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U.S.-RUSSIA JOINT COMMISSION ON TECHNOLOGICAL COOPERATION
COCHAIRLED BY: VICE PRESIDENT GORE
PRIME MINISTER CHERNOMYRDIN

A "STRATEGIC VISION" FOR ENVIRONMENTALLY SOUND
U.S.-RUSSIAN COOPERATION IN OIL AND GAS

The fastest way to develop Russian hard currency earnings, strengthen Russian-East European trade, and contribute to domestic economic growth in Russia is by boosting Russian oil and gas production and increasing the efficiency of energy use within Russia. Thus, cooperation in oil and gas lies at the heart of building a substantial U.S.-Russian economic relationship and supporting Russian economic reform. Oil and gas cooperation could also significantly reduce local and global environmental damage in Russia.

Direct aid for Russia is extremely important, but oil and gas-related trade and investment can provide funds and participation by Americans on a vast scale capable of having a major impact on Russia. Most major U.S. oil companies are discussing multiple projects in Russia and a number of small companies are also active, while a large number of equipment and service suppliers are negotiating sales and joint ventures. Thus, U.S. Government efforts will be most effective if they focus on clearing away obstacles in order to enable U.S. companies to implement commercial cooperation on a wide scale.

A meeting of the cochairmen of the Joint Commission on Technological Cooperation will provide the first opportunity ever for extensive high level discussion of U.S.-Russian cooperation in oil and gas. There are a number of wide differences in U.S. and Russian approaches to trade and investment in oil and gas which such a meeting can begin to resolve. Even taking these differing views into account, it should also be possible to resolve at least some of the practical issues which are already on the table, such as clearing obstacles out of the way of pioneer U.S. investments, completing and implementing the Eximbank oil and gas framework agreement, and getting prompt Russian ratification of the Bilateral Investment Treaty.

POTENTIAL IMPACT OF OIL AND GAS COOPERATION

- The huge Russian energy potential could be the world's largest market for U.S. petroleum equipment, technology, and services. A preeminent position in the Russian market will generate tens of thousands of American jobs and ensure the competitive position of the U.S. oil and gas industry well into the 21st century.*

- o Increased Russian oil and gas production and conservation will alleviate strains on world energy supplies and support U.S. energy security. Russia possesses an estimated 6 percent of the world's oil reserves and 35 percent of its gas reserves. Russia consumes three-fourths as much energy as the United States, yet produces only one-third as much economic output.
- o Increased oil and gas production and conservation as well as price reform will make it easier to improve Russian nuclear safety by shifting electric power generation away from unsafe nuclear reactors.
- o U.S. equipment manufacturers can help Russian defense enterprises convert to production of petroleum equipment, and at the same time maintain a U.S. competitive advantage in supplying the vast Russian oil and gas industries as well as U.S. company oil and gas operations in the NIS.
- o Oil and gas account for \$21 billion of \$34 billion in total Russian exports to the West and are essential to raise capital for the imports and investment needed to restructure Russian industry.
- o Significant reduction in gas pipeline leakage and flaring of associated gas as well as upgrading of gas transport can help reduce global warming. For example, Russia may represent 70-80 percent of short term and 50 percent of long term global potential for reduction of methane emissions as well as important possibilities for reducing local air (SO_2 , NO_x , and particulates) and water pollution.
- o Rapid reductions in methane emission are essential for reducing the potential for global warming, because methane is 22 times more powerful than carbon dioxide in accelerating the greenhouse effect. Russia's large methane emissions and high energy density in its GDP may offer economically attractive opportunities for U.S. firms to offset their own greenhouse gas emissions through (potentially) less expensive investment in Russia. / X

The long-term opportunities are enormous, but the short term opportunities are huge as well.

- o With access to financing and with sufficient support from the U.S. and Russian governments, enough Russian oil could be produced (or conserved and made available for export) to generate an annual rate of \$4 billion or more in additional Russian hard currency exports within 24 months. \$1-2 billion of U.S. equipment and services would be exported to Russia in the process, with 20-40 thousand associated American jobs.
- o In the longer-term, U.S. companies could bring new fields into production; the Department of Commerce estimates that U.S. companies are considering projects requiring investment of more than \$70 billion over the next 10 years, generating up to an incremental 3.8 million barrels per day of oil production by the tenth year, worth \$23 billion annually of export revenue (at current world prices).

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two very
different
propositions - 11

THE OBSTACLES

U.S. companies have an extremely strong interest in Russia, but are hampered by:

- **Russian policy indecision:** The Russians have not decided that they want extensive foreign investment in their energy industry. There is no national or regional policy clearly supporting foreign investment.
 - o *This is the largest barrier to major U.S. oil projects.*
- **Inadequate Russian legal infrastructure:** No one is in charge, the decision-making framework is random, there is no clear ownership over mineral rights, and legal protection for investments, contracts, and other forms of private and governmental relationships are virtually non-existent. Lack of clear delineation of environmental responsibilities and liabilities thwarts investment and use of existing transportation infrastructure.
 - o *In the absence of a stable and transparent legal environment, foreign investors are seeking contracts that in effect embody an ad-hoc set of laws, and must be approved by Presidential decree and by an act of the Supreme Soviet.*

- **Unstable tax and fee structure:** Federal and local authorities are continually amending taxes and adding new ones. Currently, six or more taxes, or about 60 percent of the sales value of oil, are collected before oil is exported.
 - o Existing taxes make oil deals unprofitable. To achieve economic viability, each deal at present must have a reliable individual exception to certain taxes. Foreign participation on a broad front is not possible under current conditions.

- **Inadequate financing:** Commercial lenders and investors consider Russia too risky; they are not willing to provide funds unless they are protected by Western government guarantees. Since commercial lenders and investors consider Russia too risky, the financing responsibility is, for the time being, falling to the multilateral banks (World Bank, EBRD) and national agencies (Eximbank, OPIC, and their foreign counterparts).
 - o With few exceptions, U.S. oil companies and equipment suppliers have been unable to obtain significant credits or investment guarantees. Conoco's \$150 million in OPIC support and Caterpillar's \$85 million Exim guarantee represent only the bare beginning.
 - o Multilateral loans in the oil and gas sector of at least \$1.4 billion are in preparation. Eximbank loans of up to another \$2 billion are awaiting the completion of an Eximbank-Russian framework agreement.
 - o These loans address the need of various Russian *government agencies* for individual items of equipment and technical expertise. They may remove bottlenecks, but will not necessarily change the business-as-usual attitude in Russia that brought on the decline in oil and the slowing of gas growth in the first place.

- o A second type of loan by OPIC, Eximbank, and the EBRD, backs *joint ventures* in which a Western partner exercises management control. Surprisingly modest financing can jump-start significant increases in oil production. In the Anderman/Smith case, less than \$100 million in initial capital is launching a project that eventually will produce up to \$2 billion of oil. Very strong cash flows self-finance further investment after the start-up phase.
 - o The Anderman/Smith type is qualitatively different from the first type of loan, because it fosters privatization and an active U.S. business presence, supports a commercially successful, high-yielding venture; puts emphasis on hard currency earnings needed for debt service; and showcases U.S. technology. No Russian sovereign guarantee is needed. Eximbank's \$44 million participation is being held up, however, awaiting negotiation of a "project incentive agreement" with Russia restricting government interference with the project.
 - o One constraint on financing (the World Bank's negative pledge) has been removed, but others remain. Most importantly, priority attention must be given to the pending framework and project incentive agreements. Successful official finance in Russia's oil and gas sector can lead the way to whetting commercial appetites for further loans and investments.
- Oil and gas pricing: Domestic oil prices are less than 30% of world prices, while gas prices are only 5%, and both are also badly out of kilter relative to prices for other Russian goods. Domestic producers have inadequate incentive to increase production or conserve. Producers actually have incentive to leave reserves in the ground and wait for prices to approach world levels. Foreign investors have no incentive to increase domestic supply or conservation, but only to export, and even this is problematic.
- o Until oil, gas, coal and electricity cost enough to be worth saving and environmental standards are upgraded and enforced, there will be little or no market for environment-friendly innovation or energy efficient technology.

- o Current market pricing structure along with absence of appropriate environmental regulations and proper reservoir management practices results in waste of vast quantities of associated gas with accompanying enormous local and global environmental harm. Likewise, lack of market pricing discourages a switch to natural gas and combined cycle turbines, which would improve efficiency and reduce carbon emissions. Also discouraged is changeover to efficient lighting, preventing release of 16-27 million metric tons of carbon by 2005, while saving 287 billion kwh.
- o Similarly, skewed pricing systems reduce the attractiveness of U.S. investment in methane emission reduction and conservation by firms that desire to offset their U.S. emissions in a cost effective manner.
- o Pricing is also important for improving heating, air conditioning and ventilation systems, insulation and energy efficient windows. Improved refrigeration efficiency could save 524 billion kwh by 2005 and prevent emission of 27-47 million metric tons of carbon, thereby reducing reliance on existing unsafe nuclear plants and polluting coal fired plants.

THE OPPORTUNITY

The opportunity for U.S.-Russian cooperation in oil and gas is in the following major categories. Some of these opportunities cannot be pursued on a commercial basis without modifications in the Russian commercial environment, including policy, price system, taxes, and ownership and other laws.

1. Developing new oil and gas fields: Most major American oil companies, and many medium-sized firms as well, are seeking to develop new fields, which could generate an estimated 3.8 million barrels of oil per day in new Russian production.

2. Restoring existing wells: This represents one of the best short term opportunities for stopping the fall in oil production, and small and medium-sized American companies, including members of the Independent Petroleum Association of America (IPAA), want to pursue production sharing or service contracts involving the more than 30,000 inactive wells, if the Russians can guarantee access to earnings. For example, it is estimated that repair of 1500-2000 of the best wells could restore as much as \$6-800 million in annual production.
3. Repairing field gathering systems: \$400 million of American oil field processing equipment installed in Russian oil fields could save an estimated \$2 billion worth of oil annually, and have enormous environmental impact by stopping the spillage of this oil.
4. Reservoir optimization and reduction of gas flaring: Western technology could improve oil recovery up to 30 percent and reduce carbon emissions up to 120 million metric tons through reduced flaring.
5. Repairing and upgrading pipelines: Projects here could generate vast savings of oil and gas which is underutilized or simply released into the environment. This could generate an estimated \$2 billion in potential export gas revenue. Gazprom believes that the NIS gas pipeline system will require \$140 billion by 1995 for reconstruction and replacement of pipeline and compressors.
6. Upgrading refineries: Russian refineries are approximately 60% efficient, while Western refineries are 90-95% efficient. The archaic infrastructure offers multiple opportunities for foreign companies to participate in bringing it up to Western Standards.
7. Increasing gas processing facilities: Bringing gas to Western pipeline quality would result in proper valuation of exported gas, improved enduser efficiency, create new markets for gas liquids, and help prevent escape of methane to the atmosphere.
8. Joint Ventures in energy equipment manufacturing: Many U.S. petroleum equipment suppliers are seeking to develop joint ventures to supply Russian oil and gas operations as well as U.S. company projects in Russia.

9. Installing energy conservation systems: The vast potential is illustrated by Honeywell's estimate that Moscow city alone could save \$1 billion worth of oil and gas at world prices annually by refitting district heating systems with process controls, if an economic mechanism can be found to pass the savings to Moscow and Honeywell. Redesign of district heating systems to reduce energy losses could reduce carbon emissions by 15-25 million metric tons by 2005.

THE RUSSIAN PERSPECTIVE

Following the collapse of the USSR, there was much hope in Russia that large amounts of Western investment would flow into the country. Hope turned to disappointment when Western companies did not quickly commit significant funds.

Officials at all levels of government, the oil and gas industry, and the public question whether the West should be allowed to participate in Russia's oil and gas sector and, if so, what the West's role should be. Objections to Western involvement range from resistance to giving away the national patrimony, to fears over losing jobs to Westerners. The Supreme Soviet is critical, for example, of Yeltsin's allocation of tax exemptions for foreign investments.

Russians take great pride in having created the world's largest oil and gas industry, and many insist that with a little money and certain specific technologies they can reverse the downturn in oil production. Directors of major oil production associations, as well as the major gas operations, are leery of welcoming foreign participation in their domain.

In recent months, Russia has tended to narrow the scope of what it considers legitimate Western activity. In general, if the Russians believe that they are capable of carrying out a project themselves, the leadership discourages Western involvement. Several months ago, for example, President Yeltsin cancelled a deal with Western companies to develop a huge offshore gasfield in the Barents Sea in favor of a Russian firm.

The Russians are anxious to buy more U.S. petroleum equipment, but low oil and gas prices and high Russian government taxes allow little or no incentive for their oil and gas enterprises to import equipment and increase production. The government wants foreign investment to build a domestic petroleum equipment industry and to help defense industries to convert to production of civilian goods for the Russian oil and gas industries.

In spite of these attitudes, Russians frequently insist that foreign companies should be investing large sums of money without delay, and they do not agree that there is political risk for investors. Because of the ambivalence, or outright opposition to foreign participation, Russian officials may be more interested in opportunities for practical low key measures to support American participation, as opposed to high visibility public statements or actions. Several of the more successful, although small, foreign ventures have avoided wide publicity in Russia.

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THE STATUS OF U.S.-RUSSIAN COMMERCIAL COOPERATION

Despite critical Russian needs for foreign oil and gas equipment, technology, and investment, and despite business development efforts by a range of U.S. equipment and service suppliers as well as major oil companies, U.S. exports and investment remain at a very low level.

Exports of equipment and services: Russia desperately needs petroleum equipment, since supplies from traditional suppliers in Azerbaijan are cut off and because domestic Russian producers are not up to modern standards of productivity or reliability. However, U.S. exports of petroleum equipment totalled only \$100 million in 1992. The Russian government has delayed completing the Eximbank oil and gas framework and project incentive agreements which could support as much as \$2 billion in exports of equipment and services.

Joint Production of Equipment and Services: Russia is anxious for foreign assistance in manufacturing petroleum equipment to replace facilities which previously supplied the Russian oil and gas industries but which are located in other former republics, primarily Azerbaijan and Ukraine. Additional, defense enterprises have forwarded several hundred proposals to the Ministry of Fuels and Energy for conversion from military production to civilian petroleum equipment. Several U.S. joint ventures for production of petroleum equipment are in some stage of development. Less than five appear to be in production.

Investment: While U.S. companies are currently seeking to develop more than \$12 billion in projects, mainly in oil, committed U.S. investment in oil and gas is estimated at less than \$300 million. By far the largest amount is the \$150 million in guarantees and insurance which Conoco has obtained from OPIC toward planned investment of \$300 million in the Polar Lights project. OPIC support was possible only after the Russian government provided a promised exception to the oil export tax. Phibro has invested more than \$110 million in the White Nights joint venture but has not received a promised export tax exemption. An across-the-board exemption to the export tax is needed for investments.

Two small production sharing joint ventures are in production, totalling less than 100,000 barrels per day production. Texaco has concluded a risk sharing agreement in Western Siberia that could earn as much as \$100 million, and at least 8 production sharing or service contracts in existing fields are in negotiation.

Texaco, Amoco, Exxon, Mobil, and others are all seeking to develop multibillion dollar projects to exploit new fields. Marathon and McDermott are members of the MMMMS consortium proposing to develop the \$10 billion Sakhalin offshore gas and oil deposits. Each of the large projects have major issues remaining. Texaco and the MMMMS consortium believe that they must have operational control and that, under existing conditions, they will have to obtain Russian Supreme Soviet approval of their contracts before they can proceed with massive investments contemplated.

Illustrating the interest as well as concerns of oil and gas companies, U.S. and other Western oil firms in the Petroleum Advisory Forum are setting up an office in Moscow to advise and lobby the Russian government and Parliament on a continuing basis for a better commercial environment, including taxes and laws.

U.S. Assistance in Oil and Gas

Fifteen U.S. assistance programs are getting underway to help Russia and other NIS expedite utilization of new credits and create viable commercial environments in the oil and gas sector. These programs, which are currently budgeted at \$10 million, include assistance to catalyze as much as \$2 billion in international financing, primarily from the World Bank and European Bank for Reconstruction, for imports to increase utilization of associated gas (now flared), repair gas distribution subsystems, upgrade gas supply systems, identify pipeline demonstration projects, and provide petroleum equipment advisors to assist Russia in expediting equipment purchases under a \$1 billion World Bank loan.

They also include digitization of Russian oil and gas basin geologic data, training in development of legislation and codes, advice on regulation to balance petroleum development and environmental protection, a methane clearinghouse, provision of legal advisors for refining legislative packages covering investment codes as well as acreage leasing and options for commercialization/privatization, and analysis of gas pricing optimization options.

THE OVERALL PLAN

U.S. Government support needs to be marshalled through several mechanisms, including:

U.S.-RUSSIA JOINT COMMISSION ON TECHNOLOGICAL COOPERATION (JCTC) should:

1. Lay out the short-term and long-term goals for cooperation;
2. Establish the strategy and framework for cooperation;
3. Establish/monitor a time schedule for implementation;
4. Provide political push to overcome serious individual problems needing resolution at the highest levels;
5. Ensure that U.S. financial and technical assistance are meshed with the commercial opportunity;
6. Set the priorities for technical assistance;
7. Establish framework to ensure that bilateral oil and gas cooperation proceeds in an environmentally sound manner.

U.S.-RUSSIA BUSINESS DEVELOPMENT COMMITTEE (BDC) -- the "Brown-Shokhin" Committee should:

1. Serve as the trade and investment Working Group of the JCTC;
2. Expand legal cooperation and technical assistance to develop an appropriate body of commercial law in Russia.
3. Assist companies on a case-by-case basis with specific projects, and solve their common issues through changes in Russian commercial environment.
4. Use BDC as forum to help keep U.S. government commercial support programs with Russia on track, including Exim, OPIC and TDA (all are BDC agencies).
5. Establish a Joint U.S.-Russian Oil and Gas Development Center in Moscow (with branches in key energy producing areas), perhaps through the Market Development Cooperator Program, to help U.S. companies identify project opportunities with the highest prospective payback, and establish commercial contact and cooperation between U.S. firms and Russian entities. (Staffed on U.S. side principally by private sector.)
6. Evaluate the adequacy of financing availability; recommend to the JCTC ways for Russia to improve its environment to attract financing as well as ways to mobilize sources of U.S. and international financing for loans and investment for Russia.

BDC Oil and Gas Working Group: This Group will carry out the Freedom Support Act mandate for the Trade Promotion Coordinating Committee (TPCC) in Section 304 to "work with officials from the independent states in creating an environment conducive to United States energy investment" and to help U.S. companies identify business opportunities, including promotion of energy technology and products and formation of joint ventures. Chaired by the Assistant Secretary of Commerce for Trade Development and a Russian Deputy Minister of Fuel and Energy, the Oil and Gas Working Group includes all relevant U.S. agencies, including the NSC, Departments of State, Energy and Interior as well as EPA, Eximbank, OPIC, and TDA.

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U.S.-RUSSIA OIL AND GAS DEVELOPMENT CENTER (OGDC)

The OGDC would be a joint effort of U.S. Government agencies, but could be established under the Commerce Department's existing "Market Development Cooperator Program" authority -- which authorizes joint private-government entities to support U.S. exports and commercial development. U.S. Government funding, estimated at \$1-1.5 million annually, would be provided under official assistance funds. The private sector would provide one-third of the total U.S. funding. Russian participants would provide ruble financing.

The Center would include U.S. oil and gas industry associations, retired U.S. industry executives and technical specialists, a small number of U.S. government personnel from Departments of Commerce, Energy as well as the Environmental Protection Agency, and Russian participants. The Center would:

1. Survey Russian oil and gas production, distribution, and processing facilities to identify the project opportunities with the highest payback.
2. Establish commercial information systems to inform U.S. companies of the specifics of the opportunities, to generate bids.
3. Advise on the best use of TDA funds.
4. Channel technical assistance to the Russian industry.
5. Provide training and internship opportunities for Russian technical and managerial personnel in the United States.

The Center would be directed by a retired U.S. energy industry executive of global repute, who would also hold the position of Special Commercial Counselor for Energy Trade and Investment, and would provide a direct line of communication with energy-related U.S. Government agencies through the BDC.

U.S.-Russia Environmental Accord

The U.S. and Russia would agree to: (1) exchange technical information and assistance for mitigation and prevention of pollution from oil and gas systems; (2) develop and implement pollution prevention and mitigation strategy; (3) develop a set of economically sound priorities for investing in pollution prevention; and (4) conduct environmental impact assessments to reduce adverse environmental effects, and to protect potential investors from existing liabilities.

STRATEGY AND TACTICS ON OIL AND GAS FOR THE FIRST MEETING OF THE JOINT COMMISSION ON TECHNOLOGICAL COOPERATION

By focusing on oil and gas, the Joint Commission has an opportunity to move Russian attention to actions which they can take to solve some of their most serious problems, and to reduce their preoccupation with Western assistance. Even in the near term, cooperation in oil and gas can boost energy production and generate hard currency earnings as well as help rebuild trade with Eastern Europe and restructure the Russian economy. In the long term, foreign participation could have even greater impact.

An oil and gas focus can serve U.S. interests in continuing Russian movement toward market democracy and enhancing energy security as well as supporting American exports and employment. Because the U.S. private sector already has a wide range of cooperative proposals on the table, U.S. Government efforts will be most effective if they focus on clearing away obstacles to commercial cooperation.

To work together quickly and effectively to expand oil and gas cooperation and prepare the way for large scale foreign participation in the longer term, Russia and the United States must be in agreement that such cooperation is the fastest way for the Russians to help their economy and that it should be given priority in both countries. There needs to be a shared sense of urgency and agreement on priority actions. Growing Russian focus on the critical problems in their oil and gas industries and the need for foreign inputs makes it likely that the Joint Commission can achieve such agreement.

Even in areas of cooperation ostensibly supported by the Russian government, such as purchase of petroleum equipment, Russian efforts are lagging because of misgivings about foreign participation, failure to set priorities or a combination of both. Agreement by the Joint Commission that the two countries will put priority on cooperation in oil and gas should make it possible also to agree to expedite completion and implementation of the oil and gas framework agreement and other practical steps, including Russian government support for pioneer U.S. investments.

As practical steps generate expanded business, the resulting visible success and benefits for Russia will encourage progress toward overcoming the overarching barrier, i.e., the lack of a clear Russian policy supporting foreign investment in oil and gas. Ambivalence and outright resistance to foreign participation will probably prevent Russia from agreeing now to a policy which would support joint ventures and concessionary arrangements across the board, requiring major changes in attitudes, laws and tax systems. However, the Joint Commission can encourage movement in this direction that will pay dividends later by utilizing this first-ever U.S.-Russian (or Soviet) high level discussion of the potential benefits and needed changes for large scale energy cooperation. The United States also has assistance to offer in creating environment in which foreign participation can flourish.

The first meeting of the Joint Commission on Technological Cooperation can achieve significant results if the United States comes away with a commitment to make oil and gas cooperation a priority for both countries and to expedite completion and implementation of several practical steps such as the oil and gas framework agreement, and if the Russians understand the crucial importance of ensuring that some pioneer commercial projects are demonstrable successes.

Objectives and Tactics

(1) Objective: Achieve mutual understanding and agreement that foreign cooperation in oil and gas is the fastest way for Russia to achieve some of its most important goals, including boosting energy production and hard currency earnings, rebuilding Russian-East European trade, and supporting restructuring of the Russian economy. Agree that both countries will put priority on achieving a rapid increase in cooperation.

The Vice President would seek a common understanding with Prime Minister Chernomyrdin. He would discuss U.S. views regarding the vast potential scope for cooperation in oil and gas, citing Russian resources and capabilities and the way in which U.S. companies matchup. An inventory of projects under development could be used to estimate potential impact on Russian production of oil and gas as well as petroleum equipment manufacturing. The Vice President also could discuss examples of international cooperation in the North Sea and other areas where host countries and foreign companies have worked together on a massive scale to mutual benefit. In addition, he also could explain how cooperation between American petroleum equipment and services suppliers and host countries has led not only to more profitable exploitation of resources and greater protection of the environment, but also to development of domestic manufacturing and employment.

Exploring Prime Minister Chernomyrdin's views and the advice he is giving Russian enterprises, the Vice President would seek to pinpoint areas where there is a commonality of views or where commonality might be achieved. Avoiding the implication that the Russians cannot do without us, he could point to Russian achievements in oil and gas production and technology. Examples of possible cooperation would highlight potential Russian contributions as well as prospective benefits in hard currency, technology, and employment. The Vice President would make it clear that, while U.S. companies are ready to pursue profitable projects in Russia, there are other areas of the world competing for investment and neither the companies nor the U.S. Government are desperate for access to Russian resources.

Prime Minister Chernomyrdin is likely to agree on the wide scope for cooperation, while seeing significantly less need for foreign participation and believing that the Russians can rely primarily on its own capabilities as long as they can purchase certain technology and equipment. Instead, the Russian side is likely to stress the need for foreign cooperation in defense conversion and building up their domestic oil and gas equipment and service industry. Because of ambivalence and some outright opposition to foreign participation at all levels of Russian society, the Prime Minister may be more amenable to pragmatic, practical steps than to unambiguous, highly visible public statements of policy.

(2) Objective: Move the Russians toward a fundamental decision to seek and support foreign participation on a massive scale. Lay the groundwork for creation of a tax and legal environment which would make such cooperation possible.

The Vice President would initiate a dialogue on how Russia can compete for international investment. He can suggest that the Russian government commit itself to seek and support large scale U.S. participation in Russian oil and gas, including equity investments, and to provide a transparent policy, legal, and tax environment in which trade and investment can flourish. He could propose to the Prime Minister that they have the Business Development Committee examine ways of removing obstacles in the Russian commercial environment, including inadequate legal structure and taxation system.

The Vice President would be able to offer assistance in creating the necessary commercial environment as well as assistance projects to demonstrate possibilities for environmental protection and increased hard currency revenues. He could invite the Prime Minister's views on possible additional areas where assistance could focus on important issues and leverage commercial opportunity, if appropriate.

The United States could suggest that we conclude a bilateral environmental accord to mitigate and prevent pollution from oil and gas-related systems. This could also include facilitation of commercial followup by Russia to U.S. assistance programs with Gasprom.

A high level dialogue on the necessity of oil and gas price reform could be initiated and, possibly, a followup program at the working level, including internships or training programs for Russian officials in U.S. Government agencies and for Russian enterprise people in U.S. integrated oil and gas companies.

(3) Objective: Obtain mutual agreement to expedite completion of practical steps which can produce results quickly. There are steps to which the Russian government should be able to agree now, which would not require major changes in Russian government policy or laws and regulations.

The Vice President would suggest that he and the Prime Minister agree to expedite completion and implementation of practical steps, including the oil and gas framework which was supported at Vancouver but is still not completed. He would make it clear that, while such steps require administrative action by the Russian government, they do not require major changes in Russian policy or law.

The Vice President and the Prime Minister would agree to utilize the U.S.-Russia Business Development Committee as the working group to ensure execution of practical steps to expand oil and gas cooperation in the near term as well as measures laying the groundwork for an environment in Russia in which investment can flourish.

Perhaps most importantly, the Vice President could impress upon the Prime Minister the crucial role of Russian government support for a number of pioneer projects, including production sharing arrangements and greenfield investments. Success or failure of some of these projects will in large part determine whether investment and equipment flows into Russia. They are viewed as litmus tests by Western companies and bankers as well as by Western governments, and even by Russian oil and gas enterprises. These projects can provide tangible benefits. If the Russian government supports them, they will deliver inputs of equipment and investment. If not, concrete opportunities will be lost.

Concentration on pioneer projects is particularly important at this stage in Russian development, because creation of a stable, reliable and hospitable political, legal and tax environment for foreign participation will likely take many years, even under an optimistic scenario. The Russian side will probably not respond with any commitments on projects, but there is a good chance that they will increase their assistance as a result of hearing of the priority the U.S. Government places on them at a high level and, perhaps, because of increased understanding of how these projects can support important Russian priorities. Examples include:

- o Early completion of Eximbank oil and gas framework agreement,
- o Early completion of Eximbank Project Incentive Agreement,
- o Gaining quick approval of Bilateral Investment Treaty (BIT), which will require overcoming reported parliamentary opposition,
- o U.S. may need to commit to obtaining early U.S. Congress approval of bilateral tax treaty, which has already been approved by the Supreme Soviet,
- o Russian approval of multilateral "Basic Agreement" for a European Energy Charter with provisions providing national treatment in a trade and investment environment meeting international standards,
- o Set agenda for Business Development Committee to clear away impediments blocking pioneer U.S. investments and production sharing arrangements as well as equipment sales and joint venture manufacturing agreements,
- o Suggest that Prime Minister Chernomyrdin meet personally with some of the U.S. companies whose projects are at a crucial stage.

The Vice President and the Prime Minister would call for an early meeting of the U.S.-Russia Business Development Committee to ensure implementation of steps undertaken by the JCTC as well as supplemental measures.

Pexaco & Siberia → on reserves or fuel tech.
ancient.

Why see imports ↓ ??

Devel → energy efficiency demonstration zone
automatic district heating in Moscow.

25-40% of gas saved

Re-invest 50% of savings ??

— ignore

Chernomyrdin → really thinks Russians can develop these
reserves.

ENHANCING CIVILIAN NUCLEAR REACTOR SAFETY → SEP/ Dec 10

IN THE RUSSIAN FEDERATION: A STRATEGY
Don Blank

FOR THE FIRST MEETING OF THE

GORE-CHERNOMYRDIN COMMISSION

I. THE MESSAGE

The most important message the Vice President can communicate in this first meeting of the Gore-Chernomyrdin Commission (GCC) is our view of the serious safety risks of continued operation of the Chernobyl-type RBMK and VVER 440/230 nuclear power reactors and the consequent need for the Russian government to take decisive action to reduce the near-term risks of their operation. The Vice President should emphasize that outside assistance can only supplement Russia's determination and responsibility to improve the condition of these reactors. Safety is homegrown -- we cannot do it for them.

The Russians are aware of Western views but do not share our assessment of the dangers inherent to these reactor types and have therefore not undertaken a concerted program aimed at reducing near-term risks. An example: Chernomyrdin's December, 1992 decree supporting a Ministry of Atomic Energy (MINATOM) scheme to invest heavily in new reactors, (including completing one RBMK type) omitted any reference to the need to upgrade the safety of existing Russian nuclear plants. Directly approaching him at the Vice Presidential level may change his attitude.

An additional consideration is our extremely limited leverage with the Russians. Chernomyrdin knows that billions of dollars will be needed to solve Russia's power problems. He will also realize that even an aggressive assistance program will not come close to meeting these needs. Finally, he will be aware that his optimal profit-maximizing strategy is to continue operating his oldest reactors while spending no money on upgrading them.

II. WE WANT TO USE THE GCC TO GET CHERNOMYRDIN'S ATTENTION ON THREE THEMES

The U.S. should use this meeting of the GCC to draw the attention of the most senior level of the Russian Federation to our policy concerns on reactor safety. Accordingly the Vice President should at the outset

-- underline our view that the probability of a serious accident in the next few years at one of the older Russian nuclear plants is high;

-- note that another serious nuclear power plant accident represents an outcome which neither Russia nor any other country with operating nuclear plants can afford;

-- be candid in warning that another Chernobyl-style accident could threaten the stability of the Russian government;

-- encourage Chernomyrdin to a) commit increased Russian resources to the safety of the oldest Russian powers reactors and b) not build new ones of the riskiest types;

-- remind Chernomyrdin that both countries have an interest in avoiding public confrontation over the safety implications of the Russian nuclear power program and note that by taking the necessary steps to address the most pressing western concerns, Russia will generate greater support for Western assistance programs;

-- emphasize that, if Chernomyrdin can adjust Russia's nuclear program priorities to meet Western concerns, we are prepared to work with him to help meet Russia's financing needs for energy projects, alternative energy development, completion of unfinished nuclear power plants and nuclear safety assistance.

Second, the Vice President should call Chernomyrdin's attention to the need for a deep and abiding commitment to nuclear safety regulation.

The Russians have a nuclear regulatory body (GOSATOMNADZOR or "GAN") but it is frequently out-maneuvered by MINATOM.

The Vice President should

-- underline the importance of a law which defines the roles and responsibilities of Russia's nuclear agencies and which fully establishes a strong and independent regulatory enforcement role for GAN.

-- NOTE: MINATOM has opposed passage of such legislation;

-- remind Chernomyrdin that until such legislation is passed, the West is likely to remain skeptical of Russia's commitment to nuclear reactor safety.

-- draw on our own history with an Atomic Energy Commission which housed both the promoters of nuclear

energy and the would-be regulators to explain the lessons we learned concerning the critical role of independent nuclear regulators in enforcing safety practices.

Third, the Vice President should seek Chernomyrdin's support to resolve the most pressing obstacles to implementation of our bilateral assistance program.

a) Western concerns about the lack of liability protection for firms carrying out bilateral and multilateral assistance programs. Such protection should indemnify these firms against any claims resulting from accidents which might occur at a nuclear plant they assist and/or help equip. The Vice President should thus press for

1) Russian acceptance of a U.S./Russian inter-government agreement negotiated under the Lisbon initiative which provides such liability protection for U.S. personnel. We note that this is an interim measure designed to cover assistance activities until such time as domestic laws on liability can be put into place;

2) in the longer run, Russia will need to adhere to a recognized international regime on nuclear liability, and

3) a domestic nuclear liability law in keeping with the requirements of that regime.

b) Russian imposition of import duties and taxes on U.S. funds and equipment going to Russia. Relief on these issues has not been forthcoming despite the formal written commitments of the Russian political leadership.

With resolution of these issues underway, the GCC could then turn to the role of encouraging trade and investment. The attached paper spells out ways to accomplish that.

III. FIRST STEPS -- CONCRETE BENCHMARKS FOR THE FIRST COMMISSION MEETING

A. Agreement on a generalized set of Nuclear Reactor Safety Principles for a Commission Charter: The Commission should avoid protracted negotiations aimed at creating a lengthy prescriptive document, although a document stating basic goals and guiding principles will be useful to focus Commission discussions. Annex A is a set of proposed principles for such a Charter.

B. Chernomyrdin's personal commitment to a) assure that adequate resources are made available to staff and equip a well-trained, independent regulatory body b) work for stronger leadership and greater authority for this

regulatory body and c) to work for passage of the domestic nuclear law.

C. Chernomyrdin's personal commitment to have the Russian government approve the inter-government liability agreement currently being considered by Moscow.

D. Chernomyrdin's personal commitment to work towards providing sufficient resources for safety improvements at existing nuclear power reactors to allay donor concerns about his newly-announced nuclear reactor program.

IV. STRENGTHENING ASSISTANCE -- SWEETENERS

The Vice-President may need to be able to speak candidly with Chernomyrdin about the future of the assistance program. Although Chernomyrdin should receive no specifics pending a Presidential decision on funding levels and a possible supplemental appropriation, the Russian Prime Minister should be aware that we are seeking ways to fund a large assistance program of fire safety and material condition improvements and other risk reduction items.

V. A CHECKLIST OF OTHER ISSUES FOR FUTURE COMMISSION CONSIDERATION

A. Near-Term Risk Reduction: Because the Western nuclear safety community assumed Russian authorities would implement needed near-term safety improvements, initial Western assistance to Russia emphasized needed improvements in safety culture.

Unfortunately, Russian authorities have done very little in the near-term risk reduction arena: fire safety, upgrades of critical safety systems and improvements to the poor material conditions at most plants have languished. U.S. assistance efforts are now focused on providing some of the needed near-term technical improvements but Russian action is also needed.

B. Shut-down of Highest Risk Nuclear Plants: U.S. (and most Western countries') policy has been to encourage the shutdown of the worst plants (RBMK and VVER 440/230) as soon as practical and to take no actions which would directly support their long term operation. The Russians are well aware of our views on RBMKs and 440/230s. U.S. near-term assistance has been formulated with this in mind.

Neither the U.S. nor its G-7 partners have pressed for immediate closure or sought to impose hard linkages between safety assistance and closure of high-risk units. We are still evaluating the preliminary World Bank/IEA studies commissioned at last year's G-7 summit on feasibility and requirements of

early closure (our preliminary reading suggests the reports confirm other information which suggests that states operating even the oldest and most dangerous Soviet-designed reactors are likely to want, for excellent economic reasons, to continue their operation). We are concerned that hard linkages could be counter-productive by alienating the MINATOM officials who control access to nuclear plants and the technology necessary for improving safety. As Russians begin to see results from assistance efforts, we may have more leverage to make progress on this issue. Currently, however, Russians view western efforts as minimally useful and not addressing their energy needs in any way which would lead to shutdown of the oldest reactors.

C. Eliminate Impediments to Assistance: After the liability issue is settled, the Commission could also address any then remaining Russian-generated obstacles to the program, such as expediting U.S. procurement of Russian goods, e.g., through bilateral agreements permitting rapid contracting for work by foreign specialists. In the meantime, we are taking steps to review and resolve impediments on our own side on foreign procurement and will provide the Vice President with results he may be in a position to communicate to Chernomyrdin.

D. International Science and Technology Centers (ISTC): The Commission can focus Russian attention on use of the ISTC to enhance nuclear safety in Russia. A number of proposals for nuclear safety projects have already been submitted to the ISTC, but they cannot proceed absent ratification of the enabling agreement by the Supreme Soviet.

E. Enhance Trade and Investment: The Russians have long pressed the U.S. to increase our commercial nuclear relationship. Trade and investment opportunities in nuclear power could be enhanced using the assistance program as a launching platform, thereby greatly increasing benefits to both countries. A certain level of trade and investment can occur under our current assistance program. However, more ambitious proposals for our companies, e.g., to allow commercial sales of NRC-licensed nuclear equipment and materials, could require a government-to-government agreement for nuclear cooperation under the Atomic Energy Act. Such an expansion of cooperation and agreement would require a review of current policy, particularly in view of nuclear non-proliferation concerns with Russia. We should therefore approach this issue with caution.

The Commission could instruct the Brown/Shokhin committee to

-- identify Russian industries which are candidates for U.S. investment and cooperative ventures in support of the energy assistance program. By so

doing, the GCC would serve to support U.S. investment and formation of joint ventures supporting the safety program.

- monitor obstacles to enhanced nuclear trade and investment, report evolving issues to responsible agencies and support resolution of specific problems encountered;

- provide information on new and changing power opportunities in Russia to U.S. industry. Work with Russian and U.S. industries to identify alternative energy projects. Where needed, assist in obtaining financing for projects which will benefit U.S. industry.

V. BACKGROUND

A. DIMENSIONS OF THE PROBLEM: Safety problems of the 58 Soviet-designed reactors currently operating in the former Soviet Union and Eastern Europe (24 are in Russia) include poor plant design, siting, construction, quality assurance, operation, maintenance and regulation.

This paper addresses the safety of the civilian nuclear power program in Russia, not the military sector, where there are also serious safety problems.

While there is broad agreement in the Western nuclear community on what needs to be done to address Russian nuclear safety issues, there is no similar Russian consensus on the most urgently needed near-term assistance measures. Although some Russian officials agree substantial improvements are needed, the powerful Ministry of Atomic Energy (MINATOM) rejects Western judgments that the 11 Russian RBMKs and 4 VVER 440/230s (neither type has containment) pose sufficient inherent risks to be shut down as soon as possible.

The role of reactors in providing electricity to Russia is deeply entrenched and spending on nuclear reactor safety is not a Russian priority. It will be extremely difficult to reverse that thinking. Technological pride comes into play as does the fact that these facilities provide large quantities of energy the Russians argue is vitally needed. Additionally, although Russian officials do not often admit the point, foreign exchange earnings from electricity exports are also a factor in their reluctance to close down the oldest reactors.

B. LINKAGE OF U.S. OBJECTIVES TO THE G-7 PROCESS: Last year's G-7 Summit communique formalized broad agreement in the Western nuclear safety community on a staged approach for addressing Soviet-designed nuclear power reactor safety.

The communique underscored the necessity for near-term assistance measures to reduce the immediate risks of catastrophic accidents at the worst plants. The G-7 action plan called for

- immediate operational safety improvements (operator and other technical personnel training);
- near-term technical improvements in specific plants based on safety assessments (e.g., upgrading fire protection systems and improving instrumentation and control);
- enhancing regulatory regimes.

Second, the G-7 commissioned studies by the International Energy Agency (IEA), the World Bank and the European Bank for Reconstruction and Development (EBRD) to clarify issues concerning overall energy supply and demand, energy policy, alternative energy sources and financing to assist governments to examine the scope for replacing the less safe plants by the development of alternative power sources and the more efficient use of energy.

Finally, the G-7 agreed on a program of action to consider the potential for creating the basis for longer-term safety improvements, specifically by upgrading plants of more recent design (VVER 440/213 and VVER 1000/320).

These longer-term solutions will be complex and costly, potentially involving replacement of some 10-15 gigawatts of electric generating capability. Both will require massive infusions of private capital and international financial institutional help.

A dense web of bilateral and multilateral efforts to finance nuclear reactor safety currently exists to meet these needs but will barely allow the surface of the problem to be scratched (available funds are in the hundreds of millions; billions will be required to create a safe, modern nuclear power sector in Russia). A G-7 Nuclear Safety Account at the European Bank for Reconstruction and Development (EBRD), currently funded at \$156,000,000.00, was established in April. Directed by a Contributors' Assembly, the fund is coordinated with and administered by the G-24 nuclear safety staff and the EBRD's internal expertise.

C. Existing Bilateral Program: Bilateral relations on nuclear safety began in 1988 with signature of the U.S./USSR Memorandum of Cooperation (MOC) on Civilian Nuclear Reactor Safety. A cooperation program including 10 topics was established shortly thereafter and has provided an important channel for U.S./Russian nuclear cooperation since. Although

conceived as a mechanism for providing advice to the former Soviet Union on nuclear safety, it has in fact been a two-way street in which we have learned from the former Soviets in several areas, most importantly in the areas of materials research (pressure vessel embrittlement). At the most recent joint meeting in March (which included Russia and Ukraine as separate partners under separate MOC's), the Joint Coordinating Committee formally took on responsibility for both the safety assistance and technical cooperation programs begun under the old MOC.

ANNEX A

A list of accepted principles for the Gore-Chernomyrdin Commission should include recognition that:

- nuclear safety is of the highest importance to both countries, thereby requiring expanded cooperation;
- near-term improvement in the safety of the oldest reactors is appropriate and necessary to reduce the risk of accidents;
- fundamental to effective safety practices is legal recognition of the need for adherence to recognized nuclear safety principles, institutional arrangements for setting up a strong independent regulatory authority and an international recognized system of legal liability and financial protection for providing adequate compensation for damage from nuclear accidents and appropriate limitations on third party liability;
- nuclear reactor safety cooperation offers significant opportunities to enhance the benefits of nuclear energy through broader cooperation, freer trade, investment and technology transfer and non-discriminatory access to resources, technology and markets with appropriate protection for investments and intellectual property; and,
- there is a need for continuing review of the safety of nuclear reactors built to earlier standards by authoritative national regulatory organizations, as well as the commitment to reduce unacceptable risks which may be so identified, including, as needed, shutdown of reactors
- there is also need to expand alternatives to nuclear power generation in order to meet existing and projected demand.