 1985 and cumulatively, unadjusted for production decline.

(2) Provide additional sets of figures for (1) above but with adjustments for production decline according to the various formulas now in use along with some explanation of the background and merits of each of the formulas used with possibly some indication as to which is the most reliable formula, and in turn, the most reliable set of figures.

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(3) Provide comments about why certain information was not available, if that is the case, including evaluation of the auditing standards as well as the accounting and retrieving systems used by the Federal Power Commission including mention of those that they might better be using (if that is the case) in order to properly meet its regulatory responsibilities.

(4) Provide figures for the amount controled by contracts which have renegotiation clauses and which could, if "new" gas is deregulated, be renegotiated at the new, presumably higher rates.

Your letter indicated that the Federal Power Commission staff estimates that it would take an inordinate amount of time to gather this information. It is, however, an important aspect of this investigation. Accordingly, a sampling of various types of renegotiation clauses with an evaluation and some estimate of their prevalence in natural gas contracts is suggested as an alternative.

We appreciate the attention you have given to these matters and trust you will continue working closely with our staff on this assignment.

Sincerely,

Henry M. Jackson
U.S. Senate

John E. Moss
U.S. House of
Representatives

APPENDIX III

FEDERAL POWER COMMISSION
WASHINGTON, D. C. 20426

OFFICE OF THE CHAIRMAN

JUL 10 1975

Mr. Henry Eschwege
Director
Resources and Economic
Development Division
U. S. General Accounting Office
441 G Street, N.W.
Washington, D. C. 20548

Dear Mr. Eschwege:

This is in response to your request of June 27, 1975, for my review and comment on your draft report entitled "Selected Contract Sales Information Related to the Deregulation of Natural Gas." In addition to the general analysis below, I have attached a list of specific suggested revisions to your report. (Attachment 1)

Your report is in response to the request of December 4, 1974, by Senator Henry M. Jackson and Congressman John E. Moss for certain data regarding the amount of flowing natural gas which would become deregulated upon expiration of existing contracts if deregulation legislation were enacted similar to the so-called Buckley Amendment (new gas and gas from expiring contracts). Several of these "roll-over" studies have been done as of that time by BNG Staff as part of other overall price and deregulation impact studies. 1/ These roll-over

1/ "A Preliminary Evaluation of the Cost of Natural Gas Deregulation," January, 1975; "Analysis of the Economic Impact of FPC Opinion No. 699-H on Producers," December 13, 1974; "Opinion No. 699-H," Appendices A and B to Commissioner Smith's partial dissent, December 4, 1974.

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studies were based on data gathered in the R-478 proceeding which at the time the studies were made had not been completely compiled. However, this was the only readily available source of the data needed to make these roll-over studies in a timely fashion.

Docket No. R-478 was instituted by Notice issued May 23, 1973 to prescribe a Nationwide Rulemaking To Establish Just and Reasonable Rates For Natural Gas Produced From Wells Commenced Before January 1, 1973. By Order issued August 17, 1973, large producers, pipeline affiliates and pipelines with off-system sales were ordered to complete, verify, and file with the Commission the six data collection schedules which were attached to the August 17, 1973 Order. The data was requested to furnish the Commission and parties to the proceeding with cost, revenue, and volume information for the year 1972 to be used in establishing the rate in R-478.

FPC Staff reconciled and summarized the data on Schedules 1 through 4-A which pertained to production expenses, exploration and development costs, etc., and sent the summary to all parties to the proceeding on November 13, 1974. Schedule 5, which is designated as FPC Form 459, is an analysis of the producer rate schedules, and was designed to capture such information as contract date, contract term, indefinite pricing conditions, effective prices and future price escalation provisions. Schedule 5 was to be submitted on November 9, 1973, but because of the time required to complete the schedule, most producers were granted extensions of time.

Roughly 8,300 rate schedule analyses were submitted to the FPC. Staff reviewed the data, made corrections where necessary (a summary of all the corrections made by staff was sent to the filing parties), and where staff found discrepancies which staff could not resolve, or found that certain data fields were not completed, Staff sent a letter to the filing party requesting further information. The data was then keypunched and verified for keypunch accuracy and copied onto magnetic tape.

The magnetic tape containing the Schedule 5 data was made available to the public on March 4, 1975.

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The GAO report questioned the prudence of using such incomplete and unverified data in making important studies of the volumes of gas that could be freed from price controls under deregulation legislation.

The FPC staff was well aware of the limitations of the R-478 data and, in fact, the overall conclusion of the FPC Deregulation Task Force study was that ". . . . a conclusive determination and quantification of these impacts (deregulation) has not as yet been determined." The report continued, "While the analytical framework established by the task force is reasonable for preliminary evaluation, the illustrative results which it shows are dependent on the reliability of the input data." The task force recommended further study of the impact of deregulation.

Further, on January 21, 1975, a BNG memorandum dated January 16, 1975, (Attachment 2) was submitted to GAO staff at a meeting in my office. The memorandum discusses the Deregulation Task Force roll-over study and was prepared expressly to assist GAO in their investigation. That memorandum characterizes the R-478 data as "preliminary and incomplete." Thus, it is unlikely that this study will be viewed as final and conclusive in making important decisions on deregulation either by Congress or the FPC, as implied by the GAO report.

The GAO report recommends that the FPC institute procedures aimed at keeping the FPC apprised of the status of gas flowing under contracts subject to its jurisdiction, utilizing to the extent possible (1) data regularly supplied, such as gas sales volumes on Form 301, and (2) the data received pursuant to the August 17, 1973 order relating to flowing gas. FPC's Bureau of Natural Gas has recognized this need for some time and has been developing procedures to obtain this type of data.

The data processing system now being developed at the FPC uses an on-line system for rapid retrieval of data from a computer stored data base. FPC public use forms including Forms 459 and 301-B have been redesigned for rapid data capture. The new design reduces a tedious task of hand-coding the forms, which takes several months, to direct processing by optical character reader or keypunch in a matter of weeks.

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Data elements from the public use forms have been structured into two files; a producer file and a pipeline company file. Forms 301-B and 459 have been included in the design of these computer files. One of the basic goals of the forms redesign and the computer file design is the elimination of duplication of reported data. To achieve this goal the FPC staff has proposed a two step approach with regard to the Forms 301-B and 459.

First, staff proposes that the newly designed Form 459 be filed on a one-time basis by the producers to bring the data base to a current state. Form 301-B would also be filed. Comparisons between volumes of sales and revenues under the same rate schedule reported on both forms can be readily made by computer checks and followed up with the companies affected where required.

Subsequently whenever a certificate application is filed for a new sale a complete Form 459 would be filed. For a contract amendment adding acreage or changing other contract terms, a partial Form 459 would be filed to reflect the change. It is anticipated that yearly volumes and revenues would be reported only on Form 301-B.

Such a project will require a significant amount of time to complete. Since the R-478 data, most notably Schedule 5, (FPC Form 459) is the most comprehensive data pertaining to large producer contracts and is readily accessible through computer programs, it is anticipated that further interest in this data will be forthcoming in the near future. However, the test year for R-478 was 1972 and the data is now more than two years old. Since 1972, contract terms have expired, properties have been abandoned, added, and reassigned, and the list of large producers has changed. But of primary concern is that area ceilings, production, taxes, contract rates and sales volumes have changed. In view of the foregoing, FPC staff will develop procedures for updating the R-478 data and for incorporating it in the RIS data system at an appropriate time in the future. The ideal situation would be to have such information available for all large producer sales rather than just R-478 sales, and to have such data filed on a continuing basis.

FPC staff will also consider modification of FPC Form 301-B to obtain the data necessary for a roll-over study. A seemingly minor modification to add contract dates to Form 301-B would suffice. However, producer contract data filed on FPC Form 459 is much more comprehensive and since this data will prove useful in other studies, such as revenue impact studies of area rate ceilings and contract rate tracking, it may be most desirable to utilize the Form 459 in any updating procedures.

With regard to verification of data filed with the FPC, it must be recognized that the sheer volume of data filed dictates selective and limited verification within existing manpower and budget limitations. The usefulness of any increased level of reliability or accuracy, through intensified verification measures, must be balanced against the required increases in manpower and budget or the decrease in timeliness of the data.

At page 1 of the report it is asserted that "At one end of the network are more than 3,000 producers, consisting of large petroleum companies and small independent producers, most of whose total production is sold in interstate commerce." I believe this statement requires revision in the following respects: (1) There are more than 7,000 jurisdictional producers, and (2) I do not believe the small independent producer would sell "most" of their total production in interstate commerce. The contrary is probably true since these producers, particularly in the Southwest have large intrastate markets with insatiable demand for natural gas.

Sincerely,

John N. Nassikas

John N. Nassikas
Chairman

Enclosures [See GAO note.]
1. Comments and Revisions
2. BNG Memo Jan. 16, 1975
3. Letter 3/25/75 to
   Mr. Gerald Elsken

GAO note: This material is not included in this report.