Research Department
Federal Reserve
Bank of
San Francisco

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Paying for Gas

According to the Federal Power Commission, the nation will suffer a 22-percent shortfall of natural-gas supplies this winter—almost twice the size of the shortfall of two years ago. According to the producers of this popular fuel, the shortfall will continue as long as FPC price controls continue on the supplies of gas moving in interstate commerce.

The FPC this month reaffirmed its earlier approval of a sharp price hike—almost triple—for "new" gas, which is gas newly discovered or newly sold in interstate commerce after January 1, 1975. (New gas accounts for about 10 percent of interstate supplies.) This and related price actions over the next year could raise the average price of interstate gas 30 percent or more. Yet producers claim that prices are still far too low to bring forth the increased supplies the nation needs, and they point for proof to the fact that U.S. reserves dropped 22 percent over the past decade even with the addition of new Alaskan supplies.

Short-lived program

In this situation, it is instructive to examine the means—sometimes very complex means—which the industry has used to finance new natural-gas supplies. One such approach—a significant one despite its eventual regulatory demise—was the system of advanced payments developed last year by the Southern California Gas Co. (SoCal) and Atlantic Richfield Co. (ARCO), whereby the utility promised an interest-free development loan to the oil producer in return for first chance at Alaskan oil and gas supplies.

SoCal would have paid $327 million to ARCO for Prudhoe Bay development, and ARCO would have granted SoCal purchase rights to 60 percent of planned production—about 4.2 trillion cu. ft. of gas. Following up, California's Public Utility Commission (PUC) then approved a schedule of rate increases for SoCal, sufficient to cover its costs.

This type of arrangement, where a utility takes over the interest cost of developing reserves in order to gain a share of future gas supplies, was first approved by the Federal Power Commission in 1970. In permitting such advanced-payment arrangements, the FPC sought to provide incentives for oil and gas companies to develop more gas reserves.

From the very outset, however, consumer groups opposed this financing approach because of the rate increases resulting from such plans. Indeed, the PUC itself was reluctant to approve last year's SoCal arrangement: "The Prudhoe Bay gas producers are attempting to circumvent Federal Power Commission regulations by, in effect, offering the gas to the highest bidder in an auction in which the sellers are few and the buyers desperate." Several months later, the FPC itself

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voted to end the advanced-payments program, on the grounds that the program had failed to meet its expressed goal of spurring increased gas exploration and development.

Unusual program

Critics of the advanced-payments approach pointed out that oil and gas firms are generally in a better financial position than the hard-pressed utilities to borrow money for development. Furthermore, in the case of the SoCal-ARCO arrangement, SoCal would probably have had to pay taxes on revenues raised for the purpose of financing the ARCO loan—unlike the situation if the oil firm had borrowed the money directly. In unregulated industries such contracts are nonexistent. One critic, Senator John Tunney, argued, "It's like asking a purchaser of furniture to pay five or ten years in advance of getting the furniture." In view of this harsh criticism, we may well ask how such roundabout financing devices had come to seem so necessary.

The utilities are regulated in part because of the very structure of the industry. It is cheaper to provide the customer with gas from a single source in a given geographical region, rather than to duplicate facilities and lose the advantages of economies of scale. In other words, the utility industry provides a classic case of natural monopoly—a monopoly created because competition would raise the prices consumers pay. To protect the consumer from undue monopoly power, and to insure a "reasonable" electricity rate, regulatory authorities have been established in most localities to pass judgment upon requested rate increases.

Insuperable problem

Although the existence of natural monopolies leads to the creation of regulatory bodies, regulators face an insuperable problem—the determination of the correct price. Our economy thus is replete with examples of regulated prices that are either too low or too high—more frequently the latter. When the regulated price is too high, the supplier of the regulated good or service has an incentive to provide added inducements to persuade the consumer to buy. In domestic air transportation, for example, the airlines create an inducement to fly at an above-market price by providing such unsolicited services as attractive flight attendants.

The government's ceiling on the price of natural gas, on the other hand, historically has been too low. While there is no way to tell exactly what the competitive price of a monopoly-produced good would be, some broad yardsticks are available in the case of natural gas, such as the price of gas sold (without ceilings) in certain intrastate markets, and the price of certain competitive fuels which can be com-

pared with gas on a BTU-equivalent basis.

In any case, when regulators set a price too low, consumers tend to form lines to obtain the item in question, and they compete with one another in other ways when bidding up the price is not permissible. In economic jargon, this is called *non-price competition*. Similarly, the producer's behavior, as he allocates the product according to other than price criteria, amounts to *non-price rationing*.

Over the long haul, regulatory agencies have a very difficult time controlling the price of a commodity. Non-price competition and non-price rationing raise the actual cost of the good above the regulated price, and also, when the price is too low, reduce the quantity of the good available.

Pricing below market

In the case of the natural-gas industry, FPC price ceilings create potential problems for gas consumers, since at the government-regulated price people want to buy more gas than sellers can profitably provide. This artificially regulated price will create shortages, and more demand for gas than is available at the regulated price. Gas purchasers may soon (albeit reluctantly) find some legal way of avoiding price regulations, paying the higher price that gas suppliers require to provide adequate supplies. Although regulators will eventually perceive this escape from the regulatory intent and move to plug up the gap, their efforts will tend to be frustrated, because the rewards to the purchaser and seller from avoiding regulations are so much greater than the reward to the regulator of preventing this avoidance. In the end, natural gas might well be produced in about the same quantities—and the consumers' situation may be the same—as would have been the case if the government had never attempted to regulate the price of gas.

A utility's provision of interest payments to a producer is one means of paying more than the regulated price for gas, in order to ensure sufficient gas supplies. Indeed, the FPC decision to abolish the advanced-payment program may have been less important than more recent Commission decisions to permit at least some increase in prices. The movement toward prices high enough to equate demand and supply will be long and tortuous, complicated of course by the difficulties of dealing with a natural monopoly. But clearly the direct payment of the market price to the gas producer is a more efficient and therefore ultimately a less expensive way of purchasing gas than the alternative—developing round-about financial arrangements in order to circumvent regulatory attempts to hold the price artificially below market levels.

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BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT

(Dollar amounts in millions)

Selected Assets and Liabilities Large Commercial Banks	Amount Outstanding 11/10/76	Change from 11/3/76	Change from year ago Dollar	Change from year ago Percent
Loans (gross, adjusted) and investments*	90,898	+ 361	+ 2,887	+ 3.28
Loans (gross, adjusted)—total	69,629	+ 259	+ 3,436	+ 5.19
Security loans	1,803	+ 202	- 957	- 34.67
Commercial and industrial	22,493	- 175	- 287	- 1.26
Real estate	21,046	+ 48	+ 1,392	+ 7.08
Consumer instalment	11,620	+ 5	+ 1,264	+ 12.21
U.S. Treasury securities	8,647	- 91	- 246	- 2.77
Other securities	12,622	+ 193	- 303	- 2.34
Deposits (less cash items)—total*	89,941	+ 149	+ 2,033	+ 2.31
Demand deposits (adjusted)	26,069	+ 785	+ 1,037	+ 4.14
U.S. Government deposits	341	- 147	+ 19	+ 5.90
Time deposits—total*	62,092	+ 74	+ 1,391	+ 2.29
States and political subdivisions	4,798	- 49	- 930	- 16.24
Savings deposits	28,723	+ 110	+ 7,193	+ 33.41
Other time deposits‡	26,402	+ 1	- 3,628	- 12.08
Large negotiable CD's	10,294	- 74	- 5,337	- 34.14

Weekly Averages of Daily Figures	Week ended 11/10/76	Week ended 11/3/76	Comparable year-ago period
Member Bank Reserve Position			
Excess Reserves	+ 12	+ 59	+ 57
Borrowings	0	0	0
Net free(+)/Net borrowed (-)	+ 12	+ 59	+ 57
Federal Funds—Seven Large Banks			
Interbank Federal fund transactions			
Net purchases (+)/Net sales (-)	+ 366	- 309	+ 2,578
Transactions of U.S. security dealers			
Net loans (+)/Net borrowings (-)	+ 706	+ 81	+ 1,843

*Includes items not shown separately. ‡Individuals, partnerships and corporations.

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