

M I N U T E S

SPECIAL COMMITTEE ON NATURAL GAS

August 11, 1975

Members Present

Representative Harold Dyck, Chairman
Senator Ross Doyen, Vice-Chairman
Senator George Bell
Senator Jack Janssen
Senator Vincent Moore
Senator John Simpson
Representative Richard Brewster
Representative Keith Farrar
Representative Ben Foster
Representative Walter Graber
Representative Herbert Rogg
Representative William Southern

Staff Present

J. Russell Mills, Jr., Legislative Research Department
William Wolff, Legislative Research Department
Don Hayward, Revisor of Statutes Office

Conferees

Richard G. Jones, National Conference of State Legislatures,
Washington, D. C.
Bernard E. Nordling, Southwest Kansas Royalty Owners Association,
Hugoton, Kansas
John G. Williamson, Kansas Power and Light Company, Topeka,
Kansas
George Sims, Mobil Oil

Morning Session

The third meeting of the Special Committee on Natural Gas was called to order at 10:00 a.m., August 11, 1975, in Room 519-S of the State House by Chairman Harold Dyck. Introductory

remarks were made by Chairman Dyck. He asked the members of the Committee to look over the minutes of the last meeting as they would be considered in the afternoon session.

The chairman stated that the Committee would recall that at the last meeting it was agreed that a letter be sent to all U.S. Senators urging them to support Senator Pearson's amendments to S. 692. He noted that 11 other Senators have jointed Senator Pearson in sponsoring the amendment, and that he had received 35 replies to the letter thus far. He stated that a tabulation of all the letters would be made and sent to each Committee member instead of making a copy of each letter; however, if some members desired to have copies, that this could be done.

The first conferee was Mr. Richard G. Jones, representing the National Conference of State Legislatures in Washington, D.C. The Chairman stated that Mr. Jones' purpose in being here was to present some of the approaches being considered at the national level in regard to natural gas regulation and potential legislation in this area.

Mr. Jones submitted a prepared statement along with exhibits. (Attachment I). He stated that he thought it would be best to give a brief statement and explain some of the attached exhibits and the members could ask questions as they desired. Representative Brewster asked if the chart on page 53 only included interstate pipelines. The answer was yes.

The Chairman asked what would happen in his opinion if we do not have deregulation. Mr. Jones stated that he doubted if the price would be greatly affected. The biggest problem is that electric rates are going up anyway.

Mr. Jones stated that he has been asked what Congress will be doing in the field of natural gas. He stated that it was largely a matter of conjecture on his part and his own opinion. He stated that S. 692 is an attempt to increase the price of natural gas and to integrate intrastate and interstate markets. He noted that the bill contains a national price ceiling of 40 cents per Mcf to 90 cents per Mcf, but that these figures are almost irrelevant and would be revised every five years. He explained the Producer Price Tiers in Table 7 and noted the Definitions and Notes. He stated that under S. 692, "new gas" is defined as whatever the FPC says is new gas.

Senator Janssen noted that some say deregulation would increase the supply. The first exhibit states that 31½ cents is the average price around the country, but the minimum price in Senator Janssen's area is about 70 cents, which rather ruins the argument. Mr. Jones stated that he believed the Senator was referring to intrastate prices and that prices in the intrastate market seem to be rising.

Senator Janssen asked if he was familiar with the "favored nations" contact and Mr. Jones stated that he was. Discussion followed concerning this point. Senator Janssen stated that he had one town in his district under this contract, (Lyons) and it is supplied by Peoples Gas Company. The question was asked how the price is arrived at when various interstate companies purchase gas in the area. Mr. Sims of Mobil Oil explained how this came about when various companies are not able to get together on their contracts.

Mr. Jones stated that he was of the opinion that only one side had been heard on this whole matter of deregulation and that there was some distortion within the industry.

Senator Simpson asked how much of a price increase would be necessary to get more exploration, or what a fair price would be if we go with deregulation. Mr. Jones stated that this is indeterminable in the free market system. Senator Simpson asked if anyone had tried to make an estimate. Mr. Jones stated that the FEA has been trying to do this during the past year and that there was no way they could arrive at the size of the revenue, or to define cost of operation with a reasonable rate of return on investment.

Mr. Jones stated that Congress has before it several windfall profit proposals; and that the Administration proposal is the strongest measure, as it did not contain a "plow-back" proposal in regard to natural gas. He stated that the integration of the two markets (intrastate and interstate) was probably a desirable concept.

Senator Bell stated that he was bothered by the whole matter of "truth" and quoted an article from the National Teachers Association's periodical in regard to shortages and supply. Mr. Jones stated that he was in agreement with the article; that in his opinion there never was and still is not a physical oil shortage. Senator Bell referred to the misrepresentations of reserve figures alleged to have been made by the American Gas Association. Mr. Jones stated that it will be almost impossible to verify these reserve figures. He also stated that there is a clear price incentive for gas companies to prefer the intrastate over the interstate market and that some reserve figures may be misleading. Mr. Jones said that he has not been able to find data to prove this to be the case. Senator Bell stated that there seemed to be three sides -- yours, mine and the truth. Mr. Jones stated that "truth" is the one that has not yet been identified.

Discussion followed concerning OPEC and the effect that it has had on the degree of control exercised by various oil companies. Mr. Jones again stated that in his opinion there is not and never has been a physical shortage of oil, but that there might be by 1985 or 1980.

The Chairman asked Mr. Jones to explain the meaning of OCS. He stated that Outer Continental Shelf drilling accounts for 11% of the domestic petroleum production or approximately 900,000 barrels per day; that it produces a lot of natural gas; that reserves are being tapped and that the federal government is leasing Gulf tracts. More discussion followed in regard to OCS in relation to Senator Pearson's amendment.

Senator Moore brought up the matter of the "plow-back" provision and the fact that there was no such provision in the administration's proposal. This would have to be spent for new exploration for oil and gas and would provide the capital to companies to do this. Mr. Jones stated that in his opinion that anything the Congress passed would contain this provision.

Representative Foster asked if we were not at the mercy of the OPEC nations in regard to the price of oil. Mr. Jones stated that there is no question about it at this time, but that does not mean we will be at their mercy in 1980. There are a lot of people who think they have oil -- Mexico, Africa, and even China, and they will be willing to sell it. He gave an example of the cost involved for the Saudi's to get out the oil, probably 30¢ or less per barrel, and they sell it for \$11. Mr. Jones stated that he did not think it was realistic to think that it would ever be below \$7 or \$8 a barrel (at 1973 dollars). Mr. Jones stated that the only thing the federal law which expires on August 31 does now is to determine who is making the most profit, and that termination of the act is the best thing that could happen.

Senator Janssen made the following observation: suppose the federal government went with deregulation and we had enough oil for our needs, do you really believe the prices would come down? Mr. Jones said yes he thought so, but that the only barrier might be a state regulatory agency like in Texas or Louisiana. Senator Janssen asked if the companies would not hang together to keep the prices up. Mr. Jones stated that their record on this was not too good.

Representative Brewster asked what effect S. 692 would have on intrastate pipelines and wondered if the state might not be able to establish a windfall profits tax and "plow-back" provision. Representative Farrer stated that it all goes back to the question of what is the proper price to be charged for natural gas. The same thing could be applied to producing a bushel of wheat. That it has to go on the open market. Mr. Jones was in agreement.

Senator Janssen stated that he was concerned about the person who might have to drive 50 miles each day to work if gasoline prices went up. Mr. Jones stated that in his opinion it would probably go up about 3¢ a gallon with decontrol and noted that the cost of producing energy is going up. Senator Moore stated that even if gas prices were kept as they now are the cost of electrical energy would go up anyway because electrical plants are not

going to have the gas to use and will have to resort to oil or coal which will increase the cost of energy four to six times. Mr. Jones stated that the principle behind S. 692 is to try to help the consumer.

Senator Simpson asked what legislation is being considered by Congress in three areas -- antitrust legislation regarding the petroleum industry, conservation, and the channeling of funds for mass transit. Mr. Jones answered in the matter of mass transit, that he did not see anything being done; on anti-trust, that he did not foresee anything being done very quickly; and on conservation, only sporadic action. One proposal before Congress now is the revamping of building efficiency standards which would require states to enforce building codes and that, in his opinion, there was an even chance this legislation would be passed during this session. The bills regarding automobiles contain standards which the industry has said they could meet between now and 1983. Other conservation measures might be additional tax benefits for development of exotic fuels.

Representative Roog asked what the states could do? Mr. Jones said the states could regulate electric utilities regarding the energy supply situation. At present the prices are the result of a mish-mash of laws enacted in the 1920's designed to spread service. These should be revamped. Second, planning for energy facilities. Consumption of electricity is not a matter of economics, it is becoming a matter of public policy. The state could create some mechanism for allocation. Thirdly, conservation -- efficiency in building codes, insulation, implementation of policies on building standards.

The Chairman stated that there was a consensus among Committee members that very little could be done until we know what will be done at the federal level, and asked what action would be taken in the near future. Mr. Jones stated that, in his opinion, there was a 40% chance that both houses would pass this legislation (S. 692) by January. That there was considerable pressure to do so. The Chairman thanked Mr. Jones for his appearance and noted that Mr. Jones was on his way to Denver to attend an NCSL meeting on Intergovernmental Relations of which he was a staff member, and that Senator Moore and Senator Janssen were also members of this Committee.

The meeting recessed at noon to be reconvened at 1:30 p.m.

Afternoon Session

The meeting was called to order at 1:30 p.m. by Chairman Dyck. A tabulation of the letters received from members of the United States Senate thus far was handed out. (Attachment II).

The Chairman asked if there were any correction to the minutes of the last meeting. Representative Farrar stated that on Page 4, second to the last paragraph, the sentence should read, "It was noted that Cities Service provides less than 1% of their gas to be used for irrigation in Kansas." The Chairman asked for any other corrections and there were none. A motion was made by Representative Southern and seconded by Senator Doyen that the minutes be approved. Motion carried.

The first conferee was Mr. Bernard E. Nordling, Secretary, Southwest Kansas Royalty Owners Association, Hugoton, Kansas. Mr. Nordling presented a written statement. (Attachment III).

Representative Farrar asked Mr. Nordling to explain a little more fully the paragraph entitled, Possible Solution to Low Rates on Page 10.

Senator Janssen asked whether royalty owners shared the same in natural gas leases as they do in oil leases and how they negotiated the shares. An explanation and discussion followed on how they were different.

Senator Doyen asked how the price was arrived at for gas being sold at 13½¢ in one geological zone and 18½¢ in another zone. Mr. Sims explained that there was a separate meter for each zone.

The Chairman asked if any members of their Association were landowners as well as royalty owners in another field. Mr. Nordling answered that their association was limited to members who own mineral rights in the Hugoton field. You might have different owners, one being the surface owner and the other a mineral owner His association represents both kinds.

Senator Doyen made the observation that it was too bad that there were not stronger conservation measures when some of the Hugoton development was started so that it took place as a unit. Mr. Nordling stated that even so, it has worked out pretty well.

The next conferee was Mr. John G. Williamson, Vice-President, Kansas Power and Light Company. Mr. Williamson handed out a booklet containing his opening statement and other information, and reviewed his opening statement. (Attachment IV).

Representative Graber asked what percent of KPL's gas comes from the Spivey field. The answer was about 17%. Representatives Southern asked why no new contracts had been signed by the producers. Mr. Williamson stated that it takes quite a lot of time because of the large number of producers, but that meetings were going on and new contracts are being negotiated.

Senator Bell asked in regard to the Wichita Industrial Energy Corporation and their signing of contracts, and in reference to a letter the Committee received from Mr. Saffels, whether we

have gotten ourselves into a situation whereby a shortage might result in the coming winter for residential use as a result of this maneuvering. Mr. Williamson stated that end use priorities are essential. At the present time KPL does not have any direction either from the legislature or from the KCC. This does exist under the FPC in the regulation of the interstate pipeline companies and curtailments.

Senator Janssen stated that if it was true that the Wichita Industrial Energy Corporation had negotiated a contract, how did they do it so fast? Mr. Williamson said that their offer was \$1.85 at the well-head whereas the offer KPL made was \$1.50. Senator Janssen asked what would happen if more cities took the same attitude that Wichita has taken.

Senator Bell asked if there was any place the KCC had been lax in allowing this to happen.

Representative Foster stated that it was his understanding that the Wichita Industrial Energy Corporation had contracted for 10 MMCF. Discussion followed concerning how much of this is being used for other purposes than heating homes. The answer was about 7%. Mr. Williamson gave an explanation concerning peak day requirements.

Representative Brewster asked if this 10 MMCF is forever taken out of end use priorities for the duration of that contract. Mr. Williamson answered that he was not sure if that was true, because he could not believe that the FPC or the KCC would sit by and let 5,000 homes go unheated while airplane hangers and swimming pools in Wichita were heated.

The question was asked as to how much of this 10 MMCF is committed to industrial use. The answer was all of it. Senator Moore stated that it can be allocated to other uses.

Senator Moore asked how many cubic feet of gas KPL was selling to the refineries in Butler County. Mr. Williamson said none at the present time. He did not know where they were getting their supply. Mr. Williamson said that Anadarko was buying some KPL gas, that they in turn were selling to the Mobil refinery in Augusta. Under furthering questioning by Senator Moore, Mr. Williamson stated that KPL sold eight million MCF to refineries in Butler County.

Senator Moore object to Mr. Williamson's statements concerning the heating of swimming pools and airplane hangers, as well as other distortions of the facts given widespread coverage in the press, both now and last March. Senator Moore also noted that, according to KPL's annual report, 60% went for industrial use. Mr. Williamson stated that in 1974, 36% was sold for the purpose of generating electricity at two of KPL's power plants, Central Development of Great Bend, and 18 municipal power plants.

Senator Moore referred to the press release in reference to the work being done at Lawrence and Topeka and how long it had been going on. Mr. Williamson stated that they expected to spend around 30 million dollars in 1975-76 and that it had been going on two or three years.

Representative Graber stated that the Spivey field was in his district and this business of the Wichita Industrial Energy Corporation had caught on like wild fire; that he understood another city had negotiated a contract during the past week.

The Chairman asked if any of this was interstate gas. Mr. Williamson said that KPL's operations are all intrastate.

Discussion followed with Senator Doyen concerning curtailments. Senator Simpson asked how much gas KPL got out of the Hugoton field and whether they would face the same type of situation there. It was noted that the Mesa contracts did not expire until 1989. Representative Farrar asked if the 18 municipal plants were on interruptible service and whether they had standby facilities. The answer was they were and all had standby, but Mr. Williamson was not sure about their storage capacity or what they considered sufficient storage. He said it had been suggested that they review their storage facilities. He explained that they would not always have to curtail everyone's service on the same day. KPL could stagger this and could be kept flexible. The Chairman thanked Mr. Williamson for his appearance before the Committee.

The Chairman stated that in regard to future meetings, there continue to be requests from one group or another who want to be heard, including a request from a dehydrating group. The Chairman further stated that he was uncertain how much longer the Committee should continue to hear from conferees and, in meeting with the staff and Mr. Jones, there is some doubt as to how productive our efforts can be until we find out what is done on the federal level. He stated that he had a discussion with Mr. McGill and that he agreed it would be best to move slowly until more was done by the Congress. Of the meeting dates tentatively scheduled (September 11 and 12 and September 29 and 30), it was thought September 12 would be the date for the next meeting. At that time the Committee could hear from KCC and others in regard to possible curtailments during the coming winter. If the staff cannot be ready by September 12, then September 29 should be kept open for the next meeting.

Senator Moore and Representative Foster felt that some representative from the Wichita Industrial Energy Corporation should appear before the Committee. Senator Moore also wanted some industry people to appear from the south central area of Kansas. The Chairman stated if they had something to tell the Committee that the Committee had not heard, then they could come; but that the Committee should now concern itself with getting the whole picture and perhaps hear from someone with KACI. Representative Farrar asked what the Committee should be considering. The Chairman

stated that our assignment is to study the supply, use, pricing and regulation of natural gas production and distribution which includes monitoring federal legislation on natural gas wellhead price regulation.

Meeting adjourned.

Prepared by J. Russell Mills, Jr.

Approved by Committee on:

(Date)

TESTIMONY OF RICHARD G. JONES
BEFORE THE SPECIAL COMMITTEE ON NATURAL GAS
OF THE KANSAS LEGISLATURE
AUGUST 11, 1975

This prepared statement and accompanying exhibits are submitted for the record of the Special Committee on Natural Gas.

BACKGROUND

As an introduction to a discussion of current Congressional approaches to natural gas regulatory policy, it seems appropriate to establish the outline of data and policy analysis on which the Congress is working. The particular exhibits chosen here are intended to be concise and comprehensive and do not include all viewpoints or arguments.

Exhibit 1, titled "Natural Gas" is taken directly from the Project Independence Report of the Federal Energy Administration. The major pattern presented by the historical data contained in exhibit 1 (esp. Table II-10) indicates:

1. Natural gas production and sales became significant after World War II, increasing at an average rate of 6.5% throughout the fifties and early sixties.
2. By the early seventies, the production and sale of natural gas had ceased its rapid growth and essentially leveled off in the 1970-1972 period.
3. In 1972, natural gas provided 32% of the nation's energy supply and 34% of the nation's net consumption. 46% of natural gas was used in the industrial market, 33% in the household and commercial market, and 18% for electric generation.
4. In 1972, FEA statistics indicate that primary natural gas sales totaled \$4.2 billion, four tenths of one percent of gross national product.
5. FEA's econometric model indicates that prices in excess of current levels will effectively increase non-associated gas development in 1985. However, increases beyond 80¢/MCF (constant 1973 dollars) are not projected to be effective in generating additional supply.

Exhibit 2 is extracted from FEA's Monthly Energy Review for May 1975. This data indicates that the marketed production of natural gas declined 3.9% in 1974 and continued its decline through March of 1975. In 1974 52.7% of the total

natural gas marketed was marketed interstate at prices regulated by the Federal Power Commission. These regulated prices averaged 32.6¢/MCF in December of 1974, up 33% from year earlier regulated levels.

Exhibit 3 is abstracted from the Congressional Record of July 21, 1975. The material was inserted there for Senator James Buckley of New York, although the compilations were provided to him primarily by the American Gas Association. This exhibit provides comparative natural gas statistics from the fifty States.

The price of natural gas to the largest customer class ranges from a low of 30¢/MCF in Louisiana, Wyoming, and Oklahoma to a maximum of \$1.86/MCF in Maine (excluding Hawaii). The Kansas prices for all three customer categories are just over one-half the national averages.

Exhibit 4 contains three graphs produced by M. ^{King}Key Hubbert of the U.S. Geological Survey. These are extracted from a background paper authored by Mr. Hubbert for the Senate Interior Committee titled U.S. Energy Resources, A Review As Of 1972.

The graphs illustrate the Hubbert thesis of natural resource production cycles. In particular, the second graph illustrates the relatively steady growth in U.S. natural gas production from 1908 to 1960, growing at an average rate of 6.73% annually. The steady decline in growth following 1960 is interpreted by Mr. Hubbert as supporting his thesis, displayed in the third figure, that the nation is rapidly approaching the peak of its natural gas production cycle, and that net cumulative domestic gas production will total roughly one quadrillion cubic feet, sharply below post production estimates.

FEDERAL POLICY INITIATIVES

The Congress is under considerable pressure to address reform of the natural gas regulatory structure. The pressures produced a narrowly defeated attempt last year to deregulate the wellhead price of natural gas. Senator Buckley of New York, one of several staunch advocates of deregulation, proposed an amendment to the Federal Energy Administration Act which failed by a 43-45 vote with twelve abstentions.

Outright deregulation of wellhead prices is one extreme of possible Congressional action. The other extreme is represented by the Natural Gas Production and Conservation Act of 1975, (S692) sponsored by Senators Hollings and Magnuson.

Unlike the deregulation bills, this attempt is not simple. Its complexity has in fact caused widespread misunderstanding of its anticipated effects. Exhibit 5, titled Natural Gas Pricing; Another Piece of the Energy Bullet is extracted from the May 16, 1975 issue of the Energy Report to the States, published by my office. As the exhibit indicates, the central intent of S692 is to increase the price of new natural gas at the wellhead radically, while retaining regulatory control.

Philosophically, the bill is premised on the theory that the existing

regulatory structure has inappropriately depressed natural gas prices because the existing statute bases price on historical average production costs. The Magnuson/Hollings bill would require FPC to set a National Base Price on the basis of "...current and prospective real costs of production over the next five year period."

In addition to this change in the basis of regulation, the bill would allow FPC to set price at higher levels for producers or areas which experience higher than normal costs even after the severe increases resulting from the bill.

Finally, the bill would create special high prices for certain "small" and/or "independent" producers.

In addition to these price effects, the bill's second major effort would be the integration of the inter- and intrastate natural gas markets. It would accomplish this by limiting new intrastate gas prices to the same levels as interstate prices.

These two examples represent the extremes of likely Congressional action. In between these are substitutes, the most significant of which are briefly described in Exhibit 6, prepared by my office.

It is important to note that the term "new" gas is used as a phasing mechanism for most bills. By deregulating only "new" gas, the effects are delayed until the expiration or renegotiation of existing contracts. This process is estimated to take from 3 to 8 years, thus smoothing the price hikes which result from wellhead deregulation.

S692 and the Pearson amendment (#586) are exceptions. S692 allows FPC to determine whether gas is "new" or "old", while the Pearson proposal would require full performance on existing contracts, thus prohibiting renegotiation.

EXHIBIT 1

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NATURAL GAS

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NATURAL GAS

Natural gas is primarily methane, the most basic hydrocarbon. It is often found associated with oil in the same geologic formations, but is also found in geologic structures by itself. Its primary use is as a clean-burning fuel, but it is also used as a petrochemical feedstock.

Background

The first natural gas well was put into production in 1821 in Fredonia, New York. The discovery of oil in the U.S. in 1859 began a search that resulted in the discovery of large quantities of natural gas as well a supply for which there was no ready market at the time. Thus, the gas was flared as a part of the process of extracting oil from the ground. But once the possible uses and advantages of natural gas were discovered, it quickly replaced manufactured gas.

The first large-scale use of natural gas was in the manufacture of steel and glass in plants located in Pittsburgh. Initially, the use of gas was confined to areas near gas or oil fields, but the development of long-distance gas transmission systems in the 1930's broadened its market. During World War II, the war effort slowed down growth of gas pipeline and distribution systems. After the war, however, the availability of abundant supplies of natural gas--most of it found in the search for oil--and improved quality of pipe for high-pressure, long-distance delivery enabled the gas utility industry to expand rapidly and widely. Marketed gas production increased from four trillion cubic feet (TCF), in 1946, to eight TCF by 1952, and continued to grow at a 6.5 percent average annual rate in the 1950's and 1960's.

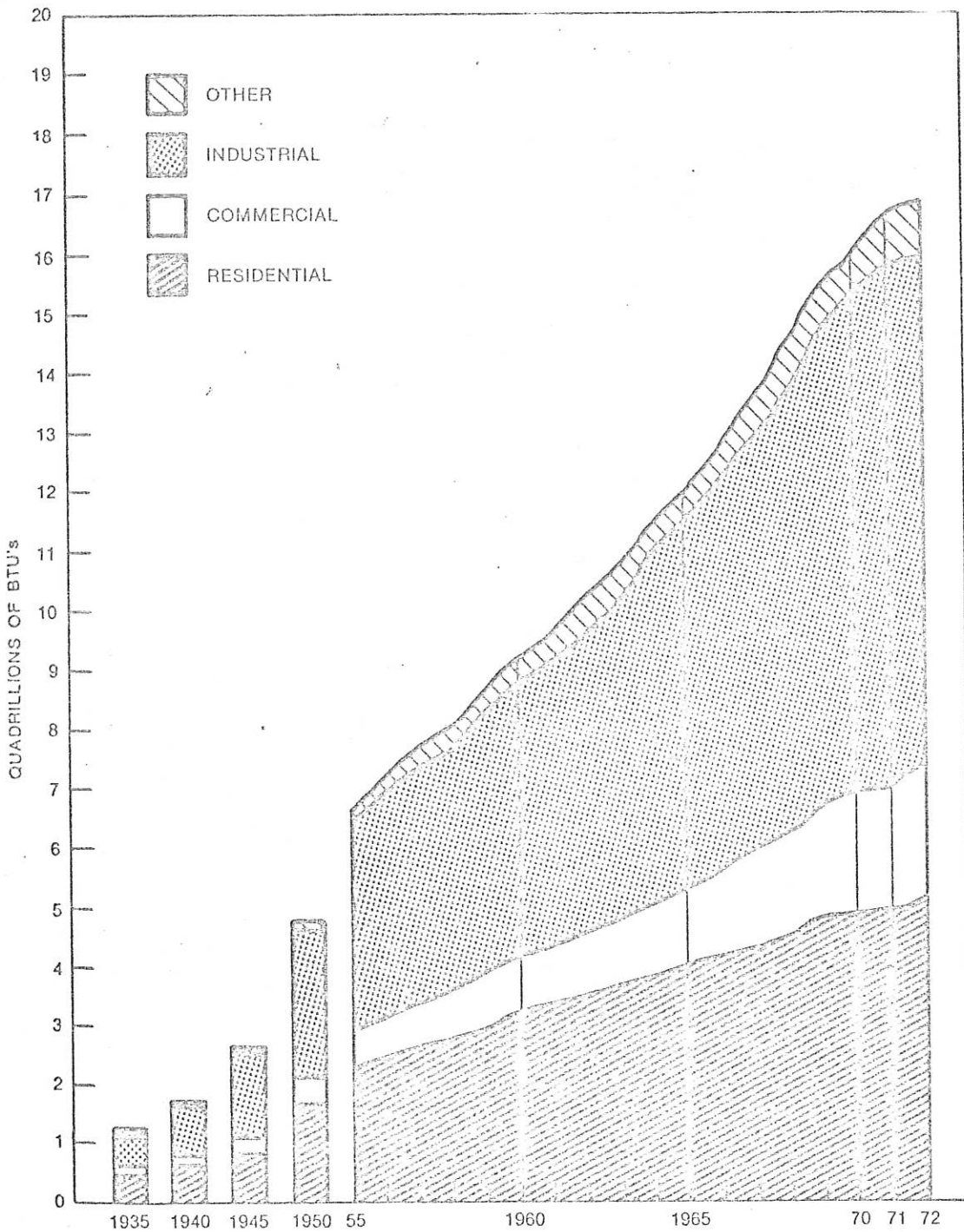
Natural gas now represents about one-third of the total energy consumed by the Nation and almost one-half of the non-transportation uses--an amount twice that supplied by either oil or coal. One-half of the gas is used for residential and commercial purposes, one-sixth for the generation of electricity, and one-third for industrial uses (See Figure II-4 for natural gas utility sales trends).

In the 1970's, the demand for gas has exceeded its supply. Many gas distribution companies have found it necessary to deny gas service to new customers and to enforce contracts for interruptible gas sales. Additionally, the Federal Power Commission has set priorities on gas use.

The Natural Gas Act of 1938 gave the Federal Power Commission authority to regulate interstate pipelines and natural gas imports and exports. In 1954, in the landmark Phillips Petroleum case, the U.S. Supreme Court held that a firm which produces and gathers gas and sells it to a pipeline company is a natural gas company. As a result, the FPC began regulating the wellhead prices at which gas was sold in interstate commerce.

Figure II-4

GAS UTILITY INDUSTRY SALES BY CLASS OF SERVICE



SOURCE: GAS FACTS

REFERENCE: TABLE 5

The approach for establishing producer's prices is based primarily on historical average industry costs. Drilling and exploration costs, on the one hand, have increased considerably in recent years; the cost per foot of a gas well increased 57 percent between 1961 and 1971. But the average price of gas, on the other hand, rose by only about 20 percent (Table II-10 shows production and pricing trends). This price lag has impacted drilling and resulted in the erosion of gas reserves.

Proved gas reserves, the current estimated quantity of natural gas that can be reasonably recovered under existing economic and operating conditions, grew from 147 TCF in 1945 to a peak of 293 TCF in 1967. Since we are consuming 2 to 3 times as much natural gas as we are finding in the continental United States, proved reserves have declined from 1967, and were 250 TCF in 1973. Natural gas production grew from 4.8 TCF per year in 1945 to 22.7 TCF per year in 1971, but has now leveled off at between 22 and 23 TCF per year (See Figure II-5).

Methodology and Assumptions

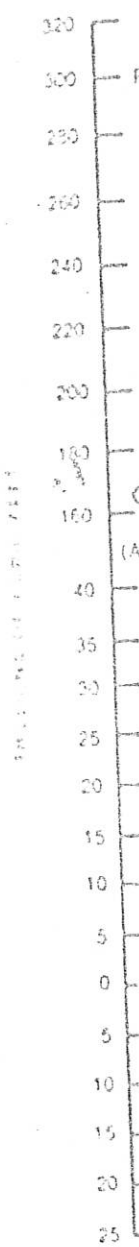
Future production possibilities and corresponding minimum acceptable prices^{1/} were estimated for non-associated gas and natural gas liquids in each of the 12 regions defined by the National Petroleum Council (NPC). An adaptation of the NPC's natural gas supply computer program was utilized in the analysis.

There were several modifications made to this program, including development of a new section to calculate minimum acceptable price, using a discounted cash flow technique, and extensive updates and revisions to the data base through 1973 to reflect recent trends in critical variables. Some special sources of gas - Alaska, gas from tight formations, and gas occluded in coal seams - were not amenable to inclusion in the computer program and were therefore analyzed independently.

The detailed methodology used to estimate natural gas supplies is very similar to that used by the Oil Task Force. The most important assumptions common to both Business-As-Usual (BAU) and Accelerated Development (AD) scenarios are:

- A 10 percent after-tax rate of return on investment
- A depletion allowance of 22 percent
- Cash bonuses and rentals on leases are economic rents and therefore excluded as cost items

^{1/} Defined as exploration and production costs plus royalty and 10 percent after-tax discounted cash flow from investment, but excluding lease acquisition cost and rentals. These rents were evaluated after market clearing prices were determined.



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Figure II-5
U.S. NATURAL GAS RESERVES

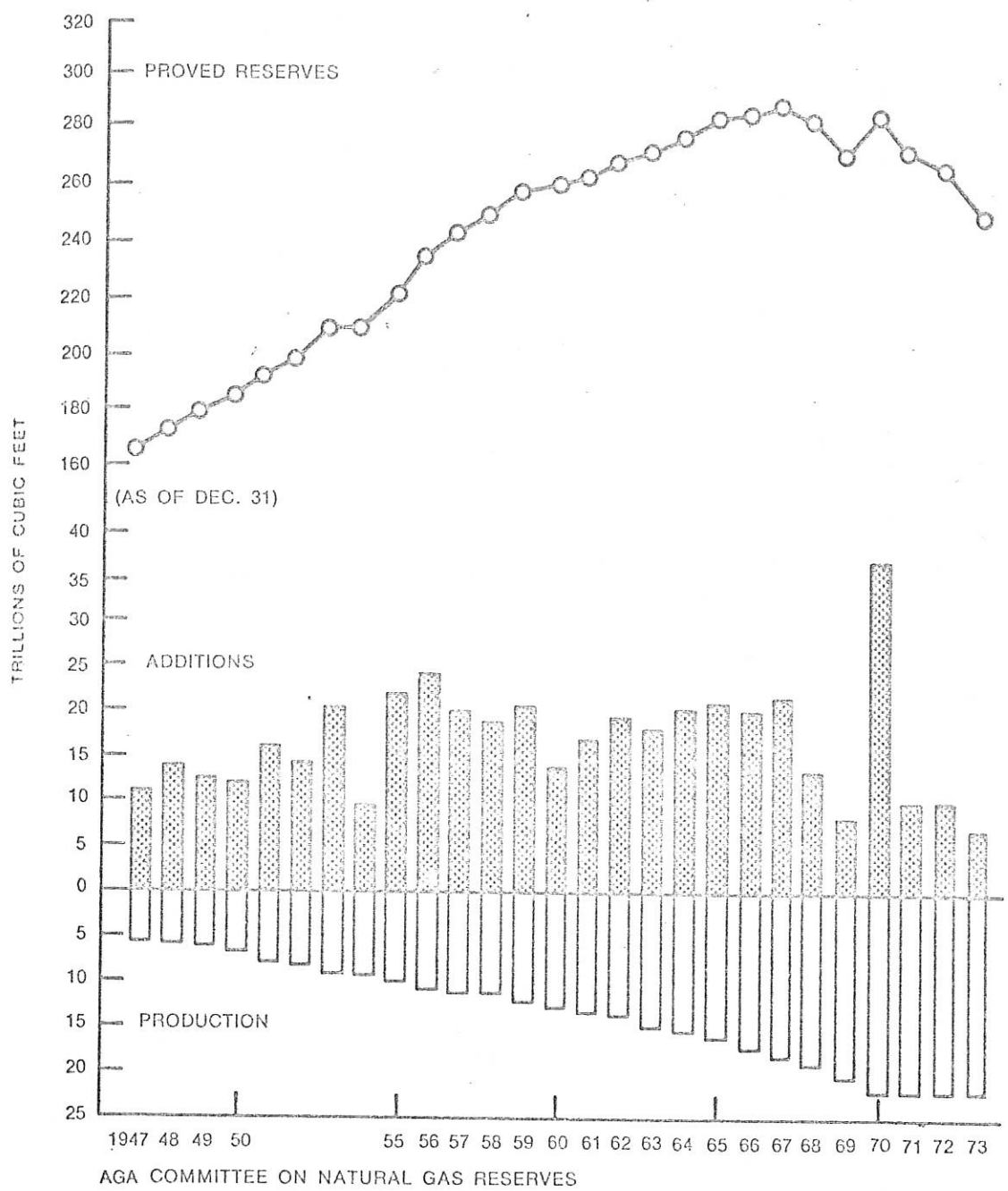


Table II-10
Marketed Production of Natural Gas and Average Wellhead Price
1945-1972

YEAR	MARKETED PRODUCTION		AVERAGE WELLHEAD PRICE (CENTS PER MCF)
	MILLIONS OF CUBIC FEET	TRILLIONS OF BTU	
1945	4,049,002	4,481.7	4.9
1950	6,282,660	6,753.0	6.5
1951	7,457,359	8,016.7	7.3
1952	8,013,457	8,614.5	7.8
1953	8,396,916	9,026.7	9.2
1954	8,742,646	9,398.2	10.1
1955	9,405,351	10,110.4	10.4
1956	10,081,923	10,838.2	10.8
1957	10,680,258	11,481.0	11.3
1958	11,030,248	11,857.5	11.9
1959	12,046,115	12,919.5	12.9
1960	12,771,038	13,728.8	14.0
1961	13,254,025	14,248.1	15.1
1962	13,876,622	14,917.4	15.5
1963	14,746,663	15,852.7	15.8
1964	15,462,143	16,621.8	15.4
1965	16,039,753	17,242.7	15.6
1966	17,206,628	18,497.1	15.7
1967	18,171,326	19,534.2	16.0
1968	19,329,600	20,771.0	16.4
1969	20,698,240	22,250.6	16.7
1970	21,920,642	23,564.7	17.1
1971	22,493,017	24,180.0	18.2
1972	22,531,698	24,221.6	18.6

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The third assumption is particularly important since it results in a definition of minimum acceptable prices different from that generally used in the industry; nevertheless, the assumption was made to facilitate analysis and provide consistency in comparisons with other energy sources.

The BAU scenario assumes changes in the regulatory environment and projected offshore leasing at levels consistent with current published Bureau of Land Management schedules. In the AD scenario, increased price incentives are assumed, and OCS areas are assumed available in earlier years. These assumptions were reflected in the analysis as follows:

- Drilling activity during the 1975-1978 period will increase at a 5.75 percent average annual rate under BAU conditions, and a 12.2 percent average rate under the AD scenario, although later rates of increase will be less under AD conditions.
- Offshore areas (California, Gulf of Mexico, and Atlantic) will account for roughly 20 percent of drilling activity by the mid-1980's under AD conditions, compared with 15 percent under the BAU scenario.
- Royalty rates were 1/6 offshore and 1/8 onshore under BAU; under AD conditions, they will be the statutory minimum of 1/8.
- Economic regulation of natural gas prices where prices are allowed to rise to clear market, or deregulation on new gas supplies.

Under the AD scenario, it was assumed reserves would be developed from Naval Petroleum Reserve #4 (Alaska) for both non-associated and associated-dissolved gas, along with several minor onshore sources of associated-dissolved gas. R&D activities were assumed to result in recovery of non-associated gas from two minor special sources--tight reservoirs and gas--occluded in coal.

Major Findings

The projections of production possibilities hinge primarily on the projected success of the non-associated gas exploration effort. The major non-associated gas reserve additions are projected to occur Regions 6 and 6A in and around the Gulf of Mexico. These areas will also have fairly low acceptable selling prices. The Atlantic OCS could have large reserve increases by 1985 and could surpass Region 6 after 1985 under accelerated conditions (See Table II-11 for regional additions to reserves). In both the BAU and AD scenarios, total annual findings peak late in the projection period and then begin to decline. This reflects projected drilling in both scenarios, and is indicative of the depletable nature of this resource. Newly found gas will come into production at higher than historical minimum prices as costs increase due to the expansion of exploration and drilling efforts in the face of generally declining findings rates (See Tables II-12 and II-13 for increments, at various minimum price intervals, of non-associated and associated gas, respectively).

Table II-11

SUMMARY OF NON-ASSOCIATED RESERVE ADDITION PROJECTIONS
AND THEIR "MINIMUM ACCEPTABLE PRICES"
LOWER 48 STATES 1/

NPC Region	1974		1977		1980		1985		
	Reserve Additions	"Price"	Reserve Additions	"Price"	Reserve Additions	"Price"	Reserve Additions	"Price"	
2	BAU 2/	0.100	\$0.60	0.156	\$0.65	0.213	\$0.65	0.278	\$0.69
	ACC 3/	0.100	0.60	0.188	0.64	0.258	0.66	0.292	0.69
2A	BAU	0.0	--	0.105	0.69	0.129	0.71	0.277	0.80
	ACC	0.0	--	0.253	0.66	0.313	0.68	0.582	0.76
3	BAU	0.349	0.79	0.410	0.78	0.512	0.80	0.722	0.83
	ACC	0.349	0.79	0.494	0.78	0.611	0.80	0.728	0.83
4	BAU	0.407	0.37	0.530	0.48	0.621	0.51	0.840	0.58
	ACC	0.407	0.37	0.634	0.49	0.725	0.53	0.816	0.59
5	BAU	1.969	0.31	2.144	0.47	2.364	0.58	2.872	0.63
	ACC	1.969	0.31	2.534	0.48	2.772	0.60	2.742	0.67
6	BAU	3.992	0.43	4.245	0.54	4.412	0.61	4.428	0.86
	ACC	3.992	0.43	5.046	0.54	5.103	0.64	4.166	0.91
6A	BAU	3.753	0.29	5.938	0.35	7.195	0.44	6.774	0.71
	ACC	3.753	0.27	7.141	0.34	8.846	0.45	7.368	0.79
7	BAU	1.724	0.47	1.661	0.55	1.868	0.61	2.452	0.69
	ACC	1.724	0.47	1.978	0.56	2.206	0.62	2.424	0.70
8 & 9	BAU	0.049	0.77	0.037	1.04	0.034	1.23	0.036	1.61
	ACC	0.049	0.77	0.045	1.04	0.042	1.23	0.038	1.81
10	BAU	0.716	0.78	0.747	0.70	0.843	0.70	1.117	0.80
	ACC	0.716	0.78	0.901	0.70	0.976	0.73	1.101	0.81
11	BAU	0.0	--	0.003	5.78	0.007	5.80	0.010	5.79
	ACC	0.0	--	0.003	5.78	0.008	5.80	0.010	5.79
11A	BAU	0.0	--	0.0	--	0.064	0.89	1.847	0.92
	ACC	0.0	--	0.0	--	0.627	0.85	3.199	0.88
Sum of Additions:									
	BAU	13.039		15.976		18.282		21.653	
	ACC	13.059		19.297		22.487		23.466	

1/ Volumes in trillions of cubic feet, "prices" in cents per Mcf (constant 1973 dollars).

2/ Business as Usual Scenario.

3/ Accelerated Development Scenario.

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TABLE II-12
Total Non-Associated Natural Gas
Production Possibilities
BAU^{1/}

<u>Price</u> ^{2/}	<u>1974</u>	<u>1977</u>	<u>1980</u>	<u>1985</u>
@ 40¢ (or less)	16.522	15.222	13.337	9.483
@ 60¢ (or less)	16.670	15.847	16.028	16.655
@ 80¢ (or less)	16.670	16.073	16.389	18.139
@ \$1.00 (or less)	16.670	16.075	16.394	18.152
@ \$2.00 (or more)	16.670	16.075	16.400	18.172

AD^{1/}

<u>Price</u>	<u>1974</u>	<u>1977</u>	<u>1980</u>	<u>1985</u>
@ \$0.40 (or less)	16.552	15.284	13.652	9.100
@ \$0.60 (or less)	16.670	16.029	17.781	19.260
@ \$0.80 (or less)	16.670	16.265	18.096	21.344
@ \$1.00 (or less)	16.670	16.267	18.103	21.348
@ \$2.00 (or more)	16.670	16.267	18.110	21.371

^{1/} ° Production projections are given for the lower 48 states, Alaska and for the natural gas from tight reservoirs.

° Production is given in trillion of cubic feet.

° AD = Accelerated Development

^{2/} Prices are given in cents per MCF, (in constant 1973 dollars)

1/ Volumes in trillions of cubic feet, "prices" in cents per Mcf (constant 1973 dollars).
 2/ Business as Usual Scenario.
 3/ Accelerated Development Scenario.

23.456

22.487

15.117

13.059

ACC

TABLE II-13
Total Associated - Dissolved Natural Gas Production
Possibilities BAU^{1/}

Minimum Acceptable Oil Price ^{2/}	1974	1977	1980	1985
\$ 4.00	3.665	3.167	3.546	3.999
\$ 7.00	3.665	3.365	4.003	5.824
\$11.00	3.665	3.479	4.328	6.633

AD ^{1/}

Minimum Acceptable Oil Price ^{2/}	1974	1977	1980	1985
\$ 4.00	3.665	3.327	3.803	5.190
\$ 7.00	3.665	3.533	4.424	6.357
\$11.00	3.655	3.539	4.553	7.978

^{1/} Production projections are given for the lower 48 states and Alaska.

° AD = Accelerated Development

° Production is given in trillion of cubic feet per year

^{2/} Minimum acceptable oil price is given in constant 1973 dollars per barrel, inasmuch as associated--dissolved natural gas is produced in conjunction with crude oil.

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The analyses lead to the following conclusions:

1. Because of the long lead-times required to bring natural gas production on stream, and because of anticipated declining finding rates, non-associated gas production from the lower 48 states should continue to decline until nearly 1980, regardless of price.

2. At a minimum acceptable price of \$1.00 per MCF under BAU conditions, non-associated marketed production could increase from 16.7 TCF per year in 1974 to 18.1 TCF per year in 1985. The major sources of new gas would be in the offshore and onshore Gulf Coast region.

3. Under AD conditions, at a minimum acceptable price of \$1.00 per MCF, marketed production could reach 21.3 TCF per year in 1985. Among the sources of further increases in non-associated gas production over the BAU case would be the Atlantic and California OCS.

4. Associated-dissolved gas production levels from the lower 48 states and southern Alaska OCS would depend significantly on oil prices. The 1974 production levels of 3.7 TCF per year would be reduced in 1977 at prices of \$7 or less per barrel under both BAU and AD assumptions, but would increase in 1985. At \$11 per barrel oil prices, associated-dissolved gas production would increase substantially over \$7 levels.

5. Non-associated gas from both Alaskan regions and associated-dissolved gas from the North Slope could provide major quantities of new gas production. In 1974, this production amounts to only 0.1 TCF per year. At oil prices of more than \$7 per barrel, production under BAU conditions could reach 1.9 TCF per year in 1985, while production under AD conditions, with the development of NPR-4 and additional OCS leasing, could reach 3.6 TCF per year by 1985. The inclusion of transportation costs to the lower 48 states' markets would significantly affect prices.

6. Under the AD scenario, production of gas from tight formations would depend on successful development of recovery technology, but, if successful it could provide as much as 2.0 TCF per year in added gas production by 1985. The amount of gas recoverable from coal seams is forecast to be negligible.

7. If natural gas prices remain regulated at current levels, the outlook for increased gas supplies is not promising. At the current field price, wellhead production in 1985 could decline by over 6 TCF per year from 1974 levels (a decline of almost 30 percent). The share of natural gas in interstate markets would also be drastically reduced. The effects of price regulation predominantly impact non-associated gas.

Sensitivity analyses were performed to reflect uncertainties involved in estimating natural gas production. Finding rates were uniformly increased and decreased by 20 percent in these analyses, and discovery volumes differed from the BAU case by about 20 percent. Corresponding regional minimum acceptable prices were approximately 16-20 percent less with the higher finding rates and 24-28 percent higher with lower rates, indicating the considerable price sensitivity to finding rates.

In other sensitivity analyses, the after-tax rate of return on investment was set at 15 percent and 7.5 percent, resulting in price increases of 28-33 percent in the former case, and price decreases of 13 to 18 percent in the latter. Inclusion of lease bonus and rental costs increased prices by about 10 percent in onshore areas and by 36 to 265 percent, depending on the year and location in offshore areas, indicating the high degree of sensitivity of minimum acceptable prices.

Natural Gas

	Marketed Production	Domestic Producer Sales to Major Interstate Pipelines	Imports	
In billion cubic feet				
1972	January	1,934	1,036	117
	February	1,902	1,035	112
	March	1,937	1,001	88
	April	1,893	1,050	134
	May	1,867	1,045	111
	June	1,797	985	103
	July	1,837	1,013	102
	August	1,859	1,007	97
	September	1,854	970	114
	October	1,889	1,040	103
	November	1,896	1,041	111
	December	1,961	1,065	111
		YTD 22686		
1973	January	1,994	1,060	93
	February	1,821	963	84
	March	1,952	1,052	91
	April	1,854	1,007	88
	May	1,898	1,026	86
	June	1,839	963	79
	July	1,880	999	80
	August	1,896	994	85
	September	1,840	956	82
	October	1,875	1,001	91
	November	1,853	1,000	85
	December	1,926	1,033	89
		YTD 22648		
1974	January	1,944	1,033	86
	February	1,773	941	79
	March	1,907	1,027	85
	April	1,812	987	83
	May	1,853	981	80
	June	1,777	928	74
	July	1,827	947	74
	August	1,797	932	76
	September	1,761	871	70
	October	R1,775	936	83
	November	R1,735	921	82
	December	R1,800	959	87
		YTD 21761		
1975	January	R*1,794	950	R*81
	February	R**1,660		R**75
	March	**1,770		**80

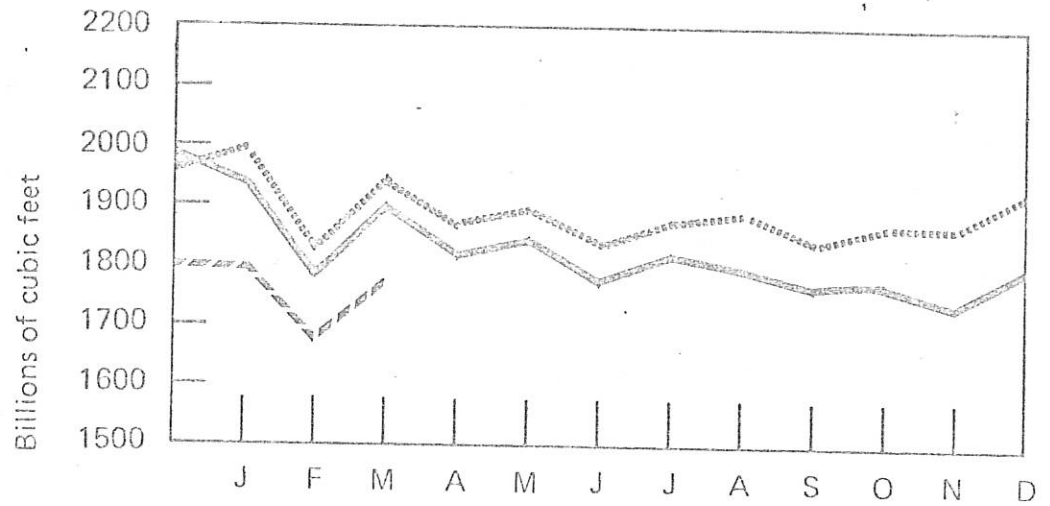
*Preliminary data.

**Projected data.

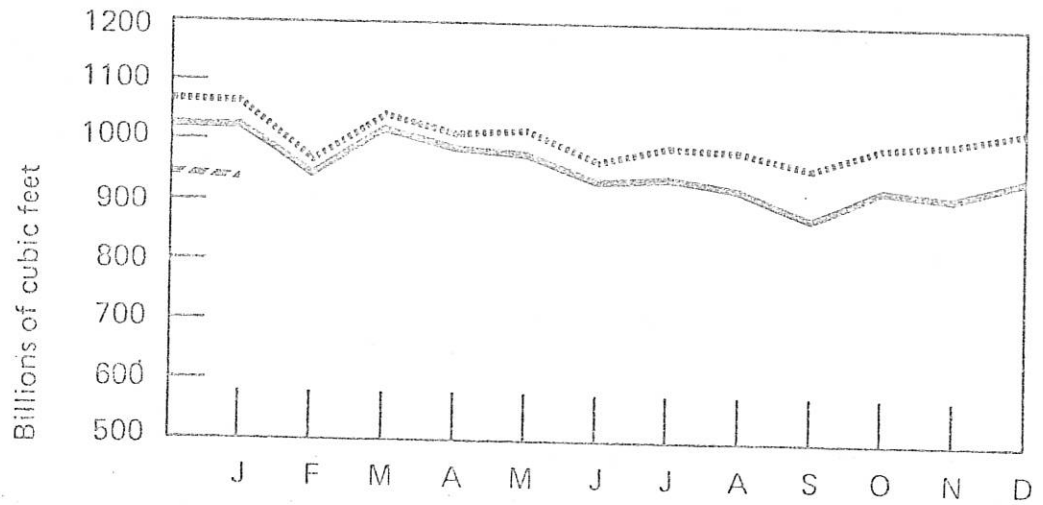
R- Revised data.

Sources: Marketed Production and Imports- Bureau of Mines. Domestic Producer Sales- Federal Power Commission.

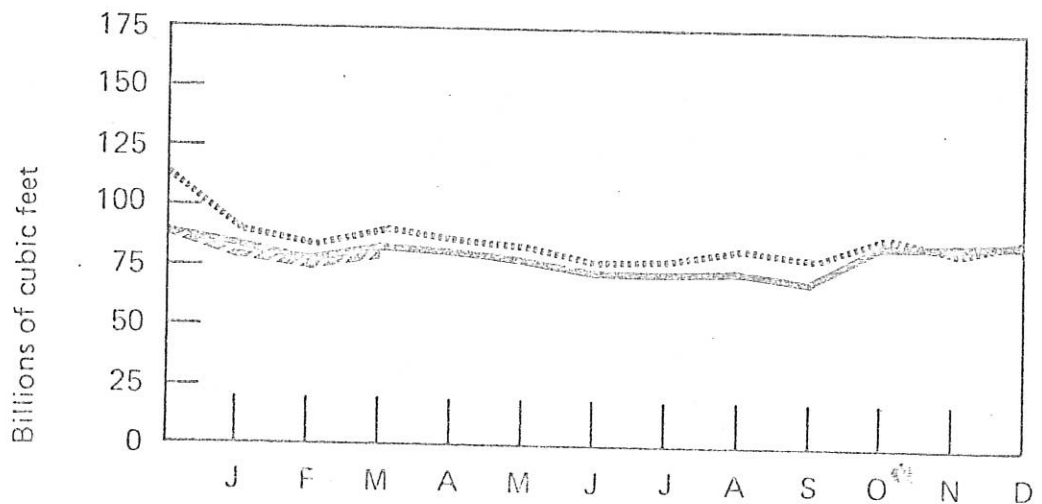
Marketed Production



Domestic Producer Sales to Major Interstate Pipelines



Imports



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 - - - - - 1975

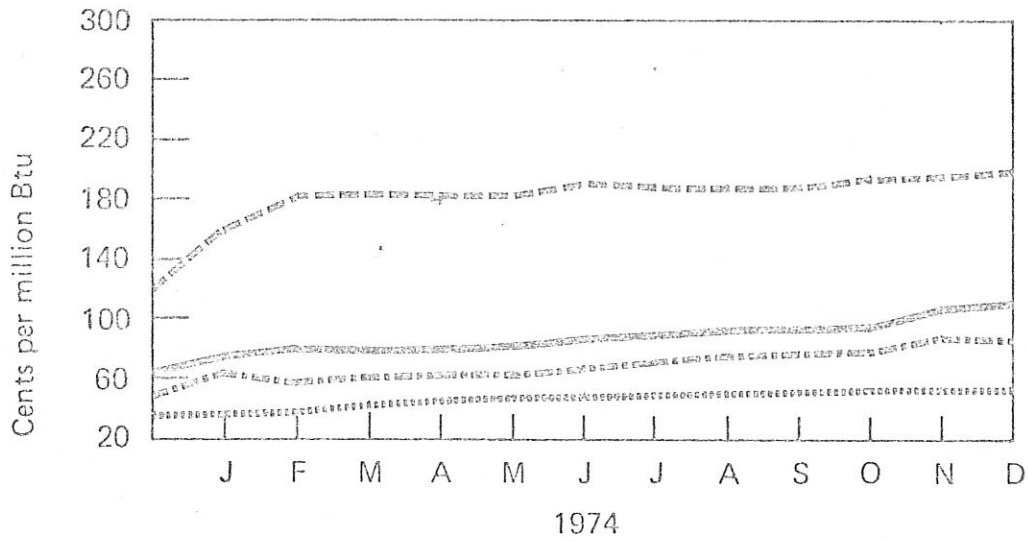
Natural Gas

Natural Gas Prices Reported by Major Interstate Pipeline Companies

	PURCHASES			SALES		
	From Domestic Producers	From Canadian and Mexican Sources	Total Purchases	To Industrial Users	To Resellers*	Total Sales
	Cents per thousand cubic feet					
1973 December	24.5	47.6	26.3	46.4	52.2	52.3
1974 January	24.3	42.7	25.7	48.1	55.0	55.1
February	25.4	43.2	26.8	49.8	56.4	56.4
March	25.7	43.2	27.0	50.8	56.9	56.9
April	25.8	46.4	27.4	49.3	57.6	57.4
May	25.7	49.3	27.5	49.9	58.6	57.9
June	26.0	47.7	27.5	50.8	59.4	58.5
July	26.3	58.7	28.6	52.5	62.0	61.1
August	26.1	57.5	28.4	55.2	64.4	63.5
September	27.3	58.8	29.5	54.7	65.2	64.3
October	27.5	58.9	29.9	56.3	64.4	64.0
November	28.5	70.9	31.7	58.7	66.8	66.6
December	32.6	74.5	35.8	60.3	67.2	67.4

* Includes the cost of gas to the distributing utility at entrance of distribution system or point of receipt.
Source: Federal Power Commission.

National Average



- All fossil fuels
- Coal
- Residual fuel oil
- Natural gas

NATURAL GAS STATISTICS BY STATE
(As Compiled by Senator James Buckley, New York)

	UNITS	NATIONAL	ALA.	ALASKA	ARIZ.	ARK.	CALIF.	COLO.	CONN.	DEL.
NUMBER OF USERS	Thousands									
--Residential		40,670.6	577.5	19.0	511.0	424.7	6,067.0	650.6	361.8	77.7
--Commercial		3,392.0	42.8	3.2	42.3	48.4	364.7	73.5	29.5	5.3
--Industrial		248.5	1.2	.1	2.7	2.4	11.8	2.5	2.6	0.2
AVERAGE ANNUAL BILL	\$/Year									
--Residential		170	154	371	127	124	145	156	246	217
--Commercial		749	700	1,450	500	450	570	680	1,060	950
--Industrial		23,829	76,600	62,000	24,600	48,100	40,200	23,600	13,000	45,400
FRACTION OF HOMES WITH GAS	%	62	55	26	79	65	87	85	35	44
GAS SHARE OF TOTAL ENERGY	%	40.5*	20	40	44	54	44	43	9	15
COST OF ENERGY	\$/10 ⁶ BTU									
Natural Gas:										
--Residential		1.42	1.39	1.42	1.29	.87	1.10	.82	2.40	1.82
--Commercial		1.10	.89	1.07	.77	.64	.80	.65	1.87	1.38
--Industrial		.68	.48	.38	.49	.40	.49	.36	1.33	.66
Heating Oil:	\$/10 ⁶ BTU									
--Residential		2.54	2.40	----	----	----	1.76	2.29	2.25	2.30
Electricity:	\$/10 ⁶ BTU									
--Residential		9.65	5.37	8.94	7.29	6.59	7.24	7.57	8.85	9.16
--Commercial		9.73	6.22	9.57	6.25	6.36	6.22	6.06	8.00	7.91
--Industrial		5.28	2.82	5.85	4.17	3.35	3.54	3.86	5.62	5.06
ESTIMATED 1985 PRICE WITH WELLHEAD DEREGULATION	\$/Year 10 ⁶ BTU									
--Natural Gas		3.96	3.53	3.87	3.53	3.58	3.87	3.63	5.20	4.29
--Heating Oil		5.30	5.14	5.60	4.95	5.14	5.60	4.95	5.39	5.39
--Electricity		21.74	19.99	20.53	22.61	20.21	20.63	22.61	28.19	20.74
PREDICTED 1975 CURTAILMENTS	(BCF)*	2900	68.25	0	89.64	204.10	1,707.87	0	5.44	80
1975 CURTAILMENT AS SHARE OF NORMAL USAGE	%	16	22.1	----	33.6	45.5	10.2	----	7.6	3.4
1975 CURTAILMENT AS SHARE OF TOTAL USAGE	%	10	16.4	----	26.3	34.6	7.2	----	5.4	1.8
SHARE OF HOMES SERVED BY FIRMS WITH NEW SERVICE PROHIBITIONS	%	44	3	0	66	----	----	89	32	100

	UNITS	FLA.	GA.	HAWAII	IDAHO	ILL.	IND.	IOWA	KANS.	KY.
NUMBER OF USERS	Thousands									
--Residential		395.0	802.6	31.1	94.5	2,871.9	1,071.4	605.2	625.6	547.1
--Commercial		26.8	63.1	2.3	12.6	213.7	107.8	71.7	55.1	53.4
--Industrial		0.7	5.9	1.7	0.4	18.0	4.2	2.0	8.3	1.1
AVERAGE ANNUAL BILL	\$/Year									
--Residential		112	166	130	219	227	213	207	141	165
--Commercial		1,210	690	810	830	1,090	840	760	450	620
--Industrial		102,800	21,700	2,900	59,900	18,600	48,500	43,900	17,800	43,000
FRACTION OF HOMES WITH GAS	%	15	59	20	32	75	57	63	82	58
GAS SHARE OF TOTAL ENERGY	%	20	25	2	25	34	24	39	66	22
COST OF ENERGY	\$/10 ⁶ BTU									
Natural Gas:										
--Residential		2.21	1.27	3.51	1.59	1.18	1.19	1.16	.77	.98
--Commercial		1.26	.92	2.39	1.16	.89	.97	.87	.59	.82
--Industrial		.49	.54	2.27	.52	.66	.59	.50	.35	.57
Heating Oil:										
--Residential		2.50	2.00	-----	2.50	2.43	2.43	2.20	2.20	2.40
Electricity:										
--Residential		6.52	5.80	8.99	4.60	8.63	6.77	7.94	6.85	5.84
--Commercial		6.95	6.46	10.80	4.19	7.67	6.78	7.88	5.98	3.85
--Industrial		4.07	3.47	5.27	1.90	3.98	3.76	4.12	3.54	2.49
ESTIMATED 1985 PRICE WITH WELLHEAD DEREGULATION	BTU. \$/Year									
--Natural Gas		4.29	4.29	3.87	3.63	3.80	3.80	3.67	3.67	3.53
--Heating Oil		5.39	5.39	4.61	4.96	5.36	5.36	5.36	5.36	5.14
--Electricity		20.75	20.74	20.63	22.61	19.50	19.50	19.50	20.43	19.99
PREDICTED 1975 CURTAILMENTS	(BCF)*	48.66	20.47	0	3.70	411.80	251.48	17.61	52.60	21.74
1975 CURTAILMENT AS SHARE OF NORMAL USAGE	%	23	5.9	-----	7.0	26.6	32	5.4	9.8	10.4
1974 CURTAILMENT AS SHARE OF NORMAL USAGE	%	17.3	4.2	-----	5.0	21	25.2	3.8	6.8	7.4
SHARE OF HOMES SERVED BY FIRMS WITH NEW SERVICE PROHIBITIONS	%	22	3	-----	-----	57	55	76	3	35

	UNITS	LA.	MAINE	MD.	MASS.	MICH.	MINN.	MISS.	MO.	MONT.
NUMBER OF USERS	Thousands									
- Residential		811.3	18.2	722.4	1,007.7	2,045.0	638.4	335.6	1,072.1	152.9
- Commercial		63.2	1.2	47.8	64.7	174.6	56.3	34.7	85.7	18.2
- Industrial		2.7	2.50	5.7	8.2	10.9	5.6	1.5	4.2	.6
AVERAGE ANNUAL BILL	\$/Year									
- Residential		97	159	204	255	234	247	121	202	195
- Commercial		320	1,080	670	1,260	1,190	1,022	390	780	740
- Industrial		83,400	N/A	11,400	6,600	27,400	18,600	47,500	20,300	32,200
FRACTION OF HOMES WITH GAS.	%	82	11	60	52	70	54	52	68	70
GAS SHARE OF TOTAL ENERGY	%	75	.5	17	12	32	31	58	32	26
COST OF ENERGY	\$/10 ⁶ BTU									
Natural Gas										
-- Residential		.95	3.70	1.68	2.35	1.16	1.30	1.12	1.13	.98
-- Commercial		.65	2.21	1.37	1.90	.95	1.04	.77	.73	.73
-- Industrial		.30	1.86	.80	1.11	.69	.52	.46	.49	.42
Heating Oil:										
-- Residential		1.95	2.11	2.58	2.63	2.45	2.53	2.27	2.60	-----
Electricity:										
-- Residential		6.50	8.11	8.00	9.41	7.45	7.47	5.53	7.76	6.46
-- Commercial		6.26	7.98	7.51	8.40	7.47	6.08	6.05	7.34	6.00
-- Industrial		2.87	3.85	4.50	5.89	4.22	4.36	3.50	4.39	1.55
ESTIMATED 1985 PRICE WITH WELLHEAD DEREGULATION	\$/Year									
- Natural Gas		3.58	5.20	4.29	5.20	3.80	3.67	3.53	3.67	3.63
- Heating Oil		5.14	5.39	5.39	5.39	5.36	5.36	5.14	5.36	4.96
- Electricity		20.21	28.19	20.74	28.19	19.50	20.49	19.99	20.48	22.61
PREDICTED 1975 CURTAILMENTS	(BCF)*	430.36	0	20.87	11.52	22.60	11.30	180.41	36.52	0
1975 CURTAILMENT AS SHARE OF NORMAL USAGE	%	44.3	-----	11.3	6.3	2.4	3.4	49.5	2.5	0
1974 CURTAILMENT AS SHARE OF NORMAL USAGE	%	34.2	-----	8	4.5	1.8	2.4	40.2	1.7	0
PERCENTAGE OF HOMES SERVED BY FIT WITH NEW SERVICE PROVISIONS	%	-----	87	99	41	6	12	0	11	0

	UNITS	NEBR.	NEV.	N.H.	N.J.	N.M.	N.Y.	N.C.	N.D.	...
NUMBER OF USERS	Thousands									
--Residential		349.0	97.8	41.3	1,620.7	254.2	3,916.9	295.5	63.9	2,561.4
--Commercial		43.5	7.9	4.0	178.0	24.0	257.3	37.8	8.0	198.1
--Industrial		9.0	.1	.2	6.2	3.3	13.9	2.5	.3	6.8
AVERAGE ANNUAL BILL	\$/Year									
--Residential		197	180	250	202	150	----	185	212	223
--Commercial		640	1,080	1,030	620	490	----	670	1,180	1,028
--Industrial		6,600	369,900*	17,400	13,500	11,500	----	34,400	8,600	52,700
FRACTION OF HOMES WITH GAS	%	72	39	17	73	78	71	15	32	77
GAS SHARE OF TOTAL ENERGY	%	52	27	7	19	50	17	12	13	31
COST OF ENERGY	\$/10 ⁶ BTU									
Natural Gas:										
--Residential		1.06	1.46	2.02	1.88	.95	1.70	1.49	1.14	1.08
--Commercial		.84	.94	1.76	1.54	.70	1.41	1.26	.74	.90
--Industrial		.45	.50	.97	.81	.36	.97	.66	.52	.66
Heating Oil:										
--Residential		1.85	----	2.52	2.40	3.38	2.80	2.53	----	2.20
Electricity:										
--Residential		6.19	4.56	8.20	9.52	8.01	10.30	6.12	7.56	7.11
--Commercial		5.21	5.24	8.65	8.65	6.12	9.95	5.31	6.82	6.63
--Industrial		3.72	2.75	4.45	5.15	3.53	4.18	3.20	6.00	3.08
ESTIMATED 1985 PRICE WITH WELLHEAD DEREGULATION	\$/Year									
--Natural Gas		3.67	3.63	5.20	4.51	3.63	4.51	4.29	3.67	3.80
--Heating Oil		5.36	4.96	5.39	5.18	4.96	5.18	5.39	5.36	5.36
--Electricity		20.48	22.61	28.19	27.65	22.61	27.65	20.74	20.48	19.50
PREDICTED 1975 CURTAILMENTS (BCF)*		5.22	1.96	.65	150.85	23.91	158.24	94.98	----	79.77
1975 CURTAILMENT AS SHARE OF NORMAL USAGE	%	2.5	2.6	5.5	33.5	14.9	20.5	37.8	----	6.0
1974 CURTAILMENT AS SHARE OF NORMAL USAGE	%	1.7	1.9	3.9	27.3	11.1	16.2	29.6	----	5.0
SHARE OF HOMES SERVED BY PIPES WITH NEW SERVICE CONNECTIONS	%	9	----	47	100	0	100	76	----	56

	UNITS	OKLA.	OREG.	PENN.	R. I.	S. C.	S. D.	TENN.	TX.	UTAH
NUMBER OF USERS	Thousands									
-Residential		556.9	223.6	2,137.9	150.9	251.9	81.9	424.5	2,603.0	111.0
-Commercial		66.6	27.1	147.9	9.2	26.2	10.3	53.2	241.0	19.5
-Industrial		4.2	.6	8.6	1.6	1.2	.3	2.9	27.7	.7
AVERAGE ANNUAL BILL	\$/Year									
-Residential		134	220	231	232	164	202	144	114	172
-Commercial		450	780	980	980	648	830	750	350	495
-Industrial		19,700	79,300	36,600	6,100	63,000	17,500	29,800	27,600	36,600
PERCENTAGE OF HOMES WITH GAS	%	99	24	55	47	27	40	33	79	82
AS SHARE OF TOTAL ENERGY	%	65	15	21	12	21	16	23	66	35
COST OF ENERGY	\$/10 ⁶ BTU									
Natural Gas:										
--Residential		.87	1.65	1.41	2.33	1.65	1.19	1.09	1.00	.79
--Commercial		.61	1.37	1.13	1.96	1.07	.80	.91	.64	.58
--Industrial		.30	.59	.73	1.37	.59	.42	.49	.31	.33
Heating Oil:										
--Residential		2.35	2.07	2.54	2.11	2.20	2.25	2.32	2.50	1.89
Electricity:										
--Residential		6.80	3.89	8.36	9.53	6.27	7.36	3.90	6.20	6.53
--Commercial		3.72	3.94	7.51	7.84	5.45	7.84	5.08	5.26	5.76
--Industrial		1.06	1.34	4.38	5.79	2.89	4.82	2.45	2.69	3.85
ESTIMATED 1985 PRICE WITH FULL-SCALE DEREGULATION	\$/Year									
Natural Gas		3.58	3.87	4.51	5.20	4.29	3.67	3.53	3.58	3.63
Heating Oil		5.14	5.60	5.18	5.39	5.39	5.36	5.14	5.14	4.96
Electricity		20.21	20.63	27.65	28.19	20.74	20.48	19.99	20.21	22.61
PREDICTED 1975 CURTAILMENTS	(BCF)*	9.78	6.74	159.98	1.74	18.15	.07	61.29	32.60	----
1975 CURTAILMENT AS SHARE OF NORMAL USAGE	%	2.7	7	17	7	11	.1	20	1.7	----
1974 CURTAILMENT AS SHARE OF NORMAL USAGE	%	1.7	4.9	13.4	5.5	7.8	.1	14.6	1.1	----
PERCENTAGE OF HOMES SERVED BY FIRMS WITH NEW SERVICE PROVISIONS	%	----	91	90	92	76	37	58	----	----

	UNITS	VT.	VA.	WASH.	W.V.	WIS.	WYO.
NUMBERS OF USERS	Thousands						
--Residential		15.9	436.8	304.3	356.7	853.0	83.1
--Commercial		.9	43.3	37.8	31.7	69.3	10.5
--Industrial		2.50	2.8	1.2	.5	8.5	.3
AVERAGE ANNUAL BILL	\$/Year						
--Residential		190	213	226	169	229	155
--Commercial		1,150	900	1,000	62.0	1,024	540
--Industrial		----	17,100	63,000	121,900	17,700	68,500
FRACTION OF HOMES WITH GAS	%	2	33	23	69	50	77
GAS SHARE OF TOTAL ENERGY	%	4	14	13	21	27	37
COST OF ENERGY	\$/10 ⁶ BTU						
Natural Gas							
--Residential		1.89	1.69	1.50	.93	1.40	.74
--Commercial		1.76	1.22	1.02	.72	1.09	.57
--Industrial		.58	.67	.51	.61	.65	.30
Heating Oil:							
--Residential		1.87	2.25	2.73	2.25	2.49	2.11
Electricity:							
--Residential		7.60	6.47	3.15	6.82	7.40	6.84
--Commercial		7.86	5.92	3.53	6.31	7.99	5.01
--Industrial		5.21	3.55	.98	3.20	4.61	3.08
ESTIMATED 1985 PRICE WITH WELLHEAD DEREGULATION	\$/Year						
--Natural Gas		5.20	4.29	3.87	4.29	3.87	3.63
--Heating Oil		5.39	5.39	5.60	5.39	5.36	4.96
--Electricity		28.19	20.47	20.63	20.74	20.63	22.61
PREDICTED 1975 CURTAILMENTS	(BCF)*	0	40.43	3.70	20.65	.34	3.26
1975 CURTAILMENT AS SHARE OF NORMAL USAGE	%	----	21.9	2.2	11.3	.1	4.2
1974 CURTAILMENT AS SHARE OF NORMAL USAGE	%	----	16.1	1.4	8.1	.1	2.9
SHARE OF HOMES SERVED BY PLANTS WITH NEW SERVICE CAPABILITIES	%	----	85	2	85	25	----

*Billion Cubic Feet per Year

* Exclusive of That used for Transportation

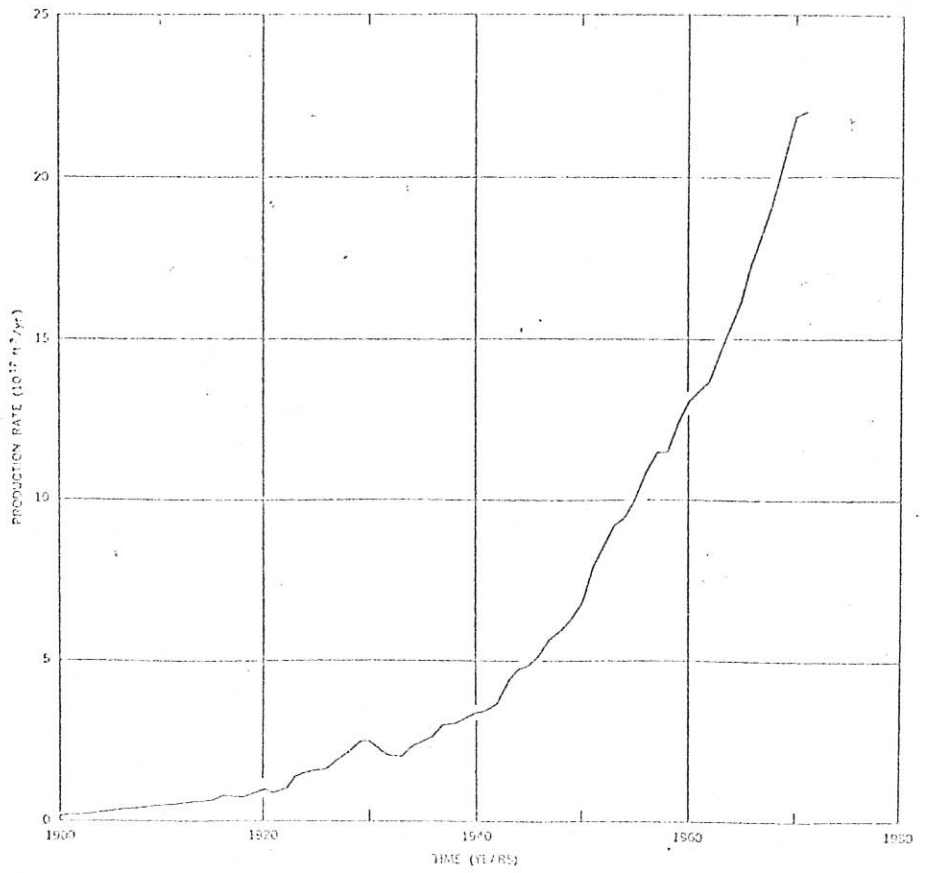


FIGURE 13.—U.S. natural-gas production.

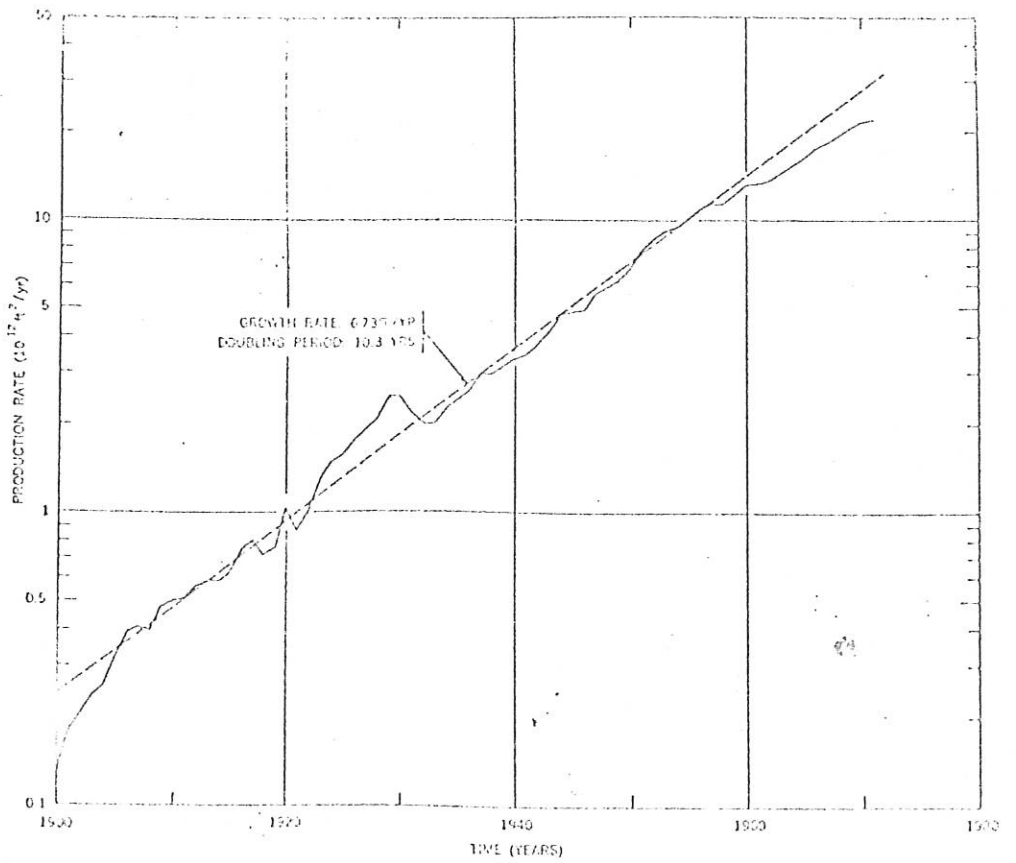


FIGURE 14.—U.S. natural-gas production. (Semilogarithmic scale.)

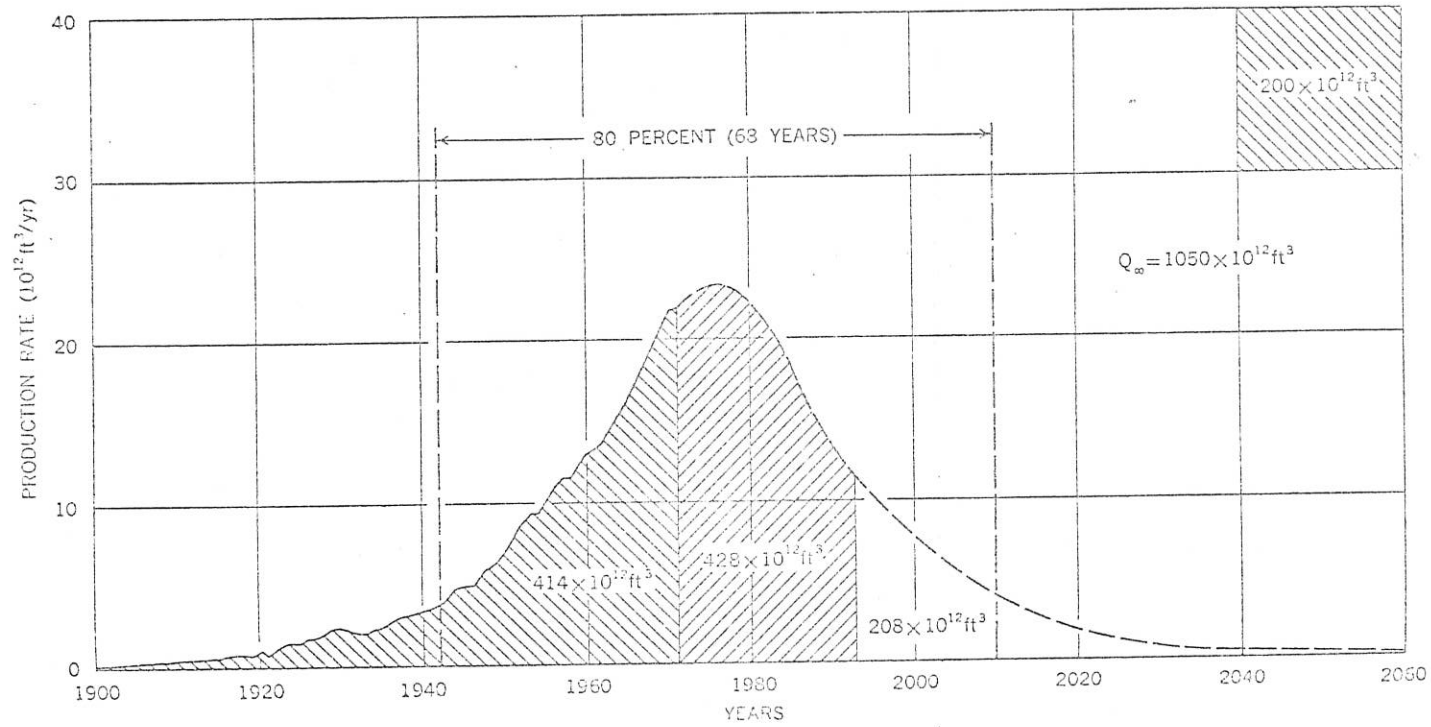


FIGURE 64 - Estimate as of 1972 of complete cycle of natural gas production in contiguous United States

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NATURAL GAS PRICING; ANOTHER PIECE OF THE BULLET

The Congress, in a veritable flurry of energy-relevance, has produced no less than three significant attempts at energy legislation in the past week. Two have been discussed elsewhere in this report, and the third is the Natural Gas Production and Conservation Act of 1975, reported to the Senate floor by the Commerce Committee. Basic provisions of the initial draft were reported in the Energy Report to the States of December 19, 1974. The version approved by the Commerce Committee follows the philosophy of the earlier draft, with considerable technical improvement.

Major Provisions:

1. Defines a new basis for regulation of all new natural gas prices (inter- and intra-state) based on "current and prospective real costs" over five-year periods.
2. Creates special prices for "small" and/or "independent" producers.
3. Establishes priorities for interstate gas.
4. Requires preferential pricing for residential and small users.
5. Prohibits use of new gas as boiler fuel and requires phase-out of such use of old gas.
6. Prohibits joint ventures among major oil companies.
7. Places syngas plants selling gas interstate under FPC jurisdiction and allow special prices for syngas and LNG.

The major impacts, and the basis on which the bill's future hinges are the price provisions. Table 7 below lists the four-tier price scheme the bill would implement. The scheme is technically complicated, but not philosophically so. Essentially the bill requires the FPC to set a new "National Base Price" on the basis of "...current and prospective real costs of production over the next five year period...". This is a distinct change from the historical cost-basis on which natural gas prices are currently set by FPC. Area prices for "high-cost production" can also be set by FPC.

The second key pricing factor is that certain classes of producers and certain types of natural gas resources are given higher prices. The national rates (including the high-cost production rates) are identified in Table 7 as "Tier 3" (The table is ordered by decreasing price).

The impact would definitely be to significantly increase price. The national base rate would initially be set by FPC between 40 and 75¢/MCF. The rate would be revised every five years (the 40¢-75¢ limit apply only the first time). The base rate for any year would apply to new contracts signed that year. The base rate would be automatically inflated annually (between five-year re-setting) on the basis of national inflation rates. In addition, any contract signed on the basis of the base rate could contain a price increase clause allowing up to a 2% annual price increase.

Much has been said about the fact that the bill contains limits on the allowable price of gas, but these limits are not particularly significant, because:

MAGNUSON/HOLLINGS NATURAL GAS BILL:
NATURAL GAS PRODUCTION AND CONSERVATION ACT OF 1975

Producer Price Tiers

TABLE 7

Tier	Price Level	Producer Class	Resource Class
1	Oil Parity	Independent	New, Non-associated, Onshore
2	Fifty percent over Tier 3	Small	New
3	Adjusted National Base Price or Special High-Cost Rate	Other	Other
4	Cost Based	All	New

Definitions and Notes:

1. New intrastate gas would be required to comply with the new interstate gas price tiers.
2. "Independent" means any producer not a "major integrated petroleum company."
3. "Major Integrated Petroleum Company" means a company which owns or controls assets in excess of \$1 billion and is engaged in production and refining, transporting, or marketing of crude oil or refined product.
4. "Small" means a producer who:
 - a. is not engaged in the transportation by pipeline of natural gas in interstate or intrastate commerce; and
 - b. is not an affiliate of such a person; and
 - c. has not and is not (in combination with all affiliates) producing 10 billion cubic feet of natural gas in any calendar year after 1973.
5. "New" gas means gas which FPC determines was not dedicated to inter- or intrastate commerce prior to 1/1/75.
6. "Non-associated" means produced from gas wells but not oil wells.
7. A producer may, during the life of a Tier 3 contract, request a price increase to cover production costs and a just and reasonable rate of return.
8. "Oil Parity" means the average price of new domestic petroleum.
9. Plowback requirement; Tier 1 pricing for independents is contingent on their reinvesting all revenues in excess of 50¢/MCF within two years.

1. They apply only to gas priced under the Tier 3 provisions.
2. They apply to the first five year national base price, not to subsequent national base prices.
3. Even for Tier 3 prices, the statutory limits could be exceeded on a showing of cause.

The bill seems to be a classic compromise. It offers deregulation proponents (including the Administration) major regulatory reform and high natural gas prices. It offers deregulation opponents continued price regulation to prevent natural gas prices from soaring to petroleum parity. It offers the nation the prospect of continued exploration and development for an increasingly scarce and desirable resource. It offers key interest groups ("small" and "independent" producers, residential customers, agribusinesses) special provisions for either added revenues or guaranteed supply.

Indeed, a major danger appears to be the possibility that many people will oppose it without understanding it.

The bill would allow higher prices for natural gas. Few parties acquainted with the parameters of the situation seem eager to quarrel with this concept. Unfortunately, it is not possible to estimate "how much" higher, because it is not clear what volumes of gas will fall into each of the price tiers. New, non-associated, onshore gas produced by "independents" is effectively deregulated (Tier 1), while new gas produced by "small" producers (Tier 2) would be priced well above the price required to effectively maximize development rates (according to the FEA Project Independence Report among others). The price of "old" (Tier 4) gas would probably increase somewhat, particularly for "small producers".

A key factor here is the heavy reliance on the judgemental capabilities of the Federal Power Commission which would be given the task of interpreting the definitions and terms used in the bill. In some cases, the definitions are sufficiently vague to give a bureaucrat nightmares, but there are limits to the desirable specificity of a statute.

Big is Bad

Like most current energy legislation, the bill contains numerous provisions designed to benefit the "small" and/or "independent" operator at the cost of the "large" or integrated firm. In this case the provisions are made quite explicit, with no apparent attempt at subtlety. In addition to the special prices allowed "small" and/or "independent" producers, there is a separate section relating to joint ventures, the key feature of which is a prohibition on joint ventures among major oil companies, (meaning domestic liquids production in excess of 36.5 million barrels or natural gas sales of 200 billion cubic feet annually).*

The FPC would be authorized to approve such prohibited joint ventures where it would be "...consistent with the policy of maximizing competition in the petroleum sector of the economy...". Such approval could be of general or specific applicability, as the Commission determined.

*Actually, the current language (sec. 210 (b)(1)) would prohibit joint ventures between majors and minors, but when this was pointed out to committee staff, they responded that that was not the intent, and that the language would be modified.

SUMMARY OF PROPOSED SUBSTITUTES FOR S692

"THE NATURAL GAS PRODUCTION AND CONSERVATION ACT OF 1975"

-Prepared by: R.G. Jones, National Conference of State Legislatures

<u>SPONSOR</u>	<u>AMNDT. NO.</u>	<u>MAJOR PROVISIONS</u>								
Fannin	703	Wellhead deregulation for New Gas.								
Pearson	586	Wellhead deregulation for New Gas <u>except</u> federal OCS. Require full delivery on existing contracts. Establish national ceiling price for federal OCS gas. Establish priority for "essential agricultural, food processing or packaging purposes:..." Phase out boiler fuel use.								
Tunney	554	Wellhead deregulation for New Gas <u>except</u> federal OCS. Establish priority for agricultural uses (very broad definition).								
Stevens	272	Deregulate New Gas under a national ceiling through 12/31/78. National ceilings: <table style="margin-left: 40px;"> <tr> <td>enactments</td> <td>to</td> <td>12/31/76</td> <td>50-90¢/MCF</td> </tr> <tr> <td>1/1/77</td> <td>to</td> <td>12/31/78</td> <td>70¢-\$1.35/MCF</td> </tr> </table>	enactments	to	12/31/76	50-90¢/MCF	1/1/77	to	12/31/78	70¢-\$1.35/MCF
enactments	to	12/31/76	50-90¢/MCF							
1/1/77	to	12/31/78	70¢-\$1.35/MCF							

MEMORANDUM

FROM: Legislative Research Department August 11, 1975
TO: Special Committee on Natural Gas
RE: Responses to Committee Letter Sent to U.S. Senate

Summarized below are the responses received by Chairman Dyck as a result of the letter sent to all the U.S. Senators.

<u>Agree With Committee Letter*</u>	<u>Neutral or No Opinion</u>	<u>Disagree With Committee Letter</u>
19	12	3

* Agree with total deregulation, phased deregulation, or increased price for wellhead gas.

Attachment III-

STATEMENT OF
BERNARD E. NORDLING, SECRETARY
SOUTHWEST KANSAS ROYALTY OWNERS ASSOCIATION
HUGOTON, KANSAS 67951

August 11, 1975

To the Honorable Members of the
Interim Special Natural Gas Committee:

Gentlemen:

My name is Bernard E. Nordling of Hugoton. I am appearing before your committee as Executive Secretary of the Southwest Kansas Royalty Owners Association. Our association is a non-profit Kansas corporation, organized in 1948. We have a paid-up membership of over 2,000 members. Our membership is limited to landowners owning mineral interests in the Kansas portion of the Hugoton Field - lessors under oil and gas leases as distinguished from oil and gas lessees, producers, operators, or working interest owners. While membership in our organization is voluntary, our members own mineral interests in approximately 1,200,000 acres, or almost half of the producing acreage in the Hugoton Field.

GAS FIELDS IN SOUTHWEST KANSAS

There are five major gas fields located in the nine Southwest Kansas counties of Seward, Stevens, Morton, Stanton, Grant, Haskell, Finney, Kearny, and Hamilton counties. They are the Hugoton, Panoma Council Grove, Greenwood, Arkalon and Bradshaw Fields.

According to information furnished by the Conservation Division of the Kansas Corporation Commission, as of January 1, 1975, there were 5,210 producing gas wells located in these five fields. In 1974, these wells in the five fields produced 747,600,000 Mcf of natural gas, or 83.6% of the total 1974 natural gas production in Kansas of 894,300,00 Mcf. As shown by the chart below, the Hugoton Field, with its 3,939 wells, had gas production of 640,600,000 Mcf or 71.6% of the total 1974 gas production in Kansas.

1974 Gas Production

<u>SW Kansas Gas Field</u>	<u>No. of Wells</u>	<u>Gas Production in Mcf</u>	<u>Per Cent of Total Kansas Gas Production</u>
Hugoton	3,939	640,600,000	71.6%
Panoma	839	64,500,000	7.2%
Greenwood	266	31,600,000	3.5%
Arkalon	28	4,400,000	0.5%
Bradshaw	138	6,500,000	0.7%
	5,210	747,600,000	83.6%
Kansas 1974 Total Gas Production			874,300,000 Mcf

In the Kansas portion of the Hugoton Field, there are slightly over 2,500,000 producing acres. The field covers parts of nine Southwest Kansas counties of Seward, Stevens, Morton,

Stanton, Grant, Haskell, Finney, Kearny and Hamilton counties, and extends through the Oklahoma Panhandle into Texas. The Guymon-Hugoton Field has 1357 gas wells and encompasses 1,110,720 acres. The Texas portion of the Hugoton Field has 972 wells and covers 622,080 acres, making the total acres in the Hugoton Field of 4,232,800 acres and 6268 gas wells. The field extends about 150 miles north and south and forty to fifty miles east and west. Production of Hugoton pay gas is from a depth of between 2700 and 2900 feet. Within the confines of the Hugoton Field lies the Panoma Council Grove Field of approximately 1,000,000 acres producing gas from formations lying immediately below the Hugoton pay.

MAJOR CONCERNS OF SWKROA MEMBERS

Low Wellhead Interstate Producer Rates in the Hugoton Field

The amounts received by the producers for the delivery of gas in interstate commerce result from fiat issued by the federal government through its agency, the Federal Power Commission, enforcing its orders through an apparatus of coercion and compulsion designed to nullify market phenomena. These imposed rates are not even, by the FPC, referred to as prices and should not be confused with prices. Prices are by definition determined by peoples buying and selling, or abstention from buying and selling, and reflect supply and demand in a market economy. Bureaucratic regulation and edicts have nothing to do with such prices.

Since the leasehold structure is such that the parties to the lease intended that the landowner is to be paid royalty based on prices obtained or obtainable in a market, rather than an apparatus of coercion and compulsion, the landowners are not bound by the low rates created by such compulsion.

Members of our association have within the last several years established, after years of litigation in the federal courts, that they and their royalty payments are not subject to FPC regulation. Such low producer rates do, however, have an effect outside of the royalty payments on our members even if the leases and royalty payments are properly construed as not being subject to such regulation.

Although the landowners do not share in the profits of the lessee-producers and although the landowner's royalty is free and clear of the cost of production, the landowner is still interested in the economic welfare of the producers for other reasons, as I will explain.

The recognized discovery well in the Hugoton Field was drilled near Hugoton in 1927, with most of the development of the field taking place during the 1930's, 1940's and early 1950's. Since that time, most of the gas from the Hugoton Field has been transported out-of-state by interstate pipeline companies for the use and benefit of consumers residing in the north central

and eastern parts of our country, principally around the Detroit and Minneapolis areas. Consumers in the Denver area are also benefitting from our gas.

Federal Power Commission regulation of wellhead and field deliveries of gas have made it possible for out-of-state users to obtain what appeared to be unlimited quantities of gas from the Hugoton Field at artificially low regulated rates. This has hastened the depletion of our reserves and postponed the development of additional reserves or continued use of alternative fuel sources.

Bearing in mind that 71.6% of the total Kansas 1974 gas production came from the Hugoton Field, the amount paid the producer for most of the shallow Hugoton pay gas is 13.5¢ per Mcf, or less, possibly the lowest in the nation! The 13.5¢ figure represents the present area regulated rate for shallow gas in the Hugoton Field. The amount received by producers for Panoma Council Grove gas ranges from 18.5¢ per Mcf to in the neighborhood of 75¢ per Mcf, depending upon the size of the producing company and the date wells were commenced, even though the gas goes into the same pipeline from the same land at the same time. This demonstrates the utter artificiality of bureaucratic regulation.

By way of comparison, in January 1975, the national

average regulated rate paid for gas purchased by major interstate pipeline companies from domestic producers was 29.5¢ per mcf!

By way of further comparison, one barrel of fuel oil (42 gallons) is equivalent in heat energy to 5.8 mcf of natural gas. Natural gas, paid for at 13.5¢ per mcf at the wellhead, is equivalent to crude oil selling at the wellhead at 78¢ per barrel. Natural gas, at 13.5¢ per mcf, compares with fuel oil selling at 2¢ per gallon and electricity selling at 1/20 of 1¢ per kilowatt hour.

In 1954, when the Federal Power Commission asserted jurisdiction over producers selling gas to interstate pipeline companies, the average wellhead rate in the Hugoton Field was 11¢ per Mcf, as compared to crude oil selling at the wellhead for \$2.90 per barrel. The present wellhead rate being paid for Hugoton pay gas is slightly under 13.5¢ per mcf compared to the present posted field price for oil in Kansas of \$12.75 per barrel, the price of oil being four times as much as paid in 1974.

By doubling the wellhead rate for Hugoton pay gas which would still be below the national average, the economy of the State of Kansas would be enhanced many millions of dollars from the Hugoton Field alone. These additional revenues would not only give the State of Kansas more tax dollars, it would provide additional capital and economic incentive for the lessee-producer to explore and develop the deeper horizons underlying the 2,500,000 acres of the vast Hugoton Field.

Development of the Deeper Horizons Underlying the Hugoton Field

Much of the acreage in the Hugoton Field is held by oil and gas leases executed years ago with the primary terms of the leases long since expired. It is fortunate that the lease structure is such that royalty payments are not subject to regulated rates. If it were otherwise, landowners would be better off financially if the gas wells on their land were shut-in and they were compensated by shut-in royalty, as provided under lease terms, at the rate of 50¢ to \$1.00 per acre per year, in lieu of royalty payments.

Competent engineers and geologists have from time to time indicated that the deeper horizons underlining the Hugoton Field contain large untapped oil and gas reserves, as evidenced by scattered deep test wells and geological and engineering data. To date, some 103 oil fields and 63 small gas fields have already been discovered in the Hugoton Field area at depths below the Hugoton and Panoma gas zones. Yet much of the deeper horizons underlying the 2,500,000 acres in the Hugoton Field are unexplored or undeveloped.

Members of our association have for many years urged their lessees to explore the deeper horizons below the shallow Hugoton pay. However, the lessees generally refuse to do so giving as a reason that they dedicated to interstate pipeline

companies not only the gas to be produced from the shallow horizons but any natural gas that might later be discovered or produced from deeper horizons, and that FPC regulation has now made it impossible to shake any of the gas free of bureaucratically low rates. These dedications usually extend for the life of any present or future production. Because of FPC rate regulations, the lessees prefer to and do expend their exploratory funds in searching for oil and gas in foreign countries or for gas in areas where they can sell gas to the intrastate market without rate regulation.

Nationwide Rates for New Gas

In June, 1974, the Federal Power Commission established a single nationwide rate for new interstate natural gas at the producer's level. A single uniform national ceiling of 42¢ per mcf was established for all new gas produced from wells commenced on or after January 1, 1973, or for gas delivered under contracts executed on or after that date. By subsequent orders, the FPC has permitted the rate to be increased to 50¢ per Mcf effective as of June 1, 1974, and 51¢ per Mcf effective on January 1, 1975. Small independent producers are permitted to receive 150% of the nationwide rate subject to FPC approval.

As for old gas, the Federal Power Commission, in Docket No. R-478, issued a notice initiating a "Nationwide Rulemaking To

Establish Just And Reasonable Rates For Natural Gas Produced From Wells Commenced Before January 1, 1973." Almost a year and a half later, on September 12, 1974, the Commission issued a further notice of the staff's recommendation of 24.5¢ per Mcf for a nationwide rate for old gas. More than two years have now elapsed since the FPC issued its notice and yet no adjustment in rates for old gas has been made.

There is no justification for such an arbitrary position as to flowing gas. Obviously, old gas has the same worth to the consumer as new gas. An increase in rate for flowing gas in the Hugoton Field to the 51¢ per mcf nationwide rate for new gas would make available millions of dollars for additional exploration and development in this area.

S. 692

As you are aware, the United States Senate, following summer recess, will be considering S. 692, titled, "Natural Gas Production and Conversation Act of 1975." This consumer oriented bill is certainly not in the best interests of the citizens of Kansas. While there are many objectionable features to the bill, it is particularly unfair to producers in the Hugoton Field in that it freezes the rate of old natural gas, with relief granted only on a cost basis. It is also objectionable to the citizens of Kansas in that it extends the FPC apparatus of coercion and compulsion to the intrastate market.

Senator James B. Pearson, R-Kan., has a substitute bill which would deregulate all new onshore gas and phase out the regulation of offshore gas. Senator Pearson's bill is much more acceptable, but it does not purport to deregulate old gas, which we feel is necessary to eliminate the gross injustice being perpetrated in the Hugoton Field.

Possible Solution to Low Rates

Obviously, one solution to the problem is complete deregulation of both old and new gas. While I am well aware that the State of Kansas can do little in regulating and controlling the rates for natural gas flowing in interstate commerce, nevertheless, we can encourage our Congressmen and the Federal Power Commission to grant relief in this critical area.

While I am not advocating such action, one possible solution would be for the Kansas Corporation Commission, as a conservation measure, to reduce monthly allowables until the amounts being paid by the interstate pipeline companies are in line with rates reflecting actual supply and demand conditions.

Extension of the Life of the Hugoton Field

At the present time the projection of the life of the Hugoton Field has been estimated to be another ten to fifteen years. At the time of first production, the Hugoton Field had a wellhead pressure of between 390-430 psia.

The present field pressure is down to between 175 to 200 psia. Abandonment pressure of the field is estimated to be 50 psia, which will leave a substantial amount of gas in place.

It is my understanding that, depending upon the degree of technology and the rate paid by the pipeline company to the producer for the gas, it could be economically feasible to produce gas from the Hugoton Field at pressures much lower than 50 psia. In fact, I understand that vacuum pumps can be installed on wells and gas removed even below zero pressure. Thus, there is a good possibility the life of the Hugoton Field can be extended by several years if there is a substantial increase in the well-head rate for Hugoton pay gas and if there is the economic incentive for the producers to incur the additional expense of removing the gas by mechanical means.

Helium Waste

Another major concern of our members is the venting of helium to the atmosphere as a result of termination of the helium conservation contracts by the United States Government in 1971.

In 1957, a government report stated that 99% of the recoverable helium resources of the United States believed to be contained in the Hugoton Fields of Kansas, Oklahoma, and Texas, the Panhandle Field of Texas, the Keyes Field in Oklahoma, and the Greenwood Field in Kansas. As of that date, the Hugoton

Field and the Panhandle Field were estimated to contain more than 5,500,000 acres.

Helium in the four fields was being rapidly dissipated by being transported to fuel markets by interstate pipeline companies and vented to the atmosphere at the burner tip.

Because of increasing demands for helium, it was in short supply, and a helium conservation program was instituted by President Eisenhower and his cabinet through the Department of the Interior. In 1960, Congress passed the Helium Act Amendments, designed to conserve some 62 billion cubic feet of helium over a 22-year period.

This Act, and the appropriations implementing it, authorized the purchase or condemnation of a helium gas mixture at a cost of \$47,500,000 per year for 22 years, a total cost of one billion four hundred fifty million dollars. The Act contemplated the storage of a helium gas mixture and the sale of processed helium at a price which would amortize the entire cost of the helium program and repayment of appropriations, with interest.

In 1961, the United States Government executed contracts with Northern Helix, Cities Service Helix, National Helix, and Phillips Petroleum Company for delivery to the government of a helium gas mixture. These companies constructed plants and

in 1962 and 1963 commenced separation of helium-bearing natural gas pursuant to the contracts.

Helium is a unique element. It is colorless, odorless, and tasteless. It will not react chemically or physically with any other element, except under laboratory conditions. Helium is non-combustible. It is the second lightest element found on earth, next to hydrogen which is highly combustible.

Helium is the product of the disintegration of radioactive substances. It is found in the earth commingled with other gases, migrating to the same reservoir traps as do other gases. Through eons of time, helium has commingled with and become diffused with natural gas hydrocarbons, which were formed from organic materials of ages past.

Helium can be liquefied only at temperatures near absolute zero and lower than any other gas. When liquefied, it becomes a superfluid capable of rendering materials cooled by it perfect conductors of electricity. Its first use was as a lifting agent in balloons and lighter than air craft. Today it has a variety of uses and more uses are consistently being discovered. Helium is indispensable to the nation's atomic energy program, to its missile program and to its outer space program. Mixed with oxygen, helium is used for breathing by medical patients, divers and astronauts. It is used in heat

exchangers, special welding tasks, particularly those dealing with such inflammable substances as magnesium, and purging chemical systems.

After construction of the helium extraction plants, the helium conservation program ran smoothly for several years. However, in late 1968 and in 1969, the government encountered a number of budgetary problems because of competition by private industry. The government was also in arrears on its payments to the helium companies for delivered helium.

In 1970, when the government failed to pay for helium deliveries, Northern Helex declared its contract breached and filed suit against the government for such breach. However, for the next 18 months, Northern continued to produce crude helium which it stored at the government storage facility at Cliffside, Texas, under a storage agreement with the Bureau of Mines. Since September 28, 1972, Northern Helex has been venting most of the crude helium gas mixture into the air.

In January, 1971, the government gave notice to terminate its contracts with National Helium Corporation, Cities Services Helex Company, and Phillips Petroleum Company effective as of March 28, 1971. However, at the request of these three Helex companies, the termination was enjoined by the

Federal District Court in Wichita on the ground the Secretary of the Interior had not complied with the National Environmental Policy Act. Later, the Secretary filed an environmental statement which was approved in litigation ending in 1973. The amount of damages of the government's possible breach of the conservation contracts is still undetermined. The need for helium conservation is probably greater than ever. We will be out of helium in a few years if nothing is done, and Kansas will have lost a priceless natural resource. The valve through which crude helium was delivered by National Helium to the Bureau of Mines was turned off November 12, 1973. From 1962 to 1973, more than 34 billion cubic feet of helium were extracted and placed in government storage under the conservation contracts. Since that time, billions of cubic feet of this irreplaceable natural resource, helium, are being vented to the atmosphere and wasted annually.

One possible solution to the wasted helium is the establishment of a long-term national policy of helium management. In the meantime, support should be given to HR 1503, a bill introduced this session by Congressman Keith G. Sebelius, R-Kan., and supported by several of his colleagues. The bill is designed to authorize and direct the Secretary of the Interior to conserve and store helium in the existing federal underground storage facility for private helium extraction companies.

It is my understanding that the bill has the support of the Energy Research and Development Administration, a long-range agency of Congress, and that the Department of the Interior has reversed its position and is now in favor of the bill. Hopefully, hearings will be had this fall before the House Interior Committee. Support of this bill should be given by the Kansas Legislature and citizens of Kansas at the appropriate time.

Natural Gas for Irrigation Pumping

Another major concern of our members is the availability of natural gas for irrigation pumping. Many of our members are irrigation farmers or own land under irrigation. A substantial portion of the 2,500,000 acres in the Kansas portion of the Hugoton Field is under irrigation. One of the primary reasons for the development of this former "dustbowl" area has been the availability of natural gas to supply fuel for the irrigation engines.

Information furnished by the U. S. Geological Survey shows there are an estimated 15,000,000 irrigation wells in Kansas irrigating approximately 2,800,000 acres. Seven thousand of these irrigation wells are irrigating 1,400,000 acres in Southwest Kansas. Ninety percent of the irrigation wells are pumped by motors using natural gas. I understand that between one-fourth and one-third of the land over good sources of ir-

irrigation water is being irrigated. The potential of irrigated land in Kansas is between 8,000,000 and 10,000,000 acres.

It is estimated that irrigation in Kansas has increased the economy in the neighborhood of one billion dollars per year. Much of the increased production in Southwest Kansas would be lost if the land under irrigation would have to revert to dry land farming.

Irrigation has changed the semi-arid regions of Western Kansas to some of the most productive agricultural land in Kansas. This increased food production is necessary for the feeding of the rapidly increasing world population.

It is estimated the world population is increasing at the rate of eighty million people per year. This means in two and a half years, this increase is the equivalent of adding another country to the world population as large as the population of the United States. Kansas is doing more than its share in feeding the world but food production in Kansas will be drastically decreased if natural gas is not available as a fuel source to operate the irrigation engines.

As you are aware, the Federal Power Commission caused a great deal of concern and alarm throughout our area when it issued an order last December, in Docket No. RP 72-6

(El Paso Natural Gas Company), classifying natural gas for irrigation pumping as industrial use and subjecting irrigation farmers to interruptible gas service. Immediately after learning about the FPC ruling in February, 1975, the Board of Directors of our Association adopted a resolution protesting such classification. A copy of our resolution was mailed to the President of the United States, members of Congress, Federal Power Commission members, the Secretary of Agriculture, the Federal Energy Administrator, and the governors of the states located within the High Plains area. A copy of the resolution is attached for your reference.

While the FPC order applies only to El Paso's customers, nevertheless, it is our concern and the concern of irrigation farmers in the area that the order can directly affect all irrigation farmers in the United States who use natural gas as a fuel source.

Under its curtailment guidelines, the FPC places residential users and small commercial users in the top priority, or Priority 1. In the second priority are large commercial users. In the Priority 3 are all industrial users not included in Priority 2. The FPC El Paso order placed irrigation users in Priority 3.

In February and March, El Paso irrigation gas users in Texas, New Mexico, and Arizona filed motions to intervene, but the FPC ruled that it was too late to intervene except on a limited basis. The primary purpose of the new hearings was to ascertain whether El Paso had correctly determined that none of the volumes it delivers for irrigation purposes is classifiable as "process gas" includable within Priority 2. Representing the El Paso irrigation users were Southwest Natural Gas Consumers, Public Service Commission of the State of New Mexico, Tucson Gas and Electric Company, the Plains Irrigation Users Association, the State of Oklahoma, and the Arizona Fuel Users Association.

Hearings on the motions to intervene began April 8, 1975, and concluded on June 27, 1975, and were held in Phoenix, Arizona, Albuquerque, New Mexico, and Lubbock, Texas, in addition to Washington, D. C. The hearings were held before the Honorable Curtis L. Wagner, Jr., Presiding Administrative Law Judge. During the 39 days of hearings, 137 witnesses gave extensive and detailed testimony.

On July 22, 1975, Judge Wagner handed down his decision, ruling that all natural gas delivered by El Paso on its system for irrigation pumping is "process gas" and qualifies for

inclusion in Priority 2 of El Paso's curtailment plan.

Among the findings of Judge Wagner are the following:

"The Presiding Judge finds that all natural gas used for agricultural irrigation pumping purposes on the El Paso Natural Gas Company system meets the criterion for "process gas" because of the extremely high cost of conversion to alternate fuels coupled with the physical nonavailability of alternate fuels in the foreseeable future... ."

"The cost to convert the engine or purchase a new engine, together with the cost of fuel supply tanks is prohibitive to most farmers and would force them out of business in most instances. Farmers are unique in the business world in that they cannot pass on increased cost of doing business, including costs of conversion and resulting increased cost of operation... ."

"Aside from the extremely high actual dollar economic cost of conversion, an adequate supply of gasoline and/or diesel oil in the involved areas of the Southwest to meet the needs of irrigation farmers should conversion become necessary is just not available... ."

"There is no answer for the irrigation farmers in Arizona, New Mexico, and Texas in the foreseeable future except natural gas. It is clear beyond any doubt that any curtailment will be disastrous to the irrigation farmers not only causing severe crop damage, but rendering it impossible for him to get the necessary financing to put the crop in to start with. Consequently, he is faced with three alternative courses of action. One, he can fold up his tent, sell his land if he can find a buyer, and call it quits. Two, he can go to dry-land farming, except in Arizona where there is no dry-land farming whatsoever, with tremendous drops in per acre yields making the profitability of the

operation decidedly questionable. Three, he can change to another fuel for his irrigation pumping which will raise the cost of pumping to a point that the return realized on the farming operation will be noncompensatory by either converting his existing engine or by purchasing a new engine with financing for either being doubtful, and the availability of the other fuels being nonexistent at the present time."

The Federal Power Commission has thirty days within which to appeal Judge Wagner's ruling. If no appeal is taken, the change in priorities will go into effect as determined by Judge Wagner.

To my knowledge, no Kansas irrigation users are involved in the El Paso proceeding. However, there are Kansas irrigation farmers who will be affected by the Cities Service Company curtailment proceedings being had in FPC Docket No. 75-62. The Southwest Kansas Irrigation Association, and the Texas County Irrigation and Water Resources Association headquartered in Guymon, Oklahoma, have intervened and will introduce testimony on behalf of irrigation farmers. I understand the State of Kansas and the State of Oklahoma have also intervened or will be intervening in the Cities proceeding on behalf of the irrigation farmers.

As I understand the Cities Service curtailment plan, Cities has placed most of its irrigation users in Priority 1 and Priority 2, with only a handful of users in Priority 3. The company's plan is based on usage. Testimony will be presented

on behalf of the irrigation farmers later this month and cross-examination of those witnesses will be some time in September or October.

It would be worthwhile for your committee to determine the position of the State of Kansas in this proceeding and to be kept informed as to the progress.

While curtailment of natural gas for irrigation pumping by the Federal Power Commission would adversely affect irrigation farmers in the Southwest Kansas area, most of the irrigation gas hookups in the Hugoton Field are at the wellhead. For many years, nearly all of the lessee-producers in the field have voluntarily permitted farmers to purchase natural gas at the wellhead for irrigation. This has been with the cooperation and encouragement of the Kansas Corporation Commission. On May 9, 1956, the Commission issued an Administrative Bulletin setting forth its prescribed rules governing the use of natural gas for irrigation. A copy of this bulletin is attached.

In 1970, at the request of Dale E. Saffels, Chairman of the State Corporation Commission, a study was made by the Committee on Labor and Industries through the Kansas Legislative Council to determine if legislation could be enacted to ensure the availability of natural gas for irrigation.

Hearings were conducted in Garden City and Topeka in the Fall of 1970. Officials from our association and the Southwest Kansas Irrigation Association presented testimony at the Garden City hearing but did not participate in the Topeka hearing. While I did not receive a copy of the committee report, it is my understanding there was a determination by the study group that no legislation was needed at that time, principally because the lessee-producers were cooperating with the irrigation farmers on a voluntary basis.

The situation has changed since then and the problems anticipated in 1970 have become a reality. Because of the shortage of natural gas, some companies in the field are reluctant to permit hookups without full ownership of the minerals, while in other instances, companies are refusing to allow the connection under any circumstances. Other companies are charging considerably above the wellhead price being paid the landowners as royalty for gas produced from their property. Land potentially suitable for irrigation is going undeveloped because natural gas is not available as a fuel source, and alternate fuels are too costly to use.

In his request to the Kansas Legislature in 1970, Mr. Saffels pointed out that natural gas was the best known fuel for supplying power to the irrigation plants when it is available. However, there is no regulation of the sales in areas not certified to a public utility, and it is sometimes very difficult to obtain

natural gas for the irrigation farmer. Mr. Saffels expressed concern over anticipated problems in the future as the field is depleted. He also called attention to the need to provide for availability of natural gas as a fuel for irrigation purposes, to insure equity, and to prevent prejudicial rates between users of the natural gas.

A second concern of the irrigation farmer is that at the present rate of removal, there will be no gas for them to use at any price in a matter of a few years. Many of the irrigation farmers own the minerals under their irrigated land. They have made large capital investments, based upon the use of natural gas, which will take years to pay. It is quite possible that before the equipment is paid for, the gas wells on their land will be depleted.

As we view it, the problems of irrigation farmers in the Hugoton Field can be stated as follows:

1. There is no law requiring the producers to furnish natural gas at the wellhead for irrigation use.
2. There is no regulation of irrigation gas sales from the producers.
3. There is a lack of statutory control through the Kansas Corporation Commission over the irrigation gas sales contracts of producers.

4. It is becoming most difficult for the irrigation farmer to obtain natural gas for irrigation pumping.

We respectively suggest that a study committee be appointed to determine if it is possible to pass legislation requiring irrigation gas to be furnished at the wellhead, to provide statutory control by the KCC to insure equity and uniformity of contracts, and to assure an adequate natural gas supply for irrigation purposes.

Senate Bill No. 564

Our Association is also concerned about the passage of Senate Bill No. 564 which has been carried over to the 1976 legislative session for interim study. This bill would give the Kansas Corporation Commission authority over intrastate wellhead or field sales of natural gas.

Last March our Association general counsel Dale M. Stucky and I appeared on behalf of SWKROA before the Kansas Senate Ways and Means Committee in Topeka in opposition to the bill. Quoting from Stucky's statement to the committee:

"Unregulated intrastate prices have made it possible for us to compete against interstate sales and keep a modest amount of gas from going into the out-of-state burnertips at artificially low prices set by edict of the national government. This bill would take away the only effective conservation tool Kansas has left....under the bill, intrastate gas is up for grabs, with the Kansas

Corporation Commission being the umpire, guided only by general pious language and testing of political winds."

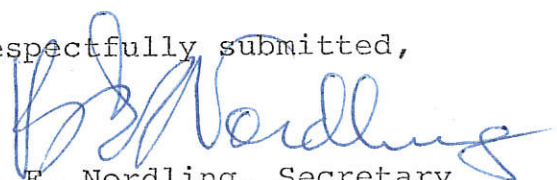
The proposed bill would establish jurisdiction over intrastate gas similar to that exercised by the Federal Power Commission over interstate gas. For over twenty years, the FPC has been unable to adopt a rational policy in regulating such sales. Many feel that FPC action is one of the prime factors in our present acute shortage of natural gas and lack of exploration.

S. B. 564 also prohibits arms length bargaining and contractual arrangements between parties without state regulatory control, thus impairing the obligation of contracts in violation of Section 10 of the United States Constitution.

This bill is not in the best interests of the citizens of Kansas and should be defeated.

I very much appreciate this opportunity to be heard. If you have any questions or need additional information on any subject discussed, I will be happy to supply such information for you.

Respectfully submitted,


B. E. Nordling, Secretary
SOUTHWEST KANSAS ROYALTY
OWNERS ASSOCIATION



ROBERT B. DOCKING Governor
DALE E. SAFFELS Chairman
JULES V. DOTY Commissioner
JOHN W. CUNNINGHAM Commissioner
RAYMOND B. HARVEY Secretary
JACK GLAVES Gen. Counsel

State Corporation Commission

TOPEKA, KANSAS 66612

March 5, 1970

The Honorable Glee Smith
President Pro Tem
Kansas State Senate
State House
Topeka, Kansas

Re: Irrigation Fuel Gas - State of Kansas

Dear Glee:

For many years we have had continuing problems with requests for natural gas fuel to be used for irrigation systems in certain areas of Kansas.

For several sessions in the past there have been attempts to give legislative guidelines for regulation of this subject in Kansas.

Natural gas is the best known fuel for supplying power to irrigation plants when it is available, but because there is no regulation of these sales in areas not certified to a public utility, it sometimes is very difficult to obtain this natural gas for the irrigation farmer and because of this there are literally dozens of different types of contracts and prices for this fuel which, in the opinion of this Commission, makes it discriminatory in certain cases to use natural gas for fuel for irrigation.

We asked Mr. Lester Wilkonson to make a study of this last fall and I hand you a copy of a letter received from him together with a list showing the number of wells in the Hugoton Gas Field area, along with a chart showing examples of different contracts entered into between the farmer and the supplier.

In addition to this you will find that the several public utilities who serve areas using natural gas for irrigation have even different costs to the farmers in these cases.

This has not been presented to the Legislature during this session as I believe that the study that is required on this subject would require more time than could be spent by a committee during a regular session.

The Hon. Glee Smith

-2-

March 5, 1970

We do feel that the Legislature, either through the service of an Interim Committee or the Legislative Council, should make a study of this subject to see if the Legislature desires to enact legislation in future sessions on this subject.

In anticipating problems in the future, I believe that we will run into even more difficulty as the Hugoton Field and other fields in Kansas are depleted, as there will not be natural gas available for the farmer, and provision for this particular problem should be provided to insure equity and to prevent prejudicial rates between users of the natural gas.

Although the problem might be greater in the Hugoton Gas Field because this is the largest gas source in America, this same problem exists in other areas of irrigation that are blessed with a supply of natural gas.

You are requested to submit this matter to a proper Interim Committee of the Legislature or to the Legislative Council if you so desire for the purpose of making an interim study to provide guidelines in this area.

Please be assured that this Commission is available to assist you in any way in this connection.

You are further advised that this request is being made by this Commission in cooperation with the Southwest Kansas Royalty Owners Association and the Southwest Kansas Irrigation Association.

You are further advised that identical letter to this is being submitted to the Honorable Calvin Strowig, Speaker of the House of Representatives, evidencing a similar request to that body.

Very truly yours,


Dale E. Saffels, Chairman

DES/tk

cc: Southwest Kansas Royalty Owners Association
Southwest Kansas Irrigation Association

Enclosures



STATE CORPORATION COMMISSION
TOPEKA

May 9, 1956

ADMINISTRATIVE BULLETIN

TO ALL PARTIES OF INTEREST:

In re: Use of Gas for Irrigation Purposes.

It has long been the policy of this Commission that the use of gas for irrigation purposes on a landowners' premises is a lawful use under Kansas statutes and that it is highly desirable that natural gas produced from their land be made available to landowners for such purposes wherever possible.

Pursuant to a recent study conducted by the staff, the Commission has reconsidered the entire matter giving particular attention to the farmers' need for this most efficient and economical fuel, and has revised its former policy as set forth hereinafter. Subject to the following prescribed conditions and limitations governing use of natural gas for irrigation purposes, gas may be made available to any farmer desiring it for that use who will take delivery at the wellhead, make his own connection to the wellhead and transport his own gas to his irrigation pumps:

(1) Contracts entered into between the farmer-user and the producing company must be ratified by the contract purchaser of gas produced from the well.

(2) Each such contract shall be submitted to the Director of Conservation for approval and a copy as approved filed in his office before any gas is delivered thereunder.

(3) All gas so furnished shall be metered and proper records of same shall be kept in a manner approved by the Director of Conservation.

(4) The amount of gas taken from a well and furnished to a farmer-user for irrigation purposes shall be charged against the monthly current allowable for such well.

(5) It is understood that producing companies will charge a nominal price for gas furnished for irrigation purposes, and the price shall be uniform to all such users.

The cooperation of all parties interested in this matter is invited.

STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS

By Raymond B. Harvey
Raymond B. Harvey, Secretary

SOUTHWEST KANSAS ROYALTY OWNERS ASSOCIATION
HUGOTON, KANSAS 67951

RESOLUTION

WHEREAS, the Southwest Kansas Royalty Owners Association is a non-profit Kansas corporation organized in 1948. Its membership consists of over 2,000 landowners with mineral interests in the Kansas portion of the Hugoton Gas Field. The Hugoton Gas Field comprises a substantial portion of nine Southwest Kansas counties, extends through the Panhandle of Oklahoma into Texas, and adjoins the large East and West Panhandle fields of Texas. The Hugoton field and East and West Panhandle fields in Kansas, Oklahoma and Texas cover approximately 33,000 square miles and over 21 million acres. Much of the land in this area is under irrigation, and the chief source of fuel to operate the irrigation engines comes from the natural gas produced from the land; and

WHEREAS, on December 19, 1974, the Federal Power Commission, in Opinion No. 697-A entered in Docket No. RP72-6, (El Paso Natural Gas Company), classified natural gas for irrigation pumping as an industrial use, thus placing its use on an interruptible basis. The FPC order further prohibits considering the use of butane and propane as an alternate fuel; and

WHEREAS, FPC Opinion No. 697-A applies only to El Paso Natural Gas customers, nevertheless, it is the concern of the members of this Association and irrigation farmers in the area that the order can directly affect all irrigation farmers in the United States using natural gas as a fuel source; and

WHEREAS, if this policy is made applicable to other gas companies and the use of natural gas for irrigation purposes is curtailed, the following results can be expected:

(1) Irrigation farming requires water to be available at critical times during the growing season of all crops. If the fuel source is not available at a critical stage of growth of the plant, there can be crop failure. Fertilizer is necessary to increase crop production and requires water to utilize the chemicals. If there is not the proper balance of water and fertilizer, there will be a drastic decrease in production.

(2) The FPC order eliminates considering the use of propane and butane as alternate sources of fuel supply, leaving only diesel, gasoline or electricity as alternate sources. Not only would the cost of fuel be greatly increased, conversion to alternate energy would require a different type of irrigation engine, as well as supply tanks and other equipment to operate the engines. There is already a critical shortage of diesel fuel and gasoline, as well as fuel tanks.

(3) Most industrial plants are designed for alternate fuels and the costs of the equipment and fuel are being passed on to the consumer. The irrigation farmer does not have standby equipment to convert to other fuels because of prohibitive costs, which cannot be passed on to the consumer.

(4) FPC Opinion No. 697-A is in direct conflict with the position taken by President Ford, by the Federal Energy Administration, by the Department of Agriculture, and by Congressmen introducing legislation declaring top priority for the use of natural gas and other fossil fuels in food production.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE SOUTHWEST KANSAS ROYALTY OWNERS ASSOCIATION, on behalf of its members and on behalf of thousands of irrigation farmers throughout the United States, that it hereby opposes the action of the Federal Power Commission in classifying natural gas for irrigation pumping as an industrial use on an interruptible basis, and urges the Commission to reconsider such action and classify natural gas for irrigation pumping to the highest priority of use.

BE IT FURTHER RESOLVED, that the Secretary of this Association is hereby directed forthwith to transmit a copy of this Resolution to the President of the United States, members of Congress, the Federal Power Commission members, the Secretary of Agriculture, the Federal Energy Administrator, and the Governors of the states located within the affected area.

ADOPTED this 19th day of February, 1975, by the Board of Directors of the Southwest Kansas Royalty Owners Association.

Attest:


B. E. Nordling, Secretary


Robert Larrabee, President

Attachment IV

STATEMENT BY

JOHN G. WILLIAMSON, VICE PRESIDENT
THE KANSAS POWER AND LIGHT COMPANY

BEFORE THE

SPECIAL COMMITTEE ON NATURAL GAS

August 11, 1975

Mr. Chairman and members of the Committee, my name is John G. Williamson. I am vice president, gas operations, of The Kansas Power and Light Company. I appear here today on behalf of KPL and also on behalf of our gas customers in Kansas.

We appreciate this opportunity to appear before your Committee. We realize your time is valuable and you have a busy schedule. Therefore, I will be brief and augment my remarks by furnishing each of you with a copy of information and pertinent data for the record. At the conclusion of my remarks, I will be pleased to answer any questions you may have.

It would appear there are two areas of agreement everyone who has appeared so far before this Committee has been able to support.

- (1) Natural gas supply for Kansas and the Nation is critical now and for the future.
- (2) They say the present price of natural gas is too low.

In other words, it is manifest there is a serious problem with natural gas supply, that it is getting worse and you have in the certain making a matter of public welfare, safety and even health. I would understand that your Committee has been asked to do something about it. Well, what should and can be done about such shortage and the effects of it?

just as we are of the costs of gas for resale. We know the impact this has on customers and we listen every day to the many complaints from the real world of customers who are shocked by the realism of increasing fuel prices. We believe we must represent them here today.

The producers of natural gas and oil tell you to do nothing. They say prices must go up. They further state that market demand will seek out the correct price and higher prices will result in more supply.

I don't believe you have heard any testimony telling you that if higher prices are paid for gas, how much more money will be invested by producers to discover the promised new supply of gas. Nor have you heard any proposals of how much new gas they expect to develop....nor how long it will take to get that gas to market and the ultimate consumer.

It also is not clear how the price of natural gas will reach its so-called "proper level" when the purchasing pipeline company is without any genuine bargaining position, since it can only buy from fields into which its pipelines and gathering systems are constructed, while the producer may elect to sell his product to other purchasers, or in other forms such as natural gas liquids, or simply wait by holding it off the market for reasons sufficient only to himself.

As the Committee charged with providing a solution to this serious gas shortage, you have a choice. You can stand by and do nothing as has been proposed with shortage certain and its effects to be applied without regard to a fuel policy that could mitigate hardships and restrain prohibitive prices. Or, you can try to resolve the problem on some other basis.

consider to help extend the life of Kansas' gas supply and alleviate the growing gas shortage, and I would like to suggest just briefly some of these. First, through the establishment of end-use priorities you could assure its use by top priority customers, thus minimizing extravagant use of gas for such purposes as heating swimming pools, heating large airplane hangers or industrial warehouses which are poorly insulated, or in fact, may have no insulation, and possibly eliminating its use as boiler fuel where alternate fuels are available.

Second, you might minimize the use of gas for the generation of electricity but at the same time recognize the problems this would pose for municipal operations.

Third, you could minimize if not eliminate the use of gas for heating large complexes and facilities which are completely capable of obtaining the same service through the use of alternate fuels such as oil or coal or propane, or electricity, even though such may be more expensive.

Fourth, you could encourage gas production from existing wells now under contract, by establishing realistic minimum prices which should be controlled by someone other than producers.

And finally, consideration could be given to the adoption of building codes for new structures that would minimize heating loss. Such codes would have the effect of requiring proper insulation and a minimum use of glass or other construction features which tend to cause high heat loss.

One choice available to you is the bill that was introduced by Senator Doyen during the 1975 legislative session, a proposal KPL supported then and which we believe still warrants your careful consideration. Legislation adopting and activating a natural gas policy is greatly needed. To do nothing is fatal.

That bill will give to Kansas customers of intrastate companies the kinds of protection afforded customers of interstate companies....continuation supply from established contracts with an element of price control when needed, and assurance that priorities of end-use will be considered.

That bill does not try to control the price of all natural gas in Kansas. Gas from a field discovered today could be sold at any price the producer decided to put on it and for which he could find a purchaser.

Under the proposed bill when a contract between a utility buyer and a producer seller is to terminate by its own terms and the parties cannot agree to new terms, then the Kansas Corporation Commission could be asked to institute a full and proper hearing to determine whether it would be in the public interest for the gas to continue to flow and at what price.

Here is the "price fixing" over which such great alarm has been expressed-- a power that would be invoked only where the public safety and welfare is at stake and designed to protect not only the buyer but the producer and even more importantly the ultimate consumer.

I submit, when the decision must be made as to whether homes will be warm or cold or heating bills will be doubled or tripled, it is better to have such decisions made in a certain limited number of cases by the people's representatives.

I would now like to direct my remarks back to the matter of prices and supply. A gas utility in a sense is a double conduit. First, it is the pipeline which takes gas from the producers to the customers, and secondly it is the pipeline which takes dollars from the customers back to the producers. In both instances, we are in a sense the middleman.

Much has been said to you about KPL's gas supply problems in the Spivey Field and from Mesa Petroleum so I would like to comment on the status of (of these.

At this stage of KPL's negotiations with the Spivey producers, it appears that our cost of gas from that area will be increased approximately \$14.8 million a year as compared with 1974. Initial calculations indicate that this increase alone will result in our customer's gas bills being increased an average of 21 cents an MCF. Assuming this increase is passed on to all classes of customers and to all steps of all rates in the same amount, the average residential customer's annual bill will be increased by about \$30 a year, or approximately 28 percent compared with last year. In the case of industrial customers, the increase will amount to 42 percent and in the case of municipal generating stations, an average of about 64 percent.

Litigation with Mesa Petroleum is presently set for hearing in District Court on September 9. As you probably are aware this relates to Mesa's proposal to construct a cryogenic nitrogen rejection plant and their plans to process their gas through the plant. The reported effect on customers of KPL will be to decrease the gas available for them by 12 billion cubic feet annually and 31 million cubic feet on a peak day. If this 12 billion cubic feet could be purchased as "new" gas at the proposed Spivey price, our annual increase in gas costs over last year would be up another \$13,700,000. If this amount were passed on evenly to all customers, their costs would increase another 19 cents per MCF, which with Spivey would be an increase of 40 cents per MCF.

Mr. Chairman and members of the Committee, there is no problem facing interim study group that is more serious or of more far-reaching consequences for Kansas citizenry than this one of gas supply. It is not exclusively KPL's problem. It is not exclusively Wichita's problem. It is a problem that in the long run is going to affect the very well-being and health of a substantial part of the State of Kansas and your constituents. For the mutual good of all of us we certainly need to marshal our assets and to husband our reserves and production capabilities for the best and highest use of gas for the benefit of all concerned. It is a problem you, as the people's representatives, must resolve.

I thank you very much for this opportunity to appear here today and for your listening to my remarks. If there are questions which any of you may have, I would be pleased to try to answer them for you at this time.