

The original documents are located in Box 37, folder “Personnel - Conflict of Interest: Clements, William” of the Philip Buchen Files at the Gerald R. Ford Presidential Library.

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1. Confirmation hearing by on nomination of WPC to be Dep. Sec. of Def. before the Senate Armed Services Committee, Jan. 11, 1973.
2. Raising of issue by Sen Proxmire July 30, 1973: Clements had 16.2% int. in Sedco, then worth \$65 million, which did \$11,000,000 business in drilling rigs under contract to the consortium working the nationalized Iranian oil fields & had ^{new} joint venture drilling subsidiary with an Iranian Co. partly owned by the Shah. Thereafter several newspaper ⁴⁻¹¹ articles
3. Oct. 10, 73 ^{1st} ~~1st~~ — disqualified re Iran.
4. Nov. 17, 1973 — memo re mgt. of Def. Energy Resources — "The Defense Energy Task Force"
5. ^{Nov 28, 73} Brought criticism from Rep. Les Aspin (D-Wis) re \$90 million holdings,
6. Dec. 14, 73 letter (see also answer) — quote description of Sedco
7. Dec. 15, 73 memo to the press statement
8. Jan. 14, 74 Brandt's feelings about Clements



9. Marsh memo of 1/16/74
- 10 Jan. 21, '74 memo internal
- 11 Dec. 12, '73 letter to Magnuson
12. Answer to Committee questions:
 - stock then worth \$197,000,000
 - on Dec. 1, 73



MEMORANDUM

NATIONAL SECURITY COUNCIL

ADMINISTRATIVELY
CONFIDENTIAL

June 10, 1975

MEMORANDUM FOR GENERAL SCOWCROFT

FROM:

Mr. Clift



SUBJECT:

Status of NSSM 214: "Implications of
US Participation in Siberian Development"

Attached is a copy of the interagency response to NSSM 214. All agencies except Defense have concurred with the principal conclusions of the response, though several have suggested minor revisions.

With regard to Defense, we understand that someone at a high level (we think Deputy Secretary Clements) objected to the conclusions of the study and thereby caused the delay in the Defense response. Subsequently his objections have been overcome and the response is now on its way back through Defense channels for official concurrence. The study reportedly is now on Assistant Secretary Ellsworth's desk and then will go to the Secretary of Defense.

We have been told the Department of Defense will accept the conclusions of the study, thereby making interagency concurrence with the response unanimous. Once Defense's formal response has been received, we will complete the staffing.

ADMINISTRATIVELY
CONFIDENTIAL





DEPARTMENT OF STATE

Washington, D.C. 20520

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March 24, 1975

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MEMORANDUM TO THE ASSISTANT TO THE PRESIDENT
FOR NATIONAL SECURITY AFFAIRS

Subject: Implications of US Participation in
Siberian Development

Pursuant to the National Security Study Memorandum 214 of October 31, 1974, a study on the implications of US participation in Siberian development has been prepared by an ad hoc working group under the chairmanship of the Department of State.

This study, and its summary are attached herewith.

Arthur A. Hartman
Assistant Secretary
for European Affairs

Attachment:

NSSM 214 Study

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GDS

WTHM 5/8/00

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NATIONAL SECURITY COUNCIL
WASHINGTON, D.C. 20503

Copies to:
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October 31, 1974

National Security Study Memorandum 214

TO: The Secretary of the Treasury
The Secretary of Defense
The Deputy Secretary of State
Executive Director, Council on International
Economic Policy
The Director of Central Intelligence

SUBJECT: Implications of US Participation in
Siberian Development

As part of his overall consideration of US-Soviet relations, the President has directed a review of the broad strategic, political and economic implications of US involvement in the development of Siberia, to include:

- a. the extent to which the Soviet Union will develop Siberia with or without outside assistance over the next 20 years;
- b. the strategic objectives of Soviet economic and military development plans for Siberia;
- c. the impact of Siberian development on Soviet energy needs and on the world energy market;
- d. the potential strategic, political and economic opportunities and risks for the US of alternative levels and modes of participation in Siberian development projects -- in particular, the question of transfer of technology, and the sale of equipment and materials versus construction by US firms of production facilities and processing plants;
- e. the political implications for our relations with Japan (and other friendly countries as deemed appropriate) of alternative levels of US financial and technical involvement in Soviet development efforts.

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Nsc List of Declass. Nssms

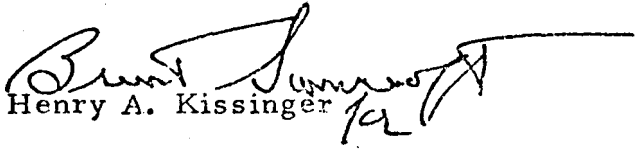


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The study should address other topics as appropriate or necessary.

The study should be conducted by an NSC Ad Hoc Group comprising representatives of the addressees and of the Assistant to the President for National Security Affairs, and chaired by the representative of the Department of State. The study should be submitted not later than December 13, 1974 for review by the NSC Senior Review Group.


Henry A. Kissinger

cc: The Chairman, Joint Chiefs of Staff

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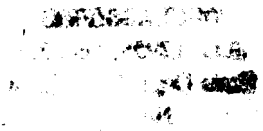
E.O. 12958, Sec. 3.5

State Dept. Guidelines

By WAM, NARA, Date 5/2/00

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Appendix A - The Siberian Projects

Appendix B - Possible Areas of Soviet-Western
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Appendix C - Siberian Development (MAP)

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NSSM - 214

EXECUTIVE SUMMARY

I. Objectives of Siberian Development

A. Economic Incentives

Economic necessity is the primary reason for Soviet interest in developing Siberia. A perverse natural distribution of Soviet resources has placed more than three-quarters of the country's reserves of coal, natural gas, non-ferrous metals, timber, and hydroelectric power in the harsh environment of Siberia, which contains only one-tenth of the Soviet population. The growing depletion of resources available near existing population centers in the European USSR has forced the Soviet leadership to look to Siberia to meet future needs and to ponder ways to supply the area with the necessary capital, labor and technology.

The Siberian complex figures as one of the major investment efforts of the Fifteen Year plan (1975-90). Development will focus on coal, oil and gas in West Siberia; electric power, nonferrous metals and energy-intensive industries in East Siberia; and wood and fish products, and some machinery plants in the Far East. The USSR will

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have to develop Siberian energy reserves, in particular, if it is simultaneously to meet its own rising requirements, satisfy the needs of Eastern Europe, and maintain sizable exports to hard currency areas.

The prospect of hard currency earnings from the exploitation of Siberian natural resources to finance imports for general economic development must be among the major stimulants to Soviet planning for Siberia. Exports of oil from the Sakhalin continental shelf could boost gross Soviet export earnings during the 1980s by as much as \$3.5 billion annually; projected gas exports from both the North Star and Yakutsk projects could raise another \$1.5 billion annually; and Western assistance in the development of Soviet metals and mining industries would generate additional annual exports of almost \$1 billion by 1985. Over the period 1975-90, the oil and gas projects could boost hard currency earnings by about \$55 billion, allowing for some continuing inflation in oil and gas prices. Payments for the hard currency imports associated

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with these oil and gas projects could be as much as \$10 billion leaving net earnings close to \$45 billion.

B. Strategic Objectives

The development of Siberia would also serve Soviet military and strategic objectives. It would increase the strategic flexibility of the USSR by:

-- increasing the total energy resources available to the USSR and its allies;

-- expanding and dispersing the USSR's industrial base as Siberia is developed; and

-- diversifying and increasing the total capacity of the lines of communications linking European Russia with the Soviet Far East.

Additionally, it would increase the Soviet capability to support military activities in Asia by improving the transportation infrastructure, thereby enhancing Soviet logistics capability against China.

In this regard one basic Soviet strategic objective in Siberian development is to strengthen its position in dealing with China, and--should it come to that--to enhance its capability of coping militarily with the PRC.

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In a more general strategic sense, the development of Siberia--and particularly the growth of population there--would increase the USSR's political weight in Northeast Asia and strengthen its sense of security with respect to China and Japan--both of which have challenged Soviet rule in this region during this century. Moscow probably also believes that the involvement of Japan in Siberian development would enhance Soviet diplomatic leverage in thwarting possible Japanese-Chinese-US combinations that would threaten Soviet interests. In addition, the development of Siberian resources will enable the USSR to continue as a primary source of energy and other raw materials for Eastern Europe, an important factor in Moscow's strong hold over its Warsaw Pact allies.^{1/}

II. The Role of Western Assistance

Thus far, the USSR has been developing Siberian resources almost entirely with its own resources, and the autarkic strain remains strong in Soviet economic planning. It does not have the capital and, in some cases, the technology to exploit Siberian resources as quickly as it would like. The difference between

^{1/} See DOD footnote on page xxvi.

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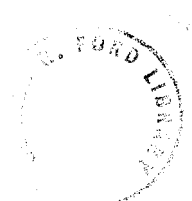
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Soviet appetite and ability is particularly large in oil and gas exploration and development. The magnitude of the reserves and the difficult cold climate engineering problems involved in their development are reflected in the urgency of Soviet efforts to obtain the assistance of Western capital, equipment, and technology. Without outside assistance, the pace of development of onshore oil and gas resources would be delayed by three to five years or longer. Extensive development of offshore resources would probably be unattainable by 1990.

Among Western suppliers, the US is clearly the best source of complete systems for exploration, production, and pipelining of oil and gas--onshore or offshore. If the US does not participate in Siberian petroleum development projects, Soviet needs could be met to a large extent by turning to non-US sources. Britain, France and West Germany can supply certain types of seismograph and geophysical equipment; offshore technology is being developed by Dutch, French, Norwegian, British and Japanese firms; and Western Europe and Japan can supply

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large diameter pipe. But advanced geophysical equipment and related computer hardware which would best serve Soviet needs can be acquired only in the US. And although the USSR has had more experience than any other country with commercial operations under permafrost conditions, it could benefit from the use of Western technology developed for the Alaskan North Slope and the Canadian Arctic.

Soviet development of other Siberian resources--primarily metals and minerals--would be facilitated by Western technical cooperation and assistance, but Moscow is not dependent on outside technology. Growing world demand for most of these resources should provide the USSR with sufficient incentive for their development, although the rate of exploitation would be faster if Western firms agreed to accept metals and minerals in payment for credits.

III. Impact of Siberian Development on Soviet Energy Needs and on World Energy Markets

If the USSR is to remain self-sufficient in energy, the development of Siberian resources is imperative. Total Soviet demand for energy is expected

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to double during the period 1976-90 to a level of about 3.5 billion tons of hard coal equivalent in 1990; 80% of the increase in Soviet production of energy through 1990 will be obtained from Siberia. By 1990 Siberian fields probably will account for about half of total Soviet production of oil and gas.

Despite efforts undertaken by the Soviets to explore and develop Siberian oil and gas reserves--even with Western assistance--the USSR will not be a major factor in world energy trade:

-- Soviet and East European needs will absorb practically all of the projected oil production by 1985 and 1990; the tonnage exported to the West probably will begin to level off before 1980 at less than 1 million b/d, and by the end of that decade be roughly half the current level of 1.2 millions b/d.

-- Even if the Sakhalin offshore venture is successful, oil exports from this area through the 1980s are likely to represent only a very small share of world oil trade or of supplies to Japan;

-- If proposed cooperative ventures for Soviet natural gas with US and Japanese firms materialize,

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Liquid Natural Gas (LNG) exports to the West could be 2.5 trillion cubic feet per year by the end of 1980s; the LNG delivered to the US and Japan will represent at best only 1% to 2% of the total energy supply in either country;

-- While Soviet exports of natural gas to Western Europe may constitute as much as 10% of the importing countries' total gas supply during the 1980s, they will account for only a small share of their total energy supply.

IV. Potential Economic, Strategic and Political Opportunities and Risks of US Participation in the Development of Siberia

A. Trade

Even without direct US participation in large projects, Soviet development of Siberia should afford US firms substantial trade opportunities as the USSR seeks needed equipment and technology in the the West. The international financial position of the USSR has been strongly buttressed by recent developments in the commodity and gold markets, and export earnings from Soviet merchandise exports should sustain Soviet import capacity at relatively high levels. Over the next five years, the US share of estimated Soviet imports of equipment and techno-

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logy from the West could amount to as much as 20 percent, or some \$6 billion.

US-USSR trade at the levels implied above would not require US Government financing much beyond the level of recent years and would avoid many of the problems associated with large-scale Eximbank financing of Siberian development projects, such as congressional and public concern and controversy over interest rate differentials, concessionary financing for energy projects, and USG liability in the event of Soviet defaults. On the other hand, in the absence of large US credits for major Siberian projects, the growth of US-USSR bilateral trade would not be such as to produce a coalescence of economic interests that would add measurably to the stability of political relations.

B. Participation in Soviet Development Projects

The major potential for growth in US-USSR trade lies in the exports and imports generated by proposed large Soviet development projects in Siberia: the development of gas reserves in the Urengoy and Yakutsk fields; the exploitation of oil deposits in the Sakhalin continental shelf; and the development of energy intensive industries for the production of

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aluminum, ferromanganese, ferrochromium and other metals. These and other possible Siberian projects could require more than \$25 billion in Western equipment and technology over the next 15-20 years, almost half of which might originate in the US. During 1975-80, Western involvement in Siberia could total \$10-14 billion: the US share could range between \$3 and \$7 billion.

Because of the magnitude of the projects being considered, the technology and capital required, and the Soviet desire to ensure export markets, the USSR has proposed commodity pay-back ventures as the preferred scheme for US participation in the development of Siberia. In cooperative ventures of this kind, the US participant agrees to purchase, and the USSR to sell, at established prices, a portion of the output of the new plants, mines, or gas and oil fields that have been brought into production with the help of equipment and technology purchased on long-term credit. The requirement for US Government financing implicit in these arrangements--because the USSR is reluctant to pay market rates of interest and wishes to secure USG approval and support for these large under-

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takings--will inevitably involve more direct USG participation than would be the case in simpler trade transactions.

Nonetheless, arrangements of this type offer several advantages.

-- The enhanced US Government role could be an important inducement for Soviet compliance with agreements and could help compensate for the asymmetries between centralized and decentralized decision-making in the foreign trade sector. In this connection, despite the interruption in its lending to the USSR, the Eximbank remains a potentially useful bargaining tool in influencing Soviet East-West trade policy and practices.

On the other hand, commodity pay-back schemes could lead to complications.

-- The US participant--particularly where investment is large, amortization periods long, and repayment is in products--may seek a larger share in decisionmaking than the Soviets have hitherto been willing to grant;

-- The provision for long-term repayment in products will inevitably cause difficulties in reaching agreement on equitable pricing formulas; and

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-- Because of the risk involved, firms and financial institutions will require more information than Soviet disclosure laws have thus far permitted.

Commodity pay-back arrangements of the kind proposed by the USSR pose additional problems. The requirement for US Government financing of Soviet oil and gas projects at lower than commercial rates of interest, particularly during a period when the demand for capital by the US energy industry will be extremely high, could divert capital and other resources from higher yielding projects in this country to less productive investment in Siberia in sharp conflict with the goals and objectives of our national energy policy. Moreover, the export of oil and gas drilling and producing equipment, already in short supply, could hinder domestic energy exploration and development. Provisions regarding energy-related loans to the USSR in recent Eximbank legislation reflect profound congressional misgivings about potential US participation in the North Star and Yakutsk natural gas projects. Congress, in its present mood, probably would not approve any large-scale financing for these projects even if the bank's authority to do so had not been proscribed by our inability to put the 1972 trade agreement into force. In any case,

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government decisionmakers would have had to be prepared to defend such a policy with compelling political as well as economic and energy-policy considerations.^{2/}

Finally, arrangements of the kind proposed by the Soviets raise questions about the security of supply. Since the USSR would control most of the physical assets as well as the oil and gas, it might be tempted--once US equipment and technology is in place and Soviet repayment is to begin--to seek to alter the terms of agreements by renegotiating prices or reducing deliveries. Several factors, however, would militate against Soviet renegeing on contracts:

-- The reserves of gas in the Urengoy field are more than adequate to support deliveries to the US on the scale contemplated as well as conceivable deliveries to Eastern and Western Europe. Presently explored reserves in the area can support three or four projects of the size of North Star. Development of the Yakutsk field would not begin until US and Japanese firms are assured of sufficient reserves.

-- The opportunity for substantial dollar earnings offered by most of the Siberian projects being considered provides a strong incentive for the USSR to be a reliable supplier.

^{2/} See DOD footnote on page xxvi.



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-- The Soviet record of honoring contractual obligations has been good. Moreover, the prospects of future agreements will provide important leverage on tract compliance as violation of the terms of any one agreement probably would mean that US firms would not conclude subsequent contracts.

C. Strategic Implications

The strategic implications of Siberian development of concern to the US center on the additions to infrastructure in Siberia which could increase Soviet flexibility in strategic planning and increase its ability to support sustained military operations in Asia. Construction of the Baykal-Amur-Magistral railroad would make it somewhat easier to deploy additional forces to the Soviet Far East in the event of a Sino-Soviet conflict or to move forces from Asia to Europe in the event of a NATO-Warsaw Pact confrontation. Such improvements would be welcomed by the military as expanding and diversifying the transportation alternatives available to them in wartime, but would not substantially increase direct military capabilities.

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Although total capital investment in the USSR has been steadily increasing, accelerated Siberian development would require further increases or reallocations. At the present time there are strains on the Soviet economy from the burden of developing its fuel and energy resources and, at the same time, significantly expanding its industrial base and maintaining its current high level of defense expenditures. While imports of Western equipment or machinery for the development of Siberia will be only a small share of total Soviet investment in plant and equipment and will not provide a significant growth dividend in the aggregate, participation in joint development projects by the US and other foreign countries will speed up meeting part of the Soviet's requirements for investment capital for fuel and energy resource development. As a result, the Soviets will be able to divert some available capital for investment in other sectors. This could contribute to some extent to expansion of their industrial base and/or to the maintenance of their high level of defense expenditures.

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A USG decision not to participate in large-scale development projects in Siberia, however, would only delay--not stop--Siberian economic development or the development of related facilities which the USSR deemed important on strategic grounds. And allocations to Soviet military programs will continue to be made as necessary regardless of shortages elsewhere in the country. The Department of Defense notes, however, that it is US policy to delay as much as possible the development of strategically important Soviet facilities.^{3/}

D. Implications for US Political Relations with the USSR, Japan, and China

The USSR sees consummation of long-term cooperative ventures in Siberia not only as a major component of economic detente with the United States but as offering the best chance for large, continuing growth in US-Soviet trade. The Soviets also make a strong connection between the breadth and depth of economic ties and US-Soviet relations as a whole. The US, too, has hoped that over time, trade and investment might leaven the autarkic tendencies of the Soviet system and foster a degree of interdependence that would add an element of stability to the political equation. A negative US decision on participating in large

^{3/} See DOD footnote on page xxvi.

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development projects in Siberia when Eximbank authority to finance them was unimpaired, would have been viewed by Moscow in a highly political context. Detente, however, does not rest exclusively on economic motivations. Thus far, the Soviets have been at pains to indicate that, despite the setback to economic matters, they mean to go forward on other aspects of US-USSR relations.

Moscow must perceive that the long congressional debate over MFN and credits--which led first to limitations on Eximbank lending, including restrictions on credits for fossil fuel development, and then to a complete proscription of new credits to the USSR--has dimmed prospects for US-USSR cooperation on most of its main proposals for Siberia. However, the economic component in Soviet interest in detente--which includes a broad desire for US technology as well as the Siberian dimension--will probably continue to operate as long as there is some tangible level of US-USSR trade and continuing prospects of more. Soviet hard currency earnings abroad have lessened its need for short or even medium term credits, and Moscow has signalled its intention to continue existing commercial arrangements and to pursue additional ones with American firms.

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Moreover, the Soviets evidently appreciate that the Administration's good faith is not in question in seeking more acceptable legislation in Congress on MFN and credits, although they are uncertain about the prospects of accomplishing both in the near term. Moscow, however, will inevitably be exploring alternatives to large-scale US participation in Siberia. And, it will be important for us to convey to the Soviets our determination to preserve the momentum of US-USSR economic relations under existing conditions: Administration encouragement of US firms seeking commercial financing for the relatively small Yakutsk gas exploration project would have a positive effect on US-USSR relations.

Japan's interest in Siberia is an element of a general commercial strategy which stresses international cooperation and diversification of vital imports: and the congruence of Siberian resources and Japanese needs is compelling. Aware of the implications of dependence on external energy sources, the Japanese are also concerned by the implications of diversification. The result is a certain ambivalence. Although the investments required for gas and oil projects in Siberia are large, the projects themselves would supply only a small percentage of Japan's energy needs during the

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rest of this century. Tokyo, moreover, is wary of Soviet intentions and reluctant to anger the PRC by becoming too involved in Siberian development. US-Japanese economic cooperation in the area promises to spread the financial and political risks and calm PRC anxieties. In the Japanese view, there would be no better guarantee of Soviet compliance with long-term agreements than the active participation in these projects of the United States. The Japanese, therefore, have consistently maintained that their participation in major Siberian oil and gas ventures will be contingent on our own, and they will be disappointed that the proscription of Eximbank lending to the USSR makes such collaboration unlikely in the near term.

On the other hand, Japan recognizes the importance of the US in gaining access to key energy supplies (e.g., coal and enriched uranium), in pursuing joint energy ventures in other areas of the world, and in finding long-term solutions to world resource problems. More important, it is determined to preserve its link

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with the US. The Japanese have tended in the past to make our cooperation with them in Siberian oil and gas projects an important litmus of our willingness to assist their own efforts to expand and diversify sources of supply. By the agreements it has already concluded with the USSR, however, Tokyo has shown that it is prepared to become unilaterally involved in Siberian projects, e.g. Sakhalin offshore oil and gas exploration, when the economic stakes seem positive and the potential political and strategic ramifications are minimal.

The Chinese, of course, would prefer no US or Japanese investment in Siberia. Peking would be particularly sensitive with respect to the BAM railroad or any other project that would directly enhance Soviet military capabilities along its border. Apart from such projects, the Chinese ultimately would have to accommodate themselves to whatever level of foreign involvement eventually emerged. They already recognize the inevitability of some Japanese investment in Siberia and have encouraged Tokyo to involve US capital as a means of countering potential Soviet political leverage on Japan. But in the short and medium term, the

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scope and pace of US decisions in participation could have important effects in Peking, where the general course of US-Soviet relations is an issue in internal politics as well as foreign policy. EARly, large scale US involvement in Yakutia or Sakhalin could strengthen that element in Chinese policy making which stresses a demanding attitude toward the US.

E. Conclusions

The imperatives of Soviet economic development are such that the USSR will proceed with the development of Siberia, with or without US participation.

-- Without US assistance, the development of Siberian energy resources will not be as rapid or as extensive as the Soviets desire, and the cost to the USSR will almost certainly be higher.

-- The development of other Siberian reserves would be facilitated by US technical cooperation and involvement in commodity pay-back arrangements, but such help would not be decisive.

-- In the absence of direct US participation, the USSR would retain access to much of the needed goods and technology from non-US sources

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(oil drilling and pipeline equipment are notable exceptions), and it could continue to purchase US equipment for cash, commercial credit or Eurodollar funds.

The development of Siberian energy resources and accompanying transportation infrastructures would have implications for US security planning.

-- It would increase Soviet ability to support sustained military operations in Asia and Soviet flexibility in strategic planning

-- Development would contribute to some extent to the expansion of the Soviet industrial base and/or the maintenance of their high level of defense expenditures.

-- It would enable the USSR to continue as a primary source of energy and other raw materials for Eastern Europe, an important factor in Moscow's strong hold over its Warsaw Pact allies.

In addition, US participation could affect our own energy programs.

-- US Government financing at low interest rates could divert capital from higher yielding projects in this country to less productive investments in Siberia in sharp conflict with

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goals and objectives of our national energy policy.

-- The export of US oil and gas drilling and producing equipment, already in short supply, could hinder domestic energy exploration and development.

On the other hand, barring US assistance for the BAM railroad or any other project that would directly enhance Soviet military capabilities in Siberia, selective US participation in Siberian ventures would, if deemed feasible on economic grounds,

-- make a positive contribution to the growth and stability of US-USSR economic and political relations;

-- be welcomed by the Japanese as assisting their own efforts to expand and diversify sources of supply; and

-- result in no serious strain in US relations with the PRC.^{4/}

Although the long-term commodity pay-back schemes generally proposed by the Soviets for US participation in Siberian projects pose more potential difficulties than simpler trade transactions, the enhanced US Government role implicit in these arrangements could

^{4/} See DOD footnote on page xxvi.

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-- be an important influence for Soviet compliance with agreements;

-- help compensate for the asymmetries between centralized and non-centralized trading systems. In this connection, the role of the Eximbank remains a potentially useful bargaining tool in influencing Soviet trade policies and practices.

The interruption in Eximbank lending to the USSR, however, has drastically narrowed US options for participating in large-scale development projects in Siberia.

-- In the absence of government financing, it is unlikely that private funds will flow into major Siberian LNG projects such as North Star and Yakutsk. Lack of Eximbank support will probably force the US firms involved to suspend their negotiations or propose internationalizing the projects. Congress, in its present mood, probably would not approve large-scale financing for these projects even if the bank's authority to do so had not been proscribed.

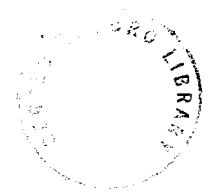
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-- Ongoing negotiations by US firms for participation in other Siberian ventures need not be directly affected by the cut-off in Eximbank credits. Kaiser Industries, for example, had made tentative plans for financing an aluminum complex without Eximbank funds; and Gulf Oil Company cooperation with the Japanese in oil exploration off Sakhalin would not entail substantial capital involvement in the initial stages.

-- Private financing of US participation in the Yakutsk natural gas exploration stage, remains a viable option.



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Footnotes

- 1/ OSD points out that the development of Siberia would require the Soviet Union to divert from military purposes considerable manpower and resources. Further, the developed resources would be vulnerable to attack, especially given the intelligence information which would be provided the U.S. if it were to participate in such development.
- 2/ OSD believes the USG should be more flexible in its approach, that is, it should be willing to participate in the development of Siberia under specified conditions. A key condition should be that U.S. participation would be based on realistic money costs, that is interest rates should be tied to U.S. bond costs. Further, U.S. participation should be based on the encouragement of private industry to move in and negotiate contracts, putting up their capital. The USG would then provide appropriate guarantees of private industry loans or contracts.
- 3/ OSD believes that U.S. participation in the development of Siberia would increase the intelligence information available to the U.S., making such developed resources vulnerable to attack by the U.S. Further, Soviet development of Siberia would encourage the Soviets to divert from military purposes considerable manpower and resources needed for such internal development.
- 4/ OSD believes the USG should be more flexible in its approach, that is, it should be willing to participate in the development of Siberia under specified conditions. A key condition should be that U.S. participation would be based on realistic money costs, that is interest rates should be tied to U.S. bond costs. Further, U.S. participation

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I. Objectives of Soviet Economic Development of Siberia

A. Economic Incentives

Siberia occupies over half of the USSR's land mass and by Soviet estimates contains more than three quarters of the country's reserves of coal, natural gas, major nonferrous metals, mature timber, and hydro-electric resources. Most of this wealth has not been exploited because abundant reserves have been available near existing population centers in the European USSR. The depletion of these resources is now forcing the Soviet leaders to look toward Siberia for future needs and to ponder ways to supply the area with the necessary capital, labor and technology.

1. Postwar Development

Accelerated development of Siberia as an economic goal began in the mid-1950s with the intention of making the largely uninhabited eastern regions into mirror images of the developed European areas of the USSR. Ambitious agricultural and industrial programs were introduced that required a large increase in investment funds and the mass movement of people eastward. During the mid-fifties some 70 million acres were plowed and more than 70,000 people were drafted to develop the "virgin lands" of Siberia and Kazakhstan to relieve the pressure on the traditional farm areas for food grains. During 1956-60 capital investment in Siberia was to rise by 100 percent compared with 67 percent for the whole country, and the 1959-65 Plan projected higher growth rates than in the European USSR for almost every Siberian industrial sector.

Although these programs brought unprecedented development to Siberia, the rates of growth of investment, and thus industrial output, were not as large as planned. During the Seven-Year Plan (1959-65) investment in all of the RSFSR increased by 48.5% while the growth of investment in Siberia was only 3½ percentage points higher. During the whole decade

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of the 1960s, industrial output of the eastern regions grew somewhat faster than the national average but their share in the RSFSR's industrial output grew very little. As a consequence, the share of national output contributed by the East and West Siberian and the Far East economic regions has increased slowly over the years (Table 1).

Table 1

Siberian Share of Production of
Selected Commodities
(in percent)

	<u>1940</u>	<u>1960</u>	<u>1970</u>	<u>Forecast</u> <u>1980</u>
Electric power	6.6	15.0	17.8	20
Crude oil extraction	1.6	1.1	9.6	50
Gas	--	0.7	5.6	32
Coal	23.5	28.0	31.9	N.A.
Steel	10.4	8.4	8.1	10
Chemical fibers	--	15.8	13.0	30
Timber	22.9	25.7	32.8	NA

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The realization that Siberian development would be an extremely costly process that would pay few immediate dividends led to a deemphasis of development in remote regions during the late 1960's. Failure to attract and hold a sufficiently skilled labor force was the biggest deterrent to development. In addition, investment projects were favored elsewhere because they would bring an immediate boost to sagging economic growth rates.

The mixed results of the ambitious programs of the 1950's and changing requirements have caused a shift in Soviet economic development strategy for Siberia.

-- Development is to be focused on those raw materials that can be developed most cheaply - coal, oil and gas, and ferrous metals in West Siberia; electric power, non-ferrous metals and other energy-intensive industries in East Siberia; wood and fish products, and some machinery in the Far East.

-- Western areas of Siberia generally will be developed first since they are closer to markets and transport networks.

-- All-around development will be concentrated in specific areas, especially in territorial-production complexes, which include interrelated enterprises of different branches of industry.

-- Development will focus on capital-intensive projects. Oil and gas projects will require fewer than a half million workers. Siberia's population, according to Soviet estimates, will be 30-35 million by the year 2000, still constituting only about 10% of the total population.

-- The Soviets have decided to seek help from the West for machinery, technology, and financing for Siberian projects.

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-- The Soviets have decided to seek help from the West for machinery, technology, and financing for Siberian projects.

2. Reasons for Lagging Development

Siberian economic development has fallen short of plan for several reasons. First, the Siberian projects must compete with other resource claimants: the leadership has already heavily committed itself to developing the non-black soil zone of the RSFSR during 1976-90, and 26 percent of all investment funds for 1976-80 are earmarked for the agricultural sector.

Second, each ruble invested in eastern development projects produces less output than in comparable projects in the Western USSR. Large social overhead outlays are required for education, housing, and the like. Transportation and communications networks must also be developed since major markets and processing facilities are still in the Western USSR. It has been estimated that the cost of creating one job at a new industrial site in the Soviet Far East is four times greater than at an existing site.

But the major obstacle to Siberian development has been the shortage of labor in the East. For forty years special material incentives have been extended to workers settling in Siberia, including higher wages, longer vacations, increased pension rights and privileges in education and housing. These incentives, however, have not been sufficient to compensate for the hardships in Siberian life. The high cost of living eats up much of the wage differential. According to estimates of the Siberian Research Institute on Labor, pay in the eastern regions has to be 38% higher than in the south to provide normal living standards, and 26% more than in the central areas.

Moreover, the housing, education, medical care, and other services do not measure up to the standards in the European USSR. Investment allocations in East Siberia during 1966-70 reflect the neglect of consumer-oriented sectors. A 90% increase in so-called non-productive investment was planned; actual

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growth was only 28%. Within this total, investment in housing construction was scheduled to increase by 80% but grew by only 20%.

3. Development Perspectives

Siberian development has become a matter of necessity if future needs of the USSR and its client states in Eastern Europe for oil and gas and other resources are to be internally met. In addition, exports of Siberian products earn foreign exchange to import equipment and technology for economic development throughout the country.

Energy. Continued economic growth must be supported by an adequate energy and raw materials base. At present 75% of the energy produced in the Soviet Union is consumed in the more heavily populated and industrialized European part of the country, although more than four-fifths of the energy resources are located east of the Urals. Through 1990, 80% of the increase in Soviet production of energy is scheduled to come from Siberia. The hydro-electric power potential of European rivers has been almost fully developed. Extraction of coal in the older producing regions is becoming more difficult and expensive as work must be conducted at greater depths. Rates of increase in production of oil and gas from older producing fields are slowing down as reserves are being depleted.

The oil and gas fields of Tyumen Oblast in Western Siberia are contributing almost all of the present increases in petroleum production. After 1980, technical problems may cause production from West Siberian fields to slow down somewhat, and additional increases in output will have to come from new reserves as yet undiscovered. Soviet geologists have been instructed to increase their efforts in exploring East Siberia, an area where geological conditions, climate, and logistic problems will be even more troublesome than in West Siberia.

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Development of the enormous hydroelectric power potential of the Siberian rivers is already under way. The world's largest hydroelectric power-plants have been built at Krasnoyarsk (6,000 megawatts (MW) capacity) on the Yenisey River and at Bratsk (4,100 MW) on the Angara River. The capacity of hydro-electric power plants in the Angara-Yenisey region, currently 11,200 MW, is expected to be about 27,000 MW by 1985 and may be 60,000 MW by the end of the century. A complex of 10 large thermal electric power-plants, with a combined capacity of 50,000 MW-60,000 MW, is to be built in the Kansk-Achinsk brown coal basin, which extends for several hundred miles along both sides of the Trans-Siberian railroad. This basin, which contains an estimated 1.2 trillion tons of coal, is tentatively scheduled to produce 350 million tons annually by 1990. The availability of low-cost electric power brings with it other development.

Chemicals. The availability of cheap energy resources, abundant sources of hydrocarbons, large salt deposits, and improved means of pipeline and rail transport will lead to extensive development of Siberia's chemical industry over the next 20 years. Although the potential for large-scale production of chemicals in Siberia has always existed, progress in this area has been hampered by the slow pace of development of the raw material base, the low level of Soviet chemical technology, and the lack of infrastructure in the eastern areas. Now, however, conditions are more favorable. Natural gas, produced in association with oil, is being flared--wasting a potentially rich source of chemical raw material. Shortages and high prices in the West have encouraged the exchange of Soviet chemical intermediates and end-products for Western chemical equipment and technology.

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Minerals and Metals. The USSR is also counting heavily on Siberia to help meet domestic needs for minerals and metals during the next 20 years and to contribute a surplus for export. Soviet studies indicate that the nation's new energy intensive industries should be located in Siberia. Placement of these industries in the proximity of the energy sources (coal and hydroelectric power), rather than in the energy-deficient European USSR, would result in considerable net savings, even if the raw materials were transported from European USSR to Siberia and the finished or semi-finished products delivered back to the Western USSR.

Siberia's role will be especially important in the aluminum industry. Large, modern aluminum plants have been built at Bratsk, Irkutsk, and Krasnoyarsk to take advantage of the electric power made available by the hydroelectric plants in those locations. Bratsk, which began as a construction camp for workers building the powerplant, has become a city of 175,000. By 1990, a city of 150,000 is planned around the large hydroelectric plant soon to begin operation at Ust Ilimsk. The USSR is seeking western help in building four additional large Siberian plants with combined capacity roughly equal to that of the present Soviet aluminum industry.

Western participation is also being sought in development of the large Udokan copper deposit east of Lake Baikal. Expansion of facilities for production of copper, nickel, and platinum group metals is already under way, with Finnish assistance, at Norilsk.

4. Balance of Payments Considerations

The prospect of hard currency earnings from the exploitation of Siberian natural resources to finance imports for general economic development must be among the major stimulants to Soviet planning for Siberia. Exports of oil from the Sakhalin continental shelf could boost gross Soviet export earnings during the 1980s by as much as \$3.5 billion annually; and projected

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gas exports from both the North Star and Yakutsk projects could raise another \$1.5 billion annually. Over the period 1975-90, the oil and gas projects along could boost hard currency earnings by about \$55 billion, allowing for some continuing inflation in oil and gas prices. Payments for the hard currency imports associated with these projects could be as much as \$10 billion, leaving net earnings at close to \$45 billion. Western assistance in the development of Soviet metals and mining industries would generate additional annual gross exports of almost \$1 billion by 1985.

B. Strategic Objectives

The development of Siberia would also serve several important Soviet military, strategic and foreign policy objectives. It would increase the strategic flexibility of the USSR by:

-- increasing the total energy resources available to the USSR and its allies;

-- expanding and dispersing the USSR's industrial base as Siberia is developed; and

-- diversifying and increasing the total capacity of the lines of communications linking European Russia with the Soviet Far East.

Additionally, it would increase the Soviet capability to support military activities in Asia by improving the transportation infrastructure, thereby enhancing Soviet logistics capability against China.

The Soviet decision to build a second Trans-Siberian (Baykal-Amur-Magistral) railroad resurrects an old Stalin scheme that has brought intermittent construction over the years. While the Soviets have understandably emphasized the important economic benefits of the railroad, stressing that the rail link will open up vast tracts of Siberian wilderness for settlement and development and make new resources accessible and suitable for foreign investment, the new railroad will also provide the USSR with an alternate supply line running 100 to 500 miles north of the existing one and less vulnerable to Chinese

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interdiction. It would increase the USSR's capability to deploy additional forces to the Soviet Far East in the event of a Sino-Soviet conflict or to move forces from Asia to Europe in the event of a NATO-Warsaw Pact confrontation.

The Soviets have also proposed construction of a 7,000 kilometer pipeline from Tyumen to the Pacific coast, which would be capable of carrying up to 50 million tons of crude oil per year, and parallel existing pipelines as far as Irkutsk (near the southern end of Lake Baikal) and then generally follow the route of the Trans-Siberian railroad to Nakhodka. Although construction of the pipeline will be substantially delayed, it could lead to improvements in transportation infrastructure in the area, particularly if it were to justify construction of a Far Eastern oil refinery at Nakhodka, a potentially important asset to the Soviet navy which operates from nearby Vladivostok. Transportation improvements, such as the Baikal-Amur-Magistral railroad or an all-weather road built in conjunction with the proposed pipeline from Tyumen, would be welcomed by the military as expanding and diversifying the transportation alternatives available to them in wartime.

In this regard, one basic Soviet strategic objective in Siberian development is to strengthen its position in dealing with China, and--should it come to that--to enhance its capability of coping militarily with the PRC.

In a more general strategic sense, the development of Siberia--and particularly the growth of population there--would increase the USSR's political weight in Northeast Asia and strengthen its sense of security with respect to China and Japan, both of which have challenged Soviet rule in this region during this century. Moscow may also believe that the involvement of Japan in Siberian development would enhance Soviet diplomatic leverage in thwarting possible Japanese-Chinese-US combinations that would threaten Soviet interests. The close political, military and economic ties between Japan and the United States have been a source of periodic Soviet concern; Moscow is haunted by the prospect of an

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anti-Soviet alliance among Japan, and the US and PRC.. Industrial cooperation with Japan in Siberia could lead to a closer USSR-Japanese relationship and drive a significant wedge into such an anti-Soviet coalition. Finally, Western assistance in augmenting Soviet energy supplies would help the USSR maintain its position as primary supplier of oil to Eastern Europe, thus reinforcing its strong hold over its Warsaw Pact Allies.^{1/}

1/ See DOD footnote on page 47.

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II. Extent to which the USSR will Develop Siberia with or without Outside Assistance

A. The Role of Western Assistance

The Soviet leadership clearly intends to continue and accelerate past efforts to develop the eastern regions of the country, particularly Siberian energy and mineral reserves, with or without outside assistance. The Siberian complex--with related transmission and processing facilities--figures as one of the major capital investment efforts of the 15-Year Plan (1975-90). Although there has been some questioning within the USSR about the wisdom of mortgaging nonreproducible natural resources to the West, no leading Soviet spokesman has espoused this point of view. The economic rationale for seeking Western assistance in the Siberian developmental effort is clear: the USSR has insufficient capital resources and, in many cases, inferior technology for developing Siberian resources quickly and efficiently. Without outside assistance, the development of Siberia would not be as rapid or extensive, and the cost to the USSR would almost certainly be higher.

Oil and Gas Cooperation. Thus far the USSR has been carrying on the development of Siberian oil and gas reserves, for the most part, with its own equipment and resources. Without Western assistance, however, the pace of future development of onshore resources would be slower--perhaps by 3 to 5 years--and the extensive development of offshore resources would probably be unattainable before 1990.

The magnitude of the reserves, and the difficult engineering problems posed by production and transport in very cold regions are reflected in the urgency of Soviet attempts to obtain Western technology and capital for the development and exploitation of Siberian energy resources. Although Soviet assessment of the state of the art in Western technology and political motivations indicate a clear preference for US involvement, Moscow has been actively negotiating with other Western nations and has been exploring other alternatives.

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Among potential Western suppliers, the US clearly is the best source of complete systems for onshore, offshore and permafrost exploration, production and pipelining. Advanced geophysical equipment and related computer hardware and software that would best serve the USSR's exploration needs can be acquired only in the United States. US firms also manufacture the most advanced drilling and producing equipment in the world. Only US companies, subsidiaries, or foreign licensees manufacture fully automated pipeline valves, compressors, and pumping equipment for large diameter pipelines. Although the USSR has had more experience than any other country with commercial operations under permafrost conditions, it might also benefit from the use of Western technology developed for the Alaskan North Slope and the Canadian Arctic.

If the US consortia do not participate in the North Star and Yakustk projects, Soviet objectives could be met to some degree by turning to non-US sources. Britain, France and West Germany can supply certain types of seismograph and geophysical equipment. Some offshore technology is being developed by Dutch, French, Norwegian, British and Japanese firms; and Western Europe and Japan can supply large diameter linepipe. Thus, the USSR could carry out its exploration and development programs with its own equipment, supplemented by these non-US Western sources, but at greater cost and over a longer period of time than would be the case if it had access to US technology and equipment. Only Canadian technicians could help to solve problems of permafrost pipelining as effectively as would the US consortia: no West European or Japanese companies have the requisite technical know-how and experience.

Moscow should be able to obtain some Western European investment in smaller-scale projects. Faced with sharply reduced aggregate demand and a large and rising margin of unused capacity, these countries would presumably welcome the stimulus to be derived from the export of capital equipment to the USSR. Without US participation, however, Western Europe would be hard pressed to muster the amounts of capital and other resources necessary for many of Moscow's main proposals. While the FRG, Austria, Finland, Italy, and

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France have concluded agreements with the USSR calling for the exchange of pipe for gas deliveries (largely from fields located in the Western USSR) over a 15-20 year period and are interested in additional arrangements of this nature, they probably would have no interest in the expensive LNG projects. If the USSR desires to deliver West Siberian gas to Western Europe, it can do so by extending its present pipeline network.

Although many of the same limiting economic factors pertain to the Japanese case--the scale of the investments required, the high cost, current economic and financial problems and resource stringency--Japan remains the most likely potential partner in the development of Siberian oil and gas resources. At the same time, because Japan is politically reluctant to make long-term, large-scale engagements with the Soviets without US support and participation, Tokyo continues to look to the US as a necessary partner in the major Siberian oil and natural gas projects.

Other Siberian Resources. The further development of hydroelectric power, coal, chemical, and minerals and metals industries are also important elements in Soviet planning perspectives for Siberia. The USSR undoubtedly can and will carry out its plans for developing the hydroelectric power potential of Siberia without outside assistance. It has built the largest hydro-electric powerplants and generating units in the world. Construction of large thermal electric powerplants and high-voltage long distance transmission lines probably would be facilitated by some Western technical cooperation and assistance. With or without such assistance, however, an impressive number (perhaps 10) of large plants will be built to use Siberian coal in generating electric power.

The brown coal deposits of the Kansk-Achinsk basin probably will be developed--primarily for domestic use--entirely with Soviet resources. But in exploiting the Chulman coking coal deposits of Eastern Siberia--largely for export to Japan--the USSR is counting on Japanese financial and technical support.

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Without Western assistance, development of the Siberian chemical industry would be delayed by several years. If only US chemical technology is denied to the USSR, the penalties would be far less as other Western countries can provide almost equivalent technology for the most part. Nevertheless, US chemical technology is valued highly by the Soviets and several Siberian chemical projects include US technology at present.

Western assistance would also speed up the timetable for development of Siberian minerals and metals industries somewhat, but not decisively. The USSR has demonstrated strong capabilities in aluminum, copper, steel, and diamonds and should be able to achieve substantial gains on its own.

In sum, Soviet development of other Siberian resources--primarily metals and minerals--would be facilitated by Western technical cooperation and assistance, but Moscow does not need outside technology. Growing world demand for most of these resources should provide the USSR with sufficient incentive for their development, although the rate of exploitation would be fostered if Western firms agreed to accept minerals and metals in payment for credits.

B. Autarkic Considerations in Siberian

Development Policy

Although the historic doctrine of autarky--economic self-sufficiency--has found a dwindling number of adherents, there are apparently some in the USSR who argue against the extensive mortgaging of the nation's natural wealth to the West. Despite the widely publicized comment last May by Soviet petroleum minister Shashin that the USSR had decided to develop its own oil reserves and to exclude foreign investors (which gave rise to speculation in the West that the Soviets were developing a "Project Independence" of their own), such statements have been quickly denied by leading Soviet officials, and available evidence indicates that Moscow remains strongly interested in foreign participation in Siberian energy and other projects.

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The role of the West in Siberian development will not be settled in the next few years. Much will depend on Soviet experience with cooperative ventures in some areas and on Soviet success in going it alone in others. The availability of credits will also be an important factor in Soviet selection of Western partners. Judging by past history, growing frustration over the delays and difficulties of developing the eastern regions may incline the leadership to look for help in areas and on terms that would not be considered now. Nonetheless, an autarkic strain in Soviet economic planning remains. Moscow realizes that US, West European and Japanese capital and technology can clearly accelerate the exploitation of Siberian oil, gas and mineral resources. But it is unlikely that it would, if it could, allow such assistance to become an indispensable basis for Soviet economic progress in the eastern regions or anywhere else in the USSR.

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III. Impact of Siberian Development on Soviet Energy Needs and on World Energy Markets

A. Outlook for Energy Production

Siberian deposits will play a vital role in providing the oil and gas required to meet the rapidly growing needs of the Soviet economy and to export to communist allies and hard currency areas. Soviet sources expect total demand for energy to double during 1976-90, to a level of about 3.5 billion tons per year of hard coal equivalent (see Table 1). About 80 percent of the increase in Soviet production of primary energy through 1990 will be obtained from Siberia.

Oil. With production from older oil fields in the Western part of the USSR slowing down, production of crude oil in West Siberia in 1975 will reach 2.9 million barrels/day (b/d), about 30 percent of total Soviet production. Soviet forecasts imply Siberian output of 7-8 million b/d of crude oil in 1990, at least half of total Soviet output. In recent months, however, high-level oil officials have expressed concern that technical problems will hold back the growth of West Siberian output in 5-6 years, at a time when consumption of liquid fuels will be rising steadily. If the increase in West Siberian oil production slows appreciably, total production is unlikely to reach the target of 15 million b/d in 1990 that has been cited in Soviet forecasts. The USSR would then be driven to intensify efforts to discover new oil resources in East Siberia, an area where logistic problems are worse than in West Siberia and where the geology is more complex. Given the length of time required for exploration, drilling, and pipeline construction, this remote area probably could not furnish sizable quantities of oil before 1990. Offshore Sakahlín seems to be the only likely area in the eastern regions aside from West Siberia that could be developed to supply substantial amounts of oil before 1990.

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Table 1

Soviet Energy Supply and Demand, 1960-90
(Million Metric Tons of Hard Coal Equivalent^{1/})

	Actual		Plan	Unofficial Soviet ² Forecasts	
	1960	1970	1975	1980	1990
<u>Total Supply</u>	<u>742</u>	<u>1,288</u>	<u>1,763</u>	<u>2,200</u>	<u>3,500</u>
Fuel production	692	1,233	1,639	2,011	2,983
Oil	211	503	721	821	1,070
Natural Gas	54	234	382	583	1,035-1,100
Coal	373	433	484	540	723-794
Peat, shale, & wood	54	53	51	67 ³	84 ³
Hydroelectric power production	6	15	20	22	34
Nuclear power production	Negl.	4	9	43	345
Other energy sources	33	32	35 ³	40 ³	50 ³
Imports	11	14	60 ³	84 ⁴	88 ⁴
<u>Total Demand</u>	<u>742</u>	<u>1,288</u>	<u>1,763</u>	<u>2,200</u>	<u>3,500</u>
Consumption	678	1,118	1,500 ³	1,900	3,000
Exports	60	167	260 ³	300	500
Additions to stocks	4	3	3	Negl.	Negl.

1. Equivalent to 7,000,000 Kilocalories per metric ton.
2. Derived from various Soviet Sources.
3. Estimated.
4. Derived as a residual.



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Gas. The USSR will also be hard pressed to produce and deliver the increased amounts of gas required for an expanding domestic economy and for export. Soviet forecasts for production of gas (prepared over the last few years) show an increase from 11.3 trillion cubic feet in 1975 to 17.1 trillion in 1980 and to 30.4 - 32.5 trillion cubic feet in 1990. These projections appear too high. Indeed the plan for production in 1975 has already been cut back to 10.1 trillion cubic feet. Although some of the largest gas reserves in the world are located in the northern regions of Tyumen Oblast in West Siberia, development of these reserves is proceeding slowly because of the difficult permafrost conditions and the lag in construction of gas pipelines.

B. Outlook for Exports of Oil and Gas

According to long-range Soviet forecasts, the USSR will remain a sizable net exporter of energy. Net exports of oil are supposed to rise from about 2.9 million b/d in 1975 to about 3.8 million b/d in 1990. This volume of exports would provide the bulk of the oil needed by Eastern Europe to maintain a 6 to 7% rate of growth in oil consumption during 1976-90 and would at the same time maintain exports to the West at or near current levels.

Although the Soviet production forecasts (10.1 million b/d in 1980 and 15.0 million b/d in 1990) probably were predicated on the use of Soviet resources alone, we believe that they represent the best that the USSR could achieve by 1990, even with maximum Western assistance. Such assistance would include sale of large amounts of equipment for exploration and development of oil resources both onshore and offshore. It would also include participation in cooperative development of resources offshore from Sakhalin and perhaps in the arctic areas. The Soviet forecast of a growth of only 3% per year in oil consumption seems equally unrealistic. Even if

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the Soviet production forecasts are right, a 5%-6% rate of growth in domestic consumption of oil (compared with the 7%-8% experienced over the past decade) would require the USSR to be a net importer of oil during 1986-90. To avoid becoming a net importer, the USSR probably will hold the increase of domestic consumption to less than 5% per year.

A more likely estimate of the Soviet supply-demand situation for the period after 1980 (Table 2) assumes an even lower rate of growth in total production than indicated by the Soviet forecast and declining rates of increase in consumption. The estimate assumes that Western assistance to the oil industry during 1975-90 would be limited to participation in development of resources offshore from Sakhalin and some sales of equipment for development of resources onshore and in the Black and Caspian Seas. Western involvement in projects in other areas is highly unlikely until later. According to the estimate, the USSR would be able to export only about 1 million b/d on a net basis in 1990, roughly as much as Soviet deliveries to Eastern Europe in 1973. Soviet and East European needs would absorb practically all projected oil production by 1985 and 1990; available exports to the West would begin to level off in 1976-80 and by 1990 would be about half the current level.

The outlook for Soviet gas exports is somewhat brighter if the USSR obtains Western assistance in the form of cooperative ventures and sales of equipment and technology. Although Soviet forecasts seem too high (as noted above), the USSR could manage the 5% to 6% average annual growth in output shown in Table 3. Domestic production of 21-23 trillion cubic feet, would permit the USSR to double its internal consumption of gas while increasing exports to almost 4 trillion cubic feet. This forecast assumes that the North Star and the Yakutsk cooperative ventures go through.

Although limited in quantity, the sale of energy products is nonetheless a key factor in Soviet hard currency exports. Soaring oil prices have

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Table 2

Estimates of Soviet Supply and Demand for Oil

1975-90

(Million Barrels/Day of Crude Oil
Equivalent)

	<u>1975</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>
<u>Supply</u>				
Crude oil pro- duction (from Siberia)	9.6 (2.9)	11.8 (6.0)	13.4 (7.0)	14.0 (8.0)
Imports	<u>0.3</u>	<u>0.4</u>	<u>0.6</u>	<u>0.8</u>
Total	9.9	12.2	14.0	14.8
<u>Demand</u>				
Domestic con- sumption ^{1/}	7.2	9.2	11.2	13.0
Available for Export	2.7	3.0	2.8	1.8
To other Com- munist countries	1.5	1.6-2.0	2.2	1.3
To the West	1.2	1.0-1.4	0.6	0.5

1. Average annual rates of increase: 5% during 1976-80; 4% during 1981-85; 3% during 1986-90.

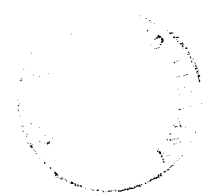
Table 3

Estimates of Soviet Supply and Demand for Natural Gas,

1975-90

(Trillion cubic feet)

	<u>1975</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>
<u>Supply</u>				
Natural gas production	9.7	13.4	17.7	21.2-23.0
(from Siberia)	(1.4)	(4.2)	(7.8)	(10.6)
Imports	<u>0.5</u>	<u>0.7</u>	<u>1.1</u>	<u>1.1</u>
TOTAL	<u>10.2</u>	<u>14.1</u>	<u>18.8</u>	<u>22.3-24.1</u>
 <u>Demand</u>				
Domestic consumption	9.3	12.5	15.4	18.4-20.2
Exports:	<u>0.9</u>	<u>1.6</u>	<u>3.4</u>	<u>3.9</u>
to Eastern Europe	0.5	0.9	1.1	1.4
to Western Europe	0.4	0.7	0.9	1.1
to the US	0	0	1.1	1.1
to Japan	0	0	0.3	0.3



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made the difference between surplus and deficit in the USSR's hard currency trade account. Earnings from the sale of oil in 1974 may reach \$3 billion, more than 40% of total projected Soviet hard currency earnings. Hard currency revenues from the sale of oil should continue to rise for a while, perhaps reaching \$5 billion. As suggested above, however, the amount of oil available for sale to the West probably will level off before 1980 as increased production from existing sources is matched by increased domestic demand and commitments to Eastern Europe.

The increasing natural gas deliveries to Western Europe under current contracts during the balance of the decade will help fill the breach. By 1980 annual hard currency earnings from gas exports could reach \$1.3 billion. Earnings from coal exports will also rise, largely as a result of the Soviet-Japanese agreement to develop the Chul'man deposits. Earnings from coal and coke, roughly \$200 million in 1974, could reach \$400 million by 1980.

But the proposed oil and gas cooperative ventures--North Star and Yakutsk LNG and Sakhalin oil--offer the best hope for a major boost in hard currency earnings as a result of Siberian development. Over the period 1975-90, these projects could lift net hard currency earnings by roughly \$45 billion, allowing for some continuing inflation in oil and gas prices.

C. Implications for World Energy Supplies

Regardless of the effort undertaken by the Soviets to develop Siberian oil and gas resources during the next 15 to 20 years, even with Western assistance, the USSR will not be a major factor in world energy trade:

-- Soviet and East European needs will absorb practically all of the projected oil production by 1985 and 1990; the tonnage exported to the West probably will begin to level off before 1980 and by the end of that decade be roughly half the current level;

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-- Even if the Sakhalin offshore venture is successful, oil exports from this area through the 1980s are likely to represent only a very small share of world oil trade or of supplies to Japan.

-- If the proposed cooperative ventures for exploration of Soviet natural gas deposits by US and Japanese firms materialize, the liquefied natural gas (LNG) delivered to the US and Japan will represent at best only 1 to 2% of the total energy supply in either country.

-- While Soviet exports of natural gas to Western Europe may constitute as much as 10% of the importing countries' total gas supply during the 1980s, they will account for only a very small share of their total energy supply.



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IV. US Trade and Investment Opportunities in Siberia

A. The Range of Opportunities

US-Soviet trade negotiations have already dealt with many large projects in Siberia, and a number of other proposals are likely to become more fully developed over the next 20 years (See appendix A). While most of these will be in the form of commodity pay-back deals--which would involve large, long-term US credits eventually to be repaid by Soviet exports of the products of the new facilities--opportunity also exists for substantial commercial sales of US equipment. US trade and investment opportunities in Siberia cover a wide spectrum of industries--energy, metallurgical, automotive, and chemical--as well as infrastructure development. At this point, the largest and most promising projects appear to be in the energy and metallurgical fields.

1. Oil and Gas Projects

The US has been negotiating two gas projects with the USSR. One, a joint effort with Japan to develop natural gas deposits in the Yakutsk region in Eastern Siberia, has been pending since a general agreement was signed in 1973. Firms in Japan and the US have agreed to invest \$100 million each in exploratory drilling to verify the one trillion cubic meters of reserves claimed by the UUSSR. Additional financing would be required for a 1,200-mile pipeline from Vilyuysk to Nakhodka on the Pacific coast and for liquefaction and port facilities. Western plant and equipment from the US and Japan would cost an estimated \$3 billion. In return, the USSR would deliver 1 billion cf/d to the US and to Japan for a period of 25 years. An agreement was signed on 22 November 1974 among all participants to undertake the exploration phase of the venture. However, US participation is contingent upon Eximbank financing.

North Star, an LNG project involving only the US, would be a cooperative venture between the USSR and three US firms. The US firms would supply gas well equipment for development of the large Urengoy

Table 1

Western Investment in Soviet Siberia

1975 - 80



<u>Project</u>	<u>Value of Potential Western Involvement</u>	<u>US Participation</u>
Yakutsk LNG Development	\$3 billion	US firms have 50% participation
Sakhalin Offshore Oil Exploration and Development	\$100 million - \$1 billion	Gulf Oil involved in negotiations
Baykal-Amur-Magistral Railroad	\$2 billion	To date US firm has obtain \$100 million contract for tractor
Chul'man Coal	\$450 million	Minor equipment sales
Forestry Development	\$550 million - \$2.0 billion	None expected
Aluminum Production Complexes	\$1 billion - \$2.5 billion	Kaiser now negotiating for \$1.5 billion contract
North Star LNG Development	\$3.7 billion	US-Soviet deal
TOTAL	\$10 billion - \$14 billion	\$3 billion - \$7 billion

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deposits in Western Siberia, large diameter pipe and other pipeline equipment, liquefaction and port facilities at Murmansk, and technical know-how. US investment for facilities in the USSR would amount to \$3.7 billion, and the consortium is seeking Eximbank participation of \$1.0 billion in direct loans to the USSR and guarantees of an additional \$1.0 billion to be provided from private sources. The remaining \$1.7 billion would come from a Soviet down payment of \$.7 billion, supplier credits of \$.4 billion and unguaranteed funds from private US financial institutions of \$.6 billion. In return, the USSR would supply 2 billion cf/d of LNG over a 25-year period. Difficulties over financing, pricing, and, to a lesser degree, Soviet demands for additional plants to manufacture producing equipment and changes in the pipeline route have stalled negotiations.

A Soviet oil development project under negotiation also involves joint US-Japanese participation. A Japanese consortium has agreed to explore one area off the northeast coast to Sakhalin and will provide a \$100-\$200 million in long-term financing. The consortium will receive a long-term option to purchase 50% of all oil recovered. Total Western investment to explore and develop one or two major offshore oil fields might exceed \$1 billion. Gulf Oil is providing technical assistance in return for sole rights to explore other offshore areas surrounding Sakhalin under a more lucrative arrangement, which could result in an additional \$1 billion investment.

A long-range development possibility late in this period could be US participation in offshore exploration and development in the Kara Sea. US investment could amount to \$2 billion, presumably with some sort of product payback arrangement.

Resource Constraints. Materials, equipment skilled manpower are fundamental to the development of energy resources in the US or Siberia. Current energy development in the US has already been slowed by shortages of particular items and long lead times for certain categories of equipment, and accelerated development of US domestic energy resources will place additional burdens on industrial capacity and raw materials availability.

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Among the items of equipment that would significantly help the USSR in developing its Siberian energy resources are: drilling rigs, pipeline construction materials, tubular goods for drilling, and high-volume submersible pumps--all currently in short supply in the United States. A shortage of shipyard personnel is limiting construction of off-shore drilling rigs; all energy industries are affected by an overall shortage of steel, in particular steel plate for large equipment. An accelerated US energy program could exceed the most optimistic forecasts of production of fixed and mobile offshore drilling platforms and constrain or delay development of US offshore oil. The availability of drilling rigs, drill pipe, casing, tubing etc., will also be a severe constraint on US oil field exploration and exploitation. Oil and gas transport could be hampered by a shortage of steel pipe. Shortages of engineers, construction draftsmen and other skilled craftsmen have hindered the development of some energy projects in recent years and the shortage will continue to 1980, and perhaps beyond, unless policy direction is given to attracting labor to those skill classifications which require many years to develop. Similar shortages are evident in Western Europe.

Financing Constraints. The requirements for incremental capital needs under Project Independence are potentially large enough to raise questions about the capability of US capital markets to provide funds both for domestic energy development and for investment in Siberian resources. Assuming maximum annual investments in Siberia of from \$1 to \$2 billion during the next five years and comparing these amounts with the total net funds raised in US securities markets in recent years, the financing requirements for Siberian projects are not large--on the order of 2-4 percent of the total net funds raised in US securities markets in recent years. The Project Independence Blueprint (PIB) indicates, however, that the incremental capital requirements in energy will range from \$379 to \$474 billion (1975 to 1985). Under the PIB accelerated supply strategy, which reduces dependency on imports, as much as 90 percent

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of energy investment will be in oil, gas, and electricity generation. The annual capital requirements over the next decade is approximately 2 to 3 times greater than recent annual energy investments.

It is unlikely that private funds will flow into Soviet LNG projects in the absence of public financing. US Government participation, however, would raise a number of questions concerning the impact of the projects on the allocation of US resources and on the overall productivity of the US economy. Eximbank financing at the levels required would cause an upward pressure on interest rates, which could mean that some domestic projects that were formerly feasibly would no longer be economically justified. The extension of credit by the Government, even where the interest rate and other changes fully cover Government costs, acts to reallocate resources if the cost to the borrower is less than what private investors are charging in similar risk situations. In today's market, for example, American oil companies with the highest credit rating are paying from 9 to 10 percent interest on 30 year borrowings to finance their share of the Trans Alaska Pipeline System. It is difficult to say what the appropriate interest rate is in the Soviet case; but, the argument for maximizing overall US productivity implies using a discount rate in the appraisal of the projects that is not less than what US private companies are earning on their investments, which is certainly above 10 percent p.a., in nominal terms.

Current high costs and tight availabilities of credit for such domestic purposes as mortgage lending have made the question of foreign credits an emotional domestic issue and provoked general criticisms of Eximbank lending. Congressional and public concerns over Eximbank lending to the USSR have focused largely on assistance for Soviet energy development, and reflect fears that such credits will exacerbate domestic shortages, divert funds from more productive energy investment at home, develop dependence on a politically unreliable foreign source of supply, and conflict with US national energy policy objectives. Provisions regarding energy-related loans to the USSR in recent Eximbank legislation reflect profound congressional misgivings about potential US participation in the

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North Star and Yakutsk natural gas projects. Congress, in its present mood, probably would not have approved any large-scale financing for these projects even if the bank's authority to do so had not been proscribed by our inability to put the 1972 trade agreement into force. In any case, government decisionmakers would have had to be prepared to defend such a policy with compelling political as well as economic and energy-policy considerations.^{2/}

Energy Policy Constraints. Last year's oil embargo demonstrated our dependency on foreign energy supplies. Under our national energy policy, we are committed to reducing our demand for energy imports and expanding our domestic energy supplies. Long-term LNG contracts, such as those proposed with the Soviet Union, run counter to the general thrust of our national energy goals.

The Project Independence Blueprint concludes that, with \$11/barrel world oil, reduced U.S. consumption and increased U.S. production will lower U.S. petroleum import requirements from 6-7 million barrels per day at present to 3-3.5 million barrels per day in 1985. An active government policy to encourage additional domestic production and discourage consumption could reduce petroleum imports to zero by 1985. A zero or near zero level of petroleum imports would essentially eliminate the risks to the U.S. of an interruption in energy supply. In the period 1975-1985, the U.S. will have to rely on some imported energy and try to minimize and manage the risks of supply interruption and the costs should such an interruption occur. Thus the most difficult period for U.S. energy policy is 1975-1985; the Siberian gas and oil projects would make no significant contributions to this difficult period.

The Energy Resources Council is currently considering the future role, if any, of LNG in our national energy balance. The advantages of increased gas supplies are being weighed against the high cost of LNG and the availability of energy substitutes.

^{2/} See DOD footnote on page 47.



Should we decide to increase our LNG imports, the Soviet projects will have to compete with LNG projects in Algeria, Nigeria, Iran, Indonesia, and elsewhere. The cost of the Soviet projects exceed other prospective LNG projects because of the length of the pipeline and the adverse climatic conditions in Siberia.

2. High Energy Consuming Products

The Soviets have proposed cooperation with US firms in the construction of installations to manufacture products requiring large amounts of hydroelectric power available in Siberia. The US companies would supply equipment and technology on credit, the repayment for which would be generated by Soviet exports of products from the new facilities. Among the energy intensive projects mentioned by the USSR are facilities for the production of ammonia, methanol, ethylene, synthetic materials, copper, aluminum, ferromanganese, ferrochromium and silicon and unspecified machine building industries. If such installations are constructed with US help, the USSR should be able to supply its own increasing requirements and probable US import needs for some time to come. The USSR already exports a substantial portion of its domestic output of most of these products.

The US, on the other hand, currently imports a large portion of its ferromanganese and ferrochromium. If a decision is made to use large quantities of methanol as fuel in the United States, the US could change from its current net export position to a major net importer. The US has almost no usable reserves of manganese ore and is also completely dependent on imports for the chrome ore used in producing ferrochrome. US imports of aluminum, now about 10 percent of domestic supply, are expected to rise over the next decade with the projected growth of demand outstripping scheduled additions to domestic capacity. The US already depends on foreign sources for most of the bauxite or alumina used in its aluminum smelters and the ratio of foreign to domestic supply is rising. Ferro-silicon is the only one of the products in which the US can expect to remain self-sufficient.

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Hence, developing shortages of thermal and electric power in the US have provided incentive for buying finished products from the USSR--where natural gas and undeveloped hydro-electric power are still abundant--instead of producing more at home from imported raw materials. For example, importation of one ton of aluminum would "save" 17,000 kwh of domestically produced electricity.

Kaiser Industries has already signed a preliminary agreement with the USSR on the aluminum project and Union-Carbide has submitted proposals on the ferromanganese and ferrochromium projects. Kaiser is to provide the USSR \$1.4 billion in western equipment on long-term credits for construction of a 1 million ton-per-year alumina refinery, a 500,000 ton-per-year aluminum reduction plant, and a large rolling mill. The reduction plant presumably would be located near the Krasnoyarsk hydroelectric plant. Kaiser might also help to develop bauxite deposits, but the location of these deposits has not been specified. If a contract is signed, Kaiser would form an international consortium to help manage the project as well as to market the aluminum supplied by the Soviets in repayment of the Western credits. The USSR has also told Kaiser of its interest in building one or two additional large aluminum complexes, which could involve an additional \$1 billion or \$2 billion in Western investment, but plans are unclear and seem geared to a time period near 1990. Another billion dollar aluminum project has recently been negotiated with a French firm.

3. Other Projects

The USSR is pushing ahead on construction of the Baykal-Amur Magistral (BAM) railroad across Siberia. Soviet purchases of Western equipment for this line are expected to total \$2 billion, of which \$500 million in contracts have already been signed. The US has received \$100 million in contracts so far and is expected to receive additional large contracts. Completion of the project could lead to the development, with Western assistance, of the Udokan copper deposits and other raw materials in the area.

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Proposals for a truck complex at Krasnoyarsk have been discussed with a number of US firms-- principally GM. But Soviet plans for this plant seem to have been pushed back indefinitely. Orders for Western equipment for the plant might well total \$1 billion, of which the US share could be 50% or more.

A number of other development projects in Soviet Siberia are underway or being negotiated with other countries. These include timber and coal projects and a steel complex with Japan and a number of pulp, chemical, and non-ferrous metal plants and mining projects to be developed in the 1980s. These projects could involve Western investment in Siberia of more than \$10 billion. The US involvement in these later deals cannot be quantified.

4. Modes of Cooperation

The Soviets have offered a variety of contractual arrangements to secure foreign capital, plant and equipment, and technical and managerial skills in support of Soviet investment programs in Siberia. The forms of such industrial cooperation, in ascending order of interdependence and Western involvement, are as follows:

Licenses. The Soviets obtain licenses from the West for advanced engineering technology and process know-how in a variety of ways. The most direct is outright purchase from the license holder or from an agent. Compensation can either be paid in a lump sum or in royalties per unit, with both the Western and Soviet partner preferring lump sum payment. Licenses are also often included in plant and equipment contracts. Scientific and technological agreements with Western firms often call for the exchange of licenses. A number of US firms, including Alcoa, General Electric and Bechtel, have concluded agreements with such provisions with the USSR.

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Sale for Cash or on Credit. The bulk of Western trade transactions with the USSR falls into this category. The Western firm sells its products for cash following delivery or against shipping documents. The recent sale by International Harvester of 700 tractors to work on the Amur-Baikal railroad for \$100 million cash is an example. A larger part of Western exports of capital goods is financed by medium-term or long-term credit. Most of the equipment provided by the West for the Kama River truck plant, is being financed under such credits.

Barter. To save hard currency, the Soviets often try to get their Western supplier to take part or full payment in Soviet goods. Under such deals, the USSR can exploit its reserves of raw materials and, aided by rising world prices, pay for the Western equipment and technology it needs. Soviet oil has been bartered for Italian transmission pipe; Finsider of Italy recently agreed to accept deliveries of coal and iron as partial (65%) payment for 2.5 million tons of large-diameter steel pipes for Siberian oil and gas lines. A variation on this arrangement is the agreement whereby Occidental will ship super-phosphates to the Soviets in exchange for equal values of urea, ammonia and potash over a 20-year period.

Turnkey Deals. Turnkey projects are distinguished by the wide range of services provided by the Western firms. In addition to selling equipment and technology, the Western firm undertaking the project designs the plant, installs the equipment, trains technical (and sometimes management) personnel, gets the installation operating, and often provides spare parts and service for a designated period after the plant is operating. Fiat's construction of the Tol'yatti automobile plant is the best known of Western turnkey projects in the USSR. Kaiser Aluminum is completing negotiations on a proposed program for the construction of an aluminum smelter and rolling mill in Siberia. The US firm would assist the Soviets in securing about \$1.4 billion in foreign credits for the projects and would provide the Soviets with design engineering, construction management, equipment selection and procurement and technical assistance services. Kaiser would also purchase

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aluminum from the new facilities under long-term contract, thus blending many of the characteristics of a turnkey and commodity-pay-back arrangement.

Commodity pay-back. Under this arrangement, Western firms deliver equipment on credit and provide technical services and the credits are repaid by deliveries of raw materials extracted by the enterprises established with Western help. In July 1974 the Soviets purchased four ammonia plants from Creusot-Loire. and agreed to deliver 300 thousand tons of ammonia annually to repay the roughly \$200 million credit. This arrangement is the most common proposed by the USSR for foreign participation in the development of energy and other natural resources in Siberia.

Joint Ventures. The Soviets are more reluctant than some of the East European countries to move along the scale of industrial cooperation involvement toward joint ventures in the Western sense, including shared management and profits. Several arrangements have been concluded with Western countries, however, which provide for reciprocal deliveries of component parts for the production of finished products. These are almost always supplemented by a marketing agreement, with the USSR handling sales of the goods in socialist countries and the foreign partner marketing the product in the West. Foreign investors in cooperative arrangements with the USSR cannot by law receive equity ownership rights in Soviet enterprises.

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V. Potential Economic, Strategic and Political Opportunities and Risks of US Participation in the Development of Siberia

A. Trade

Even without direct US participation in large projects, Soviet development of Siberia should afford US exporters substantial trade opportunities as the USSR seeks needed equipment and technology in the West. In the petroleum industry, the United States is acknowledged to be the best supplier of equipment for onshore, offshore, and permafrost exploration, production, and pipelining. In the automotive field, the United States has the best specialized machine tools (e.g., transfer machines) for high volume output and computerized warehousing systems, and it is probably the only source for the design of very large automated foundries. And given the pressing construction needs in Siberia, the United States is the sole supplier of heavy duty industrial tractors and the largest sizes of earthmoving equipment, such as front-end loaders and dump trucks.

The international financial position of the USSR has been strongly buttressed by recent developments in the commodity and gold markets and earnings from Soviet merchandise exports should sustain Soviet import capacity at relatively high levels. The recent \$100 million cash contract for 700 International Harvester tractors needed for construction of the alternate Trans-Siberian railroad illustrates this current Soviet flexibility. It is estimated that over the next six years--to 1980--earnings from merchandise exports alone could increase Soviet annual import capacity by an average of 20 percent per year. This pattern of growth would support an annual average of \$13 billion in imports during 1975-1980. For 1981-85 the annual rate of import growth sustainable from merchandise exports only (measured from the estimated 1980 level) will drop back, perhaps to 10 percent, reflecting the decline in exportable supplies of oil and the slowing of expansion of natural gas exports; even so, import capacity during this period might rise to \$22 billion.

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Over the next five years, the US share of estimated Soviet imports of equipment and technology from the West could amount to as much as 20 percent, or some \$6 billion.

US-USSR trade involvement at the levels suggested above would not require USG financing at much beyond the levels of recent years and would avoid many of the problems associated with large-scale Eximbank financing of Siberian development projects such as congressional and public concern and controversy over interest rate differentials, concessionary financing for energy projects, and USG liability in the event of Soviet defaults. On the other hand, the growth of US-USSR bilateral trade, in the absence of large US credits for major Siberian projects, would not be such as to produce a coalescence of economic interests that would add measurably to the stability of political relations.

B. Investment in Soviet Development Facilities

The major potential for growth in US-USSR trade lies in the exports and imports generated by proposed large Soviet development projects in Siberia: the development of gas reserves in the Urengoy and Yakutsk fields; the exploitation of oil deposits on the Sakhalin continental shelf; and the development of energy intensive industries for the production of aluminum, ferromanganese, ferrochromium and other metals. These and other possible Siberian projects could require more than \$25 billion in Western equipment and technology over the next 15-20 years, almost half of which might originate in the US. During 1975-80, Western involvement in Siberia could total \$10-14 billion; the US share could range between \$3 billion and \$7 billion.

Because of the magnitude of the projects being considered, the technology and capital required, and the Soviet desire to ensure export markets, the USSR has proposed commodity pay-back ventures as the preferred scheme for US participation in the development of Siberia. In ventures of this kind, the US participant guarantees to purchase a portion of the output

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of the new plants, mines, or gas and oil fields that have been brought into production with the help of equipment and technology purchased on long-term credit. US involvement in Siberian projects under these terms would produce large US export surpluses in US-Soviet trade in 1975-85 when the equipment is delivered. Soviet deliveries of the gas and other output from these projects would greatly increase Soviet exports to the US in subsequent years. The eventual cost of the gas, for example, would surpass by several times the value of initial sales of US equipment for the proposed LNG projects.

Long-term cooperation of this kind offers both advantages and disadvantages to potential US participants and financial institutions. The requirement for US Government financing implicit in the proposed commodity pay-back arrangements--because the USSR is unwilling to pay market rates of interest and wants to secure USG approval and support for these large undertakings--will inevitably involve more direct USG participation than would be the case in simpler trade transactions. Assuming the proper political climate and US determination to exercise such leverage, the enhanced US Government role could be an important inducement for Soviet compliance with agreements and could help compensate for the asymmetries in the US and Soviet economic systems in which the Soviet Government retains the decision-making powers on production for export, import requirements, financing, etc. Moreover, pay-back arrangements afford the US the opportunity to purchase a substantial quantity of energy and other needed raw materials without incurring balance of payments deficits as large as would be the case if US equipment sales had not been a condition of the purchase.

On the other hand, the commodity pay-back schemes are likely to lead to complications. The US investor, particularly where investment is large, amortization periods long, and repayment is in products, may seek a larger role in decisionmaking than the Soviets have hitherto been willing to grant. Because nearly all the Siberian projects involve long-term repayment in

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products, difficulties in reaching agreement on equitable pricing formulas will be harder to achieve under cooperative ventures than would be the case in simpler trade transactions. And because of the risk involved, US firms and financial institutions will require more information than Soviet disclosure laws have thus far permitted. The US, for example, has already served notice on the USSR that meeting the Eximbank's requirements for information on the Soviet Union's external financial position will be important in facilitating the extension of credits much beyond the Bank's current level of commitments, and absolutely necessary before it could consider participation in the very large projects that may be submitted for consideration by the Bank.

The requirement for US Government financing, however, remains the major problem in US participation in Siberian development projects, particularly during a period when the demand for capital by the US energy industry will be extremely high. The argument is persuasive that in order to maximize or maintain overall productivity of the US economy, the discount rate used for the Siberian projects should not be lower than the marginal productivity of private US investment. Otherwise, scarce capital would be diverted from higher yielding projects in this country to less productive investments in Siberia in sharp conflict with the goals and objectives of our national energy policy.

Of equal concern is the fact that severe shortages of oil drilling and producing equipment are hindering world wide efforts to develop alternative sources of energy. US producers--the main source of oilfield equipment--have not been able to keep pace with the surging demand despite a sharp rise in output, and this situation is expected to continue until 1980. Drill pipe, drill collars, casing and tubing are in particularly short supply. Japan is the only other major producer of oilfield tubular goods (drill pipe, casing and tubing), and its output of these products

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should increase sharply in the short run. If the US were to join with the Japanese in the exploratory phase of the Yakutsk project, for example, it will be important that the Japanese undertake to furnish the scarce equipment and leave to US firms the provision of supplies that are not in great demand locally.

Finally, the commodity pay-back arrangements, because of their longer lead-time and the greater degree of interdependence these would engender as compared either with simple trade transactions or turnkey projects, raise questions of security of supply. In the proposed North Star and Yakutsk gas projects, for example, US and/or Japanese equipment will be used in the first 6-10 years, whereas repayment would occur over subsequent periods as long as 25 years. Thus, with most of the physical assets as well as the gas in Soviet hands, there could be strong temptation for the USSR, once the foreign investment has been committed and Soviet repayment is to begin, to seek to alter the terms of the agreement, renegotiate the price, or reduce deliveries. Several factors, however, militate against such a soviet action:

-- The reserves of gas in the Urengoy field are more than adequate to support deliveries to the US on the scale contemplated. Explored reserves in the area can support three or four projects of the size of North Star: estimated potential reserves would be adequate for 7-10 such projects. Reserves in the Yakutsk area are less well known and US and Japanese firms will have to be reassured by further exploration before making the sizeable investment required for cooperation in their exploitation.

-- Once the Soviet leadership becomes committed to a given project, the long lead times and high indivisibility of resources would make the cost of reversal very high. Resources committed could not be easily shifted. Failure to see development through to completion would impede adequate utilization of costly production facilities already completed and would squander the results of expensive prospecting activities already accomplished.

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-- Soviet domestic needs for new energy sources are evident; so too is the need for hard currency to finance imports of Western equipment and technology for general economic development. The opportunity for substantial dollar earnings offered by many of the Siberian projects being considered provide strong incentive for the USSR to be a reliable supplier. Moreover, the existing configuration of both the North Star and Yakutsk projects would make any significant Soviet diversion of the LNG produced to domestic or alternate foreign markets extremely difficult and expensive.

-- Finally, the Soviet record of honoring contractual obligations has been good and probably will continue to be, barring any drastic change in the international political climate. In entering into long-term contracts to purchase gas from the USSR, many Western countries have already concluded that this will be the case. Moreover, the prospects of future agreements will be an important leverage on contract compliance. The adherence to terms of any one agreement will be reinforced by the potential denial of subsequent industrial cooperation agreements with the West.

C. Strategic Implications

Siberian development could increase Soviet flexibility in strategic planning and increase its ability to support sustained military operations in Asia. Construction of the Baykal-Amur-Magistral railroad would enable the USSR to deploy additional forces to the Soviet Far East in the event of a Sino-Soviet conflict or to move forces from Asia to Europe in the event of a NATO-Warsaw Pact confrontation. Such improvements would be welcomed by the military as expanding and diversifying the transportation alternatives available to them in wartime, but would not substantially increase direct military capabilities.

Although total capital investment in the USSR has been steadily increasing, accelerated Siberian development would require further increases or reallocations. At the present time there are strains on the Soviet economy from the burden of developing

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its fuel and energy resources and, at the same time, significantly expanding its industrial base and maintaining its current high level of defense expenditures. While imports of Western equipment of machinery for the development of Siberia will be only a small share of total Soviet investment in plant and equipment and will not provide a significant growth dividend in the aggregate, participation in joint development projects by the US and other foreign countries will speed up meeting part of the Soviets' requirements for investment capital for fuel and energy resource development. As a result, the Soviets will be able to divert some available capital for investment in other sectors. This could contribute to some extent to expansion of their industrial base and/or to the maintenance of their high level of defense expenditures.

A USG decision not to participate in large-scale development projects in Siberia, however, would only delay--not stop--Siberian economic development or the development of related facilities which the USSR deemed important on strategic grounds. And allocations to Soviet military programs will continue to be made as necessary regardless of shortages elsewhere in the country.^{3/}

D. Political Implications for our Relations with the USSR, Japan, and China

1. The USSR

The USSR sees the consummation of long-term cooperative ventures in Siberia not only as a symbol of economic detente with the United States but as offering the best chance for large, continuing growth in US-Soviet trade. Even before the congressional proscription of Eximbank lending to the USSR, there was ill-concealed disappointment among high level Soviet officials that large-scale, long-term projects between the two countries had not developed as rapidly as they had hoped. The Soviets had grown increasingly restive over the failure of the Eximbank to approve loan commitments on several large projects of keen interest to them, particularly the Yakutsk

3/ See DOD footnote on page 47.

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natural gas exploration stage, and pointedly sought to convey the message that further delay in concluding long-term agreements with US firms and securing Eximbank credits to finance them would impel Soviet authorities to seek such projects and credits elsewhere.

The Soviets also make a strong connection between the breadth and depth of economic ties and US-Soviet relations as a whole. The US, too, has hoped that over time, trade and investment might leaven the autarkic tendencies of the Soviet system and foster a degree of interdependence that would add an element of stability to the political equation. A negative US decision on participating in large development projects in Siberia when Eximbank authority to finance them was unimpaired, would have been viewed by Moscow in a highly political context. Brezhnev has been personally identified with such initiatives and has staked considerable prestige at home on getting them underway. Detente, however, does not rest exclusively on economic motivations. To the extent that a policy of non-participation on economic grounds was not accompanied by reversals in other aspects of US-USSR relations, repercussions would have been dampened, although Moscow could have been expected to trim on detente policy, at least temporarily.

Moscow must perceive that the long congressional debate over MFN and credits, which led first to severe limitations on Eximbank lending, including restrictions on credits for fossil fuel development, and then to a complete proscription of new credits to the USSR, has dimmed prospects for US-USSR cooperation on most of its main proposals for Siberia. However, the economic component in Soviet interest in detente--which includes a broad desire for US technology as well as the Siberian dimension--will probably continue to operate as long as there is some prospect for a tangible level of US-USSR trade. Soviet hard currency earnings abroad have lessened its need for short or even medium term credits, and Moscow has signalled its intention to continue existing commercial arrangements and to pursue additional ones with American firms.

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Moreover, the Soviets evidently appreciate that the Administration's good faith is not in question in seeking more acceptable legislation in Congress on MFN and credits, although they are uncertain about the prospects of accomplishing both in the near term. While Moscow will inevitably be exploring alternatives to large-scale US participation in Siberia, it will be important for us to convey to the Soviets our determination to preserve the momentum of US-USSR economic relations under existing conditions: the administration's encouragement of commercial financing for the relatively small Yakutsk gas exploration project would have a positive effect on US-USSR relations.

2. Japan

The presence of abundant raw materials and energy resources in near-by Siberia poses both problems and opportunities for Japan. Japanese interest in Siberia is an element of a general commercial strategy which stresses international cooperation and diversification of vital imports, and the complementarity of Siberian resources and Japanese needs is compelling. Frightened at the implications of their dependence on Middle Eastern oil in the post-1973 situation, however, the Japanese are also concerned by the implications of diversification. The Japanese dislike and distrust the Soviets and they do not want to anger the PRC by becoming too involved in aiding Siberian development. US participation promises to spread these risks and calm PRC anxieties. Moreover, in the Japanese view, there would be no better guarantee of Soviet compliance with long-term agreements than the active participation of the US in these projects.

While the Japanese have embarked on, or are considering, five projects in Siberia to develop gas, oil, coal and timber, they are extremely reluctant to assume the technical, financial, political and strategic risks entailed in the major oil and gas projects by themselves. The Soviets have sought Japanese and US participation in exploring the gas reserves in Yakutsk and in developing oil reserves in the Tyumen region. However, the Soviet decision to build a second-Transiberian railroad

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to deliver Tyumen oil to the Pacific coast, instead of the originally proposed pipeline, has virtually eliminated Japanese interest in the Tyumen oil project. Both the potential quantities of oil offered (reduced from 40 to 25 million tons annually) and the added cost of the railroad have discouraged the Japanese, as has the probability of offending the Chinese by getting involved in construction of the new railroad. These doubts have been reinforced by the prospect of obtaining supplies of better quality oil from China.

US agreement to cooperate with Japan in developing Siberian oil and natural gas resources would provide concrete evidence of our readiness to work actively toward the expansion of world energy resources, an effort in which Japan would be active both as a participant and a beneficiary. As part of their attempt to diversify energy resources, they have joined with us in a cooperative effort to contribute to a solution of worldwide energy problems. Since Siberia could play a major role in solving their specific energy problems, however, they tend to make our cooperation with them in Siberia an important litmus of our willingness and/or ability to assist their own efforts to expand and diversify sources of supply.

At the same time, Japan recognizes the importance of the US in gaining access to key energy supplies (e.g., coal and enriched uranium) in pursuing joint energy ventures in other areas of the world, and in finding long-term solutions to world resource problems. More important, it wants to maintain good relations with the United States. The Japanese have consistently stated that their participation in major Siberian oil and gas projects is contingent on our own. They will be disappointed that the proscription of Eximbank lending to the USSR makes US-Japanese cooperation in the development of Siberian energy resources unlikely in the near term. By the agreements it has already concluded with the USSR, however, Tokyo has shown that it is prepared to become unilaterally involved in other Siberian projects where the economic stakes seem assured and the potential political and strategic ramifications are minimal.

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3. China

The Chinese, of course, would prefer no US or Japanese investment in Siberia. Peking would be particularly sensitive with respect to projects, such as the BAM railroad, which would directly enhance Soviet military capabilities along its border. Apart from such projects, the Chinese ultimately would have to accommodate themselves to whatever level of foreign involvement eventually emerged. They already recognize the inevitability of some Japanese investment in Siberia and have encouraged Tokyo to involve US capital as a means of countering potential Soviet political leverage on Japan.

The Chinese, however, have been taking the line that increased Soviet strategic capabilities in Siberia and the Pacific are primarily directed at the US and Japan and secondarily at China. Consequently, in their discussions with the Japanese, the Chinese have focused on the long term strategic problems for Japan which would be posed by such projects as the Tyumen pipe line. If either the US or Japan appeared to be considering participation in the second Siberian railroad project, however, Peking would probably express strong warnings about the strategic dangers posed to all three powers.

Politically, Peking naturally does not welcome an expansion of US-Soviet economic links, a process which presumably strengthens superpower detente. In the short and medium term, the scope and pace of US decisions on participation could have important effects in Peking, where the general course of US-Soviet relations is an issue in internal politics as well as foreign policy. Early, large-scale US investment in Siberia could lead the Chinese to seek a compensating development of their own relations with the US or, alternatively, an amelioration of their dispute with the USSR.

The Chinese, however, are more sensitive to the possibility that extensive Japanese reliance on Siberian energy and raw materials could provide Moscow increasing political leverage over Tokyo. The Chinese objective, therefore, is to use its influence, and in the case of Japan its own potential as an alternative source of energy, to hold down the

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extent of Japanese investment in Siberia and to discourage those projects which have the largest strategic impact.

Aware of its limitations, Peking so far has accentuated the positive in pursuing these goals. At the same time, China has moved to enhance Japan's economic stake in the PRC; over the past two years, the PRC has rapidly expanded its oil exports to Japan. In 1975 these exports are estimated to reach 10 million tons a year. This is already more than one-third of the amount than Japan was promised from the Tyumen project.

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Footnotes

- 1/ OSD points out that the development of Siberia would require the Soviet Union to divert from military purposes considerable manpower and resources. Further, the developed resources would be vulnerable to attack, especially given the intelligence information which would be provided the U.S. if it were to participate in such development.
- 2/ OSD believes the USG should be more flexible in its approach, that is, it should be willing to participate in the development of Siberia under specified conditions. A key condition should be that U.S. participation would be based on realistic money costs, that is interest rates should be tied to U.S. bond costs. Further, U.S. participation should be based on the encouragement of private industry to move in and negotiate contracts, putting up their capital. The USG would then provide appropriate guarantees of private industry loans or contracts.
- 3/ OSD believes that U.S. participation in the development of Siberia would increase the intelligence information available to the U.S., making such developed resources vulnerable to attack by the U.S. Further, Soviet development of Siberia would encourage the Soviets to divert from military purposes considerable manpower and resources needed for such internal development.

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APPENDIX A

Energy-Related Projects

USSR: The Siberian Projects

Signed Projects

This appendix lists the Siberian projects for which the USSR has obtained, or is in the process of negotiating, Western participation.

Natural Gas to Western Europe
2 billion cubic feet per day (bcfd) of natural gas is now being piped from Europe by 1980. Although the gas is now being piped from Central Asia and Ukrainian gas fields, future deliveries may come from the Ekibastuz fields -- the intended source of the North Sea deliveries (see p. 3 below). A major pipeline system, which now supplies gas to Moscow and Leningrad from deposits 700-800 miles west of Urenoy in the Kuzbass Republic, probably will be extended to Urenoy as additional gas deposits are developed. This pipeline (the Northern Lights) will be tied into the gas pipeline network now connecting Eastern and Western Europe.

The Soviets have relied on West European suppliers for much of the line pipe and related equipment required for this and other natural gas pipelines, with imports from the West tied to the future gas deliveries. To date the USSR has contracted for \$1 billion in pipe and pipeline equipment from the West. By 1980, annual Soviet earnings from natural gas sold in Western Europe would exceed \$1 billion.

Chul'man Coal Deposits

In June 1974 the USSR signed an agreement with a consortium of Japanese firms to develop coking coal deposits near Chul'man. At the same time the Soviets concluded an agreement with Japan's Eximbank for \$450 million in long-term credits to finance Soviet purchases of coal mining equipment, railway equipment, and consumer goods. In return, the USSR will supply the Japanese consortium with a total of 104 million tons of coal during 1975-80, about 50 of projected Japanese needs. If coal prices stay up, Soviet earnings from the project could exceed the cost of foreign credits by several billion dollars. US firms may be asked to supply some of the advanced equipment required by the USSR.

Project Capacity Under Negotiation

Yakutsk Natural Gas

Following more than a year of negotiations, the USSR and the Natural Gas and Occidental Petroleum



Energy-Related Projects

Signed Projects

Natural Gas to Western Europe

In recent years the USSR has contracted to deliver 2 billion cubic feet per day (cf/d) of natural gas to Western Europe by 1980. Although the gas is now being piped from Central Asian and Ukranian gas fields, future deliveries may come from the Urengoy fields -- the intended source of the North Star deliveries (see p. 3 below). A major pipeline system, which now supplies gas to Moscow and Leningrad from deposits 700-800 miles west of Urengoy in the Komi Autonomous Republic, probably will be extended to Urengoy as additional gas deposits are developed. This pipeline (the Northern Lights) will be tied into the gas pipeline network now connecting Eastern and Western Europe.

The Soviets have relied on West European suppliers for much of the line pipe and related equipment required for this and other natural gas pipelines, with imports from the West tied to the future gas deliveries. To date the USSR has contracted for \$2 billion in pipe and pipeline equipment from the West. By 1980, annual Soviet earnings from natural gas sold in Western Europe should exceed \$1 billion.

Chul'man Coal Deposits

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Projects Currently Under Negotiation

Yakutsk Natural Gas

Following more than a year of negotiations, the Soviets, El Paso Natural Gas and Occidental Petroleum

Corporation of the US, and Japan's Tokyo Gas have reached final agreement on the joint exploration of **East** Siberian natural gas reserves. This agreement, however, is contingent on the availability of US Eximbank funds.

The complete project would entail the construction of a 1,200 mile pipeline from Vilyuysk to Nakhodka on the Pacific Coast, where facilities to liquefy and export the gas would be built. Japan and the United States would each receive 1 billion cf/d of liquefied natural gas (LNG), over a 20-year period beginning about 1985. Roughly \$3 billion in plant and equipment would be supplied by the US and Japan and financed by long-term credits.

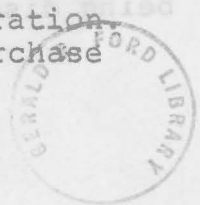
The existence of sufficient reserves to justify such a large investment is in doubt -- hence the agreement to spend at least two years in verifying the level of reserves claimed by the USSR. The Soviets have asked for \$200 million in US and Japanese credits to support this exploration. Although the Japanese have agreed to finance half of this amount, their participation is also contingent on the availability of a matching amount from the US, including some from Eximbank.

North Star LNG Project

A consortium of three US companies -- Tenneco, Texas Eastern, and Brown and Root -- has been considering a cooperative venture with the USSR to import 2 billion cf/d of LNG over a 25-year period for US east coast markets. All of the gas would come from the large Urengoy deposit in Western Siberia via a pipeline to an export terminal near Murmansk. Difficulties over the pricing of the gas and the availability of Western financing have hindered progress on the negotiations. The project depends on Eximbank credits and guarantees to cover Soviet purchases of up to \$3.7 billion in Western equipment for the pipeline, liquefaction plant, and port facilities. Even if an agreement is reached soon, deliveries would not begin until the early 1980s.

Sakhalin Offshore Exploration

The Soviets are nearing final agreement with a Gulf Oil-Japanese consortium to explore offshore oil and natural gas deposits on the Sakhalin continental shelf. Last April the USSR and Japan agreed in principle to explore these reserves. The accord called for Japan to provide \$100 million to \$200 million in long-term loans to finance the exploration. In return, Japan would receive a long-term option to purchase 50% of all oil recovered.



Because the other parties regard Gulf's expertise as crucial to the project, progress was stalled by Gulf's refusal to participate in what it regarded as an unprofitable operation. Gulf subsequently decided to participate in the Soviet-Japanese plan, following Soviet assurances that the company would be given sole rights to explore other offshore areas surrounding Sakhalin under a more lucrative arrangement. Total offshore reserves on the Sakhalin continental shelf could equal the reserves claimed for Alaska's Prudhoe Bay. Total Western financing required to explore and develop one or two major offshore oil fields might well exceed \$1 billion.

Tyumen Oil Project

For several years the USSR and Japan had discussed the construction of a 4,200 mile pipeline from the Tyumen oil fields in West Siberia to Nakhodka. In return for financing \$1 billion in Soviet imports of large diameter pipe and pipeline equipment, Japan was to have received up to 800,000 barrels per day (b/d) of oil over a 20-year period. In April 1974, however, the Soviets withdrew their original proposal and told the Japanese that they had scrapped plans to build a pipeline in favor of a second trans-Siberian rail line (see p. 11 below). They stated, however, that they could only supply the Japanese a maximum of 500,000 b/d and requested \$3 billion in long-term credits for equipment to be used in building the rail facilities. The Japanese have rejected the proposal because of economic reasons (smaller deliveries, larger investment, and a longer construction period) and fears that China would oppose Japanese participation in building a strategic railroad in the Far East.

Potential Areas for Future Western Participation

Over the long term, additional Japanese involvement in Soviet Siberian coal deposits appears likely. The Japanese have shown interest in another deposit north of Chul'man, and the Soviets have also offered to sell Japan the surface coal mined at Chul'man in addition to the coking coal that has already been promised. The Japanese will probably assess the current coal agreement, however, before making further commitments in this area.

Western firms have shown interest in developing Siberian offshore deposits of oil and natural gas, and the USSR and Gulf have yet to negotiate the two party deal proposed as part of the Sakhalin offshore exploration agreement now being discussed. Development of offshore reserves in the Kara

and East Siberian Seas may require Western assistance, but nothing will be done on this before the late 1980s.

In another area of energy development, the Soviet Union undoubtedly can carry out its ambitious program for construction of hydroelectric powerplants in Siberia without outside assistance. It has built the largest hydroelectric powerplants and the largest hydro generating units in the world. It probably will also carry out the program for construction of large thermal powerplants and high-voltage long distance transmission lines on its own, but these projects might be speeded up with some technical assistance. The Soviets may need help in perfecting the large generating units that they plan to use in Siberian thermal powerplants. They have built and installed two 800 MW generating units to date, but the performance of these units has been poor, particularly the boilers. The Soviets have discussed the exchange of technology for the construction of large thermal power generating units with the General Electric Company, and the subject is included for study by the Working Group on Design and Operation of Thermal Power Stations, under the US-USSR Agreement on Cooperation in the Field of Energy. Joint work is also planned on development of high voltage direct current transmission of electric power over very long distances, and it is possible that US assistance might be sought in designing and building equipment for these lines.



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Forestry Projects

Signed Projects

First Timber Project

The first development project involving foreign participation, begun in 1968, called for exploiting timber resources along the Amur River in the Soviet Far East. It is now completed. Under Japanese credits, the USSR imported \$133 million in timber cutting and hauling equipment and \$30 million worth of consumer goods. In return, the USSR supplied the Japanese with a total of 8 million cubic meters of saw logs and pulp wood during 1969-73. Soviet earnings from these exports roughly covered the cost of the project-associated imports from Japan.

Second Timber Project

In July 1974 the USSR concluded a much larger contract with the same Japanese companies. The USSR in 1975-78 will import \$550 million in Japanese timber cutting and processing equipment, ships, and consumer goods. Japanese Eximbank credits will cover the purchases. The credit terms for the logging equipment and the ships -- valued at \$500 million -- vary from six to eight years at 6-3/8% to 7-1/2% interest. The USSR will deliver more than 18 million cubic meters of saw logs and other timber products to Japan during 1975-79 at prices to be negotiated annually. Soviet earnings from these deliveries could be double the value of the Japanese credits.

Wood Chip Plant

In December 1971 a consortium of Japanese companies agreed to help the USSR build a wood chip plant in the Soviet Far East. The contract called for Japan to supply the USSR with \$45 million in machinery and ships in 1972-75. Soviet purchases were to be covered by a five-year, 6% loan backed by the Japanese Eximbank. In return, Moscow was to supply over 12 million cubic meters of wood chips and pulp to the consortium during 1972-81. Prices of the chips and pulp, fixed for the first six years, were to be renegotiated in 1977. This agreement is not being implemented on schedule; the Soviets have ordered less than 25% of the equipment to date.

Pulp/Paper Plant at Ust' Ilimsk

The USSR is building a major wood processing center at Ust' Ilimsk, located on the Angara River northwest of Lake Baykal.

The center will process annually 500,000 tons of wood pulp and 1.2 million cubic meters of lumber. Factories to produce chip boards will also be built. The Ust'Ilimsk development is a Bloc-wide project; Romania, Poland and East Germany are providing large amounts of equipment in return for long-term deliveries of wood pulp. In addition, the USSR has ordered \$180 million worth of equipment from the West -- largely from France, Finland, and Sweden.

Projects Currently Under Negotiation

Far Eastern Pulp/Paper Complexes

The Soviets have recently opened discussions with Japanese firms on the construction of two pulp/paper complexes in the Far East. The plants would be built at Khabarovsk and Amursk, and a 1980 completion date has tentatively been set. The Soviets are seeking long-term financing from Japan to cover imports associated with the \$1 billion project. In return the Japanese would receive up to 50% of the plant's output during 1981-1990.

The USSR also is planning a one-million-ton-per-year, billion dollar pulp and paper complex on the Yenesei River west of Lake Baykal. Discussions have been held with the US International Paper Company and with German, Japanese, and Finnish firms. These companies would receive pulp and paper products as compensation for their credits. Soviet negotiators have asked the US firm for a quotation on a pulp mill -- expected to cost \$150-\$200 million -- and four paper-making machines -- expected to cost roughly \$25 million.

Ob River Timber Complex

British firms are currently negotiating an agreement with the USSR involving the development of forestry reserves along the Ob River in Western Siberia. Western participation in the project reportedly could reach \$500 million; repayment will probably be in the form of exports of timber products from this region. The UK is the Soviet Union's most important buyer of lumber.

Potential areas for Future Western Participation

Additional Western assistance in Siberian forestry development seems likely. The Japanese in particular will probably conclude new agreements or extend current contracts.



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Minerals and Metals

Signed Projects

Noril'sk Cooper-Nickel Developments

The USSR has recently signed an agreement with Finland for the purchase of flash smelting equipment and technology. Delivery and installation of equipment, which will cost \$300 million, is scheduled for 1976-77.

Projects Currently Under Negotiation

Integrated Steel Mill

The Soviets have initiated discussions with Japanese firms to help build an integrated steel plant in eastern Siberia. The plant will reportedly have an annual capacity of 3 million tons of steel, and will either be built near the Chul'man coal deposits or farther to the southeast at Svobodnyy on the Trans-Siberian Railroad. Development of the complex, assuming an agreement is reached, will probably not begin until the end of the decade or later.

Soviet-French Aluminum Complex

The USSR recently concluded a basic agreement with France's Pechiney Ugine Kuhlmann for assistance in building an aluminum reduction plant with an annual capacity of 500,000 tons. The plant will be located in West Siberia near the large Sayan Shushensk hydroelectric plant now under construction on the lower Yenisey River. The proposed project also involves the construction of a large alumina refinery, probably at Nikolayev on the Black Sea. Roughly \$600 million to \$1 billion in French machinery and equipment will be required for the project, with repayment in long-term deliveries of aluminum to France. The Soviets will import the required bauxite from Guinea.

Kaiser-USSR Aluminum Complex

The Kaiser Corporation is discussing an even larger project with the USSR. Kaiser officials estimate that \$1.4 billion in Western equipment would be required to build a one million ton-per-year alumina refinery, a 500,000 ton-per-year aluminum reduction plant, and a large rolling mill. The reduction plant will be located near the Krasnoyarsk hydroelectric station in East Siberia. Kaiser may also help to develop bauxite deposits, possibly in Kazakhstan or on the Kola Peninsula -- the two sites proposed for the alumina refinery.

If a contract is signed, Kaiser will form an international consortium to help manage the project as well as to market the aluminum supplied by the Soviets in repayment.

Potential Areas for Future Western Participation

The completion of the second trans-Siberian railroad will open additional areas to possible development with Western assistance. For several years, for example, the USSR has tried to elicit Western participation in the development of copper deposits at Udokan, located east of Lake Baykal near the railroad. Total Western involvement in the project, which will probably not be undertaken until the early or mid-1980s, could reach \$2 billion. The rail line will provide easier access to a major copper-nickel deposit located near Nizhneangarsk at the northern end of Lake Baykal, but development of this region would probably not begin until the late 1980s. Western firms may also be interested in helping to develop many of the other mineral deposits (fluorspar, mica, asbestos, barite) or metal deposits (manganese, **lead, zinc**) which will become accessible with the opening of the line.

The Soviets have expressed an interest in obtaining Western assistance in the development of two additional large aluminum complexes. Such development, however, will likely be postponed until the projects now under discussion are either well advanced or in full operation.



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Chemicals and Petrochemicals

Signed Deals

USSR-France Contract for Ammonia Plants

Earlier this year the Soviets concluded a \$220 million deal with France's Creusot-Loire calling for French assistance in the construction of four ammonia plants. Two of these plants are to be located in West Siberia, and all four are scheduled to be fully operational by 1978-79. The Soviets will deliver 300,000 tons of ammonia annually to France in repayment for credits advanced in support of project-associated imports of plant and equipment. US technology and engineering will be used for the plants.

Deals Under Negotiation

Vinyl Chloride Monomer (VCM) Plants

The Soviets are talking with US and other Western firms about assistance in the construction of three complexes, each with an annual capacity of one million tons of VCM. Two of the complexes will be located in West Siberia at Tomsk and Tobol'sk. Western project-associated imports could run as high as \$300 million per plant, with credits repaid through Soviet exports of VCM under long-term contracts. Since negotiations are still going on, the Siberian plants probably could not be built before 1980. The choice among potential Western suppliers will probably hinge upon credit availability and the willingness of Western firms to accept Soviet deliveries of VCM.

Other

Other negotiations involving development of the chemical industry in Siberia center on equipment or technology for plants to produce synthetic rubber, petrochemicals, chlorine, and pesticides.

Potential Areas for Future Western Participation

The availability of cheap energy resources, abundant sources of hydrocarbons, and large salt deposits will lead to extensive development of Siberia's chemical industry during the next twenty years. The Soviets have traditionally sought Western technology and equipment to assist in developing their chemical industry. Shortages of and high prices for chemical raw materials probably have made Western firms more willing to accept Soviet demands that

Infrastructure

Western credits be repaid with products produced in the plants. Credit availability, price, and willingness to purchase Soviet products will determine Soviet selection of suppliers. US firms, in any event, will probably provide some of the technology and engineering, if not the equipment itself.

Moscow has decided to build a second trans-Siberian railroad running from 100 to 200 miles north of the existing trans-Siberian line. Some segments of the Eastern and Western ends of the planned Baku-Asian Magistral (BAM) are already being used. The BAM will provide access to important Siberian mineral deposits -- including coal, copper, iron ore, and gold -- and open new lands for industrial and agricultural developments. In addition, the new line will be less vulnerable than the existing trans-Siberian line, which at some locations is within 200 miles of the Chinese border. In October 1974 the USSR agreed to purchase crawler tractors worth \$100 million from International Harvester to help in building the new line.

Port Development Project

In late 1970 the USSR signed an agreement with a consortium of Japanese firms for the joint development of port facilities at Vostochnyy, on Vladivostok Bay 65 miles east of Vladivostok. The Japanese firms are providing \$90 million in engineering services, equipment for port facilities, and construction equipment. Soviet purchases are being financed by long-term Japanese Eximbank credits. When completed -- possibly by 1975 -- the port will be the largest in the Soviet Far East. The port should be fully employed in handling exports resulting from Soviet-Japanese resources under construction at the port should be fully employed in handling exports resulting from Soviet-Japanese resources under construction. A large modern container facility also has been built to support the recently inaugurated Siberian "land-bridge" for Japanese-European container traffic.



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Infrastructure

Signed Projects

Baykal-Amur Railroad

Moscow has decided to build a second trans-Siberian railroad running from 100 to 500 miles north of the existing trans-Siberian line. Some segments at the Eastern and Western ends of the planned Baykal-Amur Magistral (BAM) are already being used. The BAM will provide access to important Siberian mineral deposits -- including coal, copper, iron ore, and gold -- and open new lands for industrial and agricultural development. In addition, the new line will be less vulnerable than the existing trans-Siberian line, which at some locations is within ten miles of the Chinese border. In October 1974 the USSR agreed to purchase crawler tractors worth \$100 million from International Harvester to help in building the new line.

Port Development Project

In late 1970 the USSR signed an agreement with a consortium of Japanese firms for the joint development of port facilities at Vostochnyy, on Vrangal Bay 65 miles east of Vladivostok. The Japanese firms are providing \$80 million in engineering services, equipment for port facilities, and construction equipment. Soviet purchases are being financed by long-term Japanese Eximbank credits. When completed -- possibly by 1975 -- the port will be the largest in the Soviet Far East. The coal and wood chip handling facilities under construction at the port should be fully employed in handling exports resulting from Soviet-Japanese resource projects. A large modern container facility also has been built to support the recently inaugurated Siberian "land-bridge" for Japanese-European container traffic.

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APPENDIX B

Possible Areas of Soviet-Western Cooperation:
Minerals and Timber Resources

The USSR has been trying to obtain Western help in developing Siberian mineral and timber resources as well as the more publicized oil and gas deposits. This appendix surveys the production potential for these resources and discusses the possible US interest in their development.

The Soviets export both gem quality and industrial diamonds. Exports of the latter are relatively small, but exports of gem diamonds have yielded impressive foreign exchange earnings for the USSR. In 1977, the Soviet Union realized about \$450 million from its sales of gem diamonds, mainly to the UK. The diamonds shipped to the UK are under strict control of the De Beers cartel, which controls about 80% of the total world supply of gem diamonds. By controlling the Soviet diamond, De Beers is able to control the supply and in turn, the prices on world markets. A large share of Soviet diamonds probably is re-exported to the United States and Western Europe. The Soviets market only small quantities of cut and polished stones directly. Direct sales to the US in 1977 amounted to about \$5 million.

US Interest

Joint US-Soviet exploration of diamond deposits was proposed in 1971 by Premier Kossygin, with US equipment and services to be repaid in deliveries of diamonds. Prospects for such an arrangement are not promising. Large sales of Soviet diamonds in the US outside the established marketing network of the De Beers cartel would threaten the maintenance of a firm retail price structure for gem diamonds as well as provoke strong resistance from US distributors as well as from De Beers. In the past few years, the Soviets have made direct purchases of mining equipment from US and other Western firms to promote further growth of diamond production. They probably will continue to invest substantially in further expansion of diamond production, but probably do not need any large foreign participation.

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Diamonds

Soviet Potential

The USSR ranks second to Zaire in world production of natural diamonds. Soviet output in 1973 is estimated at about 10 to 12 million carats, of which 20% to 25% are of gem quality.

Most of the Soviet output of diamonds is obtained from lode-type deposits at Mirnyy, Aykhal, and Udachnaya in Yakutiya. Projected reserves of natural diamonds in the USSR are estimated at 200 million to 300 million carats, again second in the world to Zaire.

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US Interest

Joint US-Soviet exploitation of diamond deposits was proposed in 1971 by Premier Kosygin, with US equipment and services to be repaid in deliveries of diamonds. Prospects for such an arrangement are not promising. Large sales of Soviet diamonds in the US outside the established marketing network of the deBeers cartel would threaten the maintenance of a firm retail price structure for gem diamonds and probably provoke strong resistance from US distributors as well as from deBeers. In the past few years, the Soviets have made direct purchases of mining equipment from US and other Western firms to promote further growth of diamond production. They probably will continue to invest substantially in further expansion of diamond production, but probably do not need any large foreign participation.

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Timber

Soviet Potential

The USSR produces more lumber than the United States but trails substantially in manufacture of wood products. The US, for example, produces about seven times as much wood pulp, plywood, paper, and paperboard -- mainly because the USSR lacks processing facilities and has converted less of its wood waste into useful wood products. The quantity of Soviet raw timber exports quadrupled in 1960-73. In 1973, about one-half of the raw timber exports went to Japan and about one-sixth to Communist countries.

The USSR possesses the world's most extensive forests, although usable resources are probably less than implied in official data. East Siberia and the Far East, with about two-thirds of the growing stock of timber, are the regions of greatest potential development. The Yenisei-Angara River Basin and Khabarovsk Kray have particular potential.

The recent rise in Soviet exports to Japan reflected in large part an agreement, now fulfilled, to exploit timber resources along the Amur River. The USSR supplied the Japanese with a total of 8 million cubic meters of sawn logs and pulp wood during 1969-73. Under a July 1974 agreement, the USSR will deliver 18 million cubic meters of sawn logs and other timber products to Japan at prices to be negotiated annually.

US Interest

Premier Kosygin has suggested that the US aid in developing Soviet timber resources. Some US timber-harvesting equipment has been sold to the USSR, and a barter of \$100 million in equipment for timber is under discussion. In 1973 and the first nine months of 1974, the US bought 4% of its birch plywood imports from the USSR. Although trade in birch veneer would be welcomed by US plywood manufacturers, birch veneer has not been available from the USSR because of the absence of MFN. Large quantities of birch veneer are now imported from Canada. While the US market for timber is now depressed because of the decline in residential construction, the long-term outlook is for periodic shortages and rising prices. Thus, Soviet timber may find a market in the US if prices are low enough to negate the transportation cost advantages of closer suppliers and if the USSR learns to grade its lumber to suit US requirements.

CONFIDENTIAL

Pulp and Paper

Timber

Soviet Potential

Soviet Potential

In 1973 the USSR produced 6.1 million metric tons of pulp and 7.9 million tons of paper and cardboard. Net exports of paper and cardboard rose from about 58,000 metric tons in 1970 to about 270,000 metric tons in 1973.

Because the Soviet pulp and paper sector has been underdeveloped, the current Five-Year Plan calls for a large increase in investment in the industry, a 66% increase in pulp production, and a 50% increase in paper and cardboard production. In this connection, the Soviets have begun to develop or are planning several very large forest products complexes in eastern and southern Siberia.

To accelerate pulp and paper production, the Soviets are now encouraging foreign participation. Among Western countries that have agreed to provide the Soviets with technology and equipment are the United States (International Paper Company), West Germany, Japan, Finland, Sweden, and France.

US Interest

As noted in Appendix A, the International Paper Company is involved in negotiations to build a pulp and paper plant. Although the US can draw upon large domestic and Canadian forest resources and extensive tropical hardwood forests in South America, this country should still be a ready market for Soviet woodpulp, newsprint, and linerboard if they become available at competitive prices and match Western quality standards.

CONFIDENTIAL

Coal

Soviet Potential

In 1973 the USSR produced 668 million metric tons of raw coal, including 173 million tons of raw coking coal. Most of the coking coal comes from four basins: Donets, in the Ukraine; Kuznets, in Western Siberia; Karaganda, in Kazakh USSR; and Pechora, in the northern Russian Republic. The USSR is not a major exporter of coking coal.

As of 1970, the USSR claimed to have 6.8 trillion tons of coal reserves, more than half of total world reserves. Only 3%, however, were proved reserves, and most consist of low-grade bituminous or brown coal east of the Urals. Moreover, an estimated 50% or more of all reserves are located north of latitude 60 degrees in permafrost soils.

A potentially rich deposit of good-quality coking coal with a low sulfur content has been reported at Chul'man in the southern Yakutsk region of the Far East. The construction of the BAM railroad should help the development of these deposits. Japan has already extended a \$450 million credit to develop the coal deposits, and the USSR has shown an interest in additional agreements involving credits for machinery and equipment with repayment in coal. The Soviets eventually expect to construct a metallurgical complex in the Chul'man region based on the iron ore and coal deposits there.

US Interest

Although the USSR is interested in foreign assistance in developing the Yakutsk coal deposits, the Soviets are unlikely to solicit US cooperation, except for equipment purchases. The US has coal reserves sufficient for 800 years. Moreover, the long distances involved suggest that Yakutsk coal could not be sold profitably in Western markets, except to Japan.

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~~CONFIDENTIAL~~

Methanol

Soviet Potential

Methanol is an intermediate product derived from the processing of such products as natural gas, coal, and timber. All of these raw materials are abundant in Siberia. Soviet production of methanol in 1973 amounted to 1.2 million tons, of which 11.8% was exported.

US Interest

The USSR has suggested that the US cooperate in developing Soviet methanol production on a compensatory basis. Under this proposal, the US would receive Soviet methanol in return for assistance in building plants to manufacture methanol. As a fuel, methanol would be more expensive to produce than LNG but would permit economies in shipping because -- unlike LNG -- it can be transported in conventional tankers. Whether US firms cooperate depends upon US energy policy. If the US firms begin to use large quantities of methanol as fuel, the US could swing from being a net exporter of methanol to being a major net importer.

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

Aluminum

Soviet Potential

In 1973, Soviet production of aluminum was about 2 million metric tons, second only to US production of about 4.1 million metric tons. The USSR produces about 15% of the world's aluminum and exports about one-third of its output.

The principal Soviet reserves of presently mineable bauxite are located in the Urals, Kazakhstan, the Boksitogorsk area near Leningrad, and the Onega area near Arkhangel. Reserves, however, are insufficient both in quantity and quality to meet Soviet needs. Efforts to develop alumina production from non-bauxite ores have achieved only limited success. As a result, the USSR currently relies on imports of bauxite and alumina for about 40% of the raw material needs of its aluminum industry.

The USSR has expressed interest in Western participation in projects for construction of as many as four large aluminum reduction plants, each with an annual capacity of one-half million tons, or enough to double current output. Of these projects, two are being pushed for the 1970s. The other two projects are unlikely to be undertaken until the early 1980s, or possibly later in that decade.

US Interest

Kaiser Aluminum is discussing a project involving construction of a one million ton-per-year alumina refinery in Kazakhstan or^{on} the Kola Peninsula and a 500,000 ton-per-year aluminum reduction plant in East Siberia near the Krasnoyarsk hydroelectric plant. The project also calls for construction of a large rolling mill, but the location is not known. Kaiser estimates the cost of western equipment for the project would be \$1.4 billion.

would

An agreement with the USSR provide the US with an opportunity to diversify its sources of supply. Although it ranks as the world's leading producer of aluminum, the US has been a net importer in recent years and may become increasingly dependent on foreign suppliers in the years ahead. The crux of the US problem is its heavy dependence on foreign sources for its raw materials. The long-run adequacy of these supplies at economical prices is open to question in light of the recent attempts by bauxite producers to develop cartel-like control over prices of their product. Countries with large reserves

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of bauxite are also seeking to take over a large share of alumina production and even production of aluminum if sources of electric power are available. To the extent that these factors restrict the future growth of US aluminum production, it would be necessary to rely more heavily on imports of aluminum rather than raw materials.

~~CONFIDENTIAL~~

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Chrome and Ferrochromium

Soviet Potential

The USSR is the largest producer of chrome ore in the world. Soviet output in 1973 of 3.3 million tons was about twice the total for South Africa and Turkey, the next two largest producers. Soviet chrome ore output not only meets all domestic needs but makes the USSR the world's largest exporter. In 1973 the USSR sold about 1.2 million metric tons of chrome ore abroad, mostly to industrialized Western countries. The Soviet Union is also a net exporter of ferrochrome (46,000 metric tons in 1973).

The USSR claims the world's largest reserves of chrome ore. Most are located in Kazakhstan with additional reserves in the Ukraine, Urals, Azerbaijan, and the Soviet Far East. The Donskoye group of deposits near Khrom-Tau in Kazakhstan has high grade metallurgical ores.

US Interest

The US depends completely on imports for its chromium requirements. In recent years, the nature of that dependence has changed significantly, however. Imports of chrome ore declined by about one-third from 1969 to 1973, while imports of ferrochrome tripled. This shift reflects the sharp drop in US ferrochrome production caused largely by the closing of several plants that could not afford to comply with new antipollution controls. The US, which produced enough ferrochrome in 1969 to meet most of its needs, now satisfies about one-third of current needs with imports. Meanwhile, the US continues to buy all of its metallurgical-grade chrome ore abroad. The US therefore may be interested in a Soviet proposal that US firms participate in the construction of a ferrochrome production facility with an annual capacity of 320,000 metric tons, requiring about \$27 million worth of imported equipment. About \$47 million worth of imported mining equipment would also be needed for a related facility to produce 2.2 million metric tons of raw materials.

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CONFIDENTIAL

Copper

Soviet Potential

Soviet copper production of 1.2 million tons in 1973 was a little over half the US total of 2.1 million tons. In 1973, USSR net copper exports were 232,000 metric tons.

The large Soviet reserves of copper probably approach the US level of 80 million tons of contained metal. The principal deposits currently being exploited are located in Kazakhstan. A substantial increase in copper production is planned in the Soviet Far North where the Noril'sk copper-nickel combine is undergoing a substantial expansion to exploit the rich nearby deposits at Talnakh. Finland has signed a \$300 million contract providing for delivery and installation of smelting equipment during 1976-77.

The most notable deposit discovered in recent years is the giant Udokan ore body in the Transbaykal region of East Siberia. Reportedly, that deposit has the potential to yield 400,000 tons of refined copper per year for over 50 years. Ore quality is said to be high, averaging 1-1/2% to 2% copper content. The new BAM railroad, scheduled for completion in 1982, would pass not far to the north of the deposit. The USSR is interested in foreign participation in joint development of Udokan copper deposits, but negotiations with Japanese, British, and French firms have proved difficult because of the size of the project. (A US firm is also a possible participant in the project.) Estimated development costs range up to \$2 billion.

US Interest

The US, the world's largest producer of copper, is largely self-sufficient, and reserves are adequate to meet needs for many years. Nonetheless, US participation in developing the Udokan copper deposits is a possibility to diversify foreign sources of supply and ease long-run demands on domestic reserves. The Udokan project is so large that no one firm is likely to be in a position to tackle it alone, a factor which might lead to US participation in a Western consortium.

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Nickel

Soviet Potential

Second only to Canada in the output of nickel and nickel products, the USSR's 1973 production is estimated at 164,000 tons, about two-thirds the Canadian level -- adequate to meet domestic needs and to provide a surplus for export. In the past several years the USSR has sold about 15,000 to 20,000 tons of nickel annually to Western Europe, Japan, and the US. Shipments to the US in 1973 amounted to about 3,000 tons.

Soviet nickel reserves, among the largest in the world, are probably about equal to those of Canada but less than those of Cuba and New Caledonia. About 80% of Soviet reserves are located in copper-nickel sulfide deposits on the Kola Peninsula and in the vicinity of Noril'sk in the Soviet North. Deposits of lateritic ores are found in the Urals and Kazakhstan. Other deposits of importance include the nickel-cobalt arsenides in Tannu-Tuva and copper-nickel deposits in the Nizhneangarsk area north of Lake Baykal.

The USSR has launched a major expansion program at its large nickel-copper combine in Noril'sk. The nearby Talnakh deposits have been under development for several years, and the USSR recently signed a \$300 million contract with Finland for deliveries of smelting equipment to Noril'sk during 1976-77. The USSR also has negotiated inconclusively with the UK, France, and Japan for assistance in development of nickel deposits near Orsk in the Southern Urals. The USSR may have downgraded the Orsk project because of the priority attached to the Noril'sk expansion program. The new Siberian railroad will aid exploitation of the copper-nickel deposits near Lake Baykal, but development is not likely to be undertaken until the 1980s.

US Interest

The US, the world's largest consumer of nickel, relies on imports for most of its needs. The only domestic source is the Riddle ore body in Oregon, which yields a relatively small output of ferronickel. Although Canada has been and seems likely to remain the chief supplier for the US, one contract has been signed to exchange US mining equipment for Soviet nickel. Additional deals of this nature are possible to diversify US sources of supply, but direct US investment in major Soviet projects is not likely.



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Platinum Group Metals

Soviet Potential

The USSR is the world's largest producer of platinum group metals. In 1973 it produced an estimated 2.5 million troy ounces, nearly half of world output. Palladium accounts for 70% of total Soviet production of platinum group metals, platinum - 25%, and other metals - 5%. For many years the Soviet Union has been a major supplier of platinum group metals to the non-Communist countries.

Soviet reserves of platinum group metals are the largest in the world: about 25% of the world's known reserves of platinum, 65% of the palladium, and about 50% of the rhodium. Soviet platinum group metals are recovered principally as by-products from copper-nickel ores at Noril'sk. Extension of the deposits in the Noril'sk region and development of the new deposits at nearby Talnakh ensure a high output for many years. Platinum group metals are also obtained from copper-nickel ores on the Kola Peninsula and placer mines in the Urals.

US Interest

The US has to import almost all of the platinum group metals that it needs. The principal sources of supply are the USSR, South Africa, and Canada, which account for about 98% of world production of these metals. Although the UK is a major supplier, it ships processed metal of South African origin.

US participation in projects to develop Soviet resources of platinum group metals is not likely. The USSR has already moved ahead on its own to expand mining operations at Noril'sk and has arranged for Finnish participation as a supplier of smelting equipment in 1976-77. The US will, however, remain interested in Soviet supplies of platinum group metals, principally palladium.

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CONFIDENTIAL

Other Projects

Other projects are under active consideration or are likely to materialize as new areas are opened up following construction of the BAM railroad and the completion of detailed geological studies. For one reason or another, however, these projects probably have little or no potential interest for the US in terms of either trade or investment. The USSR, for example, has obtained Western participation in several iron ore development projects on the Kola Peninsula, in Karelia, and in the vicinity of Kursk. Other projects may turn up in Siberia. The US, although it currently relies on imports for about one-third of its needs, has invested heavily in mines in Canada and South America with far shorter transportation routes than those that would be required for potential deliveries from the USSR. The US also has established suppliers of manganese ore -- including Brazil, Gabon, South Africa, and India. Similarly, existing domestic and foreign sources of lead and zinc seem adequate for US long-range needs. Moreover, Soviet plans for development of lead and zinc resources are still very sketchy. The USSR, which itself relies on imports for part of its needs for fluorspar, has suggested that the US participate in development of its resources of this mineral. But the US depends on imports for most of its fluorspar needs; Mexico is its principal supplier. US participation in projects for construction of ferromanganese and ferrosilicon plants in the USSR might be forthcoming in view of potential economies in the use of electric power, although probably not in the near future.



Siberian Development



- | | | | |
|--|--|--|--|
| <p>Major Fields</p> <ul style="list-style-type: none"> ● Petroleum regions ● Natural gas ● Crude oil <p>Pipelines</p> <ul style="list-style-type: none"> — In operation - - - Proposed <p>Oil Refineries</p> <ul style="list-style-type: none"> ■ In operation ■ Planned | <p>Hydroelectric</p> <ul style="list-style-type: none"> ■ In operation ■ Under construction ■ Planned <p>Thermal Power Plants</p> <ul style="list-style-type: none"> ■ 10 proposed plants <p>Chemical-Petrochemical</p> <ul style="list-style-type: none"> ■ In operation ■ Planned | <p>Aluminum Plants</p> <ul style="list-style-type: none"> ■ In operation ■ Under construction <p>Steel Plants</p> <ul style="list-style-type: none"> ■ Possible <p>Mineral Deposits</p> <ul style="list-style-type: none"> ● Coal ● Iron ore | <p>Other Minerals</p> <ul style="list-style-type: none"> ■ NICKEL ■ COPPER ■ DIAMONDS <p>Pulp/Paper</p> <ul style="list-style-type: none"> ▲ Proposed <p>Railroads</p> <ul style="list-style-type: none"> — In operation - - - Proposed |
|--|--|--|--|



SECRET ATTACHMENT

THE WHITE HOUSE

WASHINGTON

June 12, 1975

MEMORANDUM FOR: Don Rumsfeld

FROM:

Phil Buchen *P.W.B.*

Attached are the original and one copy of a classified memo for the President on the subject you and I have discussed. Jack Marsh has seen it and approves. If you have questions or suggestions, let me know.

Attachment



SECRET ATTACHMENT

NATIONAL ARCHIVES AND RECORDS ADMINISTRATION
Presidential Libraries Withdrawal Sheet

WITHDRAWAL ID 01467

REASON FOR WITHDRAWAL National security restriction
TYPE OF MATERIAL Memo(s)
CREATOR'S NAME Buchen, Philip
RECEIVER'S NAME President
DESCRIPTION William P. Clements
CREATION DATE 06/12/1975
VOLUME 5 pages
COLLECTION/SERIES/FOLDER ID . 001900423
COLLECTION TITLE Philip W. Buchen Files
BOX NUMBER 37
FOLDER TITLE Personnel - Conflict of Interest, A-G
DATE WITHDRAWN 08/24/1988
WITHDRAWING ARCHIVIST LET



October 10, 1973

Honorable Lee H. Hamilton
Chairman, Subcommittee on the
Near East and South Asia
Committee on Foreign Affairs
House of Representatives
Washington, D. C. 20515

Dear Mr. Hamilton:

Secretary of Defense Schlesinger has requested that I reply to your letter of October 1, 1973 with respect to Deputy Secretary Clements' financial interests.

As Secretary Clements indicated to the Senate Armed Services Committee at the time of his nomination in January, 1973, he is a principal stockholder in SEDCO, Inc. SEDCO operates exclusively outside the United States, and is a service organization providing drilling, pipeline construction, and engineering services to oil producing companies. Detailed information is contained in the enclosed copy of SEDCO's 1972 annual report.

Because of SEDCO's interests in Iran, Mr. Clements has disqualified himself from any activities of the Department of Defense which might relate to military sales or any other matters affecting Iran. The Secretary of Defense is fully aware of Mr. Clements' investment in SEDCO and will himself make any decisions which relate to Department of Defense activities affecting Iran. You are of course aware that overall government policy with respect to Iran or any other foreign state is within the purview of the Department of State.

Mr. Clements is familiar with the various statutes and regulations regarding conflicts of interest and it is not anticipated that his personal investments will present any problems to him in the performance of his duties as Deputy Secretary of Defense. You may be assured that the avoidance of conflicts of interest is a matter which receives constant attention within the Department.

Sincerely yours,

L. Niederlehner
Acting General Counsel



Enclosure

cc: PA
LA

B



14 DEC 1973

Honorable Les Aspin
House of Representatives
Washington, D. C. 20515

Dear Mr. Aspin:

This refers to your letter of 26 November 1973 to the Deputy Secretary of Defense, William P. Clements, Jr., with respect to his ownership of stock in SEDCO, Inc.

SEDCO stock is not an "oil stock" in the commonly accepted meaning. SEDCO is a service and construction organization providing drilling contracting, pipeline construction contracting and engineering services to oil producing companies; and all drilling operations are conducted exclusively outside the United States. SEDCO has no contracts with the Department of Defense.

Secretary Clements indicated to the Senate Armed Services Committee at the time of his nomination in January 1973 that he is a principal stockholder in SEDCO, Inc. The Committee carefully considered this fact in recommending that the Senate confirm his nomination.

Mr. Clements is familiar with the various statutes and regulations regarding conflicts of interest. In our view there is neither an "apparent" nor "probably real" conflict of interest between Mr. Clements' holdings and the performance of his official duties as you suggest in your letter. It is noted that you have referred the entire matter to the General Accounting Office; the Department will cooperate in any inquiry which that Office may wish to make on your behalf.

You may be assured that the avoidance of conflicts of interest is a matter which receives constant attention within the Department.

Sincerely yours,

L. Niederlehner
Acting General Counsel

cc: Sen Stennis
Mr Braswell
PA
LA
OSD Mail Room (#17525)
Signer (GC #2579)

Coordinated w/ASD (PA)
ASD (LA)
Spec Asst to SecDef



C



December 15, 1973

Deputy Secretary Clements will not handle any decisions concerning oil drilling or oil field exploitation, not because there is any legal conflict of interest involved but because the Department wants to avoid even any appearance of a possible conflict of interest.

Assistant Secretary Mendolia directs DoD energy policy, and Deputy Secretary Clements will remain outside the decision process on any matters that might have even an appearance of affecting the market value of oil drilling equipment.

The Department will of course draw on Secretary Clements' expertise in oil matters, but Secretary Schlesinger will make all necessary decisions in this matter after receiving recommendations directly from Secretary Mendolia and the Service Secretaries.





THE DEPUTY SECRETARY OF DEFENSE
WASHINGTON, D. C. 20301

December 18, 1973

Honorable Warren G. Magnuson
Chairman
Committee on Commerce
United States Senate

Dear Mr. Chairman:

This will respond to your telegram of December 14, requesting my appearance at the Senate Commerce Committee hearings on Wednesday, December 19. For the reasons stated herein, I am hopeful that an arrangement other than my appearance will prove acceptable to the Committee.

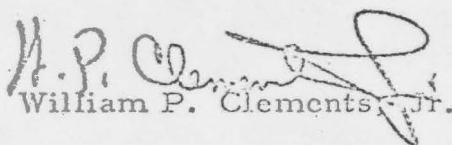
You should be aware of my rôle within the Department of Defense with respect to matters dealing with energy. Recently questions have been raised as to the possible appearance of conflict of interest between my official duties and my holdings in SEDCO Inc. To avoid even a hint of impropriety, I have removed myself from the decisional chain on energy matters in the Department. I will not represent the Department on matters dealing with energy. At Secretary Schlesinger's suggestion, I have agreed to be available to provide personal technical advice to the Department of Defense based upon the experience that I have gained in matters relating to energy. However, this role will not concern matters of policy, but rather will deal with technical issues in the energy field, and then only as requested by the Secretary.

In addition, I have withdrawn from all interagency groups such as the President's Emergency Energy Action Group. It is possible that this group or other offices within the Executive Branch may ask for my personal advice on technical matters concerned with energy. I would be willing to provide such views, as and when requested, but not as a participant in the policy or in the decision-making process of the Executive Branch.



I have asked Mr. Jack Bowers, Assistant Secretary of the Navy for Installations and Logistics, to represent the Department of Defense at your hearing. Mr. Bowers is fully conversant with issues relating to oil and gas development in and around naval petroleum reserves, and related matters. I am confident he will be a highly effective representative of the Department and that his testimony will be of value to you and to your Committee.

Sincerely,


William P. Clements, Jr.



E



THE SECRETARY OF DEFENSE
WASHINGTON, D. C. 20301

January 21, 1974

Honorable John C. Stennis
Chairman, Committee on Armed Services
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

This letter is in response to your letter of January 18, 1974 concerning the role of William P. Clements, Jr., Deputy Secretary of Defense, on energy-related matters. Your letter makes special reference to the Naval Petroleum Reserves.

As we are all well aware, under the applicable statutes Secretary Clements may not take any actions in his official capacity which have a direct and predictable impact upon the interests of any company in which he holds a financial interest.

Over and above this requirement Mr. Clements has determined that he will refrain from actions having a major impact on the petroleum industry generally, such as: (1) recommendations with respect to the Naval Petroleum Reserves; (2) decisions on procurement of petroleum; (3) national energy policy decisions of the Executive Branch; and (4) decisions relating to the leasing of and drilling in Department of Defense offshore ranges, U. S. continental shelf, or public lands.

All of these energy matters are the responsibility of the Assistant Secretary of Defense (Installations and Logistics) reporting directly to me. A memorandum to this effect has been issued by Mr. Clements to lay the matter to rest (Attachment A).

Mr. Clements has also terminated his advisory role on national energy policy.

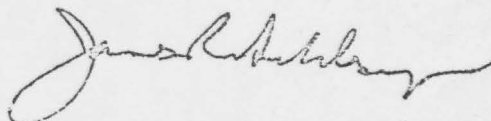
With specific reference to the Naval Petroleum Reserves, the particular responsibilities of the Secretary of the Navy, the President of the United States, and the Congress of the United States are detailed in the attached memorandum of the Acting General Counsel of the Department of Defense (Attachment B).



It should be noted that under Mr. Clements' memorandum, I am free to rely on him for day-to-day management functions of the Department of Defense that are a part of the customary duties of the Deputy Secretary of Defense. These functions relate to budget, procurement and operational activities of the Department. As contemplated by the memorandum, such management functions would be those wherein the impact on the petroleum industry is tangential or derivative, as distinct from management policy or operational decisions which focus directly on that industry.

I trust these arrangements will meet with the approval of the Committee.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "James H. Doolittle".

Attachments

F



ACTION ISA

SECRET

335088

EYES ONLY

10

ZCZCDKAW73

RA YKADQA

DE YLHNR #1898 070114A

19 MAR 75 12 05z

ZNY MMSH

R 191141Z MAR 75 ZFF-1

FM MGEN JOHN G. JONES, MIL ASST DEPSECDEF

TO RADM KEN M. CARR, MIL ASST DEPSECDEF

ZEM

~~SECRET~~ EYES ONLY

REF: CASD (ISA) Z2548 MAR 75, FROM MGEN SMITH TO RADM CROWE,

1, SUBSTANTIVE COMMENTS FROM DEPSECDEF RE NSSM 214

INCLUDED IN EARLIER MSG JONES TO CARR.

2, REMAINDER OF DEPSECDEF COMMENTS ON NSSM 214 DRAFT ARE MARGINAL NOTATIONS AS FOLLOWS:

PAGE V

SENTENCE READING QUOTE - WITHOUT OUTSIDE ASSISTANCE, THE RATE OF DEVELOPMENT OF ON SHORE OIL AND GAS RESOURCES WOULD BE DELAYED BY THREE TO FIVE YEARS OR LONGER, END QUOTE;

DEPSECDEF CIRCLED LONGER AND NOTED YES IN MARGIN, BY NEXT SENTENCE DEPSECDEF COMMENT WAS QUOTE - AGREE;

PAGE VII

SENTENCE READING QUOTE - BY 1992 SIBERIAN FIELDS

PROBABLY ACCOUNT FOR ABOUT HALF OF TOTAL SOVIET

PRODUCTION OF OIL AND GAS, END QUOTE, DEPSECDEF

ANNOTATED QUESTION MARK BY DATE 1992, BY NEXT

SENTENCE SAME PAGE DEPSECDEF NOTED QUOTE AGREE;

PAGE XIII

SENTENCE READING QUOTE - THE RESERVES OF GAS IN THE

WRENGBY FIELD ARE MORE THAN ADEQUATE, DEPSECDEF

ANNOTATED QUESTION MARK,

SENTENCE READING QUOTE - PRESENTLY EXPLORED RESERVES

IN THE AREA CAN SUPPORT THREE OR FOUR PROJECTS OF THE

SIZE OF NORTH STAR, DEPSEC ANNOTATED QUESTION MARK,

PAGE XIV

SENTENCE READING QUOTE - DEVELOPMENT OF THE YAKUTSK

FIELD WOULD NOT BEGIN UNTIL U.S. AND JAPANESE

FIRMS ARE ASSURED OF SUFFICIENT RESERVES, DEPSEC

ANNOTATED QUOTE - HOW,

PAGE XVII

AFTER FIRST SENTENCE, DEPSEC ANNOTATED WORD AGREE,

PAGE XX

SENTENCE READING QUOTE - ...HOWEVER, TOKYO HAS SHOWN

THAT IT IS PREPARED TO BECOME UNILATERALLY INVOLVED

IN SIBERIAN PROJECTS, DEPSEC ANNOTATED QUESTION

MARK BY WORD UNILATERALLY,

PAGE 7B PAPA 6, CONCLUSIONS,

DEPSEC ANNOTATED AGREE BY EACH OF THE FIRST THREE

CONCLUSIONS,

NEXT PAGE TITLED-INSERT.

DECLASSIFIED
Authority DoD Directive 5200.30
By W/H/M NLF Date 5/8/00



EYES ONLY

~~SECRET~~
~~SECRET~~

EYES ONLY

→ No BY SENTENCE READING QUOTE - THE EXPORT OF U.S.
OIL AND GAS DRILLING AND PRODUCING EQUIPMENT;
COULD HINDER DOMESTIC ENERGY EXPLORATION AND
DEVELOPMENT, DEPSEC ANNOTATED QUOTE - NO;
SAME PAGE, AFTER SENTENCE READING QUOTE - ON THE
OTHER HAND, ... IF DEEMED FEASIBLE ON ECONOMIC GROUNDS,
DEP SEC ANNOTATED WORD AGREE BY NEXT THREE SUB
CONCLUSIONS,

PAGE 76

AFTER TWO SUBCONCLUSIONS AT BOTTOM OF PAGE, DEPSEC
ANNOTATED AGREE,
3. BEST REGARDS,

SSO NOTE! DELIVER DURING DUTY HOURS,
41898

EYES ONLY

~~SECRET~~
~~SECRET~~

NNNN

6/18/75

Mr. Buchen

said Mr. Rumsfeld

has the action

on this .



Thursday 6/19/75

Mr. Buchen took the material brought over by Martin Hoffmann to Rumsfeld's office, who was going to give it to Secy. Schlesinger when he left to go back to the Pentagon.



PERSONAL AND CONFIDENTIAL

THE WHITE HOUSE

WASHINGTON

July 1, 1975

MEMORANDUM FOR:

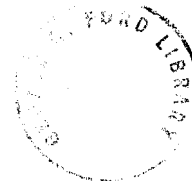
THE HONORABLE JAMES P. SCHLESINGER
SECRETARY OF DEFENSE

FROM:

PHILIP W. BUCHEN *P.W.B.*
COUNSEL TO THE PRESIDENT

For whatever assistance it may give you, I
am attaching an abstract prepared by me
of the material I found in the file regarding
Deputy Secretary Clements.

Attachment



MEMORANDUM

THE WHITE HOUSE
WASHINGTON

September 11, 1975

MEMORANDUM FOR: PHIL BUCHEN
FROM: DON RUMSFELD

The President indicated that if Schlesinger requests that you accompany Bill Clements when he goes up to see Stennis as the President has requested, that it is all right from the President's standpoint for you to accompany him.

