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WITHDRAWAL SHEET

Ronald Reagan Library

Collection Name BAILEY, NORMAN: FILES

Withdrawer

MJD 11/20/2007

File Folder EAST-WEST TRADE (JUNE 1981)

FOIA

F99-078/3

Box Number 5

ZUBER

1

ID Doc Type	Document Description	No of Pages	Doc Date	Restrictions
45484 MEMO	L. PAUL BREMER TO RICHARD ALLEN RE EAST-WEST ECONOMIC RELATIONS	1	6/26/1981	B1
45485 PAPER	NSC DISCUSSION PAPER	4	ND	B1
45486 PAPER	RE EXPORTS - EXECUTIVE SUMMARY	2	6/26/1981	B1
45487 PAPER	RE EXPORTS TO USSR	4	6/26/1981	B1
45488 PAPER	RE IMPACT	1	ND	B1
45489 PAPER	RE ALLIES	4	ND	B1
45490 PAPER	RE ECONOMIC IMPACT	2	ND	B1
45491 TABLES	RE USSR	2	ND	B1
45492 PAPER	OPTIONS (W/ATTACHMENT)	5	ND	B1

The above documents were not referred for declassification review at time of processing

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45493 PAPER	RE PIPELINE	4	ND	B1
45494 PAPER	RE PIPELAYERS	3	6/26/1981	B1

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Bailey

NATIONAL SECURITY COUNCIL

June 29, 1981

MEMO FOR:

✓ NORMAN BAILEY
DENNIS BLAIR
DON GREGG
BEN HUBERMAN
HENRY NAU
RICHARD PIPES
ROBERT SCHWEITZER
WILLIAM STEARMAN

FROM:

ALLEN LENZ

Attached are the papers that will be used in the NSC meeting now rescheduled to Thursday, July 2, at 1:30 p.m. The current plan is that all of the meeting will be devoted to discussion. No attempt will be made to make decisions at the Thursday meeting.

S-W Trade

1/30
2/2

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45484 MEMO

1 6/26/1981 B1

L. PAUL BREMER TO RICHARD ALLEN RE EAST-
WEST ECONOMIC RELATIONS

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45485 PAPER

4

ND

B1

NSC DISCUSSION PAPER

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BACKGROUND PAPERS

1. Security Controls on Exports to the USSR
2. Controls on the Export of Oil and Gas
Equipment and Technology to the USSR
3. The Siberian Pipeline
4. License for Caterpillar Company to Export
100 Pipelayers to the Soviet Union.

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45486 PAPER

2 6/26/1981 B1

RE EXPORTS - EXECUTIVE SUMMARY

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45487 PAPER

4 6/26/1981 B1

RE EXPORTS TO USSR

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45488	PAPER RE IMPACT	1	ND	B1

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45489	PAPER RE ALLIES	4	ND	B1

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45490	PAPER RE ECONOMIC IMPACT	2	ND	B1

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45491	TABLES RE USSR	2	ND	B1

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45492	PAPER OPTIONS (W/ATTACHMENT)	5	ND	B1

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45493	PAPER RE PIPELINE	4	ND	B1

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45494 PAPER

3 6/26/1981 B1

RE PIPELAYERS

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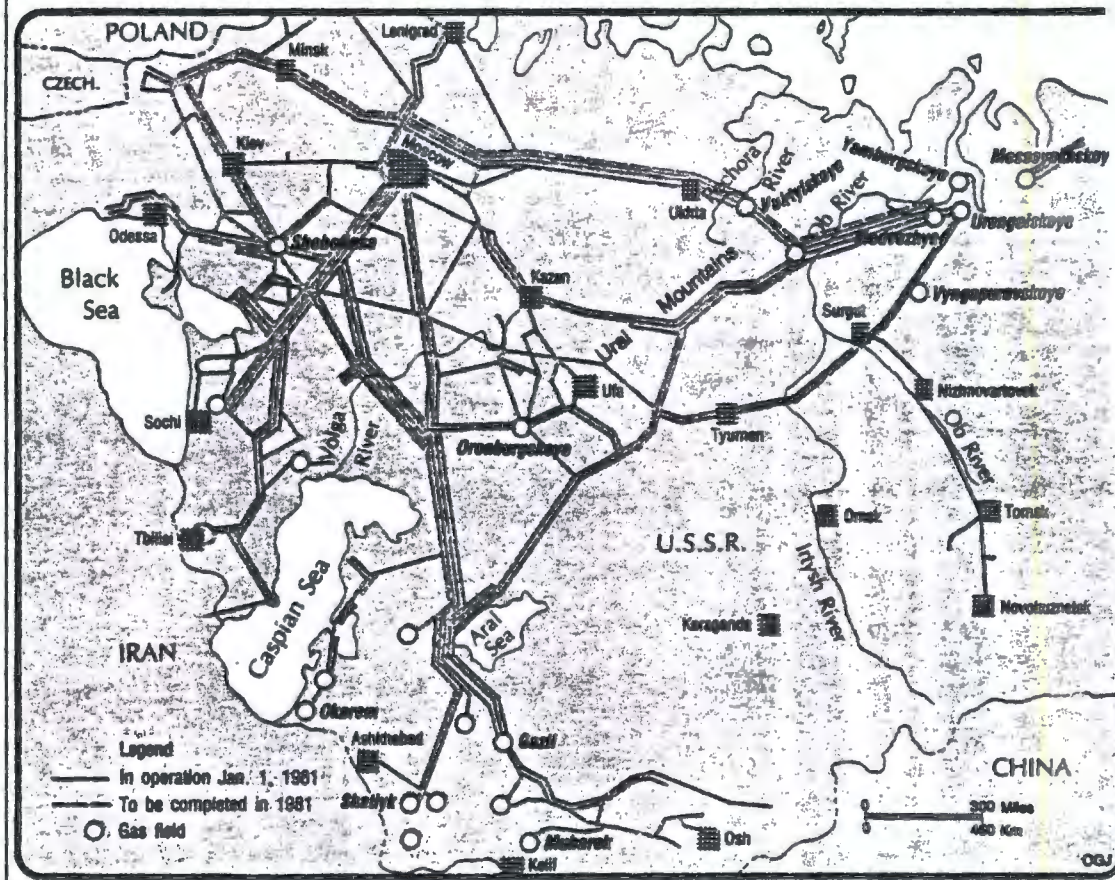
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Where the Soviet Union's main gas pipelines are



Pipelines hold key to Soviet gas production

The Soviet Union's ability to build more and better big inch gas pipelines has become the critical factor in determining whether Soviet bloc energy requirements will be met through 1990.

By comparison, continued controversy between the U.S. Central Intelligence Agency and the Kremlin over a 10-15% difference in the U.S.S.R.'s probable oil production during the mid-1980s belabors an issue of secondary importance.

The Soviets are considering a drastic speedup in their timetable for hiking gas production while suggesting that the present all out effort to boost oil flow may have become too costly.

With Moscow's apparent approval, officials in western Siberia's Tyumen Province are plugging for gas production of 1 trillion cu m (35.3 trillion cu ft)/year by the end of the decade instead of 2000.

Meanwhile, earlier appeals for continued strong growth in the area's oil production have been muted.

Speaking before the 26th Communist Party Congress last February, G. P. Bogomyakov, first secretary of the Tyumen party, called for raising

his region's gas flow to more than 500 billion cu m (17.65 trillion cu ft)/year and oil production "up to" 500 million metric tons/year (10 million b/d) by 1990.

The Soviets claim they have the proved reserves to produce 1 trillion cu m/year of gas and are restrained only by transmission capacity to handle the higher volume.

Gas flow of 1 trillion cu m/year for the entire country would represent a 130% hike from the U.S.S.R.'s 1980 flow of 435 billion cu m (15.36 trillion cu ft).

It also would be 75% more than present U.S. gas production, the world's largest at about 20 trillion cu ft/year.

If the Soviet Union were able to expand gas transmission capacity to handle production of 1 trillion cu m/year by 1990, the nation's foreign exchange problems with the West could be greatly eased. In addition, the U.S.S.R.'s eastern European allies could minimize budget busting oil imports from the Middle East.

A bottleneck. But there's a serious question whether the U.S.S.R.'s highly touted new pipeline technology—much of it still commercially unproven—will enable the nation to break a gas transmission bottleneck that has existed since the 1960s.

The U.S.S.R. failed to meet its pipeline construction goals during the last Five Year Plan (1976-80), although the gas production target was achieved. Prospects are that pipelining difficulties will be the main restriction on Soviet gas production growth in the foreseeable future.

The U.S.S.R. plans to build and activate about 50,000 km (30,050 miles) of trunk lines during the current Five Year Plan (1981-85), compared with a little more than 45,000 km (27,945 miles) activated in 1976-80. Included are 32,000 km of gas pipelines, 11,500 km of crude lines, and 6,500 km of oil products lines.

The 50,000 km total is less than the unmet target of 53,500 km of petroleum pipeline construction, including 35,000 km of gas trunklines, for 1976-80. Even so, the U.S.S.R. probably will provide record annual increments of new gas pipeline throughput capacity during the remainder of the 1980s.

The Soviet Union expects to lay 16,600 km (10,309 miles) of 56 in. gas pipeline from fields in western Siberia's Tyumen Province to central and western areas of European Russia during 1981-85. That compares with about 6,000 miles of 56 in. gas pipeline built during 1976-80.

A substantial amount of 48 in. pipe also will be laid during the current

Five Year Plan.

First 56 in. gas transmission line was laid on a commercial scale in the U.S.S.R. during 1972. More than 12,000 km of this giant size gas pipeline is now in operation, and the system is unique in the world.

Total length of the Soviet Union's gas trunk lines at the end of last year was 132,400 km (82,220 miles), compared with 98,800 km at the end of 1975 and 67,500 km on Dec. 31, 1970. Of the year end 1980 total, 7,400 km was not yet capable of operating at design capacity, underscoring the chronic lag in compressor station construction.

Length of Soviet crude pipelines reached 59,000 km (36,639 miles) at the end of 1980.

Northern Tyumen Province will account for the U.S.S.R.'s entire net gas production increase in 1981-85 and undoubtedly in 1986-90 as well. All of the major new gas pipelines slated for construction during the present Five Year Plan will originate at two huge Tyumen fields—Urengoi and Yamburgskoye.

Urengoi is on the Arctic Circle, while Yamburgskoye, not yet in production, is entirely in the Arctic.

The Soviets expect to increase Urengoi production to 250-270 billion cu m (8.82-9.53 trillion cu ft)/year by 1985. That's equal to the U.S.S.R.'s entire gas production in 1974.

High pressure system. Soviet big inch gas pipelines are operated at 1,102 psi or less. The Soviets hope to start construction by 1982-83 of the first 56 in. gas transmission system operating at 1,469 psi, originating at Yamburgskoye.

About 280 compressor stations are to be built along gas pipelines, in gas fields, and at underground gas storage reservoirs during the present Five Year Plan. Ninety additional pumping stations will be provided for oil pipelines.

Capacity installed at new gas compressor stations during 1981-85 is slated to be 17 million kw (22.8 million hp), compared with 10.2 million kw installed at 209 compressor stations during the last Five Year Plan.

The 1981 plan calls for building and activating a record 15,000-16,000 km of oil and gas trunk lines. More than 50 compressor stations are scheduled for construction along main gas transmission lines, in fields, and at underground gas storage reservoirs.

The 1981 program also provides for construction of more than 30 crude pipeline pump stations.

Despite the ambitious program for building pipelines and compressor

stations, some Soviet officials are beginning to express doubt that overall gas flow during 1986-90 can continue to be hiked 8-9%/year—the rate planned for 1982-85.

They question whether the sharp throughput increases envisioned for advanced technology, long distance, 56 in. transmission systems can be widely achieved during the latter half of this decade.

Construction limits. There is, however, general agreement among Soviet authorities on one point: Money, pipe, equipment, labor, and other resources won't be easily available to raise the mileage of big inch gas pipeline construction much above current levels.

Delivery of Soviet manufactured equipment with greater capacity and specially designed for work in far northern areas is especially slow.

Moreover, skepticism is growing that the heralded Soviet laminar 56 in. pipe, just starting to become available in commercial volume (OGJ, June 15, p. 55), will provide the key to greatly increased transmission capacity during the late 1980s.

New equipment for automatic welding of large diameter pipe is being introduced commercially at a slower pace than expected. There also have been extensive delays in manufacturing higher capacity compressor units for gas pipelines.

The laminar pipe, designed for lines operating at 1,469 psi and 1,763 psi instead of the present 1,102 psi, theoretically would permit throughput of 56 in. systems to be raised from 1.06-1.24 trillion cu ft/year to as much as 2.3-2.4 trillion cu ft/year when the gas is chilled to -30° C.

But laminar pipe hasn't been tested extensively in northern areas of western Siberia. It's far from certain that Soviet rolling mills can be changed over to manufacture laminar pipe as quickly and simply as first predicted.

Implementation of plans to chill gas transmitted across the Ural Mountains from western Siberia's giant Arctic fields is off to a slow start.

Work on the first experimental cooling installation at Urengoi was still not completed early this month. Besides increasing throughput, chilling of the gas will prevent thawing of permafrost, thus stabilizing ground conditions around gas pipelines in far northern areas.

The probable peaking of Soviet oil production relatively soon should, on the other hand, permit the Soviets to shift some resources from crude oil pipeline construction to work on gas systems.

One major 48 in. crude line from western Siberia to European Russia

(Nizhnevartovsk-Kuibyshev-Odessa) was completed during the last Five Year Plan. Another, running 2,050 miles from Surgut in western Siberia's Middle Ob fields to Polotsk in Byelorussia and serving refineries at Perm, Gorki, Yaroslavl, Moscow, and Rязan, as well as Polotsk, was activated this spring.

No similar big inch crude pipeline projects have been announced for the 1982-85 period. This is further evidence that the Soviets do not anticipate continued large gains in crude oil production.

Last year's crude and condensate production was 12.03 million b/d. Assuming the worst and best scenarios, the U.S.S.R.'s oil flow isn't likely to break out of the 11-13 million b/d range through the mid-1980s.

Soviet officials still heatedly deny that limited reserves will force early curtailment of oil production. But they concede that higher oil production levels may be "uneconomical," especially in view of the increased availability of gas.

Accent on gas. Soviet commentator Gennadi Pisarevsky put the U.S.S.R.'s energy picture in perspective when he recently declared:

"It does not pay for my country to continue to make sizable increases in oil production under present conditions when output of an equivalent amount of gas is two or three times cheaper.

"President Leonid Brezhnev has laid special stress on the importance of developing western Siberian gas deposits in the 1980s. He has emphasized that these deposits are unique and that the biggest of them—Urengoi—contains such gigantic reserves that it can for many years meet the nation's domestic and export needs, including deliveries to capitalistic countries."

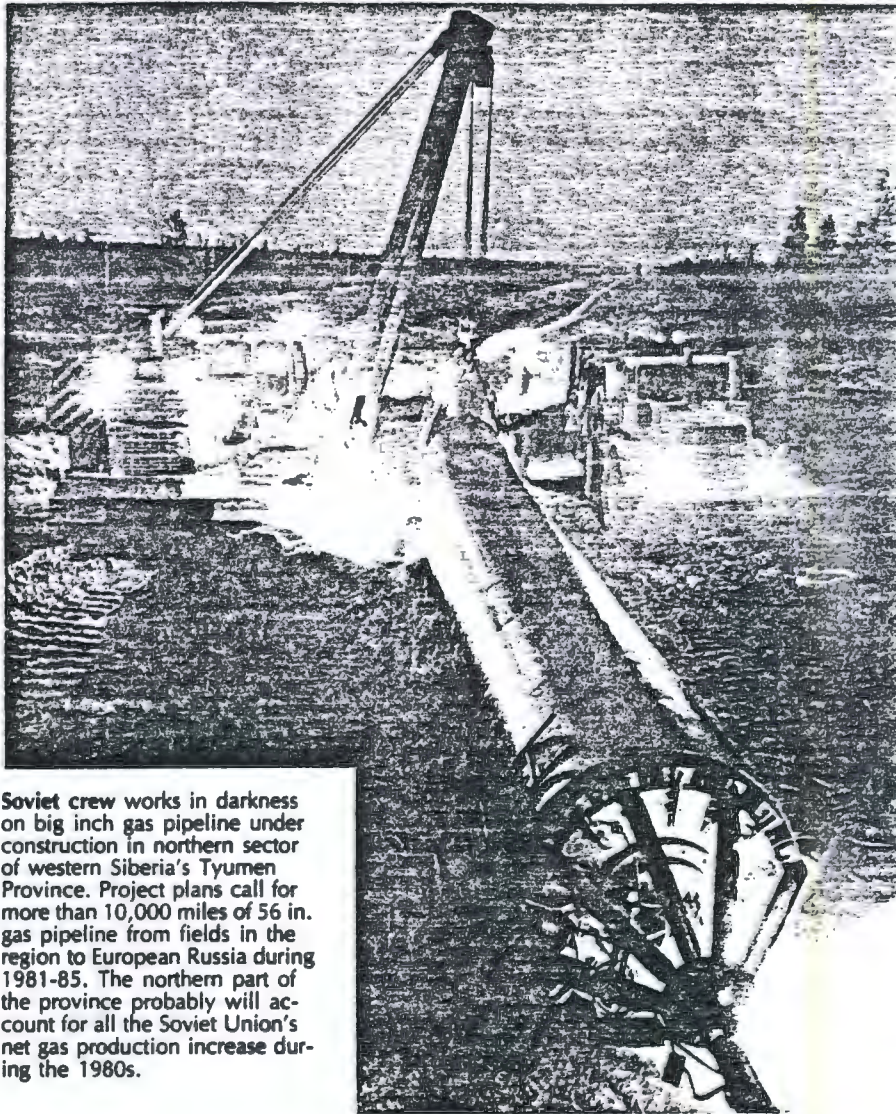
Farman Salmanov, chief of the Main Tyumen Geological Administration, asserted:

"It is quite realistic to bring gas output from Tyumen deposits to 1 trillion cu m/year by 1990 and to maintain it at this level for decades.

"Such an amount of gas—equal to oil flow of nearly 1 billion metric tons/year (20 million b/d)—has never been produced anywhere. To achieve this goal it is necessary to resolve extremely difficult problems, the most important of which deals with gas transmission, without losing time.

"It is unreal to contemplate delivery of such quantities of gas to consumers by existing methods. It should be done by transmission of the fuel in refrigerated form through lines built with multilayer pipe."

Salmanov pointed out that the



Soviet crew works in darkness on big inch gas pipeline under construction in northern sector of western Siberia's Tyumen Province. Project plans call for more than 10,000 miles of 56 in. gas pipeline from fields in the region to European Russia during 1981-85. The northern part of the province probably will account for all the Soviet Union's net gas production increase during the 1980s.

U.S.S.R.'s current Five Year Plan calls for increasing western Siberian gas production from 156 billion cu m in 1980 to 330-370 billion cu m in 1985 and total Soviet flow from 435 billion cu m to 600-640 billion cu m in the same period.

"To do this we must build seven transcontinental gas pipelines about the size of the proposed trans-Alaska gas system.

"It's still too early to talk about the eighth such pipeline, slated to run from Siberia to western Europe. This purely commercial deal has not been signed, and it is very surprising to economic experts that so much political fuss has been made over it.

"Even so, now is a good time to state that the widespread view that western technology is of decisive significance to the Soviet Union's oil and gas industry development is false.

"We can construct oil and gas pipelines very well on our own and faster and better than any other country in the world.

"This is demonstrated by the U.S.S.R.'s plans to build seven long domestic pipelines from western Sibe-

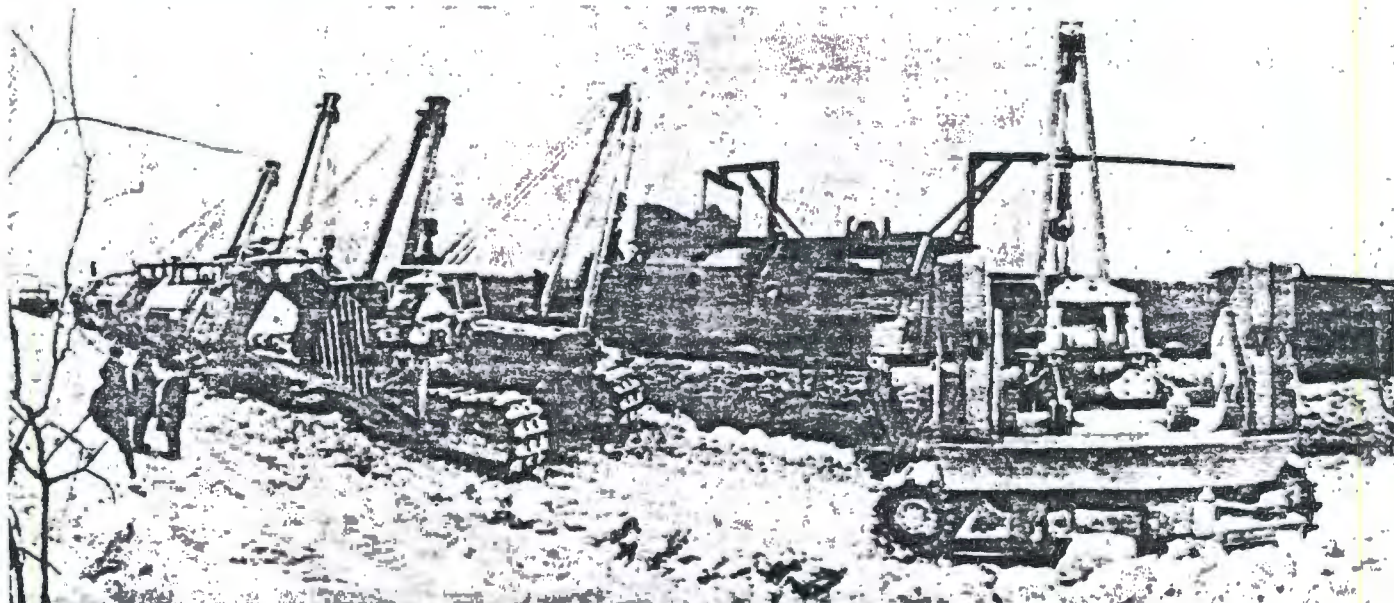
ria during the 1981-85 period. Each of these lines will have a capacity of 40 billion cu m/year."

Salmanov conceded that the Soviet Union's pipeline construction program under the current Five Year Plan presents an enormous challenge to geologists, gas industry construction workers, research personnel, metallurgists, and the machine building industry. But he said they can cope with the task "because of our country's great scientific, economic, and technical potential."

Oil & Gas Journal sources believe that the U.S.S.R. is capable of boosting gas production to its minimum 1985 goal of 600 billion cu m and possibly to 620 billion cu m—the median of its target range—under the current Five Year Plan.

But the maximum objective of 64 billion cu m may be beyond reach because the Soviets are unlikely to raise the average capacity of their new 56 in. pipelines to 40 billion cu m/year by 1985.

In the past it has required 1-2 years after completion to bring 56 in. pipelines to rated capacity of even 28-31



Soviets mass equipment for work on new big inch gas pipeline from western Siberia across Ural Mountains to European Russia.

billion cu m/year. Throughout the history of Soviet gas pipeline construction, work on compressor stations has lagged far behind pipelaying.

Production to feed the present Five Year Plan's eighth major 56 in. pipeline—from Siberia to western Europe—was apparently anticipated when the 1985 gas production target was set.

Prospects now are dim that the new 3,000 mile line to western Europe will become operational before 1986 because of delays in arranging credit terms with West Germany and France and possible further hitches involving Soviet action against Poland.

Nevertheless, the assured additional gas produced by the U.S.S.R. during the present Five Year Plan without substantial new western assistance probably will put the Soviet Union and its European satellites in a more comfortable position regarding overall hydrocarbon supplies than most of the world's industrially developed countries.

Predictions made by OGJ sources nearly 4 years ago (OGJ, Oct. 10, 1977, p. 72) still hold:

- The Soviet Union is not confronted by a severe near term shortage of hydrocarbons, let alone an energy crunch.

- The country will not only maintain hydrocarbon self-sufficiency but have a surplus into the mid-1980s.

- Natural gas, not coal, will be the U.S.S.R.'s ace in the hole as a growing energy source, at least through the late 1980s.

- Big annual jumps in foreign gas sales are assured until 1990.

- If a slump in Soviet oil production does occur, it likely will coincide with the very period in which the Soviet Union makes its biggest gains

in natural gas production.

- As a result, the U.S.S.R. will have a considerably larger overall hydrocarbon supply not only in years when crude production shows no gain but also when and if oil production starts downward.

Even if—in line with CIA's recently revised forecast—Soviet oil production falls about 10% from more than 12 million b/d in 1980 and if the median level of the 1985 gas production target is achieved, the U.S.S.R.'s total hydrocarbon supply will increase substantially.

In 1980, combined crude, condensate, and gas production provided 19,247,000 b/d of oil equivalent by Soviet reckoning. If crude/condensate production skids 10% to 10.8 million b/d in 1985 and gas flow rises to 620 billion cu m, the U.S.S.R. will have 21,119,000 b/d of oil equivalent.

That represents a gain of almost 9.7% for the 5 year period, or nearly 1.9%/year. Such an increase should be adequate for Soviet needs when taken together with the effects of strict oil conservation and widespread substitution of gas for oil now taking place in all European Soviet bloc nations.

Soviet gas production increased nearly 8% during the first 4 months of 1981 and was above target. Prospects are that this year's goal of 458 billion cu m (16.17 trillion cu ft) will be exceeded.

Current work. The first of the seven new 56 in. gas pipelines the U.S.S.R. expects to build from western Siberia to European Russia began operation late in April. About 1,740 miles long and with a rated capacity of 32 billion cu m (1.13 trillion cu ft)/year, it runs from Urengoi to Moscow via Punga, Ukhta, and Griazovets.

Current work will extend the line from Griazovets southwest to Torzhok, Minsk, and Ivatsevichi, near the Russian-Polish-Czech border.

Even before the Urengoi-Moscow line was finished, construction began on another 56 in. line originating at Urengoi. It will cross the Ural Mountains at Nizhnyaya Tura and terminate at Petrovsk, northwest of Saratov.

The other five lines are Urengoi-Yelets (south of Moscow), Urengoi-Novoposkov (in the extreme eastern Ukraine), Urengoi-Uzhgorod (on the Soviet-Czech border), and two links from Yamburgskoye field, located 62 miles north-northwest of Urengoi, to Yelets.

Both of the 56 in. Yamburgskoye-Yelets lines are slated to operate at 1,469 psi, indicating that they will be built with laminar pipe.

From Yelets, the lines will be extended farther southwest to Kursk and Dikanka in the Ukraine, apparently using smaller diameter pipe. Gas delivered to Yelets can also be fed into the old multiline system running from northern Caucasus gas fields to Moscow.

Pipelining problems. Soviet pipelaying problems were discussed in detail earlier this year at the U.S.S.R.'s Communist Party Congress in Moscow and at a roundtable of industry specialists held about the same time.

The exchange of opinion left little doubt that Soviet officials are deeply concerned over rising costs and continued difficulties encountered in pipeline construction and operation, especially in western Siberia.

There was widespread agreement that better planning, design, management, and on site supervision of pro-

jects are as important as improved technology in raising the quality and quantity of pipeline construction.

Roundtable participants emphasized that an increasing proportion of construction work is carried out in western Siberia. But much of the available equipment can be used in this region only when the ground is frozen.

Lack of hard surface roads prevents movement of heavy machinery in swampy Tyumen Province during other seasons of the year. Moreover, a large share of the construction equipment sent to the area is not suited for work in extreme cold.

Delivery of supplies and equipment to western Siberia and the northeast sector of European Russia also is hampered during the long period between spring thaw and early winter freeze-up because freight can't be transported beyond the railheads and river ports. When the cargo does move, it frequently piles up so fast at receiving points that pipelining organizations, with minimal storage space, can't handle or protect it.

With deliveries sporadic, some construction contractors hoard unneeded materials and equipment urgently required for other jobs in the same area.

Planners are accused of continued failure to standardize specifications for construction of the same type of facilities—such as compressor stations—on the same project.

Blueprints for construction are frequently received late, and instructions from different agencies sometimes conflict.

Preliminary engineering work, such as drainage, at construction sites is often omitted by planning organizations, forcing contractors to scrounge for necessary materials and funds. This slows job progress and hampers the contractors' ability to carry out later stages of construction properly.

Coordination between gas production capability and provision for adequate transmission capacity remains poor.

Failure to build all season roads and electric power lines along the pipeline routes prevents quick repairs when pipe ruptures or compressor station breakdowns occur.

Gas turbines. In a speech to the Communist Party Congress, S. A. Orudzhev, then minister of the gas industry, urged accelerated manufacture of new 25,000 kw (33,525 hp) gas turbine units specially designed for compressor stations, as well as 10,000 kw (13,410-hp) and 16,000 kw (21,456 hp) marine and aviation type units.

Plants operated by the U.S.S.R.'s

ministries of power machinery, shipbuilding, chemical and petroleum machinery, and aviation all manufacture compressor station equipment.

Orudzhev said use of the new units would reduce consumption of materials and labor outlays by one-half to two-thirds, speed construction of gas pipelines, and enable them to achieve rated throughput sooner. He also urged rolling mills to deliver more preinsulated pipe to speed pipeline construction "and, above all, to insure their high quality and durability."

CIA believes that through the early 1980s, at least, the U.S.S.R. will not be able to manufacture enough turbines and high capacity compressor units, such as the 25,000 kw models, to provide required pressure for its western Siberian pipeline systems. It asserts that lack of unit standardization prevents rapid repair or replacement.

The intelligence agency pointed out that the Soviet Union can't produce all the high quality, large diameter pipe and valves it needs for expansion of the pipelines originating at Tyumen Province's huge fields. As a result, CIA declared, an increasing share of Soviet imports involves pipeline related items.

N. Kurbatov, chief of the Main Siberian Pipeline Construction Administration, complained to the roundtable about the low capacity of units presently employed in gas pipeline compressor stations.

He said, "Our economic studies show it is advisable to have three 10,000 kw gas turbine units at compressor stations for 1,020 mm (40 in.) pipelines (one operating, one in reserve, and one undergoing repair) and three 25,000 kw units at compressor stations for 1,420 mm (56 in.) pipelines."

"But such units aren't available. Therefore we provide the necessary capacity by using eight smaller units per station."

"Responsibility for solving the problem of providing high capacity units rests with the Ministry of Power Machinery."

Kurbatov said there is no economic substantiation for turning to use of either greater pressure or larger pipe diameters to meet the need for more throughput. Utilization of laminar pipe will help, he said, "but it still must be tested, especially under permafrost conditions."

Other problems. S. S. Kashirov, deputy minister of the gas industry, said studies show "corrosion of outer walls remains the main cause of gas losses resulting from accidents on the line portions of pipelines." He noted

that the greatest number of ruptures caused by outer wall corrosion occur in desert areas of Soviet Central Asia.

Corrosion protection has improved during recent years, especially pipelines carrying gas to the Soviet Union's western border for export. "Even so," Kashirov declared, "gas losses from corrosion caused accidents remain high."

P. Nidzelsky, deputy chief of the Main Tyumen Oil and Gas Construction Administration, complained that only 15% of his organization's 5,500 vehicles are specially adapted for use in northern areas:

"Vehicles manufactured by the Kirovskiy automobile plant operate satisfactorily in a temperature range 25° C. to -25° C., which doesn't meet western Siberian requirements. Standards for vehicle operation in the Far North's harsh climate still haven't been set."

Nidzelsky said it's impossible to talk about optimum use of construction equipment in western Siberia because, for example, the same excavators are used as in other regions of the country:

"The machines delivered to us can't stand up to Arctic conditions and quickly wear out. The ground freezes at -20° C. on pipelines mounted on Cheboksary tractors which also require several grades of lubricants."

Measurements being taken to permit more year-round construction work in western Siberia are being held up by lack of roads required for delivery of materials and supplies, according to Nidzelsky. "The cost and time required to build long distance pipelines depends on road conditions," he said.

B. Trofimov, department head of the Tyumen Province Communist Party, also stressed that enormous benefits would be achieved by building hard surface roads and electric power lines along pipeline routes.

He said, "At present, our compressor stations operate by using current from small autonomous power plants set up nearby. About 10% of the pipeline gas is used to run the turbines."

"If we had electric power lines along the route, the gas could be transmitted without this loss. Automation of the compressor stations would also be increased."

Several participants in the roundtable urged the widest possible use of modular construction for oil and industry facilities in Tyumen Province. But here again it was noted that transportation is frequently inadequate to cope with heavy prefabricated units.