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WORKING FOR NON-PROLIFERATION CONTROLS IN ARGENTINA AND BRAZIL

By David Albright and William Higinbotham

During the last year and a half, FAS's Non-Proliferation Project has been assisting scientists in the Brazilian Physical Society and the Argentine Physics Association to establish more effective national controls over the nuclear facilities in these two countries, which are not subject to inspection by the International Atomic Energy Agency ("safeguarded"). These scientists want controls that could provide assurances to their congresses and the public that these nuclear facilities are not producing nuclear explosive materials.

Both Argentina and Brazil have built small unsafeguarded uranium enrichment plants, which within a few years will be capable of producing highly enriched uranium, a raw material for nuclear explosives. Since both countries claim the right to build "peaceful" nuclear explosives, future governments might exploit this loophole and actually build nuclear weapons.

Even if future governments do not try to "go nuclear," the scientists in these countries still would like to establish more effective congressional oversight of these programs. The enrichment programs are being carried out in secret and at great economic cost, at a time when both countries are experiencing severe economic problems.

To further their efforts, FAS was pleased to share its expertise in safeguards and nuclear materials accounting and control systems as well as its extensive experience in creating more effective congressional oversight on the nuclear weapons program in the United States.

Collaboration With Brazilian Scientists

Our collaboration with the Brazilian physicists began in August 1988, when Fernando de Souza Barros and Luiz Pinguelli Rosa, members of the Nuclear Commission of the Brazilian Physical Society, asked FAS for assistance in developing the Society's proposal for more effective congressional oversight of the Brazilian nuclear program. As a way to bolster the Brazilian congress's oversight capabilities, the Brazilian Physical Society launched a project in 1988 to establish a congressionally-controlled agency that could inspect the entire nuclear program, particularly the unsafeguarded uranium enrichment program.

Our first joint meeting was in December 1988 at the Federal University of Rio de Janeiro, where Fernando de Souza Barros and Luiz Pinguelli Rosa are professors. We participated in a workshop on the status of the unsafeguarded enrichment plants in Argentina and Brazil, which are shrouded in secrecy, and on technical safeguards issues rele-

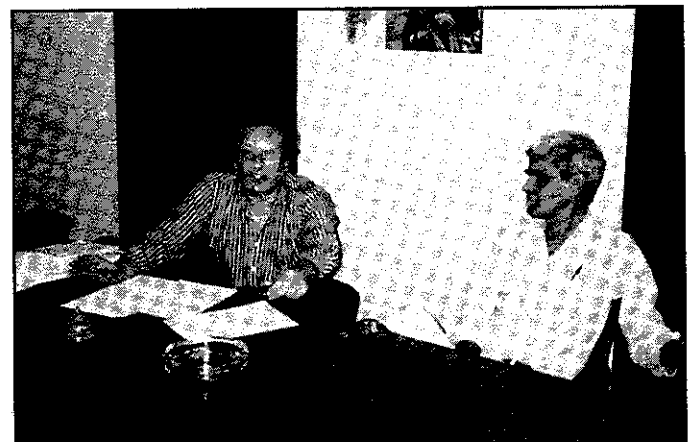
vant to the Brazilian Physical Society's proposal. (This meeting was described in detail in the February 1989 *Public Interest Report*.)

In February 1989, we organized a visit to Washington, DC by Fernando de Souza Barros and Luiz Pinguelli Rosa to learn first-hand how the US Congress exercises its oversight of scientific and technical policies. They also met with safeguards experts at Brookhaven National Laboratory on Long Island.

In October 1989, we met again in Rio to discuss in more detail the technical aspects of safeguarding the Argentine and Brazilian enrichment plants. In addition, the Brazilians discussed their political efforts to obtain more effective congressional oversight, including their recent victory in which the House of Deputies created a Commission on Advanced Studies and Technological Assessment. Although this achievement was not sufficient to alleviate their major concerns, this new commission is a step in the right direction, and they intend to work to strengthen it. They hope that their concerns will receive a more sympathetic audience from Brazil's new President Fernando Collor de Mello, who is the first elected president in over 25 years—although it is still too early to determine the Collor administration's priorities in this area.

At the October meeting, Odair Dias Gonçalves, a leading

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Luiz Pinguelli Rosa and Fernando de Souza Barros, the two members of the Nuclear Commission of the Brazilian Physical Society who initiated the Society's proposal for a congressional inspection system able to provide assurances that the uranium enrichment plants operated by the Brazilian Navy do not produce nuclear explosive material.



Sponsor Walter Orr Roberts Dies

Walter Orr Roberts personified everything for which the Federation of American Scientists stands. A great scientist, he was also one who really cared about society and about people. An indefatigable pillar of the scientific community's effort to protect the planet, he never stopped, among other things, reaching out to Soviet scientists. A kind man, no one ever went to him for help or advice and left empty-handed. We have lost one of the finest statesmen of our community.

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member of the physicists' commission, asked us if we could arrange a visit to a US nuclear facility so that he could see various types of safeguards equipment and procedures relevant to their efforts. In response, we organized a trip to the General Electric Nuclear Fuel Fabrication Plant in Wilmington, North Carolina in December. The plant's safeguards officials briefed us on their nuclear materials accounting and control system and then took us on a tour of the plant. They also described the procedures they must follow to satisfy the Nuclear Regulatory Commission's national safeguards requirements, and since 1987, the International Atomic Energy Agency's requirements for inspecting their records and taking independent measurements to verify them. This visit enabled Odair Dias Gonçalves to gain a deeper understanding of safeguards equipment. He was also impressed by the sophistication of the materials accounting system, and the cooperative attitude of the plant officials toward inspections in general.

Argentine Physicists Attend Meeting

The most recent meeting was in Rio in January 1990, with participation by representatives of the Argentine Physics Association's Nuclear Commission. The Argentine scientists attending the meeting were Luis Masperi, a former president of the Argentine Physics Association who is a professor at the Atomic Center at Bariloche, and Alberto Ridner, who heads the computer center at the Argentine National Atomic Energy Commission in Buenos Aires.

This meeting allowed representatives from the two physics

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societies to meet and discuss nuclear issues for the first time in several years. The severe economic crisis affecting both countries has made it very difficult for the Argentine scientists to maintain any international cooperation. During the four-day meeting, the members of the Argentine and Brazilian nuclear commissions prepared a draft statement calling for pledges by each country not to develop nuclear weapons and for an agreement to allow bilateral inspection of all their sensitive nuclear facilities. The statement emphasizes that in order for the bilateral inspections to be effective these inspections need to be accompanied by national materials accounting and control systems that would be under the control of the respective congresses. The statement has been approved by the Brazilian Physical Society, and the Argentine Physics Association is currently deciding whether to endorse the statement.

Included in the draft joint statement is a call for amendments to the Argentine constitution that would prohibit nuclear weapons and establish direct congressional control over the Argentine nuclear program. Since Brazil already has such constitutional provisions, this effort, if successful, would establish a form of legal parity between the two countries, although both countries would retain the right to conduct peaceful nuclear explosions.

Congressional Oversight Proposal

At the January 1990 meeting, the Brazilian scientists presented their final plan for a congressional inspection organization, modelled partially on the US' General Accounting Office and Nuclear Regulatory Commission. The plan calls for an organization containing roughly 10 full-time technical personnel who would have unrestricted access to the executive branch's database system that tracks all the nuclear material in the country, the safeguards equipment and laboratories under the control of the Brazilian Atomic Energy Commission, and the nuclear facilities themselves, particularly the unsafeguarded enrichment plants. This organization would be supervised by a committee of scientific and technical experts from universities and independent research institutes.

This technical group would perform audits of the existing nuclear materials tracking system and take measurements at particular facilities to verify these records. In the case of the unsafeguarded enrichment plants, these inspectors would verify that no highly enriched uranium (containing more than 20% uranium-235) is being produced by checking the enrichment levels of the uranium in the storage cylinders or in strategically-located pipes within the area of the plant where the uranium, in the form of a gas, is enriched.

Besides ensuring that Brazil's congress can fulfill its constitutional responsibility to exercise effective control of nuclear programs, this technical oversight organization would also be able to evaluate the adequacy of the government's existing procedures and equipment to properly account for the nuclear material. Since nuclear materials are both expensive and dangerous, there are many incentives for accurate, up-to-date materials accounting and control systems.

The Brazilian scientists are now completing work on their proposal, which they plan to present to their congress and the

public this spring. We believe that FAS has succeeded in providing assistance in the development of this proposal through discussions with the physicists, technical reports and memos, and safeguards literature. Our participation at the meetings in Rio also helped generate considerable press attention, which contributed to raising the public visibility of these issues.

Future Collaboration

We are beginning to expand the scope of our collaboration with the scientists beyond technical safeguards issues. One topic discussed at the January meeting was the length of time Argentina or Brazil would need to construct a nuclear explosive device for detonation underground. This topic is important because nuclear officials have argued against the need for increased congressional scrutiny by claiming that, even after they had accumulated sufficient nuclear explosive material, construction of such a device would take so long that congress would discover their activities in any case. To dispel this myth, we asked Theodore Taylor, a former nuclear weapons designer, for assistance. We recently sent the Brazilian scientists an unclassified analysis showing that countries such as Argentina and Brazil could make a nuclear explosive device relatively quickly and inexpensively (a deliverable nuclear weapon would take somewhat longer).

At the request of Alberto Ridner, we are investigating the possibility of providing non-proliferation, safeguards, arms control and disarmament literature to the technical library at Argentina's leading nuclear research center at Bariloche. Alberto Ridner has said that Argentine technical libraries do not contain much literature of this type, although such information is becoming increasingly important for all advanced countries.

We are also organizing a visit to Washington, DC by Alberto Ridner and Luis Masperi, so that they can gain a deeper understanding of US congressional oversight. This visit should take place within a few months.

We expect the next year to be very productive as we continue to work with Argentine and Brazilian scientists to solve various technical problems that could stand in the way of implementing effective controls against the development of nuclear explosives in South America. □



William Higinbotham, the safeguards expert for FAS's Non-Proliferation Project, and Odair Dias Gonçalves, a leading member of the Brazilian Physical Society's Nuclear Commission, outside the General Electric Nuclear Fuel Fabrication Plant in North Carolina. We visited this plant so that Odair Dias Gonçalves could learn more about safeguards equipment and materials accounting and control systems.

REDUCING THE DEPARTMENT OF ENERGY'S FY 1991 ATOMIC ENERGY DEFENSE ACTIVITIES BUDGET

The Department of Energy's (DOE) proposed Fiscal Year (FY) 1991 Atomic Energy Defense Activities budget of \$8.506 billion reflects a commitment to continue, and in fact expand the nuclear arms race well into the next century. At a time when defense programs in general are being reduced, the DOE nuclear weapons budget proposal, which emphasizes rebuilding the nuclear weapons production complex, is actually a 10 percent *increase* over FY 1990.

Yet, the old rationales for an ever-expanding budget have disappeared. The US now has a plutonium surplus, anticipates large reductions in US and Soviet nuclear arsenals as a result of arms control treaties (such as the START treaty), and is experiencing a general reduction in the perceived Soviet threat. With tight federal budgets and the rising cost of cleaning up the environmental mess left over from nuclear weapons production, the nation cannot afford to ignore the implications of these changes for the DOE's production complex.

The Congress therefore needs to restructure and reduce the DOE's weapons production activities. Although the DOE's recent cancellation of the plutonium Special Isotope Separation Project in Idaho may reflect a new awareness of the plutonium surplus, the Department was only willing to cancel this project after intense public and Congressional scrutiny and opposition.

As a step towards a budget that better reflects current realities, we are proposing a cut of \$1.924 billion in unnecessary or low-priority nuclear weapon production activities for FY 1991. These reductions would be taken from the four major DOE nuclear weapons production activities of the Defense Activities budget—Nuclear Materials Production; New Production Reactors; Weapons Production; and Weapons Research, Development, and Testing. They would not affect existing radioactive and toxic waste cleanup activities, or safety upgrades at remaining facilities.

Nuclear Materials Production

The major nuclear materials contained in nuclear weapons are plutonium, highly enriched uranium, and tritium. The DOE-proposed FY 1991 materials production budget is \$2.413 billion, an increase of \$320 million, or 15 percent, over FY 1990.

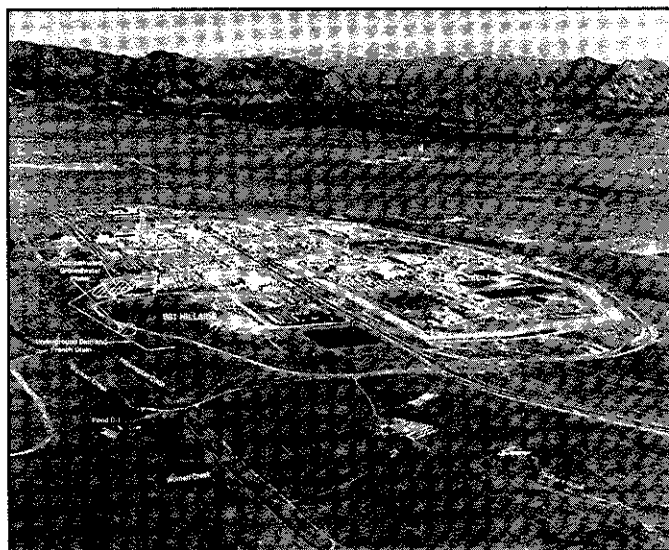
Because plutonium and highly-enriched uranium last essentially forever and are recyclable, additional production of these materials is unnecessary. The DOE now relies on previously produced material and has not produced new plutonium in military reactors since 1988; and it ended highly-enriched uranium production for weapons in 1964, although the DOE might resume such production this year. This resumption of production is an ironic example of the "business as usual" attitude within the DOE, since the START treaty will result in a large excess supply of both plutonium and highly enriched uranium.

Tritium, used to make nuclear weapons more compact, decays radioactively at a rate of about 5 percent a year—which requires the DOE to replace the tritium lost through decay. More efficient management of the tritium inventory

and the successful conclusion of future arms reductions treaties would mean that less tritium production will be needed to supply a smaller weapons stockpile, since, like plutonium, tritium can be recycled.

We propose total reductions of \$444 million in this budget category for FY 1991, including:

- Up to a \$100 million savings by eliminating funding for continued separation of plutonium from irradiated production reactor fuel at the PUREX Plant at Hanford, Washington, and for several activities at the Savannah River Plant near Aiken, South Carolina and at the Feed Materials Production Center at Fernald, Ohio that would allow the United States to resume plutonium production in the Savannah River production reactors.
- Elimination of any funding to support the production of weapon-grade uranium metal for nuclear weapons, which is scheduled to resume in FY 1990 at the Y-12 Plant at Oak Ridge, Tennessee.
- Savings of \$179 million by cancelling the reprocessing of naval reactor fuel and the construction of new reprocessing facilities at the Idaho National Engineering Laboratory. The recovered highly enriched uranium is not used in the naval program, but would be used in the Savannah River reactors as fuel to produce tritium or plutonium for weapons.
- Elimination of up to \$66 million for research and development activities at the Lawrence Livermore National Laboratory at Livermore, California related to the Special Isotope Separation Project.
- Deferral of all funding that is specifically for the operation of the Savannah River reactors in FY 1991, which we estimate would result in a saving of about \$100 million. This deferral would provide the necessary time for the DOE to



Spend and run? Instead of spending close to \$1 billion to reconstruct Building 371 by 1998 for new warhead production at Rocky Flats, a facility that will be shut down starting in 1995, the DOE should suspend operations for several years and redirect funds to clean up the nuclear and toxic mess at the plant.

address all of the safety issues at the Savannah River reactors that deserve attention before the reactors are restarted.

New Production Reactors

The DOE has proposed spending \$363 million in FY 1991 on two new production reactor complexes and associated facilities to produce tritium and backup capacity to produce plutonium. This level of spending is a 22 percent increase over spending in FY 1990, and includes a 125 percent increase in construction funding. The first proposed reactor is a 2,500 megawatt heavy water reactor slated for the Savannah River Plant. A second proposed reactor complex would be composed of 4 modular high temperature gas-cooled reactors, with a total power of 1,400 megawatts, to be built at the Idaho National Engineering Laboratory. The total estimated cost of these reactors is approaching \$10 billion.

The DOE has said that the two reactor complexes would be able to provide one and a half times the projected annual tritium goal requirements, which is about three times higher than the amount of tritium actually needed to replenish the currently existing inventory of weapons. Given fiscal constraints, we recommend the cancellation of the second new production reactor complex and the deferral of construction funding for the first, the new heavy water reactor, resulting in a savings of \$257 million for FY 1991.

Nuclear Weapons Production

This budget category supports the fabrication and assembly of new nuclear warheads and bombs. The FY 1991 budget request is \$2.757 billion, an increase of \$383 million, or 16 percent, over FY 1990.

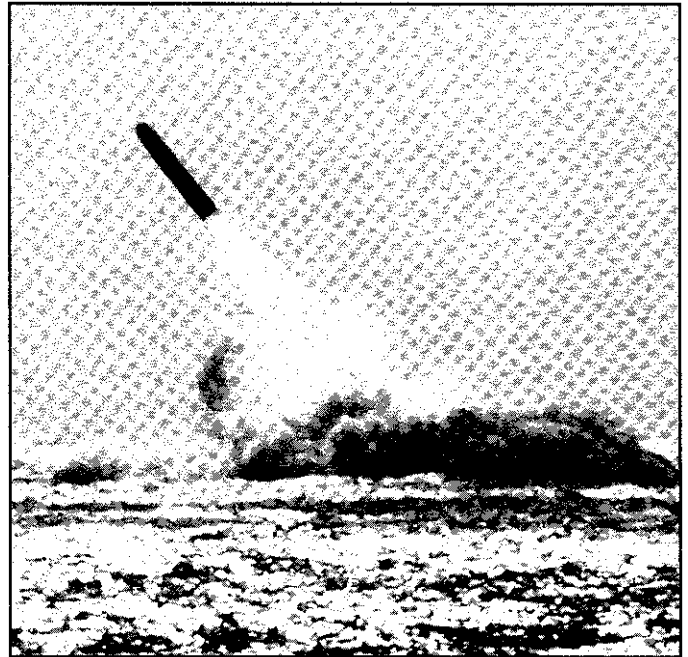
Many of the new warheads scheduled for production, such as tactical warheads for Europe, high yield nuclear warheads for the Trident II missile, and Advanced Cruise Missile warheads, are unnecessary in light of reduced US-Soviet tensions and impending arms reduction treaties. Congress should begin preparing now for significant reductions in the nuclear stockpile and a reduction in weapons production activities.

We propose budget reductions of \$730 million for FY 1991, including:

- Deferral of \$81 million in funding to renovate and replace Building 371 at the Rocky Flats Plant near Denver, Colorado. This building would have the capability to recover about 4,300 kilograms of plutonium metal a year from retired warheads and plutonium-containing scrap generated during the manufacture of weapons components. Assuming about 3 kilograms of plutonium per warhead, this capacity is enough to produce about 1,400 new warheads a year, dwarfing even the DOE's own warhead requirements.

- A 50% reduction, for a total savings of about \$600 million, in the budgets to build new nuclear weapons and develop new weapon production techniques within the production complex.

- Deferral of \$41 million in construction activities that would be necessary to produce warheads for the new strategic Short-Range Attack Missile and three new tactical weapon systems—the Naval Nuclear Depth/Strike Bomb, the Follow-on to Lance missile, and the tactical Short-Range Attack



Business-as-usual at the DOE. Rather than producing new high-yield W88 warheads for the Trident II missile, the DOE should reuse W76 warheads from retired Poseidon submarines. The time has come for the DOE to change its habit of building a new warhead for every new delivery system.

Missile. The last two systems are particularly unrealistic because they are scheduled for deployment in Europe in the mid-1990s.

Weapons Research, Development and Testing

The DOE has proposed spending about \$1.885 billion in FY 1991, a increase of \$20 million over FY 1990, to develop and test new tactical and strategic nuclear weapons and third generation weapons. As we enter an era of a reduced Soviet threat, the development of these new and provocative nuclear weapon systems and testing of new nuclear warheads is increasingly difficult to justify.

We propose budget reductions of \$520 million in FY 1991, including:

- Elimination of the \$192 million Nuclear Directed Energy Weapons budget.

- A reduction of \$328 million in research, development, and testing activities for new nuclear warheads.

Funding Cleanup and Verification

With the funds saved from DOE's nuclear weapons production programs, we recommend that the FY 1991 budget to clean up the massive radioactive and toxic mess at the DOE's sites be increased by \$1 billion and that the budget for developing verification procedures and technology be increased by about \$26 million. After more than forty years of building nuclear weapons, the United States now has an opportunity to shift funds from weapons production and use those funds to address the problems of environmental restoration and to develop verification procedures that can lead to deep reductions in the US and Soviet nuclear arsenals.

— David Albright and Tom Zamora □

WE ARM THE WORLD, THEN WE FRET

The Bush administration's new rationale for maintaining a high level of military preparedness is the need to deter threats from the third world. It would thus seem that curbing the flow of armaments to the third world should be a principal policy of the Administration. However, the US continues unhaltingly to use military aid and arms sales to pursue a mix of political, military and economic goals. In a kind of catch-22, government aid policies assist the US arms industry in over-arming these regions, which in turn helps to inflate the Pentagon's scenario of the third world threat and to perpetuate a mission for a large military sector. The Administration should, rather, pursue a policy in which the presumption is *against* selling weapons, and armament transfers are considered an exigent exception.

The need for such a policy is urgent, as pre-arms control treaty dumping of US and Soviet weaponry on the third world is feared imminent. Already, the United States has agreed to sell Egypt some 700 tanks which would be destroyed under the Conventional Forces in Europe reduction treaty if they remained in Europe.

Dollars Eclipse Diplomacy

For a leviathan defense industry like that of the United States, export markets were once considered secondary, and arms transfers were primarily an implementation of foreign policy. However, policy makers now look to arms exports to play a role in alleviating the trade deficit and in relieving the defense industry in a period of stagnant defense spending.

Meanwhile, there is growing competition in the arms bazaar from many new quarters. The emerging export industries in Brazil, China, Iraq, Israel and North Korea, will complicate control of arms transfers should Washington decide that such a policy is in our country's interest.

Existing US policies designed to control international arms transfers have proven remarkably ineffective—even in restraining the activities of those nations most dependent on US aid. Israel, which receives the lion's share of US military aid (\$1.79 billion proposed for FY 91), has a highly developed arms industry—much of it based on or formed with the help of US technology—and pursues a vigorous export policy. Recent ventures have included cooperation with South Africa on the development of a medium-range surface-to-surface missile based on the Jericho II (reportedly in return for supplies of enriched uranium), technology transfer to South Africa for the development of fighter aircraft, and the transfer of cluster bombs to the Ethiopian government. In the latter two cases, a US prohibition on resale, without prior approval from Washington, of US-supplied systems or of systems produced by Israel but based on US technology, seems to have been ignored.

China entered the export market with a bang in the late 1980s, especially in the area of surface-to-surface missiles. They sold Silkworm anti-ship missiles to Iran, 50 of their inaccurate but long-range CSS-2 East Wind missiles to Saudi Arabia, and are said to be cooperating with missile development programs in Pakistan and Iran. Sale to Syria of the 75-mile range M-9 is rumored to be imminent.

Economic, rather than political considerations, are the

primary motivation of the emergent suppliers, which often supply nations on both sides of regional conflicts indiscriminately; from 1984-88, China sold \$1.8 billion worth of weaponry to Iran and \$3.9 billion to Iraq. Military hardware sales are a desperately-needed source of export revenue for many of these supplier countries as prices plummet for traditional third world exports and the debt crisis mounts. Thus, when the US pressured Brazil to curb its missile export activities, the Brazilian ambassador to the US responded that "Brazil's economy does not allow us to reject any deals."

Addressing the Problem

The US has made, at best, piecemeal responses to the problem of third world over-armament and advanced technology proliferation. The eight-nation Missile Technology Control Regime was formed in 1987 to stem the flow of technology from the Western nations involved. However, the collusion of the West German company Messerschmidt-Boelkow-Blohm and the Italian firm National Industrial Applications on the Argentine Condor II project illustrates the difficulty or unwillingness of countries not directly threatened by missile proliferation in restraining their industry.

As long as the United States continues its own unbridled arms transfers, it has little or no influence on other suppliers. In 1977 President Carter put forward a policy of unilateral restraint on arms transfers. The key points of that policy were to reduce the dollar volume of transfers, stop the development of weapons designed explicitly for export, prohibit co-production agreements, not introduce new technologies into a region, abstain from government promotion of arms transfers abroad, and tighten regulations on the retransfer of US-supplied weapons. The policy was accompanied by multilateral negotiations with the USSR and West European exporters. The US-Soviet negotiations soon bogged down on specific regional discussions. Under the Reagan administration, US arms transfers were far less restrained.

In 1988 US foreign arms sales rose 66% over 1987 sales, while Soviet weapons sales fell during the same period. The two enjoyed a nearly even draw in revenue from arms sales: \$9.2 billion for the US and \$9.9 billion for the USSR. But superpower cooperation on restraining arms transfers is more promising now than at any time in the recent past, as the Soviets are showing a new reticence in arming regional allies. In late 1989 the Soviets encouraged the Syrian government to accept the principle of "reasonable defensive sufficiency" in relation to Israel, suggesting that more weapons were not likely to impart greater security. Furthermore, Moscow could or would no longer subsidize the Syrian military, the Soviet ambassador to Syria said. Similar restraint—be it due to "new thinking" or to economic realities—is being seen in Moscow's dealings with its other allies as well.

Support of allies is still likely to be a contentious issue, but as relations between the two superpowers improve, agreement should become possible. As with most difficult negotiations, the issue is one of political will. Here that will—or the lack of it—could be seen as a litmus test of the Bush administration's professed concern over third world stability and threats.

— Lora Lumpe □

MESSAGE TO PRESIDENT BUSH: TO PROTECT START I, THINK ABOUT START II

Progress on strategic arms control made at a series of recent meetings between senior American and Soviet officials in Wyoming, Malta and Moscow indicates that a strategic arms reduction (START) Treaty should be completed soon. President Bush fueled such speculation in February when he told reporters that, "I'd hope we'd be substantially completed" with START by June.

The rapidity with which once major obstacles to a START agreement have disappeared is due largely to Soviet willingness to either concede to American positions or defer issues to a later negotiation. As a result, while there are still remaining issues to be resolved at the bargaining table, the Bush administration has begun to shift its attention to the US Senate, where the START Treaty must win the approval of a two-thirds majority. The Senate may prove to be a more difficult negotiating partner than the Soviet Union.

In preparing for the Senate ratification debate, the Administration would be wise not to neglect another related and forthcoming arms control challenge—the follow-on negotiations (START II) that the US and USSR have recently agreed to begin discussing. Many of the issues likely to be raised by START's detractors during Senate ratification hearings—such as its failure to resolve the US-Soviet dispute over strategic defense, the absence of strict limits on sea-launched cruise missiles (SLCMs) or bomber-carried weapons, and the failure to eliminate all Soviet "heavy" land-based missiles (ICBMs)—are likely to be at center stage for START II.

The concerns of senators who are uneasy about the START Treaty might be alleviated if they felt those issues would be tackled in START II, and that, in looking ahead to the follow-on talks, the Bush administration had prepared a broader strategic concept that took account of disputes left unresolved by START I. On the other hand, any failure by the Bush administration to provide satisfactory answers to such concerns will only beget further ratification problems. A sound strategic concept, grounded in political reality, would also help the Administration in its efforts to fund certain strategic modernization programs.

Ratification Hurdles

While most observers have concluded that the Treaty should have relatively smooth sailing through the Senate, few are taking ratification for granted. Right-wing senators and their staffs are already preparing analyses of the START Treaty's defects and crafting their own "killer" amendments.

Like the SALT II Treaty that preceded it, START will face criticism from both the left and the right as it winds its way down the difficult path to completion and ratification. First, while the aggregate ceiling of 6,000 on ballistic missile warheads, air-launched cruise missiles (ALCMs), and heavy bombers represents a substantial achievement, the discounting of bomber-carried weapons, failure to agree to any limits on SLCMs and probable exemption from warhead and launcher limits for two or three ballistic missile submarines in overhaul means that the overall reductions from current strategic force levels will be closer to 20-25 percent, rather than

the commonly advertised 50 percent. As this fact sinks in—that START will only return strategic warhead totals back to pre-Reagan levels—it may prove difficult to generate great enthusiasm for START among traditional arms control supporters in the Congress or from the American people.

Critics have also stressed the lack of congruence between the Treaty's limits and the US strategic modernization programs that Congress is likely to approve. The Bush administration has been pressing for full funding of its latest list of new strategic programs, including the Trident II missile, new Trident submarines, the rail-mobile MX missile, the B-2 "Stealth" bomber, two new types of air-launched missiles for bombers, and development of the Midgetman missile. It also wants billions to build new anti-satellite weapons and press ahead with the Strategic Defense Initiative (SDI) and initial deployment of an anti-ballistic missile (ABM) weapon system in space.

Congress is far more interested in cutting the defense budget than in funding this wish list, but faces several dilemmas, linked to the START Treaty's terms, when looking for strategic programs to cut in order to take advantage of the "peace dividend."

For example, START counts each bomber as only one warhead against the 6,000 ceiling on all strategic warheads, even though bombers can carry between ten and forty weapons. This gives each side an incentive to build bombers. But bombers are expensive—the B-2 will cost over \$70 billion—and the previous purchases of 100 B-1 bombers, 1700 ALCMs, and other new bomber weapons have already absorbed much of the several hundred billion dollars that went to strategic modernization in the 1980s.

The START Treaty also allows the deployment of both rail and road-mobile ICBMs. The Bush administration wants to deploy both the rail-mobile MX and road mobile Midgetman to match two Soviet mobile missiles already deployed, the SS-24 and SS-25. Many in Congress would rather kill both MX and Midgetman in order to save the billions they would cost, but others oppose such a move, claiming that it would give the USSR a unilateral advantage and that single-warhead mobile ICBMs (such as the SS-25 and Midgetman) contribute to stability since they are both survivable and less threatening than MIRVed ICBMs.

The Joint Chiefs of Staff (JCS) have entered the fray and, in another situation reminiscent of the SALT II ratification fight, are conditioning their support for START on receiving all the new strategic weapons they are requesting. As JCS Chairman General Colin Powell recently stated, "If those modernization programs don't come to fruition in some sense, then the chiefs will have to take another look at the emerging START Treaty."

But Congress won't fund them all, at least not in the numbers currently proposed. To improve its chances for the highest priority programs, the Administration must provide Congress a blueprint for START II that shows how additional strategic weapons could be cut in the out years, as part of deeper reductions, to generate additional savings.

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The Debate over Strategic Defense

There are sound arguments for deferring some difficult issues, as the Bush administration appears to have done. The START negotiations have already dragged on for almost eight years—and it has been *eighteen* years since a strategic arms agreement was last signed and ratified. In the interim, both sides' strategic forces have continued to grow. There is a critical need to consolidate hard-won gains made at the negotiating table and begin implementing reductions, even if all disputes are not settled.

But deferring difficult issues may spell trouble in the Senate. For example, there is the ongoing dispute between the US and USSR over whether or not to continue the strict limits on anti-missile testing and deployment contained in the 1972 ABM Treaty.

While the Bush administration was able to persuade the Soviet Union to back off its long-standing insistence on a "linkage" between cuts in strategic offenses and keeping in place limits on defenses, senators may be less willing to accept the ambiguity and confusion this situation has created. Senate Armed Services Committee Chairman Sam Nunn may offer an amendment during the debate tying START ratification to compliance with the "traditional" interpretation of the ABM Treaty.

The Bush administration, like its predecessor, has been schizophrenic on strategic defenses. On the one hand, President Bush has backed deployment of an SDI anti-missile system in order to placate the right-wing. On the other hand, he and his advisers must recognize that they will not receive sufficient funding to actually build such a system, nor will Congress authorize spending on the SDI that would be used for tests outside the traditional interpretation.

No one expects the Administration to resolve its internal conflicts on the future of SDI in time for the START ratification debate, but demonstrating an intention to move quickly after START to achieve common ground with the Soviet Union on defense and space issues is essential.

Assault from the Right

The right wing will also have a long list of complaints about START. Even though START will have the most intrusive inspection arrangements in the history of US-Soviet arms control, there will still be those who contend the treaty cannot be effectively verified. Others are complaining about the failure to include the Soviet "Backfire" bomber as a "heavy" bomber under START's counting rules.

Curiously, Paul Nitze, who was intimately involved in the crafting of START during his years as a senior arms control adviser to President Reagan, has emerged as a START critic. In a December 1989 speech, Nitze concluded that, "If we were to conclude a START agreement along the lines we have been striving for for some time, it would not provide adequate assurance of stability for the long term." In other forums, he has pushed for the US to re-open settled issues and, for example, press the Soviet Union for a total ban on its heavy missiles. In the view of many observers, Nitze may even be preparing to oppose the START treaty's ratification.

The Bush administration can move to counter such objections by beginning now to formulate and activate a long-range framework for START II and integrating that plan into a modest program for strategic modernization and a more conciliatory approach to strategic defense.

The process will not be easy. Senior US military leaders are already resisting the idea of truly deep strategic warhead reductions. Some, such as General John T. Chain, Jr., head of the Strategic Air Command, have stated flatly that START is as far as strategic arms control should go. Said Chain recently, "I'm going to have to have weapons . . . [and] against the backdrop that we have today, I don't see that number coming down appreciably below START I levels."

But beginning soon to prepare for the next stage offers the best hope of assuring START ratification, maintaining Congressional support for limited modernization, and helping to lead the way toward a safer and more secure world.

— Thomas K. Longstreth □

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