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FRBSF Weekly Letter

Alaskan Gas

Late last year, President Reagan signed into law a package of "waivers" designed to facilitate private-sector financing of the vast, 4,800-mile Alaska Natural Gas Transportation System (ANGTS). Canadian and U.S. interests had already begun work on one section of the pipeline to bring Canadian gas to the lower-48 states, but various U.S. laws had impeded construction of the portions required to deliver Alaskan North Slope gas. The waiver legislation removes those earlier legal impediments—but still does not ensure that the private sector will fund the remaining segments.

Full funding and completion of the system, without U.S. or Alaskan government financial support, will depend upon the marketability of Alaskan gas. Specifically, private investors will proceed with construction only if they are reasonably confident that Alaskan gas can be sold in the lower-48 states at a price competitive with alternative fuels. The answer to that question rests upon a number of highly uncertain factors, such as the ultimate cost of the system and future price trends for natural gas and alternative fuels.

Size and cost of system

The fully completed system would provide access to the 26 trillion cubic feet of natural-gas reserves discovered in conjunction with the 1968 Prudhoe Bay oil strike. Those reserves constitute about 13 percent of the total proved reserves of natural gas in the United States. Potential reserves represent another 100-200 trillion cubic feet of gas—resources that eventually might be recoverable at higher prices and with more advanced technology, but which might not be developed without a delivery system. Initially, the system would deliver 2.0 billion cubic feet (bcf) of Alaskan natural gas daily to the lower-48 states. Subsequently, with the construction of additional compressor facilities, capacity could be increased to 3.2 bcf/day—equivalent to 6 percent of current U.S. natural-gas requirements.

The 4,800 mile system would follow established rights-of-ways, highways and pipelines (see map). It would originate at Prudhoe Bay, parallel the Trans-Alaska Oil Pipeline for a distance, and then cross into Canada. It would separate into Eastern and Western legs near Calgary. The Eastern leg would cross the Saskatchewan-Montana border and go on to Dwight, Illinois. The Western leg would cross the British Columbia-Idaho border and terminate at Brentwood, California.

Pipeline firms have already completed portions of the system—the "pre-build" sections—to bring surplus Canadian gas to California and the Midwest. The Canadian Western Leg began operations in October, 1982, with a system authorized to deliver up to 300 million cubic feet per day to the Western United States. The Canadian Eastern Leg is scheduled for completion in the fall of 1982. But construction has not yet begun on the other Canadian segments, the 745-mile Alaska pipeline or a proposed gas-conditioning plant at Prudhoe Bay.

Project sponsors estimate the system's construction cost at $26 billion, in 1982 dollars. But total cash requirements could reach $39-48 billion, on the basis of a 7-11 percent inflation rate and a 10-14 percent average interest rate over the 1983-87 construction period. To date, sponsors have raised just $3 billion to finance the "pre-build" sections of the system.

Waiver legislation

Prior to passage of the waiver legislation, the 10-member consortium of natural-gas pipeline companies sponsoring the Alaska segment had reached an agreement with the three major North Slope gas producers, calling for the latter to share in the financing of the Alaska pipeline segment and gas-condi-

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tioning plant. Because of antitrust protections contained in earlier laws, however, those producers could hold debt but could not own equity in the system.

The waiver legislation removed that and other legal obstacles to financing. It permitted the Prudhoe Bay producers to hold unlimited equity in the Alaska phase of the project. But before the Federal Energy Regulatory Commission (FERC) could approve any producer's specified ownership share, the Attorney General would have to rule that that share does not violate antitrust laws, restrict access to the line by non-owner shippers, or restrict capacity expansion. The legislation also permitted the Alaska natural-gas conditioning plant to be included as part of the transportation system so that its costs could be included in the rate base charged consumers.

The legislation also included a controversial provision relating to "pre-billing." Under that provision, the Commission could approve a tariff requiring U.S. customers to be charged for individual segments of the system—the Canadian pipeline, the Alaskan pipeline, and/or the gas-conditioning plant—even if the full system is never completed. Billing would start upon completion of any segment of the system, after a "date certain" established by the Commission as the most likely date for commencement of operations for the entire system. Project sponsors have submitted November 1, 1987 for consideration as the most likely date.

In pre-billing the Canadian portion, the Commission could approve a tariff which recovers full cost of service. For the Alaska segments, customers would be charged a "minimum" bill to cover all costs of service, except a return to equity and taxes. Under other provisions of the law, the FERC could eliminate formal hearings as a prerequisite for granting certificates of public convenience and necessity for the Alaska segments, but could not reduce the tariff below the level necessary to recover "minimum" cost.

Gas producers' equity participation in the Alaska pipeline and conditioning plant should help secure additional financing beyond the amounts already pledged by the original ten pipeline-company sponsors. In fact, they are willing to put up 30-percent of the equity share, which under current proposals is scheduled to comprise 25 percent of the total financing. The producers' strong asset position and creditworthiness also should help attract the remaining 75 percent of the financing to be acquired through the issuance of debt. Inclusion of the gas-conditioning plant in the rate base also should increase producers' interest in the project, because it would assure them an income stream to recover debt and interest, once the plant is completed after the date certain. But it would also raise the cost to consumers, and thus increase the difficulty of marketing Alaska gas at a competitive price.

Similarly, the pre-billing provisions would shift some of the risks of delay and non-completion from investors to consumers. Revenues from the flow of Alaskan gas could be delayed as a result of delays in the completion of any segment, while financing requirements for completed segments would continue to mount. For the Canadian segment, sponsors could begin charging the entire cost of service after the scheduled completion date for the entire system, even if no Alaskan gas is flowing. For the Alaskan segments, however, U.S. sponsors could obtain only partial relief from the risk of non-completion of the entire system, to the extent of the recovery of debt service and limited other costs. But owners would still risk their equity, and would also shoulder the entire risk of non-completion of either the Alaska pipeline or gas-conditioning plant, since those facilities must be placed in operation before owners may recover any associated costs.

Marketability of gas

These remaining risks suggest that sponsors and other investors will not even begin construction of the Alaskan facilities until they

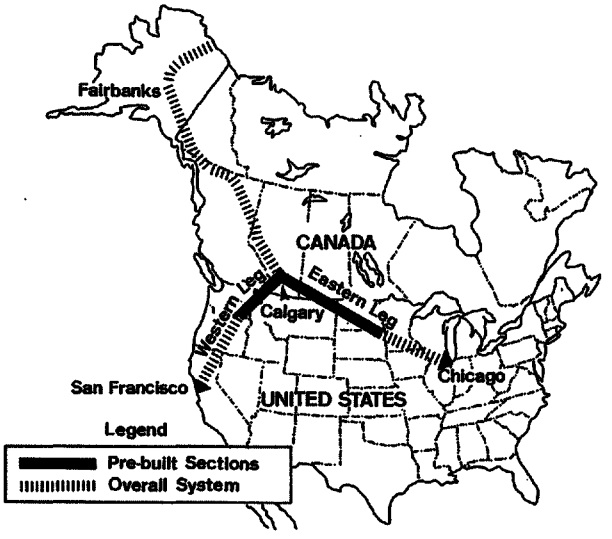
are convinced that the entire project can be completed and the gas marketed at a price competitive with alternative fuels. The delivered cost in the early years of the project would be high compared with the cost of alternative fuels—even if the wellhead price of Alaskan gas remained subject to Federal controls as specified in the Natural Gas Policy Act of 1978. The controlled price is $1.45 per thousand cubic feet (the 1977 price) plus the subsequent inflation rate.

The delivered cost at the end of the system would have two components: project cost and wellhead cost of gas. The House Energy and Commerce Committee staff recently estimated the delivered cost of Alaskan gas during the first year of system operation (1987) at $11.40 per thousand cubic feet, expressed in 1982 dollars. (That estimate is based on a $26-billion project cost and on controlled prices for the gas at wellhead.) That price, however, would be more than twice the staff's estimate for the average 1987 price of fuel oil (in energy equivalent values) of $5.32 per thousand cubic feet, expressed in 1982 dollars.

The staff study nonetheless found that Alaskan gas could compete with alternative fuels (on the average) during the 20-year life of the project—under certain limiting conditions. That eventuality would require the continuation of Federal controls on the wellhead price, as well as a drop in the real delivered cost of Alaskan gas and a rise in the real price of alternative fuels over the 20-year life of the project. The staff estimated that the real delivered cost of Alaskan gas might indeed drop to around $5.56 per thousand cubic feet (in 1982 dollars) over the 20-year life of the project, due to such factors as a decline in interest payments as a result of a decline in unamortized debt. Also, Alaskan gas could be competitive with fuel oil, on an average long-term basis, if fuel-oil prices rose 3 percent per year or more beyond the annual inflation rate over the 20-year period.

In sum, substantial uncertainties surround the future marketability of Alaskan gas. Higher-than-expected construction or financing costs, decontrol of Alaskan gas wellhead prices, and declining real oil prices could adversely affect the economic viability of the project. On the other hand, lower-than-expected interest rates and construction costs, or an especially sharp increase in real oil prices, could facilitate financing and construction.

Yvonne Levy



ALASKA NATURAL GAS TRANSPORTATION SYSTEM

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BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT

(Dollar amounts in millions)

Selected Assets and Liabilities Large Commercial Banks	Amount Outstanding 3/24/82	Change from 3/17/82	Change from year ago Dollar	Change from year ago Percent
Loans (gross, adjusted) and investments*	157,453	− 196	10,329	7.0
Loans (gross, adjusted) — total #	136,248	− 270	11,708	9.4
Commercial and industrial	41,968	144	5,722	15.8
Real estate	56,484	− 9	5,007	9.7
Loans to individuals	23,353	− 93	− 72	− 0.3
Securities loans	1,861	− 215	472	34.0
U.S. Treasury securities*	6,286	65	− 525	− 7.7
Other securities*	14,919	9	− 833	− 5.3
Demand deposits — total#	37,407	−1,593	− 1,939	− 4.9
Demand deposits — adjusted	26,387	− 778	− 2,100	− 7.4
Savings deposits — total	30,584	− 51	316	1.0
Time deposits — total#	91,499	189	15,169	19.9
Individuals, part. & corp.	82,089	276	14,737	21.9
(Large negotiable CD's)	34,934	71	5,592	19.1
Weekly Averages of Daily Figures	Week ended 3/24/82	Week ended 3/17/82	Comparable year-ago period	
Member Bank Reserve Position				
Excess Reserves (+)/Deficiency (−)	69	35	68	
Borrowings	11	107	125	
Net free reserves (+)/Net borrowed(−)	58	− 73	− 58	

* Excludes trading account securities.

Includes items not shown separately.

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