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Brown Foundation [1]

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EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF SCIENCE AND TECHNOLOGY POLICY
WASHINGTON, D.C. 20506

February 19, 1993

MEMORANDUM FOR JOHN H. GIBBONS

FROM:

JOHN F. O'NEIL *JFO*
JEFF SCHWEITZER *JS*

SUBJECT:

CORRESPONDENCE FROM GEORGE BROWN

HIGHLIGHT: Attached are copies of letters to the Vice President and the Secretary of Defense from Congressman George Brown on an endowed, non-governmental foundation to support joint research and development programs between the U.S. and republics of the former Soviet Union. The following information is provided should the Vice President want to discuss this issue with you.

BACKGROUND: The Freedom Support Act authorizes the Director of NSF, in consultation with the Director of NIST, to establish an endowed, non-governmental foundation to support public and private joint research and development programs (predominately civil science) between the United States and the republics of the former Soviet Union. The FY 93 DOD Appropriations Act allows the Secretary of Defense to allocate up to \$25 million of so-called Nunn-Lugar funds to the NSF for this foundation. This figure is the same as that proposed by the National Academy of Sciences report entitled, "Reorientation of the Research Capability of the Former Soviet Union." This report dealt with civil science in the FSU and was requested by OSTP. Frank Press, Guy Stever, and Ash Carter co-chaired the effort and George Brown participated.

You may recall that International Science and Technology Centers (ISTC) already exist in Moscow and Kiev. The purpose of these is to wean defense scientists from work on weapons of mass destruction. OSTP has supported Congressman Brown's foundation as a logical complement to the ISTCs. The Foundation can support U.S. policy objectives for S&T assistance to and cooperation with the FSU via three primary missions. Each is an important complement to the mission of the ISTC and significantly related to defense conversion: (1) reform the current system, introducing peer review to the process and moving away from the top-down command approach; (2) strengthen the S&T infrastructure in selected areas, such as communications, empowering scientists to benefit from individual initiative and creativity; and (3) facilitate U.S. private sector participation in technology and trade in the FSU, strengthening the S&T infrastructure while furthering U.S. free-market objectives.

The three missions of the Foundation are critical to the success of defense conversion efforts, an important goal of the Nunn-Lugar initiative. For conversion to be sustainable, "converted" scientists must eventually be embedded in a strong, transparent, merit-based S&T system in which individual initiative is rewarded and creativity encouraged. Strengthening a reformed civil science infrastructure will provide the basis for successful defense conversion, and will contribute significantly to U.S. non-proliferation efforts.

The Foundation is a high priority in the Russian agenda for science, and is raised repeatedly by them in bilateral discussions.

Attached for further background on the status of interagency activity concerning the Foundation is a memo of January 27, 1992, and a paper describing the Foundation in more detail.

CURRENT STATUS: This issue was not brought to closure by the previous Administration. State had requested that \$10 million be allocated for this foundation. However, Defense had not allocated the funds because, by their interpretation of the law, they were prohibited from using Nunn-Lugar funds for such "non-defense" related activities. To establish the Foundation, the Secretary of Defense will need to allocate funds up to \$25 million, but the figure could be less at his discretion.

RECOMMENDATION: That you support the concept of a foundation for joint R&D should the Vice President raise it.

Attachment

cc: Skip Johns
Tom Ratchford

U.S. HOUSE OF REPRESENTATIVES
**COMMITTEE ON SCIENCE, SPACE,
 AND TECHNOLOGY**

SUITE 2320 RAYBURN HOUSE OFFICE BUILDING
 WASHINGTON, DC 20515-6301
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February 17, 1993

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 Chief Counsel
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 Chief Clerk
 DAVID S. CLEGG
 Republican Chief of Staff

The Honorable Les Aspin
 Secretary of Defense
 U.S. Department of Defense
 Washington, D.C. 20520

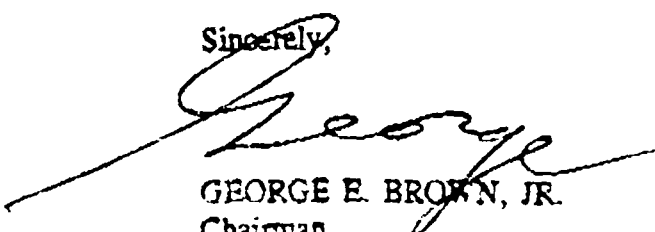
Dear Mr. Secretary:

I would like to bring to your attention the status of provisions in the FREEDOM Support Act and the 1993 Defense Authorization Act which call for the establishment and funding of a non-governmental foundation to support public and private joint research and development programs between the United States and the republics of the former Soviet Union. As you recall, these provisions authorize the Secretary of Defense to spend up to \$25 million during Fiscal Year 1993 to support this foundation. The necessary funds were appropriated as well.

Although with your strong support and co-sponsorship we were able to enact these provisions, the previous Administration did not obligate any funds for this Foundation. Russian Ambassador Lukine has approached U.S. government officials on several occasions asking why there has been a delay in funding this foundation, which the Russian government fully supports. Therefore, I would like to ask that you give your personal attention to allocating the full \$25 million authorized and appropriated for the foundation.

Also, as you prepare the 1994 Department of Defense budget, I would like to ask you to consider making an additional allocation to the foundation of DoD funds set aside for the demilitarization of the former Soviet Union. I realize that numerous demands have been placed upon the Department of Defense. However, I know that you believe that this foundation can achieve a number of U.S. foreign policy objectives in an efficient and effective manner.

Sincerely,


 GEORGE E. BROWN, JR.
 Chairman

GEB:cf

U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON SCIENCE, SPACE,
AND TECHNOLOGY

SUITE 2220 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-8301
(202) 225-8371

February 17, 1993

The Honorable Al Gore
The Vice-President
Old Executive Office Building
17th Street, Suite 274
Washington, D.C. 20500

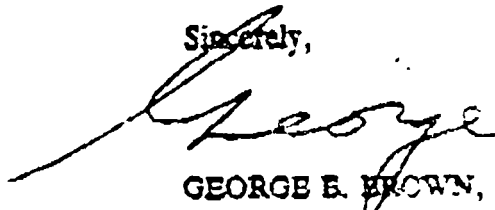
Dear Mr. Vice-President:

I would like to bring to your attention the status of provisions in the FREEDOM Support Act and the 1993 Defense Authorization Act which call for the establishment and funding of a non-governmental foundation to support public and private joint research and development programs between the United States and the republics of the former Soviet Union. As you recall, these provisions authorize the Secretary of Defense to spend up to \$25 million during Fiscal Year 1993 to support this foundation. The necessary funds were appropriated as well.

Although with your strong support and sponsorship we were able to enact these provisions, the previous Administration did not obligate any funds for this foundation, which the Russian government also fully supports. Therefore, I would like to ask for your assistance in allocating the full \$25 million authorized and appropriated for the foundation.

I realize that numerous demands have been placed upon Department of Defense funds for the demilitarization of the former Soviet Union. However, I know that you believe that this foundation can achieve a number of U.S. foreign policy objectives in an efficient and effective manner.

Sincerely,


GEORGE E. BROWN, JR.
Chairman

GFB:cf

TONI LUTHE, Florida
PMA, Michigan
MARIE FAYELL, Illinois
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EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF SCIENCE AND TECHNOLOGY POLICY
WASHINGTON, D.C. 20506

January 27, 1992

MEMORANDUM FOR JOHN H. GIBBONS

THROUGH: TOM RATCHFORD

FROM: JEFF SCHWEITZER
JOHN O'NEIL

SUBJECT: U.S.-RUSSIA S&T RELATIONSHIP

Issues: Three elements of our S&T relationship with Russia require timely action:

- o February 1993 Joint Commission meeting under the Basic Science Agreement
- o February 1993 discussions on expanding cooperation with Russia in science and technology
- o USG support for civil science in the former Soviet Union

Highlight:

BASIC SCIENCES AGREEMENT AND THE JOINT COMMISSION: A meeting of the Joint Commission under the Basic Sciences Agreement, currently the main mechanism for managing our S&T relationship with Russia, was scheduled for December 15, 1992. Due to political developments in Russia in conjunction with the meeting of the Russian Congress during December, the Joint Commission meeting was rescheduled once and subsequently postponed without a new specific date. Minister Saltykov, a progressive reformer who supports more openness in Russian S&T, has expressed interest in rescheduling the meeting for February (see attached letter), although he has subsequently canceled his February visit to Washington.

AVENUES FOR EXPANDING COOPERATION WITH RUSSIA IN S&T: In the joint Summit Statement on Science and Technology Cooperation resulting from the meeting between Presidents Bush and Yeltsin on June 17, 1992, Bromley was charged with meeting appropriate Russian officials to discuss avenues for expanding cooperation in science and technology. The planned summit follow-on meeting, postponed along with the Joint Commission session, was to focus on three themes: (1) the status, goals and objectives of U.S.-Russia cooperation; (2) new avenues and new arrangements for S&T interaction; and (3) factors that affect cooperation. There has been interest on both sides (not shared by State) in developing an umbrella agreement as a vehicle to restructure the S&T relationship, building on and enhancing the Basic Sciences Agreement.

USG SUPPORT FOR CIVIL SCIENCE: The USG, through legislation introduced by Congressman George Brown, has now in statute an S&T Foundation in Russia that would focus on reforming the current civil S&T system, primarily emphasizing mechanisms of financing science and technology (see attached 10/1/92 legislation and OSTP paper on this topic dated 11/18/92). The FY93 DOD Appropriations Act includes a provision permitting DOD to obligate up to \$25 million for research and development from the so-called Nunn-Lugar funds. The Freedom Support Act permits the Secretary of Defense to make the \$25 million authorized available to the National Science Foundation for the establishment of an endowed, non-governmental foundation. After interagency discussions, STATE proposed that \$10 million be used to support the foundation, but this was opposed by DOD because they have a narrower interpretation of the legal uses for these funds. Negotiations on the Nunn-Lugar funding are still underway.

Background:

JOINT COMMISSION: Under the U.S.-Russia Agreement on Cooperation in the Field of Basic Scientific Research, signed in early 1989 with the Soviet Union and now continued with Russia, a Joint Commission meets once annually. OSTP is the Executive Agent for the Joint Commission and STATE serves as the U.S. Executive Secretary. The Joint Commission's purpose is to review, coordinate and facilitate cooperation in the field of basic research. The Basic Science Agreement is scheduled to expire in January of 1994.

On October 7, 1992, a U.S. delegation to Moscow (including John O'Neil and Jeff Schweitzer) led by Tom Ratchford met with representatives of the Russian Ministry of Science, Higher Education and Technology Policy (the Russian executive agent for the Basic Science Agreement) to discuss preparations for the third meeting of the Joint Commission and the Summit Follow-On, scheduled for December 15 and December 16, 1992, respectively. Both sides agreed on agendas for the two meetings (attached). Minister Saltykov was to lead the Russian delegations and Dr. Bromley was to lead the U.S. delegations. The meetings were postponed due to a meeting of the Russian Congress of People's Deputies during this same period and the tenuous political climate that followed.

AVENUES FOR EXPANDING COOPERATION WITH RUSSIA IN S&T: In preparation for discussions on avenues for expanding S&T cooperation with Russia, OSTP organized and hosted two one-day consultations on August 13 & 14, one with the scientific community, represented by scientific organizations and foundations; and one with industry, represented by industrial associations and individual firms, to explore the magnitude and character of current S&T cooperation supported by these communities, and to identify major activities planned for the near future. The purpose of these meetings was to assist OSTP in representing private sector interests in our discussions

with the Russians. OSTP also examined the role of USG S&T interactions with Russia by asking CISET to develop a report on the subject (executive summary attached).

One critically important element in restructuring our S&T relationship may be the negotiation of an umbrella S&T Agreement. This approach was raised during preparations for both the Bush-Yeltsin Summit and the postponed Summit Follow-on, but was opposed by STATE on both occasions. Umbrella agreements can provide a framework that will enhance the ability of individual scientists and small research groups to interact with their foreign colleagues, and, at the same time, provide a policy level review and integration mechanism of great utility. An umbrella agreement should be an important topic of discussion in our upcoming meeting with the Russians on restructuring our S&T relationship (see attached Niles/Ratchford and Wisner/Bromley correspondence).

USG SUPPORT FOR CIVIL SCIENCE: The broad policy objective for U.S. programs supporting science and technology in the former Soviet Union (FSU) is to contribute to a stable transition to democratic ideals and market-based economies. A viable civil science enterprise will be founded on a system of merit review, full and open communications, and financial disbursements to individual scientists or groups of scientists in place of centrally allocated funding to state institutes or institute leaders.

Last year, at the request of OSTP, the National Academy of Sciences held a conference on restructuring civil science in the FSU. The Academy's report of April 3, 1992, recommended \$25 million for civil science in Russia. Subsequently, Congressman Brown proposed a bilateral effort to help strengthen the infrastructure for civil science in Russia through a foundation. The Freedom Support Act legislation authorizing the establishment of the Foundation contains only the prescription that it be endowed and non-governmental. Therefore, there is considerable flexibility in creating a Foundation that is most effective in meeting the requirement of the Nunn-Lugar appropriations, established to assist the FSU with dismantlement (nuclear weapons destruction), reactor safety, non-proliferation, and defense conversion funds.

The foundation, if established, could stress peer-review, focus on selected areas such as communications, and facilitate private sector participation in technology and trade in the FSU. These are key components of our approach to S&T in Russia if the goals of Nunn-Lugar are to be achieved and if DOD's plans for defense conversion are to be sustainable. Funding has been a key issue. Interagency negotiations are still under way concerning disbursement of Nunn Lugar and other funds.

The Foundation would also be a critical complement to the International Science and Technology Center (ISTC) in Moscow. The ISTC serves as a clearinghouse for S&T projects aimed at engaging weapons scientists and engineers from the FSU in civilian S&T activities. Effective weaning of scientists from weapons research and other defense-related activities will require the development of an open, merit-based S&T

system into which they can be integrated. Strengthening civil science, the purpose of the Foundation, is the necessary complement to assistance for redirecting military scientists toward civilian applications.

RECOMMENDATIONS:

1. That you write Saltykov immediately, noting the importance of the US-Russia S&T relationship and accepting his December suggestion for an early Joint Commission meeting in Washington, D.C. The talks on avenues for expanding cooperation could be held at the same time or, perhaps, near April 20 when Saltykov will be in Washington for a Georgetown University conference (you will be invited to speak there also).
2. Initiate interagency preparations for the Joint Commission or/and "avenues for expanding cooperation talks.
3. That you meet quickly with appropriate NSC and State officials on the issue of support for civil science in the Former Soviet Union. Meetings with Chairman George Brown and Sam Nunn will be useful in calibrating Congressional views. A "going-in position" requesting \$25 million for this effort is well-documented by the NAS report.

Attachments:

- 1) Letter from Saltykov, asking to reschedule meetings (12/11/93)
- 2) Legislation and OSTP paper on Russia S&T Foundation
- 3) Ratchford/Niles correspondence on an umbrella agreement
 - Ratchford to Niles (11/2/92)
 - Johnson (on behalf of Niles) to Ratchford (undated, around 11/13/92)
 - Ratchford to Niles (11/19/92)
 - Niles to Ratchford (12/3/92)
- 4) Bromley/Wisner correspondence on an umbrella agreement
 - Bromley to Wisner (11/24/92)
 - Wisner to Bromley (12/9/92)
 - Bromley to Wisner (1/5/93)
- 5) Agendas for December meetings
- 6) Executive Summary of Ciset report
- 7) Documents on Nunn-Lugar funds

Have JTR follow
up w/ Ash
as prelude to mtg
on this issue J

W.H.M.O. Bay

CN/7 Couch 2150



United States Department of State

Washington, D. C. 20520

ACTION MEMORANDUM

S/S

TO: T - Mr. Wisner

FROM: OES - Curtis Bohlen

SUBJECT: Proposal to Establish a Joint S&T Foundation with the Newly Independent States of the Former Soviet Union

ISSUE FOR DECISION

Whether to table the attached proposal for establishing a joint S&T foundation at the NSC.

BACKGROUND

The Steering Group chaired by John Gordon will consider this Friday proposals for use of the Nunn-Lugar money. State has advocated that \$40 million be allocated to "defense conversion/joint r&d programs." The distribution of that money between the two components has to be determined, but OES has agreed with D/CISA that we should put into the foundation at least enough to provide a viable start to its operation -- approximately \$10 million.

The attached paper describes the proposed structure and operation of the foundation. It was drafted in consultation with NSF and NIST -- the agencies authorized to establish the foundation -- and has been cleared by them.

RECOMMENDATION

That you table at the Steering Group meeting the attached proposal for consideration for funding under Nunn-Lugar.

Approve _____ Disapprove _____

Date: _____

Attachment:
Proposal for an S&T Foundation.

SCIENCE AND TECHNOLOGY

IN THE NEWLY INDEPENDENT STATES OF THE FORMER SOVIET UNION

NSF has been consulting with NIST, other agencies, and private foundations regarding an approach for establishing a foundation. NSF, NIST, State, and OSTP envisage an initial concept for the structure and operation of the foundation, as outlined in this paper.

Funding and Rationale:

Approximately \$10 million of Nunn-Lugar funds should be put into the foundation initially to provide a viable start to its operation. We may need clarification of whether the DOD appropriations legislation contains restrictions that might apply to the use of its funds for the foundation. The foundation grants would be judged exclusively on merit (unlike the ISTC, where involvement of Weapons of Mass Destruction (WMD) researchers is required). The foundation would play an integral role in defense conversion and directly contribute to U.S. national security interests by building up the civil R&D structure to which defense scientists must turn if they are to remain outside the defense R&D sector. There are no other established sources of funds for the foundation at this time, although the legislation provides that the foundation may accept other funds as may be provided to it by government agencies or nongovernmental entities. Congress' stated intent is that non-defense based research and industrial-focused R&D be supported equally by the Foundation activities.

Structure:

The legislation stipulates that this be an endowed, non-governmental nonprofit foundation. The foundation will include an endowment but overall, funding will be structured in such a way that allows for a substantial drawdown of the endowment over approximately three years, in order to begin quickly making a significant number of awards. To ensure a quick start, the foundation would be established under US law with a Board of Directors consisting initially of USG officials and private sector representatives. A White House signing statement raised a concern that government financial support and participation in a nongovernmental foundations should not violate the principles of separation of powers. NSF is reviewing this issue, but notes that there are important precedents of this kind of arrangements working very well, specifically the binational foundations with Israel.

Formal intergovernmental agreements will not be needed to initiate the foundation. For the most part, the foundation will be dealing directly with individual scientists and groups - not with formal institutional structures and government agencies. It is expected that individual FSU organizations, including government agencies, would indicate their agreement with a statement of principles developed by the foundation - perhaps a charter - rather than a formal agreement.

The foundation will be open to scientists in all eligible Newly Independent States. Because it will be established without a formal agreement, the foundation will have substantial flexibility in terms of its ability to work directly with non-Russian scientists and scientific organizations from the various Newly Independent States.

Operation:

Within the framework of this proposal, it is expected that the foundation will support early start-up grants to promote developmental activities such as workshops; disseminate program information in the FSU; and identify special needs for quick action such as the protection of important scientific data and collections and support of electronic communication capabilities.

The foundations' funds would primarily be focused on a few different types of activities: grants to selected researchers or groups based on a competitive merit-review process; support for critical infrastructural needs such as publications, communication, and preservation of unique data collections; and internships for FSU science administrators in US R&D agencies and organizations.

Much of the administrative work of the foundation would be carried out through existing organizational frameworks, such as the professional scientific societies and the merit review system of NSF and other agencies. The foundation will not require a large staff and there will be no need to create and staff a new organization before we can get underway. Strategies for minimizing overhead include the supplementing of activities which have been reviewed for merit and initiated by others, including philanthropic and government organizations. We do not believe it is necessary to set up an elaborate office in the FSU; initial activities can be managed from the U.S.

PUBLIC LAW 102-190—DEC. 5, 1991

NATIONAL DEFENSE AUTHORIZATION ACT
FOR FISCAL YEARS 1992 AND 1993

(4) the reasons for selecting the force structure provided for in the plan.

TITLE II—RESEARCH, DEVELOPMENT, TEST, AND EVALUATION

PART A—AUTHORIZATIONS

SEC. 201. AUTHORIZATION OF APPROPRIATIONS.

Funds are hereby authorized to be appropriated for fiscal year 1992 for the use of the Armed Forces for research, development, test, and evaluation as follows:

- (1) For the Army, \$6,686,600,000.
- (2) For the Navy, \$8,633,875,000.
- (3) For the Air Force, \$14,467,094,000.
- (4) For the Defense Agencies, \$10,269,034,000, of which—
 - (A) \$228,495,000 is authorized for the activities of the Deputy Director, Defense Research and Engineering (Test and Evaluation); and
 - (B) \$14,200,000 is authorized for the Director of Operational Test and Evaluation.

SEC. 202. AMOUNTS FOR BASIC RESEARCH AND EXPLORATORY DEVELOPMENT.

(a) FISCAL YEAR 1992.—Of the amounts authorized to be appropriated by section 201, \$4,179,933,000 shall be available for basic research and exploratory development projects.

(b) BASIC RESEARCH AND EXPLORATORY DEVELOPMENT DEFINED.—For purposes of this section, the term “basic research and exploratory development” means work funded in program elements for defense research and development under Department of Defense category 6.1 or 6.2.

SEC. 203. MANUFACTURING TECHNOLOGY.

(a) FUNDING.—Of the amounts authorized to be appropriated by section 201, \$280,000,000 shall be available for, and may be obligated only for, manufacturing technology as follows:

- (1) For the Army Industrial Preparedness program, \$28,058,000.
- (2) For the Navy Industrial Preparedness program, \$74,407,000.
- (3) For the Air Force Industrial Preparedness program, \$60,535,000.
- (4) For the Defense Agencies, \$117,000,000, of which—
 - (A) \$17,000,000 is authorized for the Defense Logistic Agency Industrial Preparedness program; and
 - (B) \$100,000,000 is authorized for Advanced Manufacturing Technology.

(b) DEFINITION.—For the purposes of this section, the term “industrial preparedness” means the Manufacturing Technology (MANTECH) program.

(c) SUBMISSION OF ANNUAL PLAN TO CONGRESS.—Section 2513 of title 10, United States Code, is amended—

- (1) in subsection (a), by striking out “a National” and inserting in lieu thereof “an annual National”; and
- (2) by adding at the end the following new subsection:

“(e) The Secretary shall submit the annual Plan to Congress not later than March 15 of each year. The Plan may be submitted in classified and unclassified versions.”.

(d) LIMITATION.—No funds appropriated for fiscal year 1992 or 1993 may be obligated for a manufacturing technology-related research and development activity unless that particular activity—

- (1) is specifically included in the National Defense Manufacturing Technology Plan submitted to Congress during the preceding fiscal year pursuant to section 2513(a) of title 10, United States Code (as amended by subsection (c));
- (2) is required by law; or
- (3) is specifically approved by the Secretary of Defense.

SEC. 204. AUTHORIZATION TO MAKE CERTAIN FISCAL YEAR 1991 NAVY FUNDS AVAILABLE FOR OTHER PURPOSES.

(a) AUTHORITY.—The Secretary of the Navy may use fiscal year 1991 Sea Lance funds (1) for program termination costs related to the termination of the Sea Lance weapon system, and (2) for other authorized programs, projects, and activities of the Navy for research, development, test, and evaluation for fiscal year 1991 or for fiscal year 1992. The authority provided in the preceding sentence is available only to the extent provided in appropriations Acts, not to exceed \$71,000,000.

(b) DESCRIPTION OF FUNDS.—The funds referred to in subsection (a) as fiscal year 1991 Sea Lance funds are amounts appropriated for fiscal year 1991 for the Navy for research, development, test, and evaluation that were provided for the Sea Lance weapon system and that remain available for obligation and (due to the termination of that system) are no longer required for that system (other than for program termination costs).

(c) AVAILABILITY OF FUNDS.—This section does not extend the period of the availability for obligation of the funds described in subsection (b).

PART B—PROGRAM REQUIREMENTS, RESTRICTIONS, AND LIMITATIONS

SEC. 211. V-22 OSPREY AIRCRAFT PROGRAM.

(a) FUNDING.—Of the funds authorized to be appropriated pursuant to section 201 or otherwise made available for research, development, test, and evaluation for the Navy for fiscal year 1992, the sum of \$790,000,000 shall be used only for development, manufacture, and operational test of three production representative V-22 Osprey aircraft, of which the amount of \$165,000,000 is derived by transfer pursuant to subsection (b). The authority under the preceding sentence is available only to the extent provided in appropriation Acts.

(b) TRANSFER OF UNOBLIGATED FISCAL YEAR 1991 FUNDS.—To the extent provided in appropriations Acts, the Secretary of the Navy shall transfer, out of any funds appropriated to the Navy for fiscal year 1991 for procurement of aircraft that remain available for obligation, \$165,000,000 for research, development, test, and evaluation in connection with the V-22 Osprey aircraft program. The preceding sentence does not extend the period of the availability for obligation of amounts transferred under that sentence.

(c) AVAILABILITY OF FUNDS FOR THE SPECIAL OPERATIONS VARIANT.—Of the amounts authorized to be appropriated pursuant to section 201(4) for the Defense Agencies for fiscal year 1992, \$15,000,000 shall be available for research, development, test, and

evaluation in connection with the special operations variant of the V-22 Osprey aircraft.

SEC. 212. EXTENSION OF PROHIBITION ON TESTING MID-INFRARED ADVANCED CHEMICAL LASER AGAINST AN OBJECT IN SPACE.

The Secretary of Defense may not carry out a test of the Mid-Infrared Advanced Chemical Laser (MIRACL) transmitter and associated optics against an object in space during 1992 unless such testing is specifically authorized by law.

SEC. 213. A-(X) ADVANCED TACTICAL AIRCRAFT, NAVY.

The Secretary of Defense may not classify the total acquisition cost and the acquisition schedule for the A-(X) (next-generation naval attack aircraft) program at the level of special access classification.

SEC. 214. F-22 ADVANCED TACTICAL FIGHTER AIRCRAFT PROGRAM, AIR FORCE.

(a) FINDINGS.—Congress finds—

(1) that the emphasis placed on manufacturing in the next phase of the F-22 Advanced Tactical Fighter (ATF) aircraft program is a correct and significant step toward an appropriate acquisition system for the 1990s and beyond;

(2) that the objective of the next phase of the ATF program, known as the Engineering and Manufacturing Development Phase, should be to complete a production representative design (verified by testing production prototypes) with known cost and minimal risk for the Production Phase; and

(3) that the Air Force, having demonstrated satisfactory ATF system performance in the Demonstration Validation Phase, should give priority in the Engineering and Manufacturing Development Phase to investing in ATF manufacturing technologies over improving ATF performance.

(b) MANUFACTURING AND AFFORDABILITY.—The Secretary of the Air Force shall elevate manufacturing considerations during the Engineering and Manufacturing Development Phase of the ATF program—

(1) by accepting small reductions in aircraft performance, if necessary, to achieve a more producible and affordable production design;

(2) by directing the contractor to evaluate a wide selection of alternative production processes and technologies (including use of commercial standards or practices of manufacturing technology) for production of the aircraft; and

(3) by investing funds in those processes and technologies evaluated pursuant to paragraph (2) which have the highest cost or quality return on investment, with the objective of further lowering production costs and improving supportability.

(c) REPORT.—The Secretary of the Air Force shall submit to the congressional defense committees a report covering the production processes evaluated under subsection (b)(2) and the analysis supporting those processes which are ultimately selected under subsection (b)(3) for use in production. The report shall be submitted before fabrication of the first production prototype airframe is begun.

SEC. 215. SUPERCOMPUTER MODERNIZATION PROGRAM.

(a) PLAN.—(1) The Secretary of Defense, acting through the Director, Defense Research and Engineering (DDR&E), shall develop a plan by which the Department of Defense, beginning in fiscal year 1993, will modernize the supercomputer capability of Department of Defense laboratories. The plan shall include determinations of the equipment and software to be procured or leased and a schedule for the funding required to carry out the plan.

(2) The plan shall be developed by April 1, 1992. The Secretary shall submit the plan to the Committees on Armed Services of the Senate and the House of Representatives not later than that date.

(b) PROHIBITION OF NON-DOMESTIC ALTERNATIVES.—None of the equipment planned to be procured or leased under the plan may be obtained from a non-United States computer manufacturer unless the Secretary of Defense certifies to Congress that no United States computer manufacturer can meet the requirement being met by that procurement.

SEC. 216. MANAGEMENT OF NAVY MINE COUNTERMEASURES PROGRAMS.

(a) RESPONSIBILITY.—Subject to the authority, direction, and control of the Secretary of Defense, the Director, Defense Research and Engineering shall have the primary responsibility for developing and testing naval mine countermeasures systems during fiscal years 1993 through 1997.

(b) WAIVER AUTHORITY.—The Secretary of Defense may waive the requirement in subsection (a) with respect to any fiscal year if, not later than June 1 of the calendar year in which that fiscal year begins, the Secretary certifies to the congressional defense committees that—

(1) the Secretary of the Navy, in consultation with the Chief of Naval Operations and the Commandant of the Marine Corps, has submitted to the Secretary of Defense an updated mine countermeasures master plan that identifies—

(A) technologies having promising potential for use for improving mine countermeasures; and

(B) programs for advancing those technologies into production;

(2) the budget submitted to Congress pursuant to section 1105(a) of title 31, United States Code, for that fiscal year and the multiyear defense program submitted to Congress in connection with that budget pursuant to section 114a of title 10, United States Code, propose sufficient resources for executing the updated mine countermeasures master plan; and

(3) the Chairman of the Joint Chiefs of Staff has determined that the budget resources for mine countermeasures and the updated mine countermeasures master plan are sufficient.

SEC. 217. NON-ACOUSTIC ANTI-SUBMARINE WARFARE PROGRAM.

After December 31, 1991, funds appropriated or otherwise made available to the Department of the Navy for fiscal years 1992 and 1993 may not be obligated for research, development, test, and evaluation for non-acoustic anti-submarine warfare unless the Secretary of Defense has certified to the congressional defense committees, before any such obligation, that—

(1) the Department of Defense is conducting two viable, independent non-acoustic anti-submarine warfare programs within the Department; and

(2) at least one such program is not managed within the Department of the Navy.

SEC. 218. ANTI-SUBMARINE WARFARE WEAPON SYSTEM REQUIREMENTS.

(a) **REPORT.**—The Secretary of the Navy shall submit to the congressional defense committees a report containing an analysis of the requirements of the Navy for antisubmarine weapons systems and the program and plans of the Navy for meeting those requirements.

(b) **CONTENT OF REPORT.**—The report shall include the following:

(1) A description of the operational requirements of the Navy for antisubmarine weapons for launch from submarines, for launch from surface ships, and for launch from aircraft.

(2) A description of weapons and alternative candidate weapons systems, concepts, and technologies that could satisfy those operational requirements, to include heavyweight torpedoes, lightweight torpedoes, quick-reaction weapons for surface ships, long-range weapons for surface ships, long-range weapons for submarines, and any other weapons concept considered for meeting the requirements stated in paragraph (1).

(3) An estimate of the costs associated with developing, acquiring, operating, and maintaining each of the weapons and alternatives described under paragraph (2).

(4) A detailed description of the programs and plans of the Navy for meeting its antisubmarine weapons systems requirements and for developing, acquiring, and operating antisubmarine weapons, including identification of funding requested for those programs and plans for fiscal year 1993.

(c) **DEADLINE FOR SUBMISSION OF REPORT.**—The report under subsection (a) shall be submitted not later than May 15, 1992.

SEC. 219. SHIP-TO-SHORE FIRE SUPPORT.

Establishment.

(a) **R&D PROGRAM.**—The Secretary of the Navy shall establish a naval surface fire support research and development program. The Secretary shall, with the budget request for fiscal year 1993, submit to the congressional defense committees a review of the fiscal year 1992 program for investigation, demonstration, and evaluation of potential technologies and weapons systems for improving ship-to-shore fire support.

(b) **INITIAL REPORT.**—Not later than six months after the date of the enactment of this Act, the Secretary of the Navy shall submit to the congressional defense committees a comprehensive report on naval ship-to-shore fire support requirements. The report shall be prepared in consultation with the Chief of Naval Operations and the Commandant of the Marine Corps and shall include the following:

(1) A description of operational requirements of the Navy and of the Marine Corps for naval surface fire support of amphibious and strike operations and a summary of the analysis supporting these requirements.

(2) A survey of the alternative technologies and other options which could be useful in meeting the requirements described under paragraph (1), including specifically—

(A) options based on guns, multiple-launch rockets, or missiles; and

(B) references to relevant activities being pursued by other military departments and Defense agencies and in private industry.

(3) Identification of the funds requested for fiscal year 1993 for ship-to-shore fire support, identification of plans and programs for ship-to-shore fire support programs in future years, and a description of the plan of the Navy for improving ship-to-shore fire support in the near term (with improvements that are capable of being introduced into the fleet within five years).

(c) **SECOND REPORT.**—No later than one year after the date of the enactment of this Act, the Secretary of the Navy shall submit to the congressional defense committees a second report on ship-to-shore fire support. That report shall include the following:

(1) A cost and operational effectiveness analysis (COEA) based on the requirements and technologies identified in the report under subsection (b), to include evaluation of the effectiveness and use of gun, multiple-launch rocket, and missile systems for surface fire support, both independently and in conjunction with fires from attack helicopter and fixed-wing aircraft.

(2) The near-term plans and the long-term plans of the Navy for meeting its ship-to-shore fire support requirements and a description of the research, development, test, and evaluation programs and of the procurement programs to be carried out in support of those plans.

(d) **INDEPENDENT STUDY AND ANALYSIS.**—(1) The Secretary of Defense shall provide for an independent study of naval ship-to-shore fire support requirements to be conducted by the Institute for Defense Analysis, a Federal contract research center. The study shall include (A) an assessment of the operational requirements of the Navy and of the Marine Corps for naval surface fire support of amphibious and strike operations and an independent review and analysis of alternative candidates for meeting both near-term requirements and long-term requirements for ship-to-shore fire support, and (B) an evaluation of the use and cost effectiveness of gun, multiple-launch rocket, and missile systems for ship-to-shore fire support. The Institute shall submit interim and final reports to the Secretary on such study at such times as the Secretary may require.

Reports.

(2) The Secretary shall submit an interim report on the results of the study under paragraph (1) to the congressional defense committees within six months after the date of the enactment of this Act. The interim report shall focus on near-term systems and concepts that can be introduced into the fleet within five years and shall identify the preferred technologies for development in the near term.

(3) The Secretary shall submit a final report on the results of the study to the congressional defense committees within one year after the date of the enactment of this Act. The final report shall include a more thorough survey of the available and projected technologies that may be relevant to the mission requirements of the Navy for surface ship-to-shore fire support during the period ten-to-fifteen years after the date of the enactment of this Act.

(e) **RESTRICTION ON USE OF FUNDS.**—Of the funds appropriated pursuant to authorizations of appropriations in this Act for the Navy ship-to-shore fire support program—

(1) up to \$2,500,000 may be used for the study required by subsection (b) and for the cost and operational effectiveness analysis required under subsection (c); and

(2) up to \$1,500,000 may be used for the study required under subsection (d).

SEC. 220. SUPERCONDUCTING MAGNETIC ENERGY STORAGE PROJECT.

Establishment.

(a) **PROJECT OFFICE.**—The Secretary of Defense shall establish or designate an office within the Department of Defense to have responsibility for the Superconducting Magnetic Energy Storage Project. The project shall be carried out in coordination with the Secretary of Energy.

(b) **PLAN.**—(1) The Secretary of Defense shall develop a plan for the project. The plan shall be developed in cooperation with the Secretary of Energy and shall include provisions for sharing of the costs of the project by each Department.

(2) The plan shall be designed so as to lead to the demonstration of an engineering test model of the superconducting magnetic storage system.

(3) The plan shall be submitted to the Congress not later than April 1, 1992.

(c) **FUNDING FOR FISCAL YEAR 1992.**—Of the amounts authorized to be appropriated pursuant to section 201 for fiscal year 1992, \$20,000,000 shall be available to conduct planning and initial design activities for the project.

SEC. 221. SEALIFT RESEARCH AND DEVELOPMENT.

The Secretary of the Navy may transfer not to exceed \$25,000,000 from unobligated funds appropriated for the Navy for fiscal year 1991 for shipbuilding and conversion and made available for sealift to amounts appropriated for the Navy for fiscal year 1992 for research, development, test, and evaluation, to be available for the sealift program established pursuant to section 1424 of the National Defense Authorization Act for Fiscal Year 1991 (Public Law 101-510; 104 Stat. 1683; 10 U.S.C. 7291 note). The authority under the preceding sentence is available only to the extent provided in appropriations Acts.

SEC. 222. ICBM MODERNIZATION PROGRAM.

(a) **FUNDING.**—Of the amounts appropriated pursuant to section 201 for fiscal year 1992, not more than \$566,444,000 shall be available for the intercontinental ballistic missile (ICBM) modernization program, of which—

(1) not more than \$548,838,000 shall be available for the small ICBM (SICBM) program; and

(2) none shall be available for the rail garrison MX (RGMX) program.

(b) **LIMITATION.**—(1) The funds described in subsection (a)(1) may not be obligated until the Secretary of Defense certifies to the congressional defense committees that a sufficient amount of such funds will be obligated to conduct a viable program of research and development of mobile basing options for the SICBM program consistent with the sense of Congress set forth in section 231(b)(4) of the National Defense Authorization Act for Fiscal Year 1991 (Public Law 101-510; 104 Stat. 1516).

(2) Not later than 90 days after the date on which the Secretary makes a certification under paragraph (1), the Secretary shall submit to the congressional defense committees a report describing—

(A) the revised research and development program for SICBM mobile basing options;

Reports.

(B) the amount of the funds that the Secretary intends to obligate in each of fiscal years 1992 through 1997 for such program; and

(C) the earliest date on which a SICBM mobile basing option will be available in the event that conditions warrant a rebasing of the missile from existing Minuteman ICBM silos.

(c) **REPORT.**—Not later than March 1, 1992, the Secretary of Defense shall submit to the congressional defense committees a report on the cost and practicality of extending the service life of existing Minuteman III ICBMs beyond the year 2010.

(d) **AVAILABILITY OF UNOBLIGATED FISCAL YEAR 1991 FUNDS.**—(1) Of the balance of the amount appropriated for the Air Force for fiscal year 1991 for research, development, test, and evaluation for ICBM modernization that remains available for obligation, \$17,500,000 may, to the extent provided in appropriations Acts, be used during fiscal year 1992 for obligation for the procurement of MX missiles.

(2) The authority provided in paragraph (1) does not extend the period of the availability for obligation of the funds referred to in that paragraph.

(3) The authority provided in paragraph (1) is in addition to any other transfer authority provided in this or any other Act.

PART C—MISSILE DEFENSE PROGRAM

SEC. 231. SHORT TITLE.

This part may be cited as the “Missile Defense Act of 1991”.

SEC. 232. MISSILE DEFENSE GOAL OF THE UNITED STATES.

(a) **MISSILE DEFENSE GOAL.**—It is a goal of the United States to—

(1) deploy an anti-ballistic missile system, including one or an adequate additional number of anti-ballistic missile sites and space-based sensors, that is capable of providing a highly effective defense of the United States against limited attacks of ballistic missiles;

(2) maintain strategic stability; and

(3) provide highly effective theater missile defenses (TMDs) to forward-deployed and expeditionary elements of the Armed Forces of the United States and to friends and allies of the United States.

(b) **ENDORSEMENT OF ADDITIONAL MEASURES.**—As an additional component of the overall goal of protecting the United States against the threat posed by ballistic missiles, Congress endorses such additional measures as—

(1) joint discussions between the United States and the Soviet Union on strengthening nuclear command and control, to include discussions concerning the use of permissive action links and post-launch destruct mechanisms on all intercontinental-range ballistic missiles of the two nations;

(2) reductions that enhance stability in strategic weapons of the United States and Soviet Union to levels below the limitations of the Strategic Arms Reduction Talks (START) Treaty, to include the down-loading of multiple warhead ballistic missiles; and

(3) reinvigorated efforts to halt the proliferation of ballistic missiles and weapons of mass destruction.

Missile Defense Act of 1991.
10 USC 2431 note.

SEC. 233. IMPLEMENTATION OF GOAL.

(a) **IN GENERAL.**—To implement the goal specified in section 232(a), the Congress—

- (1) directs the Secretary of Defense to take the actions specified in subsection (b); and
- (2) urges the President to take the actions described in subsection (c).

(b) **ACTIONS OF THE SECRETARY OF DEFENSE.**—

(1) **THEATER MISSILE DEFENSE OPTIONS.**—The Secretary of Defense shall aggressively pursue the development of advanced theater missile defense systems, with the objective of downselecting and deploying such systems by the mid-1990s.

(2) **INITIAL DEPLOYMENT.**—The Secretary shall develop for deployment by the earliest date allowed by the availability of appropriate technology or by fiscal year 1996 a cost-effective, operationally-effective, and ABM Treaty-compliant anti-ballistic missile system at a single site as the initial step toward deployment of an anti-ballistic missile system described in section 232(a)(1) designed to protect the United States against limited ballistic missile threats, including accidental or unauthorized launches or Third World attacks. The system to be developed should include—

(A) 100 ground-based interceptors, the design of which is to be determined by competition and downselection for the most capable interceptor or interceptors;

(B) fixed, ground-based, anti-ballistic missile battle management radars; and

(C) optimum utilization of space-based sensors, including sensors capable of cueing ground-based anti-ballistic missile interceptors and providing initial targeting vectors, and other sensor systems that also are not prohibited by the ABM Treaty, such as a ground-based sub-orbital surveillance and tracking system.

(3) **DEPLOYMENT PLAN.**—Within 180 days after the date of the enactment of this Act, the Secretary of Defense shall submit to the congressional defense committees a plan for the deployment of theater missile defense systems and an anti-ballistic missile system which meet the guidelines established in paragraphs (1) and (2).

(c) **PRESIDENTIAL ACTIONS.**—

(1) **NEGOTIATIONS REGARDING THE ABM TREATY.**—Congress recognizes the President's call on September 27, 1991, for "immediate concrete steps" to permit the deployment of defenses against limited ballistic missile strikes and the response of the President of the Soviet Union undertaking to consider such proposals from the United States on nonnuclear ABM systems.

(2) In this regard, Congress urges the President to pursue immediate discussions with the Soviet Union on the feasibility and mutual interests of amendments to the ABM Treaty to permit the following:

(A) Construction of anti-ballistic missile sites and deployment of ground-based anti-ballistic missile interceptors in addition to those currently permitted under the ABM Treaty.

(B) Increased use of space-based sensors for direct battle management.

President.

Union of
Soviet Socialist
Republics.

(C) Clarification of what development and testing of space-based missile defenses is permissible under the ABM Treaty.

(D) Increased flexibility for technology development of advanced ballistic missile defenses.

(E) Clarification of the distinctions for the purposes of the ABM Treaty between theater missile defenses and anti-ballistic missile defenses, including interceptors and radars.

SEC. 234. FOLLOW-ON TECHNOLOGY RESEARCH.

(a) **FOLLOW-ON ANTI-BALLISTIC MISSILE TECHNOLOGIES.**—To effectively develop technologies relating to achieving the goal specified in section 232(a) and to provide future options for protecting the security of the United States and the allies and friends of the United States, robust funding for research and development for promising follow-on anti-ballistic missile technologies, including Brilliant Pebbles, is required.

(b) **EXCLUSION FROM INITIAL PLAN.**—Deployment of Brilliant Pebbles is not included in the initial plan for the limited defense system architecture described in section 232(a).

(c) **REPORT AND LIMITATION.**—The Secretary of Defense shall submit to the congressional defense committees a report on conceptual and burden sharing issues associated with the option of deploying space-based interceptors (including Brilliant Pebbles) for the purpose of providing global defenses against ballistic missile attacks. Not more than 50 percent of the funds made available for the purposes described in section 237(b)(3) for the Space-Based Interceptors program element for fiscal year 1992 may be obligated for the Brilliant Pebbles program until 45 days after submission of the report.

SEC. 235. PROGRAM ELEMENTS FOR STRATEGIC DEFENSE INITIATIVE.

(a) **EXCLUSIVE ELEMENTS.**—The following program elements shall be the exclusive program elements for the Strategic Defense Initiative:

- (1) Limited Defense System.
- (2) Theater Missile Defenses.
- (3) Space-Based Interceptors.
- (4) Other Follow-On Systems.
- (5) Research and Support Activities.

(b) **APPLICABILITY TO BUDGETS.**—The program elements specified in subsection (a) shall be the only program elements used in the program and budget provided concerning the Strategic Defense Initiative submitted to Congress by the Secretary of Defense in support of the budget submitted to Congress by the President under section 1105 of title 31, United States Code, for any fiscal year.

SEC. 236. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION OBJECTIVES FOR SDI PROGRAM ELEMENTS.

(a) **LIMITED DEFENSE SYSTEM PROGRAM ELEMENT.**—The Limited Defense System program element shall include programs, projects, and activities (and supporting programs, projects, and activities) which have as a primary objective the development of systems, components, and architectures for a deployable anti-ballistic missile system as described in section 232(a)(1) capable of providing a highly effective defense of the United States against limited ballistic missile threats, including accidental or unauthorized launches or Third

World attacks, but below a threshold that would bring into question strategic stability. Such activities shall include those activities necessary to develop and test systems, components, and architectures capable of deployment by fiscal year 1996 as part of an ABM Treaty-compliant initial site defensive system. For purposes of planning, evaluation, design, and effectiveness studies, such programs, projects, and activities may take into consideration both the current limitations of the ABM Treaty and modest changes to its numerical limitations and its limitations on the use of space-based sensors.

(b) **THEATER MISSILE DEFENSES PROGRAM ELEMENT.**—The Theater Missile Defenses program element shall include programs, projects, and activities (including those associated before the date of the enactment of this Act with the Tactical Missile Defense Initiative) that have as primary objectives either of the following:

(1) The development of deployable and rapidly relocatable advanced theater missile defenses capable of defending forward-deployed and expeditionary elements of the Armed Forces of the United States, to be carried out with the objective of selecting and deploying more capable theater missile defense systems by the mid-1990s.

(2) Cooperation with friendly and allied nations in the development of theater defenses against tactical or theater ballistic missiles.

(c) **SPACE-BASED INTERCEPTORS PROGRAM ELEMENT.**—The Space-Based Interceptors program element shall include programs, projects, and activities (and supporting programs, projects, and activities) that have as a primary objective the conduct of research on space-based kinetic-kill interceptors and associated sensors that could provide an overlay to ground-based anti-ballistic missile interceptors.

(d) **OTHER FOLLOW-ON SYSTEMS PROGRAM ELEMENT.**—The Other Follow-On Systems program element shall include programs, projects, and activities that have as a primary objective the development of technologies capable of supporting systems, components, and architectures that could produce highly effective defenses for the future.

(e) **RESEARCH AND SUPPORT ACTIVITIES PROGRAM ELEMENT.**—The Research and Support Activities program element shall include programs, projects, and activities that have as primary objectives the following:

(1) The provision of basic research and technical, engineering, and managerial support to the programs, projects, and activities within the program elements referred to in subsection (a) through (d).

(2) Innovative science and technology projects.

(3) The provision of necessary test and evaluation services other than those required for a specific program element.

(4) Program management.

SEC. 237. STRATEGIC DEFENSE INITIATIVE FUNDING.

(a) **TOTAL AMOUNT.**—Of the amounts appropriated pursuant to section 201 for fiscal year 1992 or otherwise made available to the Department of Defense for research, development, test, and evaluation for fiscal year 1992, not more than \$4,150,000,000 may be obligated for the Strategic Defense Initiative.

(b) **SPECIFIC AMOUNTS FOR THE PROGRAM ELEMENTS.**—Of the amount ribed in subsection (a)—

(1) not more than \$1,521,780,000 shall be available for programs, projects, and activities within the Limited Defense System program element;

(2) not more than \$828,710,000 shall be available for programs, projects, and activities within the Theater Missile Defenses program element;

(3) not more than \$465,000,000 shall be available for programs, projects, and activities within the Space-Based Interceptors program element, of which not more than \$390,000,000 shall be available for the Brilliant Pebbles program account;

(4) not more than \$629,550,500 shall be available for programs, projects, and activities within the Other Follow-On Systems program element; and

(5) not more than \$704,959,500 shall be available for programs, projects, and activities within the Research and Support Activities program element.

(c) **ENVIRONMENTAL IMPACT STATEMENT.**—Of the amount described in paragraph (b)(1)—

(1) not more than \$5,000,000 may be used to carry out an expeditious site-specific environmental impact statement in accordance with the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.); and

(2) not more than \$40,000,000 may be used to conduct studies, site surveys, technical assessments, analysis, and refurbishments to remove the Grand Forks anti-ballistic missile site from its deactivated status.

The Congress hereby expressly waives any and all requirements to evaluate alternative sites to the site at Grand Forks.

(d) **REPORTING REQUIREMENT.**—Not later than 90 days after the date of the enactment of this Act, the Secretary of Defense shall submit to the congressional defense committees a report on the allocation of funds appropriated for the Strategic Defense Initiative for fiscal year 1992. The report shall specify the amount of such funds allocated for each program, project, and activity of the Strategic Defense Initiative and shall list each Strategic Defense Initiative program, project, and activity under the appropriate program element.

(e) **TRANSFER AUTHORITIES.**—

(1) **IN GENERAL.**—Before the submission of the report required under subsection (d) and notwithstanding the limitations set forth in subsection (b), the Secretary of Defense may transfer funds among the program elements named in subsection (b).

(2) **LIMITATION.**—The total amount that may be transferred to or from any program element named in subsection (b)—

(A) may not exceed 10 percent of the amount provided in such subsection for the program element from which the transfer is made; and

(B) may not result in an increase of more than 10 percent of the amount provided in such subsection for the program element to which the transfer is made.

(3) **EXCEPTION.**—Transfer authority may not be used for a decrease in funds identified in subsection (b)(2) for Theater Missile Defenses.

(4) **MERGER AND AVAILABILITY.**—Amounts transferred pursuant to paragraph (1) shall be merged with and be available for the same purposes as the amounts to which transferred.

(f) **LAND TRANSFER, NORTH DAKOTA.**—The Administrator of the General Services Administration shall, without reimbursement and no later than 90 days after the date of the enactment of this Act, transfer accountability of the real property and improvements thereon, comprising approximately 473 acres (fee and easements) located within and contiguous to the Grand Forks SAFEGUARD-MSR site at Nekoma, North Dakota, to the Secretary of the Army.

SEC. 238. REVIEW OF FOLLOW-ON DEPLOYMENT OPTIONS.

As deployment at the anti-ballistic missile site described in section 233(b)(2) draws near to the deployment date of fiscal year 1996, the President and the Congress shall assess the progress in the ABM Treaty amendments negotiation called for under section 233(c) and shall consider the options available to the United States as now exist under the ABM Treaty. To assist in this review process, the President shall submit to the Congress not later than May 1, 1994, an interim report on the progress of the negotiations.

SEC. 239. ABM TREATY DEFINED.

For purposes of this part, the term "ABM Treaty" means the Treaty between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Anti-Ballistic Missiles, signed in Moscow on May 26, 1972.

SEC. 240. INTERPRETATION.

Nothing in this part may be construed to imply—

- (1) congressional authorization for development, testing, or deployment of anti-ballistic missile systems in violation of the ABM Treaty, including any protocol or amendment to that treaty; or
- (2) final congressional authorization for deployment of anti-ballistic missile systems in compliance with the ABM Treaty.

PART D—OTHER MISSILE DEFENSE MATTERS

SEC. 241. ARROW TACTICAL ANTI-MISSILE PROGRAM.

(a) **COOPERATIVE RESEARCH AND DEVELOPMENT.**—Congress endorses a continuing program of cooperative research and development, jointly funded by the United States and the government of Israel, on the Arrow Tactical Anti-Missile program with a view to proving out (through such cooperative research and development) the feasibility and practicality of the system.

(b) **ARROW DEPLOYABILITY INITIATIVE.**—(1) Subject to paragraphs (2) and (3), the Secretary of Defense may obligate from funds appropriated pursuant to section 201 for fiscal year 1992 up to \$54,400,000 for the purpose of initiating research and development of systems to deploy the Arrow missile in the future, such as battle management, lethality, system integration, test bed, and fire control radar. Funds for such purpose may not be derived from funds available for the Strategic Defense Initiative.

(2) The authority under paragraph (1) is in addition to any other authority provided in this Act regarding the Arrow Tactical Anti-Missile program.

(3) Funds may not be obligated for the purpose described in paragraph (1) unless—

(A) the United States and the government of Israel enter into a Memorandum of Understanding governing the conduct and funding of such an effort;

(B) the Secretary of Defense certifies to the congressional defense committees that the Arrow missile has successfully completed the current four-test proof-of-principle flight test program; and

(C) the President has certified to Congress—

- (i) with respect to any waiver of activities sanctionable under the laws described in paragraph (4) granted on or before the date of the enactment of this Act to any firm involved in the Arrow program at the time of such certification, that such activities have been terminated and the government of the nation in which such firm is located has given assurances to the United States that such activities by such firm will not be repeated; and
- (ii) that the government of Israel has undertaken to adopt export controls pursuant to the Guidelines and Annex of the Missile Technology Control Regime (MTCR).

(4) The laws referred to in paragraph (3)(C)(i) are section 73(a)(1) of the Arms Export Control Act, section 11B(b)(1) of the Export Administration Act of 1979, and sections 1702 and 1703 of the National Defense Authorization Act for Fiscal Year 1991 (Public Law 101-510).

SEC. 242. DEVELOPMENT AND TESTING OF ANTI-BALLISTIC MISSILE SYSTEMS OR COMPONENTS.

(a) **USE OF FUNDS.**—

(1) **LIMITATION.**—Funds appropriated to the Department of Defense for fiscal year 1992, or otherwise made available to the Department of Defense from any funds appropriated for fiscal year 1992 or for any fiscal year before 1992, may not be obligated or expended—

(A) for any development or testing of anti-ballistic missile systems or components except for development and testing consistent with the development and testing described in the May 1991 SDIO Report; or

(B) for the acquisition of any material or equipment (including any long lead materials, components, piece parts, test equipment, or any modified space launch vehicle) required or to be used for the development or testing of anti-ballistic missile systems or components, except for material or equipment required for development or testing consistent with the development and testing described in the May 1991 SDIO Report.

(2) **EXCEPTION.**—The limitation under paragraph (1) shall not apply to funds transferred to or for the use of the Strategic Defense Initiative for fiscal year 1992 if the transfer is made in accordance with section 1001 of this Act.

(b) **DEFINITION.**—In this section, the term "May 1991 SDIO Report" means the report entitled, "1991 Report to Congress on the Strategic Defense Initiative," dated May 16, 1991, prepared by the Strategic Defense Initiative Organization and submitted to certain committees of the Senate and House of Representatives by the Secretary of Defense pursuant to section 224 of the National Defense Authorization Act for Fiscal Years 1990 and 1991 (Public Law 101-189; 103 Stat. 1398; 10 U.S.C. 2431).

President.
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President.
Israel.

PART E—OTHER MATTERS

SEC. 251. MEDICAL COUNTERMEASURES AGAINST BIOWARFARE THREATS.

(a) **FUNDING.**—Of the amounts appropriated pursuant to section 201 for fiscal year 1992, not more than \$53,800,000 shall be available for the medical component of the Biological Defense Research Program (BDRP) of the Department of Defense.

(b) **LIMITATIONS.**—(1) No funds appropriated or otherwise made available for the Department of Defense for fiscal year 1992 may be obligated or expended for product development, or for research, development, testing, or evaluation, of medical countermeasures against a biowarfare threat except for medical countermeasures against a validated biowarfare threat agent or a potential (far-term) biowarfare threat agent.

(2) Of the funds made available pursuant to subsection (a), not more than \$10,000,000 may be obligated or expended for research, development, testing, and evaluation of medical countermeasures against potential (far-term) biowarfare threats.

(c) **DEFINITIONS.**—In this section:

(1) The term “biowarfare threat agent” means a biological agent that—

(A) is named in the biological warfare threat list published jointly by the Defense Intelligence Agency (DIA) and the Armed Forces Medical Intelligence Center (AFMIC); or

(B) is identified as a biowarfare agent by the Deputy Chief of Staff of the Army for Intelligence in accordance with Army regulations applicable to intelligence support for the medical component of the Biological Defense Research Program.

(2) The term “validated biowarfare threat agent” means a biowarfare threat agent that is being or has been developed or produced for weaponization within 10 years, as assessed and determined jointly by the Defense Intelligence Agency and the Armed Forces Medical Intelligence Center.

(3) The term “potential (far-term) biowarfare threat agent” means a biowarfare threat agent that is an emerging or future biowarfare threat, is the object of research by a foreign threat country, and will be ready for weaponization in more than 10 years and less than 20 years, as assessed and determined jointly by the Defense Intelligence Agency and the Armed Forces Medical Intelligence Center.

(4) The term “weaponization” means incorporation into usable ordnance or other militarily useful means of delivery.

SEC. 252. UNIVERSITY RESEARCH INITIATIVE.

Of the amounts authorized to be appropriated for fiscal year 1992 pursuant to section 201, \$182,373,000 shall be available for research and development under the University Research Initiative program of the Department of Defense, of which \$30,000,000 shall be available only for research in advanced manufacturing technologies and industrial processes.

SEC. 253. GRANT FOR THE INSTITUTE FOR ADVANCED SCIENCE AND TECHNOLOGY.

(a) **AUTHORITY TO MAKE GRANT.**—Of the amount authorized to be appropriated pursuant to section 201 for the Defense Agencies, and

as previously authorized in Public Law 101-510 and appropriated in Public Law 101-511 for the establishment of an Institute for Advanced Science and Technology (IAST), an additional \$25,000,000 shall be made available until expended as a grant. The grant shall be made to the institution of higher education which has been selected as the site, through competitive procedures and based on the qualifications stipulated in section 243 of Public Law 101-510, of the Institute for Advanced Science and Technology for Phase II.

(b) **COST-SHARING REQUIREMENT.**—The grant under subsection (a) shall be available for construction of the facility for the institute. In making the grant, the Secretary of Defense shall ensure that the Federal share of the cost of the construction project does not exceed 50 percent of the total cost of the project.

(c) **PURPOSE OF GRANTS.**—The grant shall be used to support development of critical technologies as identified by the Department of Defense in its Critical Technologies Plan as required by Public Law 100-456.

SEC. 254. ADVANCED APPLIED TECHNOLOGY DEMONSTRATION FACILITY FOR ENVIRONMENTAL TECHNOLOGY.

(a) **AUTHORITY TO MAKE GRANT.**—Of the amount authorized to be appropriated for research, development, test, and evaluation for fiscal year 1992 for the Defense Agencies, \$20,000,000 shall be available for a grant to a nonprofit organization or an institution of higher education to establish an advanced applied technology demonstration facility for environmental technology. Such grant shall be awarded through the use of competitive procedures.

(b) **QUALIFICATIONS.**—A grant under subsection (a) may be awarded only to an organization or institution that—

(1) has nationally recognized expertise in environmental technology and business administration; and

(2) proposes a clear plan (as determined by the Secretary of Defense) showing how its management of such a facility will be usable by the Department of Defense in resolving environmental cleanup problems of the Department.

(c) **COST SHARING.**—In evaluating proposals for a grant under subsection (a), the Secretary of Defense shall consider as favorable evaluation factors for the award of the grant provisions of such a proposal under which the organization or institution submitting the proposal—

(1) proposes that, if awarded the grant, it will agree to have available all equipment necessary to conduct environmental cleanup demonstration projects at the facility; and

(2) demonstrates that it has, or upon receipt of the grant will obtain, secure sources of funding such that—

(A) the Federal share of the administrative costs of the facility established with the grant will not exceed one-half of the total administrative costs of the facility for the first two years of the operation of the facility; and

(B) no Department of Defense assistance for the operation of the facility will be required after the first three years of the operation of the facility.

SEC. 255. CONTINUED COOPERATION WITH JAPAN ON TECHNOLOGY RESEARCH AND DEVELOPMENT.

Of the funds authorized to be appropriated pursuant to section 201 for research, development, test, and evaluation for fiscal year 1992, and made available for basic research, exploratory development, and advanced technology, \$10,000,000 shall be available for such fiscal year for research and development projects conducted jointly by the United States and Japan in accordance with section 1454(d) of the National Defense Authorization Act for Fiscal Year 1991 (Public Law 101-510; 104 Stat. 1695).

SEC. 256. FEDERALLY FUNDED RESEARCH AND DEVELOPMENT CENTERS.

(a) WORKLOAD LEVELS TO BE SPECIFIED IN BUDGET DOCUMENTS.—

(1) Section 2367 of title 10, United States Code, is amended by adding at the end the following:

“(d) IDENTIFICATION TO CONGRESS OF FFRDC WORKLOAD EFFORT.—

(1) In the documents provided to Congress by the Secretary of Defense in support of the budget submitted by the President under section 1105 of title 31 for any fiscal year, the Secretary shall set forth the proposed amount of the man-years of effort to be funded by the Department of Defense for each federally funded research and development center for the fiscal year covered by that budget.

“(2) After the close of a fiscal year, and not later than January 1 of the next year, the Secretary shall submit to the Committees on Armed Services and the Committees on Appropriations of the Senate and House of Representatives a report setting forth the actual obligations and the actual man-years of effort expended at each federally funded research and development center during that fiscal year.”

(2)(A) Paragraph (1) of subsection (d) of section 2367 of title 10, United States Code, as added by paragraph (1), shall take effect with respect to the budget submitted for fiscal year 1994.

(B) Paragraph (2) of such subsection shall take effect with respect to fiscal year 1992.

(b) MAN-YEAR LIMITATIONS.—Funds appropriated or otherwise made available for the Department of Defense for fiscal years 1992 and 1993 may not be obligated at any of the following federally funded research and development centers in order to obtain work in excess of the number of man-years specified for that center as follows:

- (1) For the Center for Naval Analysis, 270.
- (2) For the Institute for Defense Analysis—
 - (A) for studies and analysis, 320;
 - (B) for systems and engineering in connection with operational test and evaluation, 75; and
 - (C) for research and development in connection with command, control, communications, and intelligence, 150.
- (3) For the Rand Project Air Force, 150.
- (4) For the National Defense Research Institute, 160.
- (5) For the Arroyo Center, 150.
- (6) For the Logistics Management Institute, 140.
- (7) For the Aerospace Corporation, 2,500.
- (8) For the MIT Lincoln Laboratory, 1,150.
- (9) For the Software Engineering Institute, 160.
- (10) For the Institute for Advanced Technology, 40.

(c) FUNDING LIMITATION.—Of the funds appropriated or otherwise made available for the Department of Defense for fiscal years 1992

and 1993, not more than \$446,000,000 may be obligated for the federally funded research and development center of MITRE.

(d) AUTHORITY TO WAIVE LIMITATIONS.—The Secretary of Defense may waive a limitation in subsection (b) or (c) in the case of any federally funded research and development center. Such a waiver may not be implemented until the Secretary notifies the congressional defense committees of the proposed waiver and the reasons for the waiver and a period of 60 days elapses after the date on which the notification is made. However, in a case in which the Secretary determines that it is essential to the national security that funds be obligated for work in excess of that limitation before the end of such 60-day period, the Secretary may waive such 60-day period upon notification to the congressional defense committees of that determination and the reasons for the determination.

SEC. 257. REVISION IN MEMBERSHIP OF STRATEGIC ENVIRONMENTAL RESEARCH AND DEVELOPMENT PROGRAM COUNCIL: MEMBERSHIP ON COUNCIL AND ON SCIENTIFIC ADVISORY BOARD.

(a) REVISION IN MEMBERSHIP OF COUNCIL.—Section 2902(b) of title 10, United States Code, is amended—

(1) by striking out “nine members” and inserting in lieu thereof “thirteen members”;

(2) by redesignating paragraph (9) as paragraph (10); and

(3) by inserting after paragraph (8) the following new paragraph:

“(9) One representative from each of the Army, Navy, Air Force, and Coast Guard, who shall be non-voting members.”

(b) REVISION IN MEMBERSHIP OF ADVISORY BOARD.—Section 2904 of such title is amended—

(1) in subsection (a), by striking out “13 members” and inserting in lieu thereof “14 members”; and

(2) in subsection (b), by striking out paragraph (1) and inserting in lieu thereof the following:

“(1) The following persons shall be permanent members of the Advisory Board:

“(A) The Science Advisor to the President, or his designee.

“(B) The Administrator of the National Oceanic and Atmospheric Administration, or his designee.”

TITLE III—OPERATION AND MAINTENANCE

PART A—AUTHORIZATIONS OF APPROPRIATIONS

SEC. 301. OPERATION AND MAINTENANCE FUNDING.

(a) AUTHORIZATION OF APPROPRIATIONS.—Funds are hereby authorized to be appropriated for fiscal year 1992 for the use of the Armed Forces and other activities and agencies of the Department of Defense for expenses, not otherwise provided for, for operation and maintenance in amounts as follows:

- (1) For the Army, \$21,155,854,000.
- (2) For the Navy, \$23,185,380,000.
- (3) For the Marine Corps, \$1,845,500,000.
- (4) For the Air Force, \$19,657,010,000.
- (5) For the Defense Agencies, \$8,652,716,000.
- (6) For the Army Reserve, \$968,200,000.
- (7) For the Naval Reserve, \$824,600,000.
- (8) For the Marine Corps Reserve, \$80,900,000.

Reports.

10 USC 2367
note.

Energy and the participation of other Government agencies in those activities; and

(C) a description of the activities for which the funds were spent.

(2) The committees of Congress to which reports under paragraph (1) and under subsection (d)(2) are to be transmitted are—

(A) the Committee on Armed Services, the Committee on Appropriations, and the Committee on Foreign Relations of the Senate; and

(B) the Committee on Armed Services, the Committee on Appropriations, the Committee on Foreign Affairs, and the Committee on Energy and Commerce of the House of Representatives.

(F) AVOIDANCE OF DUPLICATIVE AUTHORIZATIONS.—This section shall not apply if the National Defense Authorization Act for Fiscal Year 1993 enacts the same authorities and requirements as are contained in this section and authorizes the appropriation of the same (or a greater) amount to carry out such authorities.

SEC. 510. REPORT ON SPECIAL NUCLEAR MATERIALS.

Not later than 180 days after the date of enactment of this Act, the Secretary of State shall prepare, in consultation with the Secretary of Defense and the Secretary of Energy, and shall transmit to the Congress a report on the possible alternatives for the ultimate disposition of special nuclear materials of the former Soviet Union. This report shall include—

(1) a cost-benefit analysis comparing (A) the relative merits of the indefinite storage and safeguarding of such materials in the independent states of the former Soviet Union and (B) its acquisition by the United States by purchase, barter, or other means;

(2) a discussion of relevant issues such as the protection of United States uranium producers from dumping, the relative vulnerability of these stocks of special nuclear materials to illegal proliferation, and the potential electrical and other savings associated with their being made available in the fuel cycle in the United States; and

(3) a discussion of how highly enriched uranium stocks could be utilized for reactor fuel.

SEC. 511. RESEARCH AND DEVELOPMENT FOUNDATION.

(a) ESTABLISHMENT.—The Director of the National Science Foundation (hereinafter in this section referred to as the "Director") is authorized to establish an endowed, nongovernmental, nonprofit foundation (hereinafter in this section referred to as the "Foundation") in consultation with the Director of the National Institute of Standards and Technology.

(b) PURPOSES.—The purposes of the Foundation shall be the following:

(1) To provide productive research and development opportunities within the independent states of the former Soviet Union that offer scientists and engineers alternatives to emigration and help prevent the dissolution of the technological infrastructure of the independent states.

(2) To advance defense conversion by funding civilian collaborative research and development projects between scientists and engineers in the United States and in the independent states of the former Soviet Union.

(3) To assist in the establishment of a market economy in the independent states of the former Soviet Union by promoting, identifying, and partially funding joint research, development, and demonstration ventures between United States businesses and scientists, engineers, and entrepreneurs in those independent states.

(4) To provide a mechanism for scientists, engineers, and entrepreneurs in the independent states of the former Soviet Union to develop an understanding of commercial business practices by establishing linkages to United States scientists, engineers, and businesses.

(5) To provide access for United States businesses to sophisticated new technologies, talented researchers, and potential new markets within the independent states of the former Soviet Union.

(c) FUNCTIONS.—In carrying out its purposes, the Foundation shall—

(1) promote and support joint research and development projects for peaceful purposes between scientists and engineers in the United States and independent states of the former Soviet Union on subjects of mutual interest; and

(2) seek to establish joint nondefense industrial research, development, and demonstration activities through private sector linkages which may involve participation by scientists and engineers in the university or academic sectors; and which shall include some contribution from industrial participants.

(d) FUNDING.—

(1) USE OF CERTAIN DEPARTMENT OF DEFENSE FUNDS.—(A) To the extent funds appropriated to carry out subtitle E of title XIV of the National Defense Authorization Act for Fiscal Year 1993 (relating to joint research and development programs with the independent states of the former Soviet Union) are otherwise available for such purpose, such funds may be made available to the Director for use by the Director in establishing the endowment of the Foundation and otherwise carrying out this section.

(B) For each fiscal year after fiscal year 1993, not more than 50 percent of the funds made available to the Foundation by the United States Government may be funds appropriated in the national defense budget function (function 050).

(2) CONTRIBUTION TO ENDOWMENT BY PARTICIPATING INDEPENDENT STATES.—As a condition of participation in the Foundation, an independent state of the former Soviet Union must make a minimum contribution to the endowment of the Foundation, as determined by the Director, which shall reflect the ability of the independent state to make a financial contribution and its expected level of participation in the Foundation's programs.

(3) DEBT CONVERSIONS.—To the extent provided in advance by appropriations Acts, local currencies or other assets resulting from government-to-government debt conversions may be made available to the Foundation. For purposes of this paragraph, the term "debt conversion" means an agreement whereby a country's government-to-government or commercial external debt burden is exchanged by the holder for local currencies, policy commitments, other assets, or other economic activities, or for an equity interest in an enterprise theretofore owned by the debtor government.

(4) LOCAL CURRENCIES.—In addition to other uses provided by law, and subject to agreement with the foreign government, local currencies generated by United States assistance programs may be made available to the Foundation.

(5) INVESTMENT OF GOVERNMENT ASSISTANCE.—The Foundation may invest any revenue provided to it through United States Government assistance, and any interest earned on such investment may be used only for the purpose for which the assistance was provided.

(6) OTHER FUNDS FROM GOVERNMENT AND NON-GOVERNMENTAL SOURCES.—The Foundation may accept such other funds as may be provided to it by Government agencies or nongovernmental entities.

TITLE VI—SPACE TRADE AND COOPERATION

SEC. 601. FACILITATING DISCUSSIONS REGARDING THE ACQUISITION OF SPACE HARDWARE, TECHNOLOGY, AND SERVICES FROM THE FORMER SOVIET UNION.

(a) EXPEDITED REVIEW.—Any request for a license or other approval described in subsection (c) that is submitted to any United States Government agency by the National Aeronautics and Space Administration, any of its contractors, or any other person shall be considered on an expedited basis by that agency and any other agency involved in an applicable inter-agency review process.

(b) NOTICE TO CONGRESS IF LICENSE DENIED.—If any United States Government agency denies

a request for a license or other approval described in subsection (c), that agency shall immediately notify the designated congressional committees. Each such notification shall include a statement of the reasons for the denial.

(c) DESCRIPTION OF DISCUSSIONS.—This section applies to a request for any license or other approval that may be necessary to conduct discussions with an independent state of the former Soviet Union with respect to the possible acquisition of any space hardware, space technology, or space service for integration into—

(1) United States space projects that have been approved by the Congress, or

(2) commercial space ventures, including discussions relating to technical evaluation of such hardware, technology, or service.

SEC. 602. OFFICE OF SPACE COMMERCE.

(a) TRADE MISSIONS.—The Office of Space Commerce of the Department of Commerce is authorized and encouraged to conduct one or more trade missions to appropriate independent states of the former Soviet Union for the purpose of familiarizing United States aerospace industry representatives with space hardware, space technologies, and space services that may be available from the independent states, and with the business practices and overall business climate in the independent states.

(b) MONITORING NEGOTIATIONS.—The Office of Space Commerce—

(1) shall monitor the progress of any discussions described in section 601(c)(1) that are being conducted; and

(2) shall advise the Administrator of the National Aeronautics and Space Administration as to the impact on United States industry of each potential acquisition of space hardware, space technology, or space services from the independent states of the former Soviet Union, specifically including any anticompetitive issues the Office may observe.

SEC. 603. REPORT TO CONGRESS.

Within one year after the date of enactment of this title, the President shall submit to the designated congressional committees a report describing—

(1) the opportunities for increased space-related trade with the independent states of the former Soviet Union;

(2) a technology procurement plan for identifying and evaluating all unique space hardware, space technology, and space services available to the United States from the independent states;

(3) specific space hardware, space technology, and space services that have been, or could be, the subject of discussions described in section 601(c);

(4) the trade missions carried out pursuant to section 602(a), including the private participation in and the results of such missions;

(5) any barriers, regulatory or practical, that inhibit space-related trade between the United States and independent states, including any such barriers in either the United States or the independent states; and

(6) any anticompetitive issues raised during the course of negotiations, as observed pursuant to section 602(b).

SEC. 604. DEFINITIONS.

For purposes of this title—

(1) the term "contractor" means a National Aeronautics and Space Administration contractor to the extent that the acquisition of hardware, space technology, or space services from the independent states of the former Soviet Union may be relevant to the contractor's responsibilities under the contract; and

(2) the term "designated congressional committees" means the Committee on Science, Space, and Technology and the Committee on Foreign Affairs of the House of Representatives and the Committee on Commerce, Science, and Transportation and the Committee on Foreign Relations of the Senate.

H 10282

CONGRESSIONAL RECORD—HOUSE

October 1, 1992

vided unless the President certifies to the Congress, on an annual basis, that the proposed recipient country is committed to—

(1) making a substantial investment of its resources for dismantling or destroying such weapons of mass destruction, if such recipient has an obligation under a treaty or other agreement to destroy or dismantle any such weapons;

(2) forgoing any military modernization program that exceeds legitimate defense requirements and forgoing the replacement of destroyed weapons of mass destruction;

(3) forgoing any use in new nuclear weapons of fissionable or other components of destroyed nuclear weapons;

(4) facilitating United States verification of any weapons destruction carried out under this title or section 212 of the Soviet Nuclear Threat Reduction Act of 1991 (title II of Public Law 102-228);

(5) complying with all relevant arms control agreements; and

(6) observing internationally recognized human rights, including the protection of minorities.

Subtitle C—Administration and Funding Authorities

SEC. 1411. ADMINISTRATION OF DEMILITARIZATION PROGRAMS.

(a) **FUNDING.**—(1) In recognition of the direct contributions to the national security interests of the United States of the activities specified in section 1412, funds transferred under sections 108 and 109 of Public Law 102-229 (105 Stat. 1708) are authorized to be made available to carry out this title. Of the amount available to carry out this title—

(A) not more than \$40,000,000 may be made available for programs referred to in section 1412(b)(4) relating to demilitarization of defense industries;

(B) not more than \$15,000,000 may be made available for programs referred to in section 1412(b)(6) relating to military-to-military contacts;

(C) not more than \$25,000,000 may be made available for joint research development programs pursuant to section 1441;

(D) not more than \$10,000,000 may be made available for the study, assessment, and identification of nuclear waste disposal activities by the former Soviet Union in the Arctic region;

(E) not more than \$25,000,000 may be made available for Project PEACE; and

(F) not more than \$10,000,000 may be made available for the Volunteers Investing in Peace and Security (VIPS) program under chapter 89 of title 10, United States Code, as added by section 1322.

(2) Section 221(a) of the Soviet Nuclear Threat Reduction Act of 1991 (title II of Public Law 102-228; 105 Stat. 1695) is amended—

(A) by striking out "fiscal year 1992" and inserting "fiscal years 1992 and 1993"; and

(B) by striking out "\$400,000,000" and inserting in lieu thereof "\$300,000,000".

(3) Section 221(e) of such Act is amended—

(A) by inserting "for fiscal year 1992 or fiscal year 1993" after "under part B";

(B) by inserting "for that fiscal year" after "for that program"; and

(C) by striking out "for fiscal year 1992" and inserting in lieu thereof "for that fiscal year".

(b) **TECHNICAL REVISIONS TO PUBLIC LAW 102-229.**—Public Law 102-229 is amended—

(1) in section 108 (105 Stat. 1708), by striking out "contained in H.R. 3807, as passed the Senate on November 25, 1991" and inserting in lieu thereof "(title II of Public Law 102-228)"; and

(2) in section 109 (105 Stat. 1708)—

(A) by striking out "H.R. 3807, as passed the Senate on November 25, 1991" and inserting in lieu thereof "Public Law 102-228 (105 Stat. 1696)"; and

(B) by striking "of H.R. 3807".

Subtitle B—Reporting Requirements

SEC. 1401. PRIOR NOTICE TO CONGRESS OF OBLIGATION OF FUNDS.

(a) **IN GENERAL.**—Not less than 15 days before obligating any funds made available for a program under this title, the President shall transmit to the Congress a report on the proposed obligation. Such report shall specify—

(1) the account, budget activity, and particular program or programs from which the funds proposed to be obligated are to be derived and the amount of the proposed obligation; and

(2) the activities and forms of assistance under this title for which the President plans to obligate such funds, including the projected involvement of United States Government departments and agencies and the United States private sector.

(b) **INDUSTRIAL DEMILITARIZATION.**—Any report under subsection (a) that covers proposed industrial demilitarization projects shall contain additional information to assist the Congress in determining the merits of the proposed projects. Such information shall include descriptions of—

(1) the facilities to be demilitarized;

(2) the types of activities conducted at those facilities and of the types of nonmilitary activities planned for those facilities;

(3) the forms of assistance to be provided by the United States Government and by the United States private sector;

(4) the extent to which military production capability will consequently be eliminated at those facilities; and

(5) the mechanisms to be established for monitoring progress on those projects.

SEC. 1402. QUARTERLY REPORTS ON PROGRAMS.

Not later than 30 days after the end of the last fiscal year quarter of fiscal year 1992 and not later than 30 days after the end of each fiscal year quarter of fiscal year 1993, the President shall transmit to the Congress a report on the activities carried out under this title. Each such report shall set forth, for the preceding fiscal year quarter and cumulatively, the following:

(1) The amounts expended for such activities and the purposes for which they were expended.

(2) The source of the funds obligated for such activities, specified by program.

(3) A description of the participation of all United States Government departments and agencies and the United States private sector in such activities.

(4) A description of the activities carried out under this title and the forms of assistance provided under this title, including, with respect to proposed industrial demilitarization projects, additional information on the progress toward demilitarization of facilities and the conversion of the demilitarized facilities to civilian activities.

(5) Such other information as the President considers appropriate to fully inform the Congress concerning the operation of the programs authorized under this title.

Subtitle E—Joint Research and Development Programs

SEC. 1411. PROGRAMS WITH STATES OF FORMER SOVIET UNION.

The Congress encourages the Secretary of Defense to participate actively in joint research and development programs with the independent states of the former Soviet Union through the non-governmental foundation established for this purpose by section 511 of the FREEDOM Support Act of 1992. To that end, the Secretary of Defense may spend those funds authorized in section 1421(a)(1)(C) for support, technical cooperation, in-kind assistance, and other activities with the following purposes:

(1) To advance defense conversion by funding civilian collaborative research and development projects between scientists and engineers in the United States and in the independent states of the former Soviet Union.

(2) To assist the establishment of a market economy in the independent states of the former

Soviet Union by promoting, identifying, and partially funding joint research, development, and demonstration ventures between United States businesses and scientists, engineers, and entrepreneurs in those independent states.

(3) To provide a mechanism for scientists, engineers, and entrepreneurs in the independent states of the former Soviet Union to develop an understanding of commercial business practices by establishing linkages to United States scientists, engineers, and businesses.

(4) To provide access for United States businesses to sophisticated new technologies, talented researchers, and potential new markets within the independent states of the former Soviet Union.

(5) To provide productive research and development opportunities within the independent states of the former Soviet Union that offer scientists and engineers alternatives to emigration and help prevent proliferation of weapons technologies and the dissolution of the technological infrastructure of those states.

TITLE XV—NONPROLIFERATION

SEC. 1801. SHORT TITLE.

This title may be cited as the "Weapons of Mass Destruction Control Act of 1992".

SEC. 1802. SENSE OF CONGRESS.

It is the sense of the Congress that—

(1) the proliferation (A) of nuclear, biological, and chemical weapons (hereinafter in this title referred to as "weapons of mass destruction") and related technology and knowledge and (B) of missile delivery systems remains one of the most serious threats to international peace and the national security of the United States in the post-cold war era;

(2) the proliferation of nuclear weapons, given the extraordinary lethality of those weapons, is of particularly serious concern;

(3) the nonproliferation policy of the United States should continue to seek to limit both the supply of and demand for weapons of mass destruction and to reduce the existing threat from proliferation of such weapons;

(4) substantial funding of nonproliferation activities by the United States is essential to controlling the proliferation of all weapons of destruction, especially nuclear weapons and missile delivery systems;

(5) the President's nonproliferation policy statement of June 1992, and his September 10, 1992, initiative to increase funding for nonproliferation activities in the Department of Energy are praiseworthy;

(6) the Congress is committed to cooperate with the President in carrying out an effective policy designed to control the proliferation of weapons of mass destruction;

(7) the President should identify a full range of appropriate, high priority nonproliferation activities that can be undertaken by the United States and should include requests for full funding for those activities in the budget submission for fiscal year 1994;

(8) the Department of Defense and the Department of Energy have unique expertise that can further enhance the effectiveness of international nonproliferation activities;

(9) under the guidance of the President, the Secretary of Defense and the Secretary of Energy should continue to actively assist in United States nonproliferation activities and in facilitating and executing United States nonproliferation policy, emphasizing activities such as improved capabilities (A) to detect and monitor proliferation, (B) to respond to terrorism, theft, and accidents involving weapons of mass destruction, and (C) to assist with interdiction and destruction of weapons of mass destruction and related weapons material; and

(10) in a manner consistent with United States nonproliferation policy, the Department of Defense and the Department of Energy should continue to maintain and to improve their capabilities to identify, monitor, and respond to proliferation of weapons of mass destruction and missile delivery systems.

MAKING APPROPRIATIONS FOR THE DEPARTMENT OF
DEFENSE FOR THE FISCAL YEAR ENDING SEPTEMBER
30, 1993, AND FOR OTHER PURPOSES

OCTOBER 5, 1992.—Ordered to be printed

Mr. MURTHA, from the committee of conference,
submitted the following

CONFERENCE REPORT

Bill language p. 27
Rept language p. 171

[To accompany H.R. 5504]

The committee of conference on the disagreeing votes of the two Houses on the amendments of the Senate to the bill (H.R. 5504) making appropriations for the Department of Defense for the fiscal year ending September 30, 1993, and for other purposes, having met, after full and free conference, have agreed to recommend and do recommend to their respective Houses as follows:

That the Senate recede from its amendments numbered 39, 45, 65, 68, 70, 88, 89, 97, 99, 101, 104, 106, 107, 108, 120, 121, 124, 127, 139, 143, 148, 154, 161, 167, 168, 169, 173, 176, 181, 185, 187, 189, 197, 199, 203, 207, 210, 211, 213, 216, 219, 220, 222, 229, 233, 234, 235, 238, 242, 245, 247, 252, 253, 255, 261, 279, 280, 282, 283, 285, 289, and 291.

That the House recede from its disagreement to the amendments of the Senate numbered 11, 13, 14, 15, 16, 17, 20, 22, 23, 24, 29, 30, 36, 42, 44, 47, 49, 50, 54, 58, 62, 64, 66, 71, 72, 73, 76, 78, 79, 83, 87, 90, 92, 100, 102, 109, 110, 113, 116, 118, 126, 129, 131, 136, 138, 140, 142, 144, 146, 150, 151, 152, 155, 157, 158, 159, 160, 162, 163, 164, 171, 172, 175, 183, 184, 191, 192, 195, 201, 202, 214, 215, 226, 231, 237, 239, 241, 244, 246, 248, 251, 254, 257, 258, 259, 260, 262, 264, 265, 266, 270, 271, 272, and 273, and agree to the same.

Amendment numbered 1:

That the House recede from its disagreement to the amendment of the Senate numbered 1, and agree to the same with an amendment, as follows:

In lieu of the sum proposed by said amendment insert: \$23,238,457,000; and the Senate agree to the same.

Amendment numbered 2:

59-658

as are appropriate to provide for an effective and efficient cleanup consistent with the public interest.

Provided that:

(1) the purchaser agrees (i) to manage the cleanup in accordance with plans and specifications approved by the Department of Defense, and (ii) to continue to perform its management obligations in the event it terminates and withdraws from the sale under the Agreement and Modification; and,

(2) payments made pursuant to this section shall be within the funds made available for the cleanup under this, any prior, and any future appropriations Act, but shall not exceed the Department of Defense's estimate of the cost it would have incurred in accomplishing the same work (as such estimates may be adjusted to reflect changed circumstances).

(h) The Department of Defense shall not make any payment to the purchaser for the costs of the cleanup under any such amendment unless and until the Department of Defense has certified that the cleanup, or any portion of the work associated with the cleanup, for which the purchaser requests payment is in accordance with the approved plans.

(i) Nothing in this section shall be deemed to diminish the U.S. Government's liability with respect to the landfill contamination.

And the Senate agree to the same.

Amendment numbered 228:

That the House recede from its disagreement to the amendment of the Senate numbered 228, and agree to the same with an amendment, as follows:

In lieu of the matter inserted by said amendment insert:

Sec. 9099A. Section 112(e)(1) of title 32, United States Code, is amended by inserting "(or during fiscal year 1993 otherwise implementing)" immediately after "administering".

And the Senate agree to the same.

Amendment numbered 230:

That the House recede from its disagreement to the amendment of the Senate numbered 230, and agree to the same with an amendment, as follows:

In lieu of the section number named in said amendment insert: 9101A and immediately preceding "SEC." named in said amendment insert the following center head: (TRANSFER OF FUNDS); and the Senate agree to the same.

Amendment numbered 232:

That the House recede from its disagreement to the amendment of the Senate numbered 232, and agree to the same with an amendment, as follows:

After the words "provided to Congress." named in said amendment insert the following new subsection (d):

(d) The requirements contained in subsections (a) through (c), above, shall not apply to LIMDIS programs, projects, sub-projects, or activities within the National Foreign Intelligence Program

And the Senate agree to the same.

Amendment numbered 236:

That the House recede from its disagreement to the amendment of the Senate numbered 236, and agree to the same with an amendment, as follows:

In lieu of the section number named in said amendment insert: 9109; and the Senate agree to the same.

Amendment numbered 240:

That the House recede from its disagreement to the amendment of the Senate numbered 240, and agree to the same with an amendment, as follows:

In lieu of the matter inserted by said amendment insert:

(TRANSFER OF FUNDS)

Sec. 9110. (a) The Secretary of Defense may transfer to appropriate appropriation accounts for the Department of Defense, out of funds appropriated to the Department of Defense for fiscal year 1993, up to \$400,000,000 to be available for the purposes authorized in the Former Soviet Union Demilitarization Act of 1992: Provided, That amounts so transferred shall be in addition to amounts transferred pursuant to the authority provided in section 108 of Public Law 102-229 (105 Stat. 1708).

(b) Of the funds transferred pursuant to subsection (a):

(1) not less than \$10,000,000 shall be available only for the study, assessment, and identification of nuclear waste disposal by the former Soviet Union in the Arctic region;

(2) not less than \$25,000,000 shall be available only for project PEACE;

(3) not more than \$50,000,000 may be made available for the Multilateral Nuclear Safety Initiative announced in Lisbon, Portugal on May 23, 1992;

(4) not more than \$40,000,000 may be made available for demilitarization of defense industries;

(5) not more than \$15,000,000 may be made available for military-to-military contacts;

(6) not more than \$25,000,000 may be made available for joint research and development programs; and

(7) not more than \$10,000,000 may be made available for the Volunteers Investing in Peace and Security (VIPS) program.

(c) The Secretary of Defense may transfer from amounts appropriated to the Department of Defense for fiscal year 1993 or from balances in working capital funds not to exceed \$15,000,000 to the appropriate accounts within the Department of Defense for the purposes authorized in section 109 of Public Law 102-229.

(d) The authority provided in sections 108 and 109 of Public Law 102-229 (105 Stat. 1708) to transfer amounts appropriated for fiscal year 1992 shall continue to be in effect during fiscal year 1993.

(e) The Secretary of Defense may transfer to appropriate appropriation accounts for the Department of Defense, out of funds available to the Department of Defense for fiscal year 1993, up to \$40,000,000 to be available for international nonproliferation activities authorized in the Weapons of Mass Destruction Control Act of 1992: Provided, That such transfer authority shall not be available for payments either to the "Contributions to International Organizations" account of the Department of State or to activities carried out by the International Atomic Energy Agency which have traditionally been the responsibilities of the Departments of State or Energy:

Amendment No. 225: Restores and amends House language providing Secretarial waiver authority.

Amendment No. 226: Inserts Senate language which changes the certifying authority for successful bids resulting from Navy ship repair and maintenance competition.

Amendment No. 227: Restores and amends House language which provides for the cleanup of uncontrolled hazardous waste contamination affecting the Sale Parcel at Hamilton Air Force Base, in Novato, California.

Amendment No. 228: Inserts and amends Senate language which makes technical changes to Active Guard and Reserve and Drug Interdiction language; and changes section number to 9099A.

Amendment No. 229: Restores House language which allows the Department to transfer funds from the Defense Business Operations Fund for energy conservation improvement projects under the Department of Defense Energy Conservation Improvement Program.

Amendment No. 230: Inserts and amends Senate language which adds a heading and allows transfer of funds from the Defense Business Operations Fund to the Services and Defense Agencies operation and maintenance appropriations, and changes section number.

Amendment No. 231: Deletes House language which provided authority to transfer funds from the National Defense Stockpile Transactions Fund to Environmental Restoration, Defense.

Amendment No. 232: Inserts and amends Senate language concerning "limited dissemination" programs to specify that the restriction does not apply to National Foreign Intelligence Programs, and amends section number.

Amendment No. 233: Restores House language which allows the Department of Defense to use revenues from transfers or disposals of real property and from leases of real property for environmental restoration and facility maintenance repair at military installations.

Amendment No. 234: Deletes Senate language which raises item purchase threshold from \$15,000 to \$25,000 for each item.

Amendment No. 235: Restores House language which prohibits funds to award a contract for procurement of four-ton dolly jacks if manufactured outside the United States unless waived for specific reasons by a Service secretary.

Amendment No. 236: Inserts Senate language which makes available to the Air Force, instead of the United States Treasury general fund, funds paid to the United States by the NATO allies for participation in the AWACS Radar System Improvement Program, and amends the section number.

Amendment No. 237: Deletes House language which provided up to \$650,000,000 in transfer authority for the Nuclear Threat Reduction Act of 1992. The conferees agree to provide similar authority in section 9110 as a part of amendment 240.

Amendment No. 238: Deletes Senate language which would have prohibited the use of funds for F-16 aircraft until the Secretary of the Air Force has complied with earlier Congressional guidance regarding equipping Air National Guard units.

Amendment No. 239: Deletes House language which provided up to \$115,000,000 in transfer authority for humanitarian aid to the countries of the former Soviet Union. The conferees agree to provide similar authority in section 9110 as a part of amendment 240.

Amendment No. 240: Inserts and amends Senate language contained in section 9110 which provided additional transfer authority for the Former Soviet Union Demilitarization Act of 1992.

The House included sections 9109 (amendment number 237) and 9110 (amendment number 239) which provided transfer authority across fiscal years 1992 and 1993 for up to \$650,000,000 for the Nuclear Threat Reduction Act of 1992 and up to \$115,000,000 for humanitarian aid to the countries of the former Soviet Union.

The Senate included section 9110 which provided fiscal year 1993 transfer authority of up to \$400,000,000 for the Former Soviet Union Demilitarization Act of 1992 and extended into fiscal year 1993 the fiscal year 1992 transfer authorities contained in sections 108 (nuclear threat reduction) and 109 (humanitarian aid) of Public Law 102-229 totalling up to \$400,000,000 and \$100,000,000, respectively.

The conferees agree to include section 9110 which provides: (a) The conferees agree to include section 9110 which provides: (a) fiscal year 1993 authority to transfer up to \$400,000,000 for the Former Soviet Union Demilitarization Act of 1992, including not less than \$10,000,000 for former Soviet nuclear waste in the Arctic region, not less than \$25,000,000 for Project PEACE, not more than \$50,000,000 for the Multilateral Nuclear Safety Initiative, not more than \$40,000,000 for demilitarization of defense industries, not more than \$15,000,000 for military-to-military contacts, not more than \$25,000,000 for joint research and development programs, and not more than \$10,000,000 for the Volunteers Investing in Peace and Security program; (b) fiscal year 1993 authority to transfer up to \$15,000,000 for humanitarian aid; (c) an extension through fiscal year 1993 of the transfer authorities contained in sections 108 and 109 of Public Law 102-229; and (d) fiscal year 1993 authority to transfer up to \$40,000,000 for the Weapons of Mass Destruction Control Act of 1992, including up to \$20,000,000 for the On-Site Inspection Agency, but excluding payments to either Contributions to International Organizations or other costs which have traditionally been the funding responsibility of either the Department of State or the Department of Energy.

The conferees agree to the directive language contained in Senate report 102-408 concerning reporting requirements and the availability of no less than \$10,000,000 concerning nuclear dumping and weapons disposal in the Arctic region by the former Soviet Union or successor states.

The conferees agree to make available from funds appropriated to the Department of Defense not less than \$25,000,000 to establish and support the purposes of Project PEACE within the amount provided in this Act and pursuant to language provided in Senate report 102-408. The conferees expect that these funds will be transferred to Project PEACE no later than 60 days following the enactment of this Act.

The conferees urge the Secretary of Defense to vigorously support the defense conversion efforts now underway in Eastern

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF SCIENCE AND TECHNOLOGY POLICY
NATIONAL SECURITY AFFAIRS
572 OLD EXECUTIVE OFFICE BUILDING
WASHINGTON, DC 20506

DATE: 3/30/93 NO. OF PAGES (INCLUDING COVER SHEET): 3

TO: Ash Carter
OSD

PHONE NUMBER: _____

FAX NUMBER: 703-693-9146

FROM: JOHN O'NEIL
OFFICE OF SCIENCE AND TECHNOLOGY POLICY
EXECUTIVE OFFICE OF THE PRESIDENT

PHONE NUMBER: 202-395-3272 OR 7326

FAX NUMBER: 202-395-1572

SPECIAL INSTRUCTIONS:

Ash,
As Tom Ratchford promised.
I am working w/ Dana Marshall to try to
resolve. Please contact us if you have any
thoughts on the issue. John O'Neil



Bureau of European and
Canadian Affairs

OFFICE OF INDEPENDENT STATES AND
COMMONWEALTH AFFAIRS (EUR/ISCA)

FAX COVER SHEET

RETURN FAX NO. (202) 647-3506

DATE:

3-25-93

TO:

Dana Marshall

FAX NO.

395-6042

FROM:

EUR/ISCA/^{AST} Alison Barkley

SUBJECT:

Civilian Research &
Development Foundation

REMARKS:

per our telephone
conversation. My direct phone
is 647-6770.

Thanks a lot - we've been trying to
focus attention on this for a long time.

NUMBER OF PAGES FOLLOW:

1

March 25, 1993

UNCLASSIFIED

MEMORANDUM FOR: Dana Marshall, Office of the Vice President
FROM: EUR/ISCA/CAST - CABarkley
SUBJECT: Civilian Research & Development Foundation

We have dropped the ball in summit preparations on Russian science and technology. Nothing has been done. Yet, US national security would be increased if we could demilitarize the work of the more than 3 million Russian scientists and engineers. Putting Russian scientific talent into the development of civilian technology would help to revive economic growth in that country. U.S. competitiveness also may be spurred through our exposure to novel Russian approaches to solving technology problems.

In a non-paper to Secretary Christopher in Geneva, Foreign Minister Kozyrev made several suggestions on how the US and Russia should work together in science and technology. One proposal was for the U.S. to establish the Civil R and D Foundation that was authorized in the Freedom Support Act. Funding of up to \$25 million was appropriated in the Defense Budget for 1993. In a non-paper of March 19, Ambassador Lukin calls for the announcement at the summit of a joint R and D Foundation.

Bureaucrats and lawyers in the Department of Defense continue to oppose the idea even though Secretary Aspin was a co-sponsor of this idea as a Congressman. Vice President Gore was also a co-sponsor. DOD claims that Nunn-Lugar funds cannot be spent on non-weapons related scientists. State lawyers maintain that the FREEDOM Support Act legislative language can be, and indeed was meant to be, interpreted more broadly.

We have heard repeated complaints from the Russian side that the U.S. has not followed through for help in creating a civilian science sector in Russia. Without that sector, Russian military scientists have nowhere to go but abroad to practice their professions. The ISTC was a good idea, but has been a real disappointment. Russian parliamentary ratification is by no means assured, and meanwhile we have scientific proposals gathering dust.

The Civilian R&D Foundation could be up and running very quickly because it does not require an intergovernmental agreement or Russian parliamentary approval. The Foundation would be an important step toward developing a Russian civilian science sector that responds to societal needs and promotes economic development. It is intended as a flexible, non-governmental initiative that can be managed from Washington rather than Moscow.

UNCLASSIFIED

DISCUSSION PAPER ON ESTABLISHING SCIENCE AND TECHNOLOGY FOUNDATION FOR FSU

ISSUE:

What should be the form of organization of the non-profit, non-governmental, foundation authorized by the Freedom Support Act to support science and technology cooperation in the republics of the Former Soviet Union (FSU)? Specifically, what should be the legal form of the Foundation, and what type of people can serve as members of the Board of Directors?

BACKGROUND:

Legislation signed October 24, 1992 requested the Director of NSF in consultation with the Director of NIST to establish an endowed, non-governmental foundation to support scientific and industrial research in the FSU. The Act authorized endowing the foundation with \$25 million from DOD funds. The Committee Report spoke of establishing a Board of Directors representative of the industrial and academic sectors. The Committee also said to use as models the bi-national foundations already established between Israel and the US (BIRD for industrial technology, BSF for basic research, and BARD for agricultural research).

The legislation and supplementary discussions indicate there are several important goals of this assistance effort- 1) to maintain the science and technological capabilities of FSU institutions, 2) to move quickly in the face of immediate critical conditions in the FSU, 3) to initiate cooperation with US institutions and scientists/engineers as a way to establish and leverage continuing assistance, as well as benefit the US, and 4) to reinforce FSU activities to reform their political and economic structure. It is an economic necessity that these support activities must be funded almost completely by the US (with token FSU contributions where possible).

DISCUSSION:

The following questions must be addressed early in implementation planning.

1. How should the foundation be legally created?

The US-Israel foundations were created through government-to-government agreements, and equal financial contributions to the endowment. Such action for the FSU foundation would have the advantage of ensuring FSU republics obligations, such as tax exemptions, but would have the disadvantages of a lengthy negotiation/approval process and being complicated by the incorporation of the many FSU Republics. Alternatively, it is possible, perhaps as an initial step, to establish a non-profit foundation under US laws to receive the funds and undertake initial programs to support FSU-US joint basic and industrial research.

2. How should supervision and accountability of the US public funds being expended be assured?

Because US taxpayer funds are being used to support these activities, an oversight responsibility for proper use must be fulfilled in the name of the US, and possibly the DOD. Once funds are transferred to a non-governmental institution, the Board of Directors of that institution have the control and responsibility for the funds, but they also can be invested to earn interest for the benefit of the foundation programs.

3. What is meant by the legislative designation of a "non-governmental" foundation?

This is not defined by the legislation or committee report. Based upon the referenced model of the US-Israel foundations, it can be inferred that transfer of the government funds should go to a separately authorized entity outside any agency of either government. Carrying out the intended activities would then be the responsibility of that entity, subject to policies its Directors establish, and using employees it hires.

Understanding the motivation for specifying a non-governmental form of organization is important. Presumably it was to achieve a flexibility and efficiency of implementation that often are not possible within a governmental agency. The safe, but very involved, governmental procedures for hiring staff, making funding decisions, issuing contracts/grants, and actually transferring money do not lend themselves to rapid action or creative reaction to the uncertain and evolving situation in the various republics in the FSU. Another motivation was to allow, or require, active participation of the user community, i.e., the industrial, academic, or governmental laboratories that would be the cooperating technical organizations.

The best legal status to use for a foundation is compounded by the highly uncertain legal and economic situation in Russia (and even more so in the other republics). To establish a private foundation in Russia at present would be a new, and daunting task. Moreover, the contract, banking, auditing, tax, and currency exchange systems on which bilateral business relationships are based are not yet in place in any FSU Republic.

4. Can or should officials or employees of the US Government be members of the foundation Board of Directors?

This is a complex question subject to varying interpretations within the US Government. It can be argued that some Government officials (ex-officio) should be on the Board in order to provide for stewardship of the US public funds. The precedent of the existing US-Israel foundations provides an affirmative answer. Using BIRD as an example, there are three US members (from State Dept., Treasury Dept. and NIST), plus three members from similar Israeli Government Ministries. That Board establishes policies, hires an Executive Director, and gives final approval to grants. In general, Government members also do not have conflict of interest on use of funds. In contrast, industrial or academic members would have a conflict of interest if organizations they represent applied for a research grant.

There are also examples of Government officials serving as members of the Board of Directors of non-profit professional or trade associations. The Director of NIST, for example, has served on the Board of the American National Standards Institute (ANSI) for over thirty years. Government officials, along with private individuals, serve as members of the Board of the US-Joint Fund established to fund cooperative research projects between Poland and the US.

These precedents lead to a conclusion that US officials on the Board are not precluded, and may in fact be valuable, and that attention must be given to conflict of interest concerns in designing the foundation and procedures for awarding grants.

5. Does the combination of basic and industrial research in one foundation introduce difficulties?

The combination of basic and industrial research activities results from the combination of two previously separate bills into one in the legislative process in Congress. The Committee Reports describe the expectation that available funds will be equally split between these goals/programs. The experience of Israel does not help since separate foundations were created from the beginning. Clearly there will have to be different criteria for evaluation, different cost/staff sharing arrangements, intellectual property agreements, different target organizations on both sides, and different expertise involved. In essence, it will have to operate as two different support programs under the control of one foundation and Board. At the same time, the US side should use the inclusion of both basic and applied research

to educate the FSU side on the importance of effectively linking basic research results to the application in the market and economic development processes.

OPTIONS:

One option is to establish a non-governmental foundation through a bilateral international agreement, actually a series of bilateral agreements with each participating republic. This would assure commitments are enforceable. This is the route followed by the four-country International Science and Technology Center (ISTC). This organizational effort has taken about one year, and is still yet to fund any projects.

A second option is to establish a non-profit, private foundation under US law whose purpose is to support cooperative US-FSU scientific and industrial research. This option should be considered as an initial step, and could be supplanted by a revised structure when conditions allowed. Such an entity could receive and account for Government funds, and be directed by a Board that includes relevant Government officials. The advantage of this would be to enable rapid start on actual operations, with the flexibility offered by not being part of a Governmental agency. Necessary input from the FSU side, and maybe US user communities, could be provided for by establishing combined or separate advisory councils.

All the implementation options are completely dependent upon actually receiving funds for a new foundation. Moreover, the funds must come without any restrictions that would preclude the options discussed above.

DRAFT
April 23, 1993

MEMORANDUM FOR

SUBJECT: JOINT RESEARCH AND DEVELOPMENT FOUNDATION

The Freedom Support Act authorizes the Director of the National Science Foundation (NSF), in consultation with the Director of the National Institute of Standards and Technology (NIST), to establish an endowed, non-governmental foundation to support joint research and development programs between the U.S. and the republics of the former Soviet Union. This joint R&D foundation is described in section 1441 of the National Defense Authorization Act for Fiscal Year 1993, and in section 511 of the Freedom Support Act of 1992. In section 1421(C) of the National Defense Authorization Act, and section 9110(b)(6) of the Defense Appropriations Act of 1993, the Secretary of Defense is authorized to allocate up to \$25 million of the so-called Nunn-Lugar funds to NSF for this foundation. These Acts also spell out important purposes for the foundation that address defense conversion, development of market economy in the former Soviet Union, economic and technological benefits for the United States as well as the countries of the former Soviet Union, and counter-proliferation measures.

The \$25 million figure is the same as that proposed by the National Academy of Sciences report entitled, "Reorientation of the Research Capability of the Former Soviet Union." This report dealt with civil science in the FSU and was produced at the request of the Office of Science and Technology Policy. It was co-authored by Dr. Frank Press, former Science Advisor to the President and currently President of the National Academy of Sciences; Dr. Guy Stever, former Science Advisor to the President; and, Dr. Ashton Carter, Assistant Secretary of Defense-Designate. The legislation for this foundation was introduced by Congressman George Brown of California. It was co-sponsored by former Congressman Les Aspin and former Senator Albert Gore.

Legislation pertinent (extracts attached) to this Foundation was passed by Congress and signed by the President during the previous Administration, but no decision was taken. Successive efforts to resolve the issues have not succeeded apparently due to a divergence of views relative to proper usage of funds cited for the Foundation. To resolve this issue you are invited send a Principal plus one to a meeting with the Counsel, OSTP on XXXXX in Room NNN, OEOB. Please submit the Department's written interpretation of the pertinent legislation 24 hours prior to the meeting to Holly Gwin via fax (number: 202-395-1572) and provide the names and dates of birth to JoAnn Ward at 202-395-3272 for access to the OEOB.

DRAFT

DRAFT

April 23, 1993

MEMORANDUM FOR

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*Alison
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International Science and Technology Centers (ISTCs) are being formed in Moscow, Russia and Kiev, Ukraine. The purpose of these centers is to wean defense scientists from work on weapons of mass destruction. The Foundation would be the logical complement to the ISTCs and support U.S. policy objectives for S&T assistance to and

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cooperation with the FSU through the three primary missions of the Foundation:

- 1) reform of the current system through support of peer review and a less centralized approach to S&T,
- 2) strengthening of the S&T infrastructure in selected areas, such as communications and empowering scientists to benefit from individual initiative and creativity, and
- 3) facilitating U.S. private sector participation in technology and trade in the FSU, strengthening the S&T infrastructure while furthering U.S. free-market objectives.

Legislation pertinent to this Foundation was passed by Congress and signed by the President during the previous Administration, but no decision was taken. Successive efforts to resolve the issues have not succeeded apparently due to a divergence of views relative to proper usage of funds cited for the Foundation.

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This joint research and development foundation was described in sec. 1441 of the National Defense Authorization Act for Fiscal Year 1993, and in sec. 511 of the FREEDOM Support Act of 1992. In sec. 1421(C) of the National Defense Authorization Act of 1993, and sec. 9110(b)(6) of the Department of Defense Appropriations Act of 1993, the Secretary of Defense is provided with up to \$25 million that he can make available to this foundation. These Acts also spell out important purposes for the foundation that address defense conversion, development of a market economy in the former Soviet Union, economic and technological benefits for the United States as well as the countries of the former Soviet Union, and counter-proliferation measures.

CONGRESS
93rd Session

HOUSE OF REPRESENTATIVES

REPORT
102-366

NATIONAL DEFENSE AUTHORIZATION
ACT FOR FISCAL YEAR 1995

CONFERENCE REPORT

TO ACCOMPANY

H.R. 5006



Ordered to be printed

THIS IS THE "NUNN-LUGAR"
258 PROVISION

TITLE XIV—DEMILITARIZATION OF THE FORMER SOVIET UNION

Subtitle A—Short Title

SEC. 1401. SHORT TITLE.

This title may be cited as the "Former Soviet Union Demilitarization Act of 1992".

Subtitle B—Findings and Program Authority

SEC. 1411. DEMILITARIZATION OF THE INDEPENDENT STATES OF THE FORMER SOVIET UNION.

The Congress finds that it is in the national security interest of the United States—

(1) to facilitate, on a priority basis—

(A) the transportation, storage, safeguarding, and destruction of nuclear and other weapons of the independent states of the former Soviet Union, including the safe and secure storage of fissile materials, dismantlement of missiles and launchers, and the elimination of chemical and biological weapons capabilities;

(B) the prevention of proliferation of weapons of mass destruction and their components and destabilizing conventional weapons of the independent states of the former Soviet Union, and the establishment of verifiable safeguards against the proliferation of such weapons;

(C) the prevention of diversion of weapons-related scientific expertise of the former Soviet Union to terrorist groups or third countries; and

(D) other efforts designed to reduce the military threat from the former Soviet Union;

(2) to support the demilitarization of the massive defense-related industry and equipment of the independent states of the former Soviet Union and conversion of such industry and equipment to civilian purposes and uses; and

(3) to expand military-to-military contacts between the United States and the independent states of the former Soviet Union.

SEC. 1412. AUTHORITY FOR PROGRAMS TO FACILITATE DEMILITARIZATION.

(a) **IN GENERAL.**—Notwithstanding any other provision of law, the President is authorized, in accordance with this title, to establish and conduct programs described in subsection (b) to assist the demilitarization of the independent states of the former Soviet Union.

(b) **TYPES OF PROGRAMS.**—The programs referred to in subsection (a) are limited to—

(1) transporting, storing, safeguarding, and destroying nuclear, chemical, and other weapons of the independent states of the former Soviet Union, as described in section 212(b) of the Soviet Nuclear Threat Reduction Act of 1991 (title II of Public Law 102-228);

(2) establishing verifiable safeguards against the proliferation of such weapons and their components;

(3) preventing diversion of weapons-related scientific expertise of the former Soviet Union to terrorist groups or third countries;

(4) facilitating the demilitarization of the defense industries of the former Soviet Union and the conversion of military technologies and capabilities into civilian activities;

(5) establishing science and technology centers in the independent states of the former Soviet Union for the purpose of engaging weapons scientists, engineers, and other experts previously involved with nuclear, chemical, and other weapons in productive, nonmilitary undertakings; and

(6) expanding military-to-military contacts between the United States and the independent states of the former Soviet Union.

(c) UNITED STATES PARTICIPATION.—The programs described in subsection (b) should, to the extent feasible, draw upon United States technology and expertise, especially from the United States private sector.

(d) RESTRICTIONS.—United States assistance authorized by subsection (a) may not be provided unless the President certifies to the Congress, on an annual basis, that the proposed recipient country is committed to—

(1) making a substantial investment of its resources for dismantling or destroying such weapons of mass destruction, if such recipient has an obligation under a treaty or other agreement to destroy or dismantle any such weapons;

(2) forgoing any military modernization program that exceeds legitimate defense requirements and forgoing the replacement of destroyed weapons of mass destruction;

(3) forgoing any use in new nuclear weapons of fissionable or other components of destroyed nuclear weapons;

(4) facilitating United States verification of any weapons destruction carried out under this title or section 212 of the Soviet Nuclear Threat Reduction Act of 1991 (title II of Public Law 102-228);

(5) complying with all relevant arms control agreements; and

(6) observing internationally recognized human rights, including the protection of minorities.

Subtitle C—Administrative and Funding Authorities

SEC. 1412. ADMINISTRATION OF DEMILITARIZATION PROGRAMS

(a) *FUNDING.*—(1) In recognition of the direct contributions to the national security interests of the United States of the activities specified in section 1412, funds transferred under sections 108 and 109 of Public Law 102-229 (105 Stat. 1708) are authorized to be made available to carry out this title. Of the amount available to carry out this title—

(A) not more than \$40,000,000 may be made available for programs referred to in section 1412(b)(4) relating to demilitarization of defense industries;

(B) not more than \$15,000,000 may be made available for programs referred to in section 1412(b)(6) relating to military-to-military contacts;

(C) not more than \$25,000,000 may be made available for joint research development programs pursuant to section 1441;

(D) not more than \$10,000,000 may be made available for the study, assessment, and identification of nuclear waste disposal activities by the former Soviet Union in the Arctic region;

(E) not more than \$25,000,000 may be made available for Project PEACE; and

(F) not more than \$10,000,000 may be made available for the Volunteers Investing in Peace and Security (VIPS) program under chapter 89 of title 10, United States Code, as added by section 1322.

(2) Section 221(a) of the Soviet Nuclear Threat Reduction Act of 1991 (title II of Public Law 102-228; 105 Stat. 1695) is amended—

(A) by striking out "fiscal year 1992" and inserting "fiscal years 1992 and 1993"; and

(B) by striking out "\$100,000,000" and inserting in lieu thereof "\$800,000,000".

(3) Section 221(e) of such Act is amended—

(A) by inserting "for fiscal year 1992 or fiscal year 1993" after "under part B";

(B) by inserting "for that fiscal year" after "for that program"; and

(C) by striking out "for fiscal year 1992" and inserting in lieu thereof "for that fiscal year".

(b) TECHNICAL REVISIONS TO PUBLIC LAW 102-229.—Public Law 102-229 is amended—

(1) in section 108 (105 Stat. 1708), by striking out "contained in H.R. 3807, as passed the Senate on November 25, 1991" and inserting in lieu thereof "(title II of Public Law 102-228)"; and

(2) in section 109 (105 Stat. 1708)—

(A) by striking out "H.R. 3807, as passed the Senate on November 25, 1991" and inserting in lieu thereof "Public Law 102-228 (105 Stat. 1696)"; and

(B) by striking "of H.R. 3807".

Subtitle D—Reporting Requirements

SEC. 1431. PRIOR NOTICE TO CONGRESS OF OBLIGATION OF FUNDS.

(a) IN GENERAL.—Not less than 15 days before obligating any funds made available for a program under this title, the President shall transmit to the Congress a report on the proposed obligation. Each such report shall specify—

(1) the account, budget activity, and particular program or programs from which the funds proposed to be obligated are to be derived and the amount of the proposed obligation; and

(2) the activities and forms of assistance under this title for which the President plans to obligate such funds, including the projected involvement of United States Government departments and agencies and the United States private sector.

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(b) **INDUSTRIAL DEMILITARIZATION.**—Any report under subsection (a) that covers proposed industrial demilitarization projects shall contain additional information to assist the Congress in determining the merits of the proposed projects. Such information shall include descriptions of—

- (1) the facilities to be demilitarized;
- (2) the types of activities conducted at those facilities and of the types of nonmilitary activities planned for those facilities;
- (3) the forms of assistance to be provided by the United States Government and by the United States private sector;
- (4) the extent to which military production capability will consequently be eliminated at those facilities; and
- (5) the mechanisms to be established for monitoring progress on those projects.

SEC. 1432. QUARTERLY REPORTS ON PROGRAMS.

Not later than 30 days after the end of the last fiscal year quarter of fiscal year 1992 and not later than 30 days after the end of each fiscal year quarter of fiscal year 1993, the President shall transmit to the Congress a report on the activities carried out under this title. Each such report shall set forth, for the preceding fiscal year quarter and cumulatively, the following:

- (1) The amounts expended for such activities and the purposes for which they were expended.
- (2) The source of the funds obligated for such activities, specified by program.
- (3) A description of the participation of all United States Government departments and agencies and the United States private sector in such activities.
- (4) A description of the activities carried out under this title and the forms of assistance provided under this title, including, with respect to proposed industrial demilitarization projects, additional information on the progress toward demilitarization of facilities and the conversion of the demilitarized facilities to civilian activities.
- (5) Such other information as the President considers appropriate to fully inform the Congress concerning the operation of the programs authorized under this title.

Subtitle E—Joint Research and Development Programs

SEC. 1441. PROGRAMS WITH STATES OF FORMER SOVIET UNION.

The Congress encourages the Secretary of Defense to participate actively in joint research and development programs with the independent states of the former Soviet Union through the nongovernmental foundation established for this purpose by section 511 of the FREEDOM Support Act of 1992. To that end, the Secretary of Defense may spend those funds authorized in section 1421(a)(1)(C) for support, technical cooperation, in-kind assistance, and other activities with the following purposes:

- (1) To advance defense conversion by funding civilian collaborative research and development projects between scientists and engineers in the United States and in the independent states of the former Soviet Union.

(2) To assist the establishment of a market economy in the independent states of the former Soviet Union by promoting identifying, and partially funding joint research, development, and demonstration ventures between United States businesses and scientists, engineers, and entrepreneurs in those independent states.

(3) To provide a mechanism for scientists, engineers, and entrepreneurs in the independent states of the former Soviet Union to develop an understanding of commercial business practices by establishing linkages to United States scientists, engineers, and businesses.

(4) To provide access for United States businesses to sophisticated new technologies, talented researchers, and potential new markets within the independent states of the former Soviet Union.

(5) To provide productive research and development opportunities within the independent states of the former Soviet Union that offer scientists and engineers alternatives to emigration and help prevent proliferation of weapons technologies and the dissolution of the technological infrastructure of those states.

TITLE XV—NONPROLIFERATION

SEC. 1501. SHORT TITLE.

This title may be cited as the "Weapons of Mass Destruction Control Act of 1992".

SEC. 1502. SENSE OF CONGRESS.

It is the sense of the Congress that—

(1) the proliferation (A) of nuclear, biological, and chemical weapons (hereinafter in this title referred to as "weapons of mass destruction") and related technology and knowledge and (B) of missile delivery systems remains one of the most serious threats to international peace and the national security of the United States in the post-cold war era;

(2) the proliferation of nuclear weapons, given the extraordinary lethality of those weapons, is of particularly serious concern;

(3) the nonproliferation policy of the United States should continue to seek to limit both the supply of and demand for weapons of mass destruction and to reduce the existing threat from proliferation of such weapons;

(4) substantial funding of nonproliferation activities by the United States is essential to controlling the proliferation of all weapons of mass destruction, especially nuclear weapons and missile delivery systems;

(5) the President's nonproliferation policy statement of June 1992, and his September 10, 1992, initiative to increase funding for nonproliferation activities in the Department of Energy are praiseworthy;

(6) the Congress is committed to cooperating with the President in carrying out an effective policy designed to control the proliferation of weapons of mass destruction;

(7) the President, high priority taken by the United States in funding for the year 1994;

(8) the Department of Energy have undertaken effective measures of international cooperation;

(9) under the President's policy and the assistance in United States relating and emphasizing activities and monitor and accidents assist with international construction and

(10) in a generation policy, of Energy should capabilities to international weapons of mass

SEC. 1503. REPORT.

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PUBLIC LAW 102-396—OCT. 6, 1992

**DEPARTMENT OF DEFENSE
APPROPRIATIONS ACT, 1993**



2667(d)(1)(B), to be merged with and to be available for the same time period and the same purposes as the appropriation to which transferred.

SEC. 9108. None of the funds available to the Department of Defense in this Act may be used to award a contract for the procurement of four-ton dolly jacks if such equipment is or would be manufactured outside the United States of America and would be procured under any contract, agreement, arrangement, compact or other such instrument for which provisions including price differential provisions of the Buy American Act of 1933, as amended, or any other Federal buy national law was waived: *Provided*, That the Secretary of the military department responsible for such procurement may waive this restriction on a case-by-case basis by certifying in writing to the Committees on Appropriations of the House of Representatives and the Senate that adequate domestic supplies are not available to meet Department of Defense requirements on a timely basis and that such an acquisition must be made in order to acquire capability for national security purposes.

SEC. 9109. Notwithstanding any other provision of law, reimbursements received from the North Atlantic Treaty Organization for the E-3 Airborne Warning and Control System (AWACS) Radar System Improvement Program (RSIP) attributable to development work for fiscal years 1987 through 1992 shall be available to the Air Force until September 30, 1994, for meeting that service's financial commitments for the AWACS RSIP.

(TRANSFER OF FUNDS)

SEC. 9110. (a) The Secretary of Defense may transfer to appropriate appropriation accounts for the Department of Defense, out of funds appropriated to the Department of Defense for fiscal year 1993, up to \$400,000,000 to be available for the purposes authorized in the Former Soviet Union Demilitarization Act of 1992: *Provided*, That amounts so transferred shall be in addition to amounts transferred pursuant to the authority provided in section 108 of Public Law 102-229 (105 Stat. 1708).

(b) Of the funds transferred pursuant to subsection (a):

(1) not less than \$10,000,000 shall be available only for the study, assessment, and identification of nuclear waste disposal by the former Soviet Union in the Arctic region;

(2) not less than \$25,000,000 shall be available only for Project PEACE;

(3) not more than \$50,000,000 may be made available for the Multilateral Nuclear Safety Initiative announced in Lisbon, Portugal on May 23, 1992;

(4) not more than \$40,000,000 may be made available for demilitarization of defense industries;

(5) not more than \$15,000,000 may be made available for military-to-military contacts;

(6) not more than \$25,000,000 may be made available for joint research and development programs; and

(7) not more than \$10,000,000 may be made available for the Volunteers Investing in Peace and Security (VIPS) program.

(c) The Secretary of Defense may transfer from amounts appropriated to the Department of Defense for fiscal year 1993 or from balances in working capital funds not to exceed \$15,000,000 to

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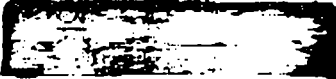
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PUBLIC LAW 102-511—OCT. 21, 1992

**FREEDOM FOR RUSSIA AND EMERGING
EURASIAN DEMOCRACIES AND OPEN
MARKETS SUPPORT ACT OF 1992
(FREEDOM SUPPORT ACT)**

PUBLIC LAW 102-511—OCT. 24, 1992

106 STAT. 3345

(1) a cost-benefit analysis comparing (A) the relative merits of the indefinite storage and safeguarding of such materials in the independent states of the former Soviet Union and (B) its acquisition by the United States by purchase, barter, or other means;

(2) a discussion of relevant issues such as the protection of United States uranium producers from dumping, the relative vulnerability of these stocks of special nuclear materials to illegal proliferation, and the potential electrical and other savings associated with their being made available in the fuel cycle in the United States; and

(3) a discussion of how highly enriched uranium stocks could be diluted for reactor fuel.

SEC. 511. RESEARCH AND DEVELOPMENT FOUNDATION.

22 USC 5861.

(a) **ESTABLISHMENT.**—The Director of the National Science Foundation (hereinafter in this section referred to as the "Director") is authorized to establish an endowed, nongovernmental, nonprofit foundation (hereinafter in this section referred to as the "Foundation") in consultation with the Director of the National Institute of Standards and Technology.

(b) **PURPOSES.**—The purposes of the Foundation shall be the following:

(1) To provide productive research and development opportunities within the independent states of the former Soviet Union that offer scientists and engineers alternatives to emigration and help prevent the dissolution of the technological infrastructure of the independent states.

(2) To advance defense conversion by funding civilian collaborative research and development projects between scientists and engineers in the United States and in the independent states of the former Soviet Union.

(3) To assist in the establishment of a market economy in the independent states of the former Soviet Union by promoting, identifying, and partially funding joint research, development, and demonstration ventures between United States businesses and scientists, engineers, and entrepreneurs in those independent states.

(4) To provide a mechanism for scientists, engineers, and entrepreneurs in the independent states of the former Soviet Union to develop an understanding of commercial business practices by establishing linkages to United States scientists, engineers, and businesses.

(5) To provide access for United States businesses to sophisticated new technologies, talented researchers, and potential new markets within the independent states of the former Soviet Union.

(c) **FUNCTIONS.**—In carrying out its purposes, the Foundation shall—

(1) promote and support joint research and development projects for peaceful purposes between scientists and engineers in the United States and independent states of the former Soviet Union on subjects of mutual interest; and

(2) seek to establish joint nondefense industrial research, development, and demonstration activities through private sector linkages which may involve participation by scientists and

106 STAT 3346

PUBLIC LAW 102-511—OCT. 24, 1992

engineers in the university or academic sectors, and which shall include some contribution from industrial participants.

(d) FUNDING.—

(1) USE OF CERTAIN DEPARTMENT OF DEFENSE FUNDS.—

(A) To the extent funds appropriated to carry out subtitle F of title XIV of the National Defense Authorization Act for Fiscal Year 1993 (relating to joint research and development programs with the independent states of the former Soviet Union) are otherwise available for such purpose, such funds may be made available to the Director for use by the Director in establishing the endowment of the Foundation and otherwise carrying out this section.

(B) For each fiscal year after fiscal year 1993, not more than 50 percent of the funds made available to the Foundation by the United States Government may be funds appropriated in the national defense budget function (function 050).

(2) CONTRIBUTION TO ENDOWMENT BY PARTICIPATING INDEPENDENT STATES.—As a condition of participation in the Foundation, an independent state of the former Soviet Union must make a minimum contribution to the endowment of the Foundation, as determined by the Director, which shall reflect the ability of the independent state to make a financial contribution and its expected level of participation in the Foundation's programs.

(3) DEBT CONVERSIONS.—To the extent provided in advance by appropriations Acts, local currencies or other assets resulting from government-to-government debt conversions may be made available to the Foundation. For purposes of this paragraph, the term "debt conversion" means an agreement whereby a country's government-to-government or commercial external debt burden is exchanged by the holder for local currencies, policy commitments, other assets, or other economic activities, or for an equity interest in an enterprise theretofore owned by the debtor government.

(4) LOCAL CURRENCIES.—In addition to other uses provided by law, and subject to agreement with the foreign government, local currencies generated by United States assistance programs may be made available to the Foundation.

(5) INVESTMENT OF GOVERNMENT ASSISTANCE.—The Foundation may invest any revenue provided to it through United States Government assistance, and any interest earned on such investment may be used only for the purpose for which the assistance was provided.

(6) OTHER FUNDS FROM GOVERNMENT AND NON-GOVERNMENTAL SOURCES.—The Foundation may accept such other funds as may be provided to it by Government agencies or nongovernmental entities.

TITLE VI—SPACE TRADE AND COOPERATION

22 USC 5871.

SEC. 601. FACILITATING DISCUSSIONS REGARDING THE ACQUISITION OF SPACE HARDWARE, TECHNOLOGY, AND SERVICES FROM THE FORMER SOVIET UNION.

(a) EXPEDITED REVIEW.—Any request for a license or other approval described in subsection (c) that is submitted to any United

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John O'Neil

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF SCIENCE AND TECHNOLOGY POLICY
WASHINGTON, D.C. 20506

May 27, 1992

MEMORANDUM FOR J. THOMAS RATCHFORD

FROM: AMAR BHAT *ANB*

SUBJECT: HEARING ON H.R. 4550, AMERUS FOUNDATION FOR
RESEARCH AND DEVELOPMENT

On May 19, I attended a hearing of the Science Subcommittee, House Science, Space and Technology Committee, discussing Congressman George Brown's proposed foundation to help support scientists from the former Soviet Union. In attendance were Congressmen Boucher (D-Va.), Packard (R-Cal.), Roemer, (D-Ind.) with a brief appearance by Mr. Brown (D-Cal.). Witnesses before the Subcommittee were Dr. Frank Press, Mr. John Kiser, III, and Dr. Fred Bernthal.

In summary, none of the witnesses provided an endorsement of the AmeRus Foundation. Reasons given were that the fondation could not be set up in time to be of any help, and that the complexity of the foundation was too great.

As you know, the proposed legislation would set up a private, non-profit foundation that would sponsor collaborative research projects between scientists and engineers from the former Soviet Union and the U.S. All fields of science would be eligible for research awards. The foundation would be endowed primarily by the U.S. Government, \$50 million per year for four years. Research awards would come from the interest income only. The foundation would also be able to accept funding from other sources, including foreign governments, private donations, and debt conversions. The foundation would be established and the Board of Governors would be selected by the Director of the NSF, in consultation with the Directors of OSTP and NIST.

Dr. Frank Press's testimony dwelled on the need for support of scientists from the former Soviet Union, using material gathered from the NAS report to Dr. Bromley. He also remarked on the differences between H.R. 4550 and the foundation proposed in the NAS report, namely, a need for a dwindling endowment and additional emphasis on industrial and commercial R&D. Other salient remarks by Dr. Press included a favorable comparison of H.R. 4550 to the U.S.-Israeli binational science foundation, the need to expand the current NSF, NIH, and ONR programs that sponsor collaborative research, and a subtle hint of urgency due to recent E.C. interest, as expressed by the Miterrand proposal. A copy of his testimony is attached.

Mr. John Kiser of Kiser Research, Inc. has been involved in commercial collaborations

between U.S. and East European and Soviet companies since 1977. Mr. Kiser was quite enthusiastic about the possibilities in the former Soviet Union, citing several examples, both well-known and not so, that he has been involved in. He emphasized the need for a large component of the foundation to search out and sponsor commercial R&D ventures, much like a venture capital fund. He was also highly critical of the International Science and Technology Center because of its narrow focus upon weapons scientists and engineers. Mr. Kiser did not have a prepared statement.

Dr. Bernthal's testimony focused on what the Administration, specifically NSF, has been doing to support Russian scientists, emphasizing the quick, though limited, response of the agency in face of rapidly changing conditions. While not endorsing H.R. 4550, he did endorse the need for supporting FSU scientists, especially weapons scientists of Russia and Ukraine. He concluded by stating that a number of activities are underway that achieve the objectives of H.R. 4550. Dr. Bernthal's testimony is also attached.

Questions and opening statements by the representatives present reflected strong support for the AmeRus Foundation. Mr. Brown was disappointed with the inconsistency of various other programs supported by the U.S. Government, with the exception of the U.S.-Israeli BIRD Foundation. Mr. Boucher, chair of the Subcommittee, also emphasized BIRD as a successful model. In response to a question from Mr. Boucher, Dr. Bernthal explained that he felt that it was not useful to compare BIRD to the proposed foundation, because of the special nature of BIRD's genesis. Mr. Boucher then pressed Dr. Bernthal to explain the differences. Dr. Bernthal replied that the current situation demanded an immediate and urgent response; a newly established foundation would not be able to provide rapid help to FSU scientists. In addition, there was the danger that other countries would subsequently press for special foundations for their countries' scientists. Finally, the Administration already had programs in place that addressed the situation. Mr. Boucher then asked what the intentions of the NSF are in terms of future funding. Dr. Bernthal explained that any number of U.S.-Russian collaborations are eligible to receive awards for funding through the regular grant pool. Thus, future funding would rely on what types of proposals NSF receives. He also remarked that he felt that \$1 million in grant awards was enough at this time.

Essentially, while Mr. Boucher did not expect an endorsement from the witnesses for the proposed foundation, he wished to hear at least a statement that there was "no harm" in doing so. Dr. Bernthal refused to give this, citing that he was unconvinced of the need for the foundation and was concerned about its complexity. Mr. Kiser felt also that the foundation could not be set up in time for it to be of any help -- any help to the FSU scientists and engineers should come within six months. Dr. Press made no comment.

Attachments

cc:

Sara Bowden

John O'Neil

Pat White

OPENING STATEMENT
OF THE
HONORABLE RICK BOUCHER (D-VA)
HEARING ON H.R. 4550, THE AMERUS FOUNDATION FOR
RESEARCH AND DEVELOPMENT ACT OF 1992

MAY 19, 1992

Today, the Subcommittee on Science will examine H.R. 4550, the AmeRus Foundation for Research and Development Act of 1992. The purpose of the bill, introduced by Chairman Brown, is to establish an endowed, nongovernmental foundation to fund collaborative research and development projects between U.S. scientists and engineers, both academic and industrial, and their counterparts in the new republics of the former Soviet Union.

The end of the Cold War has precipitated a volatile combination of economic hardship, political turmoil, and ethnic divisiveness that could easily combine to ignite the entire region of Central Eurasia. Yet, in the midst of this potential danger, we have a remarkable opportunity to influence the development of a more democratic society and a market-oriented economy.

Today, the republics are faced with the imminent dissolution of their scientific and technological capacity, civilian and defense alike. Hundreds of the region's best civilian scientists have accepted appointments overseas, leaving premier research institutes in Russia, Ukraine, and other new republics without scientific leadership or meaningful research programs. At this critical moment of transition, the republics are losing the very people they need most to build a new economy.

To assist the republics in addressing this crisis, H.R. 4550 creates a nongovernmental, endowed Foundation to identify promising research and development opportunities that would benefit the United States as well as the new republics, and to fund joint projects, using interest earnings on the endowment. The Foundation's resources would be divided equally between academic and industrial R&D.

Many U.S. scientists are acquainted with the best Soviet specialists in their disciplines and know where the best research opportunities are located. The Foundation could immediately capitalize on existing knowledge and fund joint projects with scientific merit, peer reviewed by U.S. scientists.

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In addition to scientist-to-scientist contacts, the Foundation could link talented Russian or Ukrainian scientists and engineers to U.S. businesses, giving the United States access to a unique pool of expertise and to promising technologies that were developed behind the Iron Curtain. Such contacts can be highly productive. However, most businesses have neither the time nor the expertise to search for potential foreign partners, or to navigate the economic and legal uncertainties characteristic of the region at present. With relatively modest resources, the Foundation could link U.S. businesses with emerging counterparts or scientific and technological experts in the new republics. Joint research and development projects can begin the process of introducing entrepreneurs in the new republics to private sector business practices.

Judging from past experience, in a few years these programs will more than pay for themselves -- in terms of new discoveries, new technologies, new manufacturing processes. We know that truly innovative ideas seem to arise more frequently when investigators of diverse backgrounds and perspectives interact. Properly structured, the Foundation's programs would be particularly well-suited to foster this type of productive creativity.

For U.S. assistance to successfully contribute to Soviet defense conversion, the target must encompass more than the limited number of scientists, engineers and technicians who can wire together an explosive device. As a beginning, U.S. assistance must focus on those scientists and engineers most likely to emigrate, the very people needed to build the new economy. Then, mechanisms must be found to channel their creative efforts into a new private sector. And, finally, U.S. assistance should be

more than a welfare package for Russian scientists. A partnership that benefits both our nations is needed. These goals can be achieved. All of the elements are in place: only vision and will are necessary for success.

TESTIMONY OF DR. FREDERICK M. BERNTHAL
DEPUTY DIRECTOR, NATIONAL SCIENCE FOUNDATION
BEFORE THE SUBCOMMITTEE ON SCIENCE OF THE
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
U.S. HOUSE OF REPRESENTATIVES
MAY 19, 1992

Mr. Chairman, distinguished members of the Committee, I am pleased to appear before you today to discuss opportunities for cooperation between the United States and the former Soviet Union in basic research.

This hearing provides a useful opportunity to consider the current state of scientific research in the former Soviet Union and the range of responses that are being undertaken, and could be undertaken, by the United States. I want to commend you, and Chairman Brown and your colleagues, for your initiative in bringing this issue to public attention.

The Committee has already heard a great deal about the crisis of Soviet science and I do not want to dwell on the facts of the matter. I do want, however, to share with you some impressions from my own visit in St. Petersburg of just a few weeks ago because they form the backdrop of my thoughts concerning just what we can do in the current situation.

I spent two long and very intense days in St. Petersburg as the guest of Dr. Zhores Alferov, Director of the Ioffe Physico-Technical Institute and Chairman of the St.

Petersburg Department of the Russian Academy of Sciences. I had a chance to visit and have extended discussions at the Ioffe Institute, the Academy's Komarov Botanical Institute, the State Optical Institute (a former military-industrial facility), and the University of St. Petersburg. The discussions were unusually candid.

Although the problems of civilian and former military institutes vary to some extent, in general the financial situation of all these institutes was in a state of near disaster. Budgets are non-existent; funding is being received from month to month, if at all; salaries, when paid, do not remotely keep track with inflation; foreign travel is prohibitively expensive; foreign currency to buy equipment, replacement parts, and journals is non-existent; and communication overseas is extremely limited. The "brain drain" problem is real, especially as seen at the level of the institute or laboratory. Even the military institutes, which have been better equipped than their civilian counterparts, are now having serious problems because the military R&D budget has virtually disappeared. One of the endemic problems is the isolation of local researchers from the world scientific community because of lack of communication and information.

A common theme we heard from the many scientists we talked with was that the best action the NSF could take to alleviate the difficult situation is to provide support through sponsorship of cooperative research projects; this would be preferable, they emphasized, to providing salary and large-scale infrastructure support directly through their institutes. We were told time and again that they can make do in terms of their day-to-day subsistence; what they cannot do without is additional support to work as scientists, as members of the world scientific community. This is where foreign contacts,

cooperation, and channels of communication are critical.

The state of the Botanical Institute struck me as especially eloquent testimony to the nature of the problems to be confronted in Russian science. This institute houses one of the largest and most important botanical collections in the world. But the collection of more than 5 million specimens is housed in primitive and deteriorating conditions, and the physical plant, a victim of prolonged neglect, is in danger of virtual collapse and fire is a constant hazard. The total rectification of this situation is of importance to the world scientific community, but it is obviously immense in scale and beyond the scope of conventional international cooperative activities. But in these desperate circumstances, even a very modest amount of help can make the difference between the salvaging and irreparable loss of priceless scientific collections and data of great importance to our understanding, in this case, of the problems of biodiversity and environmental change.

My trip to St. Petersburg was made to assess the situation and determine what actions the NSF might take in response. It followed a great deal of discussion within the National Science Foundation and with Russian science officials and a growing sense of concern within the U.S. research community that something ought to be done. The Director, Dr. Massey, has taken a personal interest in this matter, and my visit was framed in time by two important meetings of the National Science Board, which I would like to report to you briefly.

At the February meeting of the National Science Board, a resolution was passed which encouraged the Foundation to assess the most urgent research-related needs in the

former Soviet Union and Eastern Europe and to design responses consistent with the goal of preserving and promoting "scientifically productive and balanced relationships with the United States and the world scientific and engineering communities." In addition, recognizing the dire financial situation in these countries, the Board authorized temporary, emergency waivers of financial reciprocity requirements which govern our programs. This important step allows, for example, for American principal investigators to pay airfare for their colleagues to come to the U.S. for short-term, agreed-upon scientific work at a time when the skyrocketing price of airline tickets in Russia has threatened to bring such interactions to a total halt.

In late March, the National Science Board passed another resolution authorizing, among other things, a specific program of supplements to existing cooperative research grants to support infrastructural expenses in Russia. With your permission, I would like to submit copies of these resolutions with my testimony for the record. They are important documents because they form the policy basis for our subsequent actions at the NSF. Moreover, they help to frame the terms of reference for our comments on the proposal before the Committee.

I have quoted directly from the National Science Board's February resolution because I believe that it is an appropriate and realistic formulation of policy goals for the National Science Foundation. The resolution's primary policy objective is to help the scientists of these countries be effective partners in cooperative scientific efforts with the United States. It is not to "save Soviet science" or to blunt the harsh realities of economic and social reform by putting ex-Soviet scientists on the NSF payroll. But the

National Science Board has recognized - and this is a departure - that it is in the interest of U.S. science to provide carefully targeted, modest levels of support to key laboratories and researchers in the former Soviet Union. By doing so, we can enhance their productivity and we benefit and advance the work of the U.S. scientists with whom they are collaborating. In addition, by channeling our resources through projects that have undergone the acid test of competitive, merit review, we can be reasonably sure that the modest assistance we are providing goes to the right people.

I am pleased to report to you that at present, some six weeks after the National Science Board authorized our initiative of infrastructural supplements, we are well on our way to achieving our goal of a quick, effective response to the situation in the former Soviet Union. We have identified over 100 eligible projects, contacted the American principal investigators and received budget requests from over half of them. We have already made several awards of up to \$10,000 each to the American partners, who will purchase the equipment and supplies and send them directly to their partners in Russia and the other former Soviet republics. Ultimately, we could invest up to \$1 million in this project. We have been getting very strong feedback from the scientific community, which confirms our impression that this is exactly the kind of support that is needed.

At this point I want to stress that the funds being utilized by the NSF for this unusual initiative are almost entirely our own, with the exception of a contribution of \$100,000 from the Department of State which we are happy to acknowledge. But in general, we at NSF had come to the conclusion several months ago that the prospects for near-term new funding for civilian science and technology cooperative activities with the

former Soviet Union were uncertain at best, and that if we wished to make an immediate contribution it would have to be within our existing resources. On this basis, we are, and have been, able to act quickly and effectively, albeit on a relatively small scale.

We believe it important that U.S. assistance efforts for the former Soviet Union include the area of basic research. Understandably, the initial focus has been on urgent issues such as weapons proliferation and humanitarian assistance, now being addressed elsewhere in the administration. For example, the International Science and Technology Centers are targeting the "conversion" of former weapons researchers. In this connection, I would stress our belief in the importance of "mainstreaming" the former weapons scientists of Russia and Ukraine into the civilian R&D enterprise, and the need to be flexible in defining which defense scientists from these countries are eligible to participate.

Beyond these immediate concerns, however, we must now start thinking about the next phase when we can begin laying the basis for long-term economic development and democratic values. And here, basic research plays a very important role. Not only does basic research lay the groundwork for technology that can help drive economic recovery; basic research is also a vital element of quality educational system to train the personnel so necessary for any nation's future. In both of these areas, and especially in the area of education, the basic research system in the former Soviet Union needs serious attention. So to complement those essential U.S. efforts aimed at establishing workable banking, commercial, and industrial institutions in these new countries, we at NSF are undertaking the task of assisting the educational and research institutions so vital to preparing the

people who will work in these institutions.

So these considerations bring me, Mr. Chairman, to the subject of H.R. 4550, and the efforts of this committee to identify and highlight civilian science cooperation with the former Soviet Union as worthy of special attention on the part of the Congress, the Executive Branch, and the public. As you know, the Administration has sought the best possible expert advice from the scientific community on this difficult issue, as reflected in the recent report of the National Academy of Sciences to Dr. Bromley which we have heard discussed by Dr. Press here today.

Beyond NSF's initiatives, the Administration has taken steps elsewhere to address the problems facing science and scientists in the former Soviet Union. For example, work is nearly complete on the International Science Center in Moscow and work is also underway on a similar center in Ukraine, both of which will focus on issues related to the special problems of scientists who have been working on weapons of mass destruction.

Another important program which is already underway is the Special American Business Internship Training Program (SABIT), which is being administered by the Department of Commerce. This program will bring 150 former Soviet business managers and scientists to the United States for six-month internships at R&D companies. Yet another program under development will bring 150 scientists, primarily from the former Soviet defense sector as we understand, to the U.S. for research and lecturing at U.S. universities. These activities both address the needs identified in the NAS report and can make a useful contribution.

The bill under consideration today embodies a belief, which I share and which is

also illustrated in the activities I have just described, that any additional funds to address the situation in former Soviet science should focus on cooperative activities.

However, the activity that is already underway -- not only in NSF but in a number of other agencies -- demonstrates the Administration's view that the necessary authority to achieve the objectives of the bill already exist. The Executive agencies have all the authority necessary to meet the challenges and take advantage of the opportunities offered by the changes in the former Soviet Union.

In conclusion, Mr. Chairman, I would like to thank you for this opportunity to offer the Administration's views on this important matter, and we look forward to continuing to work with you on these important issues. Thank you.

does not directly address HR 4550.

is oblique -

dwells on Administration's achievements

& ~~the~~ authorities...

Hearing on H.R. 4550
The AMERUS Foundation for
Research and Development Act of 1992

Statement of
Frank Press, President
National Academy of Sciences

before the
Subcommittee on Science
Committee on Science, Space and Technology
U.S. House of Representative

May 19, 1992

I appreciate the opportunity to discuss with the committee the potential for a nongovernmental binational foundation to increase scientific and technological collaboration between the United States and the former Soviet Union (FSU). Scientists and engineers in these newly independent states will play a key role in the economic revitalization necessary to build stable, market-driven democratic societies. It is in the security and economic interests of the United States to aid this transition, as we did with Germany and Japan following the Second World War, and more recently with Korea. Relatively modest amounts of funding directed at cooperation in science and engineering can allow us to play an important role in determining the future course of these newly independent states. *

For more than 32 years the National Academy of Sciences carried out programs of scientific cooperation with the Academy of Sciences of the USSR. These activities led to many scientific breakthroughs and joint publications, and in one case led to a Nobel Prize for an American participant in the field of genetics. We have developed a good appreciation of the achievements and capabilities of many scientists and engineers in the former Soviet Union. We know well a number of the best institutions in the region, and we hold in great respect their many outstanding contributions to international science -- in mathematics, physics, nuclear fusion, space sciences, and other fields.

Our Academy has been in almost daily contact with colleagues in Moscow, St. Petersburg, and other scientific centers since the dramatic events of last August. The vast majority of these scientists have been supportive of democratic reforms, and they are hopeful of the long-term benefits of working in an open society. But they have not escaped the consequences of the deteriorating economic situation now facing their countries. We have heard of example after example of how world-class research is being suspended due to a lack of funds and an exodus of the most talented experts. It is hard to overstate the magnitude and importance of this teetering scientific enterprise to the future economic output of these countries. The best parts of the former Soviet scientific system must remain vital. This technical resource is essential for modernizing industries, cleaning up the environment, expanding agricultural output, providing health care, and meeting other essential goals. (Modernizing)

Report of the National Academy of Sciences

Two months ago, Allan Bromley^{Secretary} asked the National Academy of Sciences, with the support of the Carnegie Corporation, to convene a conference of more than one hundred leading American scientists and engineers, as well as senior specialists from government and business, to develop recommendations on steps that the United States might take to respond to the current crisis

within the research community of the newly independent states. This report, entitled "Reorientation of the Research Capability of the Former Soviet Union," includes suggestions in four areas, namely: providing research alternatives for weapons scientists and engineers, preserving basic research capabilities, enhancing opportunities for commercialization of technologies, and supporting multi-disciplinary, problem-oriented research.

The report strongly recommended that any expanded program to support research in the FSU should not ignore those many talented scientists who did not participate in military research. While the report applauded the action of the western governments in proposing the new International Center for Science and Technology in Moscow, which will support cooperation in civilian areas between their weapons scientists and western colleagues. We believe that this initiative alone is not enough. Mobilizing the scientific resources of the former Soviet Union will require expanded linkages to the west in basic research and industrial research and development. Among the report's recommendations are:

- expanded funding from a pool of at least \$25 million this year should be provided to the extramural research programs of several agencies such as the National Institutes of Health (NIH), the National Science Foundation (NSF), the Department of Energy (DOE), and the Office of Naval Research (ONR), for scientist-to-scientist collaboration that can be implemented rapidly. Supplemental funds should be provided on a competitive basis to current agency grantees who know well the best FSU scientists in their fields and who could provide travel support, short-term stipends, reagents, and spare parts for expanded cooperative efforts. The NSF and NIH have implemented programs of this sort already, but on a small scale within their current budgets.

- the U.S. government should take the lead in establishing an equipment and information fund of \$50 to \$100 million with support from appropriate bilateral and multilateral assistance agencies.

- the U.S. government should consider high technology research and development as a target for investment support. Such an effort would build on the emerging entrepreneurial abilities of FSU scientists and engineers while stimulating high value-added commercial activity.

The report concluded that it is in U.S. interest to act immediately and aggressively to revitalize science and technology in the former Soviet Union. Many of the best people may go elsewhere, and many of the best facilities which are standing idle may soon atrophy. The window of opportunity for U.S. commercial interests to draw on FSU scientific and technical achievements may close as other countries select the best

commercial targets. Cooperative projects with U.S. scientists and engineers will encourage their specialists to remain in place and to help in building a civilian market-oriented economy.

Binational Science Foundation

Our report also addressed the proposal for a bi-national science foundation, and found it to have high potential for long-term mutual benefit. As proposed in H.R. 4550, the binational foundation has many positive attributes, and it could be very effective as is the existing U.S.-Israeli binational science foundation. For the basic science component, the legislation specifies that proposals are to be jointly submitted by Russian and American scientists. This would ensure good collaborations, since American scientists are able to select the best FSU scientists in each field. As with the above proposal to increase funding to NSF and NIH American grantees for FSU collaborations, this component of the binational science foundation would promote high quality scientific cooperation in areas important to U.S. science and engineering.

The second component of the foundation would establish joint nondefense industrial research and development activities through private sector linkages which may involve participation by academic scientists and engineers. With appropriate guidelines, this program could work well in promoting R&D in areas important to the economic output of the newly independent states as well as important to American companies.

A recent report of the Academy complex, entitled The Government Role in Civilian Technology: Building a New Alliance, made several recommendations which are also appropriate for the industrial component of the binational foundation. As that report stated, the government can increase the rate at which products and processes are commercialized through targeted investment in pre-commercial R&D, choosing areas with high social rates of return where firms cannot capture sufficient benefits of R&D work. In order to demonstrate market attractiveness of the selected pre-commercial R&D projects, the participating companies should be required to put up a significant portion of the funds. Government-industry R&D ventures with public sector support should, therefore, include cost-sharing provisions, flow from project initiation and design by private firms, be insulated as much as possible from political concerns, include a diversified set of R&D objectives, and undergo rigorous project evaluations and review. This type of government involvement can help increase productivity growth without attempting to direct industrial performance or to interfere with market forces that drive economic advance.

Key questions for policy-makers

Transitional support for scientific and technological R&D collaborations with the former Soviet Union is clearly in U.S. security and economic interests. Democracy will not succeed in the newly independent states without economic progress, and the strengths in science and technology in the FSU can be harnessed to increase economic output.

Why though should a permanently endowed foundation become involved? The answer to the question depends on one's perception of the time-frame of the problem: its urgency and duration. If one's perception is that transitional support is critical only for several years, then increasing funding now for collaborations through current NSF, NIH, and other agency programs would greatly help. These add-ons can be done very quickly and easily, and are extremely cost-effective at present with current exchange rates. If one's perception is that long term collaboration is necessary to ensure that the newly independent states are on a stable path, then an endowed foundation would provide longevity for sustained involvement in building a market economy. Either mechanism can work well if implemented properly, serving both the interests of the U.S. and American science and engineering, as well as helping to redirect the technological resources of the FSU. My perception is that the problem is both urgent and long-term.

The funds for these programs should, however, not be taken out of current funds of the NSF, NIH, DOE, and other agencies. The American scientific community is stressed at present, and reallocating funding away from current programs supporting American researchers would reduce their enthusiasm for expanded collaborations with the former Soviet Union. On straight honest peer review, these collaborations with the FSU might not qualify for the expanded amount of funding. When the security and economic interests of the U.S. in stabilizing the former Soviet Union are taken into account, these collaborations become highly justified and cost effective for the American taxpayer as well as beneficial to American science.

mentions E.C. - Mitterand proposal

(→ interest & support)

(subtle note of urgency?)

Sara

LEGI-SLATE Report for the 102nd Congress

Thu, May 14, 1992 2:26pm (EDT)

BILL TEXT Report for H.R.4550

As introduced in the House, March 24, 1992

102d CONGRESS
2d Session

H. R. 4550

To provide for the formation of an endowed, nongovernmental, nonprofit foundation to encourage and fund collaborative research and development projects between the United States and Russia, Ukraine, Belarus, and other democratic republics emerging from the former Soviet Union.

IN THE HOUSE OF REPRESENTATIVES

March 24, 1992

Mr. Brown (for himself, Mr. Aspin, Mr. Boucher, Mr. McCurdy, Mrs. Lloyd, Mr. Sensenbrenner, Mr. Scheuer, and Mr. Spratt) introduced the following bill; which was referred jointly to the Committees on Science, Space and Technology and Foreign Affairs

A BILL

To provide for the formation of an endowed, nongovernmental, nonprofit foundation to encourage and fund collaborative research and development projects between the United States and Russia, Ukraine, Belarus, and other democratic republics emerging from the former Soviet Union.

=====
Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "AmeRus Foundation for Research and Development Act of 1992".

SEC. 2. FINDINGS.

The Congress finds the following:

(1) The dissolution of the Soviet Union has been accompanied by economic dislocation in the Russian Federation and the other republics. As a result, scientific establishments have been seriously and adversely affected.

(2) United States support for emerging democratic institutions in the former Soviet republics can be greatly enhanced by assisting in the development of a sound economic structure. A productive economy must be sustained by a healthy scientific and technological infrastructure.

(3) Despite their difficult environment, Russian scientists are world

experts in selected fields. Collaborative research can benefit all international partners, including the United States.

(4) The new republics are faced with the imminent dissolution of their scientific and technological infrastructure and the emigration of their best scientists and engineers. Loss of the most highly educated and trained citizens will greatly impede development of democratic institutions and private enterprise within the region.

(5) Modest external resources can be leveraged to provide a significant source of support for scientists and engineers in the new republics, engaged in both civilian and defense related research, most of whom do not wish to leave their homelands.

(6) The United States has long recognized that effective communication between the research and industrial communities is necessary for both to remain healthy and can be achieved through collaborative research projects. Scientists and entrepreneurs in the emerging republics have little understanding or experience with commercial business practice. These skills can best be developed via cooperative arrangements with United States counterparts.

(7) Collaborative research with the scientific community can sustain excellence while encouraging the transition toward democratization and practical application and transfer of research efforts to the emerging private sector. Such collaboration links United States researchers and businesses to highly trained personnel and sophisticated new technologies and manufacturing processes.

SEC. 3. DEFINITIONS.

As used in this Act--

(1) the term "Director" means the Director of the National Science Foundation; and

(2) the term "debt conversion" means an agreement whereby a country's government-to-government or commercial external debt burden is exchanged by the holder--

(A) for local currencies, policy commitments, other assets, or other economic activities; or

(B) for an equity interest in an enterprise theretofore owned by the debtor government.

SEC. 4. ESTABLISHMENT OF FOUNDATION.

(a) Establishment.--The Director, in consultation with the Director of the National Institute of Standards and Technology, shall establish the AmeRus Foundation for Research and Development (in this Act referred to as the "Foundation") as an endowed, nongovernmental, nonprofit foundation.

(b) Functions.--The Foundation shall--

(1) promote and support joint research projects for peaceful purposes between scientists and engineers in the United States and former Soviet states on subjects of mutual interest;

(2) seek to establish joint nondefense industrial research and development activities through private sector linkages which may involve participation by scientists and engineers in the university or academic sectors, and which shall include some contribution from industrial participants; and

(3) ensure an equal distribution of Foundation funding to support activities under paragraphs (1) and (2).

(c) Board of Governors.--

(1) Responsibilities.--A Board of Governors (in this Act referred to as the "Board") shall be the governing body of the Foundation and shall be responsible for determining the structure and operation of the Foundation, including the fields of cooperative research supported by the Foundation and the Foundation's financial and managerial policies.

(2) Membership.--The Director shall determine the initial size of the

Board and the distribution of membership among participating countries, and any subsequent changes to such size or distribution shall be decided by the Board. Notwithstanding the previous sentence, the Board shall consist of not less than 6 and not more than 12 members, the distribution of membership among participating countries shall be representative of the level of participation in the Foundation, and at least one half of the voting members shall be United States designees.

(3) Appointment.--United States voting members of the Board shall be appointed by the Director, in consultation with the Director of the National Institute of Standards and Technology and the Director of the Office of Science and Technology Policy. Not more than 2 of those voting members shall be full-time employees of the United States Government. The Director and the Director of the National Institute of Standards and Technology, or their designees, shall serve as additional nonvoting members of the Board.

(4) Charter.--The Board shall adopt a charter for the operation of the Foundation which shall include provisions--

(A) to define the range of activities to be funded by the Foundation;

(B) to define criteria for application, merit review, and awarding of funds from the Foundation which encompass, at a minimum, consideration of scientific and technological merit, strength of collaborative arrangements, and potential benefit to Foundation participants;

(C) to protect the principal of the Foundation's endowment from loss of value due to inflation; and

(D) to limit administrative costs to those that are prudent and necessary.

(d) Executive Director.--The Foundation shall have an Executive Director who shall be appointed by the Board. The Executive Director shall be responsible for managing the activities of the Foundation in accordance with the policies established by the Board.

(e) Powers of the Foundation.--The Foundation may--

(1) make loans and grants;

(2) enter into contracts;

(3) acquire, hold, administer, and dispose of real and personal property;

(4) receive, hold, and disperse funds in the currency of any participant in the Foundation;

(5) employ personnel;

(6) solicit and receive grants and donations in any amount;

(7) reimburse Federal employees or their agencies or departments for travel and subsistence; and

(8) execute such actions as are necessary to enable it to carry out its purposes and do not violate applicable law.

SEC. 5. FUNDING.

(a) Funding Sources.--The Foundation may accept funding from--

(1) direct governmental appropriations;

(2) private donations;

(3) debt conversions; and

(4) local foreign currencies generated by United States assistance programs as available.

(b) Debt Conversions.--As otherwise authorized, and to the extent provided in advance by appropriations Acts, local currencies or other assets resulting from government-to-government debt conversions may be made available to the Foundation.

(c) Local Currencies.--In addition to other uses provided by law, and subject to agreement with the foreign government, local currencies generated by United States assistance programs may be made available to the Foundation.

(d) Investment of Government Assistance.--The Foundation may invest any revenue provided to it through government assistance, and any interest earned on such investment may be used only for the purpose for which the assistance was provided.

(e) Patent Royalties.--An amount equal to 5 percent of royalty revenues on all patents resulting from Foundation assisted research projects shall be returned to the Foundation. Such revenues shall be added to the endowment or used to fund research projects.

(f) United States Currency.--Contributions made to the endowment in United States currency shall be retained in United States currency. Not less than 20 percent of Foundation financial resources shall be retained in United States currency.

(g) Minimum Contribution to Endowment.--The Board shall by majority vote set for each participating country, as a condition of participation, a minimum contribution to the endowment, which shall reflect the country's ability to make a financial contribution and its expected level of participation in the Foundation's programs.

SEC. 6. PARTICIPATION IN THE FOUNDATION.

(a) Waiver of Customs, Duties, and Taxes.--Participation in the Foundation research activities shall be conditioned on a waiver by the participating country of customs, duties, excises, surtaxes, and other taxes levied on travel of persons in connection with Foundation projects, importation of goods intended for use of the Foundation, and equipment intended principally for use in a project sponsored by the Foundation.

(b) Participants.--Participation in the Foundation may be extended to any republic formerly within the Soviet Union.

(c) Oversight.--If the Director determines, with the concurrence of the Director of the Office of Science and Technology Policy and the Director of the National Institute of Standards and Technology, that the Foundation is not adequately carrying out the purposes of this Act he may, not less than 30 days after notification to the Congress, withdraw from the endowment that portion which represents the contribution of the United States Government.

SEC. 7. AUDIT AND REPORT.

(a) Audit.--Beginning 1 year after the Foundation has commenced operations, the Foundation shall engage an independent auditor to perform an annual organization-wide audit of the Foundation, in accordance with generally accepted auditing standards. The results of the audit shall be made immediately available to the Board.

(b) Purpose.--The purpose of the audit shall be to determine whether--

(1) the Foundation has in place adequate internal financial controls; and

(2) the Foundation has complied with all applicable laws and regulations.

(c) Report.--Within 1 year after the Foundation has commenced operations, and at least every 2 years thereafter, the Foundation shall publish a report which--

(1) details activities conducted pursuant to this Act, including a description, analysis, and compilation of research projects and funding levels;

(2) describes plans for future activities;

(3) describes the findings of the independent audits;

(4) recommends priorities for cooperation in terms of scientific and technical disciplines and geographic regions; and

(5) recommends necessary legislative or administrative changes.

SEC. 8. AUTHORIZATION OF APPROPRIATIONS.

There are authorized to be appropriated, and made available to the Director, to establish the endowment and otherwise for carrying out this Act,

\$50,000,000 for each of the fiscal years 1992, 1993, 1994, and 1995.

Please type desired COMMAND (or 'MENU'):

NATIONAL ACADEMY OF SCIENCES

2101 CONSTITUTION AVENUE, NW WASHINGTON, D. C. 20418

OFFICE OF THE PRESIDENT

March 13, 1992

Dr. D. Allan Bromley
Assistant to the President for Science and Technology
Executive Office of the President
Office of Science and Technology Policy
Washington, D. C. 20506

Dear Dr. Bromley:

As you requested, we brought together on March 3 approximately 120 leaders of the U.S. science and engineering community to consider how to preserve the basic science capability of the former Soviet Union (FSU). At that meeting, working groups were constituted in four areas: weapon scientists and engineers, basic research, commercialization of technology, and interdisciplinary problem-oriented research (e.g., health, ecology, energy, polar, etc.). Attached are the reports of these four working groups along with the list of attendees.

As co-chairs of the meeting, we are providing in this letter a summary of the key recommendations and observations drawn from the discussions. Because of the urgency of providing this response, we have not circulated this letter to the attendees for review prior to sending it to you. We take full responsibility for the contents below, and believe that they represent a reasonable and accurate summary of the major recommendations and the views of most participants. More complete details are provided in the working group reports.

Preservation and Reorientation of FSU S&T Is in the U.S. Interest

Scientists and engineers in the FSU will play a key role in the economic revitalization necessary for a successful transition to open and stable market-driven democratic societies, which is in the economic and security interests of the U.S. New scientific and technological challenges in civilian areas for FSU specialists can help divert technical talent away from military pursuits. Achieving U.S. goals of shrinking and redirecting the FSU military R&D effort and developing the S&T component of the civilian economy will require providing new opportunities for both FSU weapon scientists and non-weapon scientists, especially in collaborations with American scientists. These opportunities for collaborative efforts will also allow FSU specialists to help expand frontiers of knowledge in areas of direct interest to the American scientific community and to U.S. business.

Time Is of the Essence

Without opportunities and financial support to address technical challenges, FSU S&T human capabilities are being rapidly eroded through an external and internal "brain drain." Of special concern, temptations are increasing for FSU military scientists to look abroad for opportunities to use their capabilities. Many of the best S&T facilities which are standing idle may soon atrophy. The window of opportunity for U.S. commercial interests to draw on FSU S&T achievements may close as other countries select the best commercial targets. The new FSU leadership will soon be making critical decisions in areas such as research priorities, intellectual property rights, and education accreditation and related policies; and there are one-time opportunities to influence these decisions. The U.S. can play a leadership role among western countries in revitalizing FSU science and technology if we act quickly. Cooperative projects with U.S. scientists and engineers will encourage FSU specialists to remain in place and to help in building a civilian market-oriented economy.

Summary of Key Recommendations

1. The national security, economic, and scientific interests of the U.S. can significantly benefit by expanded cooperative programs in the next several years that provide new research opportunities for critical FSU weapon scientists and the best FSU non-weapon scientists. The existing \$400 million that Congress appropriated pursuant to the Nunn-Lugar Act (the Soviet Nuclear Threat Reduction Act of 1991) within the Department of Defense (DOD) budget is an appropriate source for funding many of these programs this year.

2. Criteria for funding through the new International Science and Technology Center proposed by Secretary Baker and Foreign Minister Genscher should include a broad definition of "weapon scientists and engineers," including relevant specialists at academic and research institutes who have worked on Soviet military R&D efforts. Special attention must, of course, be given to those specialists with critical weapons knowledge and skills. Center-supported proposals that are collaborations of FSU weapon scientists, FSU non-weapon scientists, and U.S. researchers would be the most effective means for achieving U.S. goals of shrinking and redirecting FSU weapon R&D programs and in increasing the transparency of FSU weapon laboratories.

3. In addition to the funds available in this and future fiscal years for key FSU weapons scientists and engineers through the new Center, funding at least on the same order of magnitude should be made available for programs outside the Center for FSU non-weapon scientists and engineers. Thus, at least \$25 million for weapon scientists through the Center and \$25 million for non-weapon scientists through other programs are needed in this fiscal year; even more would be appropriate considering the urgency of the

situation and available opportunities. Expanded funding should be made available in future years as justified through reviews of the programs. Awards should be based on scientific merit and potential contributions to U.S. objectives.

4. The extramural research programs of the National Science Foundation (NSF), the National Institutes of Health (NIH), the Department of Energy (DOE), and the Office of Naval Research (ONR) offer the important opportunity of scientist-to-scientist collaborations, which can be implemented rapidly. U.S. researchers know the best specialists in the FSU in their fields who would make excellent research partners. Funds should be allocated to these agencies (from the \$25 million for non-weapon scientists) for use by their grantees for the purpose of direct scientist-to-scientist collaboration. U.S. researchers could provide travel funds, short term stipends, reagents, and spare parts from their supplemented grants. Joint publications would result from these activities.

5. A portion of the new funding for non-weapon scientists should also be made immediately available through the nine existing intergovernmental agreements that support civilian research and development (R&D) between the U.S. and FSU. This new funding would be added to existing cooperative programs of the NSF, NIH, DOE, USGS, EPA, NRC, NASA, and other federal agencies. This is an effective mechanism for near-term impact in terms of improving collaboration with competent scientists in the FSU on projects of interest to the U.S.

6. Existing procurement regulations and other administrative guidelines inhibiting research contracts from U.S. agencies to research units in the FSU should be reviewed and minimized. The recent contracts negotiated by DOE with FSU research institutes in fusion research and high energy experimental physics provide useful guidance.

7. The President's proposal for assistance to the FSU in agriculture, health, and energy should be strongly endorsed. The U.S. government should examine the science and technology (S&T) needs and opportunities, including R&D needs, associated with these assistance efforts.

8. The U.S. government should promptly modify the apparent restrictive policy concerning acquisition of advanced technologies and technical expertise from the FSU by American firms, including those with large DOD contracts. Reducing U.S. governmental impediments to appropriate activities of the U.S. private sector in the FSU can have immediate impact in terms of increasing collaboration with FSU scientists and engineers, reducing the FSU military industrial complex by redirecting many of its scientists and engineers to civilian projects, and promoting improvements in the economies of the FSU republics. The U.S. government should continue its related efforts to reduce unnecessary export controls,

particularly in the fields of computers and telecommunications, in close consultation and coordination with its CoCom partners.

9. Additional funding from anticipated foreign aid programs and the \$400 million could be effectively used to facilitate conversion of FSU non-nuclear military technologies to civilian applications through such mechanisms as providing venture capital for U.S.-FSU projects, supporting feasibility studies by U.S. firms interested in investing in conversion projects, and providing technical assistance to FSU firms that are assessing marketing and technical opportunities for reorienting military technology to civilian applications.

10. As part of the U.S. economic assistance program to the FSU, the U.S. government should consider high technology R&D as a target for investment support. Such an effort would build on the emerging entrepreneurial abilities of FSU scientists and engineers while stimulating high value-added commercial activity.

11. The U.S. should strongly encourage FSU authorities to promptly enact legislation concerning real property ownership rights and intellectual property rights; to eliminate tax on foreign currency coming into FSU to support S&T; and to continue on the path to ruble convertibility and privatization.

12. A special fund of \$50 million to \$100 million should be established to help replenish and refurbish equipment, journals, and books used in FSU laboratories of special importance. The U.S. should take the lead in obtaining the necessary funds from bilateral and multilateral assistance agencies.

13. The U.S. representatives to international organizations (e.g., World Bank, UNIDO, FAO, WHO, UNDP, OECD, NATO) should urge greater support through these organizations for FSU S&T.

14. American and FSU specialists should undertake evaluations of FSU capabilities in selected areas of science and engineering of particular U.S. interest to assist in targeting cooperative activities and in utilizing the capabilities of unique FSU facilities and data banks of special importance.

15. Significantly expanded cooperation in environmental R&D would support U.S. goals of sustainable growth in the FSU and would enhance international efforts to understand global change.

Past U.S. Efforts Provide a Point of Departure for Expanded Programs

Many intergovernmental S&T agreements are hindered due to uncertainties regarding FSU collaborators. Air fares for FSU participation inhibit business as usual, and some important aspects

of S&T are not being addressed. Nevertheless, some of these agreements, as well as the extramural programs of some agencies, provide mechanisms for identifying and funding programs of great importance, and the partnerships within the FSU can be sorted out very quickly. For example, the programs of NSF, NIH, DOE, and ONR are well-suited to respond to the needs of basic research of interest to U.S. scientists, while programs of mission agencies such as EPA, DOE, USGS, and NASA provide mechanisms for Americans to gain access in a highly cost-effective way to important FSU specialists and facilities of direct interest to the programs of these agencies.

U.S. businesses are prepared to take advantage of many technical opportunities in the FSU, but many hesitate due to uncertainties regarding U.S. policies on technology transfer as well as inadequacies in the legal/economic framework within the FSU. Meanwhile, competitors from Germany and other countries receive stronger financial incentives from their governments and are gradually establishing business alliances with many of the most promising organizations in the FSU.

The new Center for support of FSU nuclear weapons scientists should offer many opportunities for FSU specialists to redirect their activities to civilian purposes and thereby shrink the size of the FSU military R&D effort. It also provides a base for rapidly expanding cooperative programs in other areas of science and technology.

Many FSU S&T activities are linked to programs of international organizations in which the U.S. plays an influential role (e.g., World Bank, UNIDO, FAO, WHO, NATO, OECD), and these organizations are in a position to direct additional resources to the FSU with encouragement from the U.S.

Several major U.S. private foundations are interested in helping to preserve the science and technology community in the FSU, and they can launch new programs very quickly. Their resources are limited, but they should be encouraged and complimented for their efforts to select special niches for their support (e.g., providing journals and electronic mail equipment).

American scientific professional societies are also rising to the challenge and creating innovative programs to assist their colleagues in the FSU. The American Astronomical Society has raised funds from its members to provide small research grants to FSU astronomers. The American Association for the Advancement of Science, with support from the MacArthur Foundation, will be providing help in maintaining journal subscriptions. Individual American scientists are seeking mechanisms for donating their journals and used equipment to FSU colleagues.

The National Academy of Sciences, National Academy of

Engineering, and Institute of Medicine are examining ways in which they can contribute to the revitalization of FSU scientific and engineering capabilities. The National Academy of Sciences has already changed its long-standing cooperative program to ensure that FSU participants are selected on the basis of evaluations by their American colleagues. In addition, consideration is being given to: undertaking evaluations together with FSU colleagues of FSU capabilities in important fields of science and technology (including those of potential commercial importance such as materials), sponsoring workshops for FSU and American researchers to develop collaborative research agendas and proposals in selected subfields, and working with counterpart organizations in Europe to improve coordination of western initiatives. The American Academy of Arts and Sciences is also pursuing, through a recently-created special committee, ways in which it might help the FSU communities in the sciences, social sciences, and humanities.

Special Considerations for New Programs

Programs supported by the United States should be based on mutual benefit and should not simply be responses to the economic plight of FSU specialists and institutions. Programs should be a mix of: (a) collaborative projects developed jointly by FSU and U.S. researchers and/or teams of researchers with the projects selected competitively on the basis of merit and (b) targeted projects designed to preserve and utilize the capabilities of unique FSU facilities and data banks of special importance to U.S. science and technology interests. Coordination of bilateral approaches with activities of other countries and international organizations is important and synergistic, but should not slow down the U.S. response. Whenever possible, implementation should begin within the next several months. Programs should be subject to careful review after the first year, with attention both to technical payoff and financial accountability. If benefits of these programs to the U.S. are as high as we believe they will be, the programs should be supported with increased funding over the next several years.

Other Promising Approaches that Deserve Careful Study

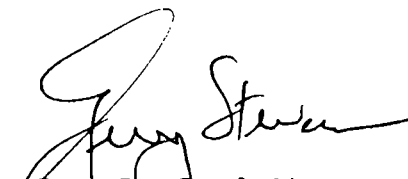
The proposal of Representative George Brown to establish a binational science foundation between the FSU republics and the U.S. is a welcome initiative with the possibility for long-term mutual benefit. The Brown proposal deserves careful study by the U.S. government. The policies and activities of the Export Import Bank, OPIC, and the Trade and Development Program might offer greater incentives for American investments in the FSU. Expanded authorities of U.S. agencies to enter into contracts with FSU organizations, when such arrangements are particularly beneficial to the missions of the agencies, can be very important; and the administrative details need to be carefully worked out.

In conclusion, we appreciate very much your soliciting the advice of the U.S. science and engineering community on these important issues. We hope that the recommendations and comments in this letter and in the four working group reports will be helpful to you in developing U.S. initiatives to respond to challenges and opportunities provided by developments within the FSU S&T community.

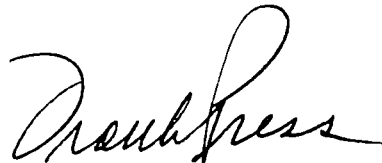
We would like to thank for their efforts in leading three of the working groups: Dr. James Wyngaarden, Foreign Secretary of the National Academy of Sciences and Institute of Medicine (Basic Research Working Group); Dr. Gerald Dinneen, Foreign Secretary, National Academy of Engineering (Commercialization of Technology Working Group); and Dr. Alvin Trivelpiece, Director, Oak Ridge National Laboratory (Interdisciplinary Problem-Oriented Research Working Group). We would also like to thank for their help in organizing the meeting and preparing this report the Office of International Affairs of the National Research Council (Dr. William Colglazier, Executive Director; Mr. Glenn Schweitzer, Director, Office for Central Europe and Eurasia; Dr. Gary Waxmonsky, Associate Director, Office for Central Europe and Eurasia; and Peter MacDonald and Kathleen Trivers of their staff.) We are especially grateful to Dr. David Hamburg and the Carnegie Corporation which, along with the National Research Council, provided financial support for the meeting.

We believe that it is in U.S. interest to act immediately and aggressively. If we or the National Research Council can provide you with any further assistance, we would be pleased to do so.

Sincerely,



Dr. Guyford Stever
Commissioner
Carnegie Commission
on Science, Technology
and Government



Dr. Frank Press
President
National Academy
of Sciences



Dr. Ashton Carter
Professor
Harvard University

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Reorientation of the Research Capability of the Former Soviet Union

**A Report to the Assistant to the President for
Science and Technology**