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Report to Congressional Requesters

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WEAPONS OF MASS DESTRUCTION

Reducing the Threat From the Former Soviet Union: An Update

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International Affairs Division

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The Honorable Floyd Spence
Chairman
The Honorable Ronald Dellums
Ranking Minority Member
Committee on National Security
House of Representatives

The Honorable John Kasich
Chairman
Committee on the Budget
House of Representatives

As you know, Congress has had an ongoing interest in the effectiveness of U.S. efforts to reduce the threat posed by weapons of mass destruction in the former Soviet Union (FSU). In response to your requests, we have assessed the Cooperative Threat Reduction (CTR) program's

- planning and funding status and
- recent progress in addressing CTR objectives in the FSU, that is, the safe and secure elimination of nuclear, chemical, and other weapons of mass destruction (including missiles and other strategic delivery vehicles); improving controls over nuclear weapons and materials; and promoting demilitarization projects.

This letter summarizes our findings, which are described in greater detail in appendixes I through IV.

Background

In 1991, Congress authorized the Department of Defense (DOD) to establish a CTR program to help FSU states (1) destroy weapons of mass destruction, (2) store and transport those weapons in connection with their destruction, and (3) reduce the risk of proliferation. Subsequently, Congress directed DOD to address these three objectives on a priority basis, added new objectives (e.g., promoting FSU defense conversion), and approved use of up to $1.25 billion in fiscal years 1992 through 1995 toward achieving CTR objectives. DOD plans to request a total of $735 million for fiscal years 1996 and 1997.

To accomplish its CTR objectives, DOD has launched projects under 38 implementing agreements with Russia, Ukraine, Belarus, and Kazakhstan.

Of its 1992-97 CTR funds, DOD plans to use about half to help dismantle and destroy strategic nuclear delivery vehicles and chemical weapons, roughly one quarter to improve FSU controls over nuclear weapons and materials, and almost one-fifth to help demilitarization of FSU defense activities. DOD provides goods and services, rather than direct cash payments. DOD must notify Congress of its intention to obligate funds for specific CTR projects 15 days before actually obligating the funds.

We have issued a series of reports concerning the CTR program over the past 3 years. Most recently, in October 1994, we reported that although the program had initiated numerous projects to address a wide array of threats, DOD had not estimated total requirements for achieving program objectives and that the prognosis for achieving the program's objectives varied widely.[1] We also reported that DOD had yet to begin auditing FSU use of CTR aid. We recommended that the Secretary of Defense institute a long-term planning process to help DOD allocate CTR funds among competing demands and to guide preparation of annual budgets. Congress subsequently required DOD to estimate total U.S. expenditures required to achieve CTR objectives, prepare a multiyear CTR program plan, and report on how it will determine that CTR aid is being used for intended purposes.

Results in Brief

In some areas, the CTR program has made progress over the past year and its long-term prognosis for achieving its objectives may be promising. The program has played an important role in facilitating Ukraine's weapons dismantlement efforts and the executive branch believes that the promise of CTR aid has been a significant factor in the political decisions of the recipient states to begin dismantling weapons of mass destruction. Nevertheless, the overall specific material impact of CTR assistance provided to date has been limited and the program must overcome numerous challenges and problems to realize its long-term objectives.[2]

DOD has made progress over the past year in planning the CTR program and in obligating and expending funds for CTR projects. DOD has developed its first comprehensive multiyear plan for the CTR program. After a slow start in preceding years, DOD has more than doubled program obligations and tripled program expenditures over the past 11 months. The value of CTR work actually performed exceeds reported expenditure levels and

[1]Weapons of Mass Destruction: Reducing the Threat From the Former Soviet Union (GAO/NSIAD-95-7), Oct. 6, 1994.

[2]In this report, we use the term specific material impact to mean the actual use of this assistance to address CTR objectives.

program managers are adjusting their reporting system to more accurately reflect the value of work performed. Also, DOD has recently made some initial progress in conducting audits and examinations in FSU states receiving CTR funds.

The specific material impact of actual CTR assistance provided to date has been limited—in part because (1) several key projects, such as a fissile material storage facility, are still in their early stages and cannot be expected to have a significant material impact for several years and (2) deliveries of some CTR aid did not begin until relatively recently. Some CTR projects appear to have already had a specific material impact. For example, CTR aid has facilitated the return of hundreds of nuclear warheads from Ukraine to Russia.

The program's long-term prospects may be more promising, but problems and challenges remain. For example, CTR aid should allow Ukraine to meet its Strategic Arms Reduction Treaty (START) obligations. On the other hand, difficulties in working with the Russians in resolving key issues have slowed progress on several projects that could have major long-term significance. For example, the United States and Russia have yet to agree on the applicability of a technology to be used in a chemical weapons destruction facility and may not do so until midway through fiscal year 1996. This uncertainty raises questions as to the program's need for the $104 million it is requesting in fiscal year 1996, in part, to begin designing and constructing the facility. If the United States and Russia agree on the applicability of a technology by March 1996, as scheduled, it appears that the program may be unable to obligate about $34 million in funds in fiscal year 1996. Moreover, even if the facility were to be completed on schedule, uncertainties concerning resources, schedules, and costs would compromise Russia's ability to destroy its chemical weapons stockpile in compliance with the Chemical Weapon Convention's timetables if the Convention enters into force in 1996 (see app. II).

Matters for Congressional Consideration

Congress may wish to consider reducing the CTR program's fiscal year 1996 request for $104 million for support to Russian chemical weapons destruction efforts by about $34 million because of uncertainties regarding the expenditure. In addition, Congress may wish to consider withholding approval to obligate any remaining funds designated for the design or construction of elements of a chemical weapons destruction facility until the United States and Russia have agreed on the results of the joint evaluation study concerning applicability of a destruction technology.

Agency Comments and Our Evaluation

DOD and the Department of State, in objecting to our finding that the material impact to date of CTR projects had been limited, stated that we had overlooked the CTR program's political impact and leverage in ensuring that FSU states undertake weapons elimination programs and in obtaining Ukrainian, Belarussian, and Kazakhstani agreement to become non-nuclear weapons states. We do not dispute this political dimension to the CTR program, but we believe that DOD and State's comments stem from a misunderstanding of the purpose of our report. As requested, our report, the latest in a series of our assessments of the CTR program, focuses on the material impact of CTR projects over the past year in addressing the threats posed by FSU weapons of mass destruction and on the prospects for such effects in the future.

DOD further commented that we had underestimated the role of the material assistance provided to date and provided several examples in support of this comment. We have added some of these examples to our report. However, DOD also cited benefits of deliveries of support equipment to Ukraine and armored protective blankets to Russia. Our draft specifically cited the impact of CTR deliveries to Ukraine and Russian use of armored blankets in withdrawing warheads from Ukraine. DOD further stated that Russia is "today" using U.S.-supplied guillotine shears to cut up bombers. These shears have not yet been used and are not expected to be used until July 1995.

DOD stated that numerous tangible reductions in the threat to the United States have been achieved "through a combination of leverage provided by the CTR program and direct material assistance." However, the examples that DOD provides do not distinguish between reductions that may be attributed to political impacts since the Soviet Union's collapse in December 1991 and those that have resulted from the delivery of CTR aid. For example, DOD states that missiles containing 2,825 warheads have been deactivated since the Soviet collapse but does not indicate how many of these were deactivated through the direct use of CTR assistance—assistance which only began arriving in mid-1993. Similarly, DOD states that approximately 630 strategic launchers and bombers have been eliminated since the Soviet collapse. However, Russia had eliminated more than 400 of these by July 1994 before receiving CTR delivery vehicle elimination aid.

DOD's comments imply that every missile and every warhead deactivated in the former Soviet Union since December 1991 can be attributed to the CTR program. DOD does not provide a clear accounting as to how and to what

extent CTR hardware has been used by the FSU states to eliminate a specific number of systems. While such an accounting may not be the only standard that should be used to assess the CTR program, it should at least be one of the key criteria employed in reviewing the program's progress. Although we have asked it to provide support for the material impact of CTR aid in dismantling specific numbers of systems, DOD has not done so. DOD officials recently informed us that it may be impossible to determine this impact in terms of specific numbers of systems.

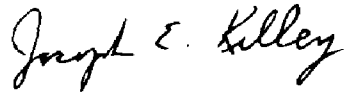
DOD and the Department of State objected to our matters for congressional consideration. Both agencies asserted that we were incorrect in stating that the United States and Russia had not yet agreed upon a technology for destroying chemical weapons. However, as DOD indicates in its comments, Russia has selected a technology that the United States would not have recommended—an unproven technology that the United States is now attempting to validate.

DOD, the Department of State, and the Department of Energy also provided technical clarifications, which we have incorporated in our report. The comments of DOD, State, and Energy are presented in their entirety in appendixes VII, VIII, and IX, along with our evaluations of them.

Scope and Methodology

To assess the CTR program's planning and recent progress, we reviewed documents and met with officials from DOD, the Department of Energy, and the Department of State, as well as with officials from the Arms Control and Disarmament Agency, Defense Enterprise Fund, the Russian government and industry, Ukrainian government and industry, and a variety of U.S. contractors involved in the CTR program. We also visited selected CTR projects in Russia and Ukraine and discussed program implementation with assistance recipients and U.S. officials on site. To determine the funding status of the program, we obtained specific data on funding obligations, disbursements and work performed from the Defense Nuclear Agency that implements the CTR program. We conducted our review between January and June 1995 in accordance with generally accepted government auditing standards.

We are planning to send copies of this report to other appropriate congressional committees; the Secretaries of Defense, Energy, and State; the Director of the Arms Control and Disarmament Agency; and other interested parties. Copies will also be made available to others upon request. Please contact me on (202) 512-4128 if you or your staff have any questions concerning this report. Major contributors to this report are listed in appendix X.



Joseph E. Kelley
Director-in-Charge
International Affairs Issues

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Abbreviations

CTR	Cooperative Threat Reduction
DOD	Department of Defense
FSU	former Soviet Union
GAN	Gosatomnadzor
IAEA	International Atomic Energy Agency
ICBM	Inter Continental Ballistic Missile
MINATOM	Russian Ministry of Atomic Energy
START	Strategic Arms Reduction Treaty

Improvements in Planning and Funding

The Department of Defense (DOD) has made progress in Cooperative Threat Reduction (CTR) program planning, and in obligating and disbursing CTR funds since our last review of the program. It has recently made progress in auditing and examining the aid that it has provided to the former Soviet Union (FSU).

A new program office, established in May 1994 under the Under Secretary of Defense for Acquisition and Technology to oversee program implementation, drafted the CTR program's first multiyear plan in response to a congressional directive. The plan (which is classified) is to be reviewed and revised annually and is to be used to guide the program through its termination in 2001.[1]

The CTR program has more than doubled the level of obligated funds—increasing from the June 1994 level of $223 million cited in our last report to almost $599 million as of May 8, 1995 (see app. V). The CTR office predicts that DOD will obligate over $800 million by the end of fiscal year 1995.

The CTR program has also made progress in disbursing funds since our last report. Disbursements have more than tripled from the June 1994 level of $49.5 million to almost $177 million as of May 8, 1995. The largest disbursements were made for strategic offensive arms elimination projects in Russia and Ukraine, the International Science and Technology Center in Moscow, Russian rail car security enhancements, and the design of a Russian fissile material storage facility.

However, we have found that these disbursement figures significantly understate the value of CTR work actually performed to date. We asked DOD's CTR program managers to contact contractors for 18 projects (representing 85 percent of the program's then-current budget) and determine the cost of work actually performed but not yet recorded by DOD as of March 1, 1995. We found that the value of the actual work performed on these 18 was $205.7 million—almost double the value of the disbursements reported for them as of March 1, 1995 (see app. VI). The difference reflects the substantial period of time separating the performance of the work and DOD's payment for the work. The CTR program is now developing a data collection system that will include monthly reporting requirements for this kind of data.

[1]We are currently reviewing the plan for the Committee on the Budget, House of Representatives.

DOD has made arrangements with the Departments of State, Energy, and Commerce to streamline the program by transferring nine projects, beginning in fiscal year 1996. The Department of State will assume responsibility for the International Science and Technology Center and, with the Department of Commerce, for projects aimed at improving export controls in four FSU states. Projects aimed at improving nuclear materials controls and accountancy in three FSU states will be transferred to the Department of Energy.[2]

DOD has recently made some initial progress in conducting audits and examinations of CTR aid to ensure that the aid is being used for the purposes intended. While CTR agreements with the FSU states provide the United States with the right to conduct such audits and examinations, Russia and, later, Ukraine raised concerns regarding implementing procedures that required some months to resolve. On May 19, 1995, DOD completed an audit and examination of rail car conversion kits in Russia.[3] DOD has also scheduled a June 1995 audit in Ukraine and has notified Kazakhstan of plans for a July 1995 audit. In January 1995, DOD completed an audit and examination of a continuous communications satellite link in Belarus.

On May 31, 1995, DOD provided Congress with its long-overdue legislatively mandated report on U.S. efforts to ensure that CTR aid can be accounted for and is being used for intended purposes. We will provide Congress with our assessment of the DOD report, as required by law.[4]

[2]In our report entitled Former Soviet Union: U.S. Bilateral Program Lacks Effective Coordination (*GAO/NSIAD-95-10*, Feb. 7, 1995), we reported that the executive branch has had difficulty in coordinating all of its FSU assistance programs. We are currently evaluating several recent executive branch actions to improve such coordination. According to the Department of State, an interagency working group will coordinate former CTR projects. The Departments of State and Energy have prepared multiyear plans concerning CTR projects being transferred to them.

[3]DOD also conducted a financial audit of the International Science and Technology Center in Moscow in March 1995.

[4]Section 1203 of the National Defense Authorization Act for fiscal year 1995 required DOD to provide the report to Congress by January 5, 1995, and calls for our assessment of the DOD report.

Destruction and Dismantlement Projects

To date, the material impact of aid actually delivered by the CTR program's destruction and dismantlement projects has generally been limited, although the program has succeeded in facilitating the deactivation of strategic systems in Ukraine. While Ukrainian dismantlement progress appears to be dependent on CTR aid, Russia had moved ahead of its Strategic Arms Reduction Treaty I (START)[1] schedule before it received substantial CTR aid. CTR aid has not yet resulted in the destruction of any Russian chemical weapons and efforts to help plan eventual Russian chemical weapons destruction have been hampered by numerous delays.

Executive branch agencies credit the CTR program with having had a very significant impact on the political decisions of FSU states to begin eliminating thousands of strategic nuclear delivery vehicles and chemical weapons. They state that the CTR program's impact is therefore greater than suggested by focusing on the actual material impact of CTR aid delivered to date.

The long-term prospects of the CTR program's destruction and dismantlement projects may be brighter than their limited material impact to date might indicate. CTR aid to Russian efforts to eliminate missile fuel could speed the pace of Russian dismantlement efforts. A small U.S.-funded chemical destruction facility may help spur the Russian program, although even this facility will not be nearly sufficient to ensure Russian compliance with the Chemical Weapons Convention.

Strategic Offensive Arms Elimination

The CTR program's efforts to destroy and dismantle strategic offensive arms are focused on nuclear delivery systems, such as missiles, missile silos, ballistic missile submarines, and heavy bombers. Russia has informed the United States that it does not need U.S. aid in dismantling the nuclear warheads removed from these systems.[2] We reported last year that the impact of CTR strategic offensive arms elimination assistance was likely to vary from one FSU republic to another.

[1]START I limits the FSU to 1,600 delivery vehicles (i.e. bombers, submarine missile launchers, and missile silos) and 6,000 warheads no later than the year 2001. The, as yet, unratified START II treaty further lowers these limits and bans multiple re-entry vehicle intercontinental ballistic missiles. The United States and Russia are to meet START II limits by 2003, unless the United States helps finance Russia's dismantlement efforts. If so, Russia would met START II limits by the end of 2000.

[2]According to DOD, France is providing Russia with machine tools to help dismantle warheads. French dismantlement tool aid is valued at $5 million.

Russia

The material impact to date of strategic delivery vehicle elimination aid actually delivered to Russia appears to have been limited. DOD, in commenting on a draft of this report, stated that the CTR program has had important political and material impacts in advancing Russia's dismantlement effort—noting, for example, that the CTR program had contributed to the elimination of approximately 630 strategic launchers and bombers since the Soviet Union's 1991 collapse. However, in and of itself, the material impact of the CTR strategic delivery vehicle elimination aid provided to date is less than DOD's comment would suggest, since Russia had eliminated over 400 of these 630 launchers prior to initial deliveries of this aid.[3]

Although Russia had succeeded in eliminating sufficient launchers to meet its START I delivery vehicle limit by April 1995,[4] Russian officials told us that their resources are strained by delivery vehicle dismantlement efforts and that they lack adequate amounts of advanced technology for some dismantlement procedures. Russia must transport and destroy thousands of metric tons of liquid rocket propellant and, for the first time, dispose of large quantities of solid rocket fuel. Russian officials emphasized that Russia would need the assistance even without implementation of START II. They told us that rocket fuel transportation and disposition were the most crucial bottlenecks in their meeting treaty obligations and that such difficulties had forced them to suspend dismantlement of liquid fueled SS-18 missiles in Kazakhstan for 3 months. The CTR program is providing equipment to safely transport and temporarily store liquid rocket fuel from dismantled missiles. DOD has also awarded a contract to dispose of the liquid fuel[5] (which has been delayed by a bid protest). Russian officials told us that more CTR assistance will be needed to dismantle solid rocket motors and dispose of the fuel.

While Russia has already met its START I delivery vehicle limit, it has not yet met its START I warhead limit and its START II limits. According to DOD, CTR assistance will help Russia meet its START I and II obligations by 2001, 2 years ahead of schedule. DOD has agreed to provide Russia with $150 million for delivery vehicle dismantlement, including $20 million for

[3]Our prior CTR work reveals that, according to Russian officials, Russia eliminated over 400 launchers by July 1994. CTR dismantlement assistance deliveries to Russia did not begin until September 1994. Moreover, not all delivered CTR assistance has yet been put into operation. For example, U.S.-supplied guillotine shears have not yet cut up any Russian bombers, although Russia has used lighter U.S. equipment to strip such aircraft.

[4]We reported in October 1994 that Russia had the means to eliminate its delivery vehicles in compliance with START I obligations.

[5]Russia rejected the U.S. incineration method for disposing of such fuel.

solid rocket motor and fuel disposition. As of May 8, 1995, CTR program officials had obligated $112 million and disbursed almost $20 million for dismantlement projects in Russia. As of March 1995, the value of work performed totaled $56 million. About 40 percent of the CTR-provided equipment has been delivered.

The CTR budget estimate includes $95 million over the next 2 years to further accelerate Russian dismantlement efforts and encourage Russian ratification of the START II agreement. DOD is also considering providing about $145 million in dismantlement assistance. Of the proposed $145 million, roughly half would be used to help dispose of solid rocket motors and fuel. The remaining assistance would be used to dispose of liquid fuel and support destruction of delivery vehicles and launchers.

Ukraine

Ukraine lacks Russia's resources and capabilities to dismantle its 176 delivery vehicles and silos. The CTR program has obligated $90 million for strategic nuclear arms dismantlement in Ukraine. As of March 1995, the value of work performed exceeded $52 million. The CTR budget estimate submission calls for an additional $30 million over the next 2 fiscal years to further assist Ukraine with its dismantlement efforts.

As we reported last year, Ukraine lacks the necessary capabilities and infrastructure to dismantle delivery systems, especially silos, in accordance with START I. During our visit to Ukraine, Ukrainian political and military officials stressed the importance of continued CTR dismantlement assistance, citing that without it, Ukraine could not continue its dismantlement efforts.

CTR aid is intended to help eliminate SS-19 and SS-24[6] missiles and silos and dispose of liquid rocket propellant. Initial CTR assistance deliveries—mobile cranes, all-terrain vehicles, fuel, tires, and batteries—appear to have facilitated the removal of warheads from missiles and the return of warheads to Russia. As of January 1995, 40 SS-19 missiles had been removed from their silos and all 46 SS-24 missiles had their warheads removed. According to Ukraine, as of April 1995, 40 percent of its nuclear warheads—about 700—had been returned to Russia. Per agreement, all nuclear weapons are to be removed from Ukraine by mid-1996.

[6]It is uncertain what Ukraine plans to do with the SS-24 missiles once the launchers have been eliminated. Under START, it is not required to eliminate these missiles.

The CTR program will use over $30 million to design, construct, and equip an SS-19 missile neutralization facility at which liquid fuel will be removed from the missiles as they are dismantled. Ukraine has no such facility. An integrating contractor[7] will oversee the neutralization facility and train the Ukrainians in its operation.

Dismantlement efforts could also be affected by the need to house demobilized Strategic Rocket Forces officers. Ukrainian law dictates that demobilized officers must be provided housing. Ukrainian officials told us that they cannot afford to construct the total amount needed and that future dismantlement progress could be slowed without prospects for adequate officer housing. The CTR program plans to provide about 428 housing units through defense conversion projects.

Kazakhstan

CTR officials have authorized $70 million in assistance to Kazakhstan and plan to spend another $20 million over the next 2 fiscal years. As of May 8, 1995, less than $50,000 in dismantlement assistance had been provided to Kazakhstan because—according to DOD—CTR efforts to help Kazakhstan eliminate over 100 SS-18 missile silos had been delayed for several months due to Russian security concerns. These concerns have since been resolved, according to DOD.

CTR assistance will fund an integrating contractor to help eliminate the silos after Russia removes the missiles.[8] The silo work is not expected to begin until later this year when DOD hires an integrating contractor.[9] Until then, the actual cost of the project is unknown.

Belarus

In Belarus, CTR program officials plan to provide $11 million in aid to help remove SS-25 missiles, related structures, and, possibly, residual liquid fuel. No CTR dismantlement aid has been provided to date. CTR aid will help Belarus meet its START I obligation to eliminate the missile launch pads. Russia is removing the SS-25 missiles from Belarus and has already withdrawn more than 45 of them.

[7]An integrating contractor manages all phases of a particular project and interfaces with other contractors performing specific tasks.

[8]As of April 1995, the Russians had removed all warheads from Kazakhstan.

[9]In the interim, DOD has hired two contractors to help Kazakhstan salvage metal and equipment from the silos.

Chemical Weapons Destruction

The CTR program's progress in addressing Russian chemical weapons destruction has been frustrating, and its outlook, though improving, remains unclear. Russian delays hampered several significant CTR efforts in the past year. Although the program may increase CTR chemical weapons aid almost ten-fold, many issues need to be resolved before future CTR funds can be used—including the prospects for using an unproven Russian technology. Despite several recent promising developments, it seems unlikely that Russia will be able to destroy its total chemical weapons stockpile in accordance with time frames stated in the Chemical Weapons Convention.

CTR assistance is directed at developing technology and procedures to destroy Russian nerve agents, which constitute about 80 percent of the declared Russian stockpile of 40,000 metric tons, at five of seven chemical weapons sites. The United States, in prior years, committed to provide $55 million in CTR funds to (1) prepare a comprehensive implementation plan for destroying chemical weapons; (2) establish a centrally located analytical chemical weapons destruction laboratory; and (3) conduct a joint evaluation of a Russian chemical weapons destruction technology, for determining what additional U.S. assistance could be provided in the design and development of a chemical weapons destruction facility. As of May 1995, the CTR program has obligated $22.2 million of the $55 million available for chemical weapons destruction efforts and disbursed about $7.3 million. The value of work performed totaled about $7.7 million.

However, delays have plagued efforts to spend the current $55 million. For example, the overall completion date for the program's major U.S. contract, worth almost $8 million, likely will slip 1 year, from mid-December 1995 to the end of 1996. Current project delays occurred for several reasons, including (1) disagreements between the United States and Russia over the priority of destroying air-delivered versus artillery-delivered chemical munitions; (2) differences over the type of chemical weapons destruction technology to be used, whether a proven U.S.-favored direct incineration process, or a Russian-favored two-step neutralization process; and (3) Russian delays in providing information and access to chemical weapons storage sites. Also, Russian indecision for over a year on selecting the central analytical destruction laboratory's location delayed use of $30 million committed for that purpose.

The CTR program envisions dramatic increases from the $55 million level of assistance. The DOD budget estimate submission for fiscal years 1996-97 includes $234 million for the next 2 fiscal years to help in design and

construction of a chemical weapons destruction facility that would be capable of destroying about 500 metric tons per year of the roughly 5,600 metric tons of chemical weapons agent located at this facility.[10] It also notes that constructing a chemical weapons destruction facility would cost more than $500 million and require multi-year funding through 2001.

However, even dramatic increases will address only a portion of Russian chemical weapon destruction costs. Russian estimates indicate that destroying Russia's total chemical weapons stockpile might cost $5 billion-$10 billion. Some Russians estimate that Russia will need between 35-50 percent of the estimated cost of total chemical weapons destruction in donor assistance.[11] DOD intends for the U.S. funding to address less than 10 percent of Russian funding requirements and to act as a catalyst for broader financial support to achieve full chemical weapons destruction goals. Although the chemical weapons destruction facility is intended to eliminate a "significant portion" of the threat, according to the DOD budget estimate submission, the site where it will be built contains only 14 percent of the Russian chemical weapons stockpile. Facilities at all seven sites are anticipated.

Uncertainties of cost and schedule associated with Russia's unproved technology could be severe. The United States experienced years of delays and unanticipated cost increases during the design and construction of a U.S. chemical weapons destruction facility using a proven technology.[12]

In addition, many issues need to be resolved before large-scale funding can be undertaken. Requirements for fiscal year 1996 funding appear to be contingent on completion of several tasks—most importantly, the joint evaluation of chemical weapons destruction technology. The final report on the joint evaluation's results is to contain specific proposals on the applicability of the two-step process for designing a chemical weapons destruction facility. DOD's budget estimate submission for fiscal years 1996 and 1997 assumes that the results of the joint evaluation will be favorable and completed on schedule by March 1996. Development of an

[10]An additional $10 million for the chemical weapons destruction facility for fiscal year 1995 actually will be reprogrammed for other uses, according to a DOD official.

[11]Germany has provided assistance of about $6.5 million through fiscal year 1994 and expects to approve an additional $4.5 million for fiscal year 1995 during May, according to a German official.

[12]We reported in December 1994 that the U.S. chemical weapons stockpile program had been delayed by design, equipment, and construction problems at the new disposal facility at Johnston Atoll. As a result of these and other factors, the estimated cost of the stockpile disposal program increased and the Army's destruction schedule slipped. Chemical Weapons Disposal: Plans for Nonstockpile Chemical Warfare Material Can Be Improved (GAO/NSIAD-95-55, Dec. 20, 1994).

implementation plan and conceptual designs for a pilot demonstration facility is to accord with the results of the joint evaluation. Further delays during fiscal year 1995 and early into 1996 could reduce the need and impact the justification for the budget requests.

To date, the chemical weapons destruction program remains uncertain about specific requirements for fiscal year 1996 funding and how much of the funding the program will be able to obligate during the fiscal year. A DOD official said, as of mid-May, that he realistically could expect to obligate between $50 million-$70 million of the fiscal year 1996 request of $104 million. In addition, the chemical weapons destruction program in mid-May had identified about $34.3 million of the fiscal year 1996 budget request for technology development requirements, including additional Russian equipment testing to be determined. In commenting on a draft of this report, DOD said that it had scheduled $34.3 million to be obligated in late 1996 as the first installment for the integrating contractor that would provide U.S. assistance for the design and construction of the Russian chemical weapons destruction facility. However, DOD has mistaken the $34.3 million, which it associated at the time of our review with undefined additional technology development activities with a nearly identical amount that recently revised funding breakouts allocated to the integrating contractor. DOD reduced an amount for the integrating contractor from $35.7 million to $34.3 million. DOD provided insufficient documentation to justify changes in these funding amounts. Given the lack of clarity associated with the purpose for the $34.3 million and history of delays in this program, it appears uncertain that DOD needs or could realistically expect to obligate this amount of funding in fiscal year 1996.

Uncertainty still exists about Russia's specific commitments to destroy its chemical weapons under its international obligations. In the past, Russia made no specific commitments to the United States to carry out the conditions of a bilateral chemical weapons destruction agreement and the Chemical Weapons Convention. DOD told Russian representatives in May that an implementing agreement would need to link U.S. assistance to specific Russian actions that address U.S. concerns.

Because of these uncertainties—and without significant additional financial assistance—Russia appears unable to destroy its stockpile in compliance with the Chemical Weapons Convention's time frames, if the Convention enters into force in or about 1996 as estimated. The Convention requires that all stocks of chemical weapons be destroyed in 10 years, with an extension of 5 years, if needed. Although estimates for

meeting the Convention's time frames depend on several variables and events that have not yet occurred—such as the entry into force of the Convention and Russian ratification of it, successful completion of the chemical weapons destruction technology joint evaluation, and design and construction of chemical weapons destruction facilities—it is doubtful that all seven chemical weapons destruction site facilities could be completed to meet the time frames.

However, several key events in March 1995 could provide new impetus to chemical weapons destruction projects. These include Russia's (1) finalizing and approving a work plan for 1995, which set tasks and milestones for the year; (2) identifying locations for the chemical weapons destruction facility and the central analytical laboratory; (3) issuing a presidential decree on chemical weapons disarmament, which established a legal framework for chemical weapons destruction and stated that a plan for speeding up Russia's preparation for destroying chemical weapons be completed by May 1995; and (4) establishing a separate line item of about $21 million for chemical weapons destruction in the Russian federal budget.

Control Over Nuclear Weapons and Materials

CTR projects for providing Russia with the means to safely store components from dismantled nuclear weapons have been delayed for several months, although they now appear to be moving forward again. However, long-standing Russian plans to acquire two storage facilities and 100,000 storage containers exceed the scope of these projects. While CTR projects have had little direct impact in improving material protection, control and accounting over weapons-useable civilian material at FSU nuclear facilities, the prognosis for doing so is improving as a result of recent agreements with Russia to upgrade controls at some facilities. However, several issues need to be resolved before a long-range plan now being developed by the United States to improve controls at 80 to 100 such facilities can be implemented successfully.

Fissile Material Storage

Russian officials have stated that Russia lacks suitable storage for components from thousands of nuclear weapons and have asserted that the process of dismantling these weapons could be slowed by this storage shortfall.[1] They plan to build two storage facilities—each capable of holding 50,000 containers[2] and each built in two, 25,000-container phases. Russian officials maintain that acquiring storage space and containers are their highest CTR priorities.[3]

The United States has agreed to provide Russia's Ministry of Atomic Energy with $15 million in design assistance and $75 million in equipment, training, and services to help build and outfit one of the facilities, at Mayak. The Army Corps of Engineers has performed design-related work valued at $13.8 million to help Russia with numerous studies, analyses, and plans.[4] DOD has obligated $27.4 million in equipment funds and performed equipment-related work valued at $4.7 million.

The CTR program has included another $6 million in design funds and $75 million in construction funds for the Mayak facility in its 1996-97

[1]In the past U.S. agencies have been unable to confirm a storage shortfall. Some have noted that Ministry of Defense storage space for intact weapons could be used. The Ministry of Atomic Energy has argued against doing so.

[2]Estimates that 2 to 5 containers could be needed to hold components from a single warhead indicate that one 50,000 container facility could hold materials from 10,000 to 25,000 weapons. Russia may dismantle as many as 24,000 weapons.

[3]The Russians have stated that the facility will be transparent to the United States. Facility transparency is part of an overall U.S. effort to prevent a resumption of the U.S.-Soviet nuclear arms competition.

[4]The Department of Energy contributed $1 million of its own funds to the design effort.

budget estimate submission. If approved, these funds would raise total CTR funds for the Mayak facility to $171 million.

During the past year the storage facility project was delayed by several months, due to difficulties with the Russians. In September 1994, after learning that the Russians had unilaterally made a major change in the facility's design—eliminating the relevance of roughly 30 percent of the U.S. design effort—the United States froze deliveries of construction equipment until Russia addressed U.S. questions about the new change. Deliveries were also held up by Russia's initial reluctance to allow the United States to perform a radiation survey of the Mayak site.[5] In March 1995, DOD, satisfied with the progress of the design[6] and having convinced Russia to schedule the survey, authorized the shipment of the construction equipment. Russia has begun preparing the site for construction, which is scheduled to begin in June.

The CTR program has cited the storage facility project as evidence that the risk of proliferation has been reduced. Although the project is now moving forward again, the facility's first 25,000 container phase will not be ready until December 1998—assuming no further difficulties. Moreover, before the United States can support construction at the Mayak site the United States and Russia must first amend existing agreements or conclude new ones to allow for additional design and construction funds and work out arrangements for the use of a U.S.-hired integrating contractor. DOD officials informed us that they are developing a detailed plan for using construction funds and that the project could probably absorb the $23 million requested for facility construction in fiscal year 1996—if agreements or amendments can be completed and an integrating contractor is hired by the end of 1995. Russia must also provide (1) detailed construction schedules and (2) more detailed design information to allow the United States to define equipment, training, and services requirements and obligate another $47.6 million of the $75 million in CTR equipment funds.

The total cost of the Mayak facility will likely exceed the $171 million allocated by the CTR program. The latest Russian study reviewed by the Army Corps of Engineers estimates that the entire Mayak facility will cost about $677 million to build and equip—a substantial increase over past

[5]The Mayak site is located at the scene of a 1957 nuclear accident that contaminated much of the area.

[6]Russia plans to have completed 35 percent of the design by October 1995.

estimates.[7] In the past, Russian officials have suggested that the two countries divide the costs evenly, which could result in a U.S. share of about $338 million for the Mayak facility—if the current Russian estimate is accurate.

CTR efforts to provide containers for the facility have also been delayed—although in this case the delays are due to U.S. technical difficulties and coordination problems. Russia plans to equip both storage facilities with a total of 100,000 containers. The United States plans to develop and deliver as many containers as possible within a $50 million budget.[8] Originally this amount was estimated to be about 33,000 containers. The United States has not agreed to provide additional containers.

The project had planned to produce and deliver the first 10,000 containers to Russia by December 1995, beginning with monthly shipments of 1,000 in March 1995. However, one container failed during tests in December 1994—necessitating design changes. An independent analysis cited technical and managerial deficiencies.

Although project participants appear to have taken corrective action, the container project will warrant close attention through its completion, due to its complexity, cost, and high Russian interest level. Although the redesigned prototype has been successfully tested, manufactured units will require more testing and CTR officials will not decide before July 1995 whether to begin full-scale production. As a result, fewer containers—possibly 26,000 to 28,000—will be provided later than had been planned. The United States anticipates producing 850 a month by the end of this year. The Russians have been pressing for delivery and expressed great unhappiness with the delay when we met with them in Moscow.

[7]The November 1993 estimate of $315 million cited in our last report placed the cost of building and equipping the facility's first phase at $300 million. The current Russian estimate includes $454 million to build and equip the facility's first phase—an increase of more than 50 percent. According to DOD, the current Russian estimate is within the range of the Army Corps of Engineers' most recent estimates.

[8]DOD has obligated $45 million and disbursed $10 million as of May 8, 1995. As of March 1, the value of work performed was estimated at $14.2 million.

Material Protection, Control, and Accounting

To date, the CTR program has had little direct impact in protecting, controlling, and accounting for civilian nuclear material that presents a high proliferation risk.[9] The program's prospects are improving as a result of recent agreements with the Russians to upgrade nuclear material controls at civilian facilities using direct-use material (highly enriched uranium and plutonium). The United States is also developing a long-range plan to help upgrade controls at 80 to 100 civilian, naval nuclear, and nuclear weapons-related facilities handling direct-use material by 2002. However, several issues need to be addressed for the U.S. program to succeed.

The FSU possesses hundreds of tons of direct-use nuclear material located at 80 to 100 civilian, naval nuclear, and nuclear weapons-related facilities, mostly in Russia. Much of this material is considered to be highly attractive for theft. Current nuclear controls in use at FSU nuclear facilities make it difficult to deter or detect such theft. The facilities rely on manual, paper-based tracking systems that cannot quickly locate and assess material losses. In addition these facilities lack modern physical protection systems, such as monitors, that can detect unauthorized attempts to remove nuclear material from a facility.

The CTR program provides assistance to Russia, Ukraine, and Kazakhstan for upgrading civilian nuclear material controls at selected model facilities and developing regulations, enforcement procedures and national material tracking systems. Through the program, the United States has provided technical working group meetings, site surveys, physical protection equipment, computers, and training in support of CTR projects. To date, none of the projects have been completed. DOD has obligated $36.8 million of $62.5 million budgeted, and the value of work is $2.7 million.[10] DOD is currently defining work valued at $28 million for future obligations.

So far, CTR efforts have had little direct impact in improving control over direct-use material at civilian facilities. This is due mainly to delays in negotiating agreements with the FSU states; Russian Ministry of Atomic Energy (MINATOM) restricting work to low-proliferation risk materials in

[9]Although it was not a CTR project, DOD used some CTR funds to finance their portion of Project Sapphire. In 1994, Project Sapphire transferred from Kazakhstan to the United States 600 kilograms of highly enriched uranium that presented a proliferation risk. According to a DOD official, CTR funds used for Project Sapphire were in addition to the $5 million available for obligation for material protection control and accounting assistance to Kazakhstan.

[10]In Russia, DOD has obligated $20.3 million of $45 million budgeted, and the total value of work performed is $1.2 million. In Ukraine, DOD has obligated $11.5 million of a planned $12.5 million, although the total value of work performed is less than $660,000. In Kazakhstan, DOD has obligated $4.9 million of a planned $5 million program, and the total value of work performed is $850,000.

Russia; and the preliminary nature of the work at other FSU facilities where direct-use material is present. Problems in procuring equipment have also caused some delays. CTR work on developing a national regulatory system in Russia has been hampered by MINATOM's resistance to expanding the role of GAN, Russia's nuclear regulatory agency, and GAN's lack of statutory authority for oversight and enforcement.

The prospects for accelerating obligations in Russia may be improving. Recently, Russia and the United States agreed to add five high-priority sites handling large amounts of direct-use material to the program. The Department of Energy also signed a letter of intent with GAN to cooperate in implementing a national material control and accounting system. The Department of Energy is preparing a long-range plan to enhance nuclear material protection control and accounting at the 80 to 100 facilities handling direct-use material by the year 2002. Responsibility for funding and supporting CTR nuclear material protection control and accounting efforts will be transferred from DOD to the Energy Department in fiscal year 1996. The Energy Department plan would include Energy's lab-to-lab program, initiated by Energy in 1994, which works directly with personnel at Russian civilian and nuclear-weapon related nuclear facilities to improve nuclear material control, accounting, and physical protection. The plan's estimated cost is about $0.5 billion.

Several issues would need to be addressed for such a program to succeed.

- Currently, there is no agreement with the Russians for work at most of the 80 to 100 facilities. In the past, MINATOM has taken a go-slow approach and only recently opened up direct-use facilities to the CTR program. However, the Energy Department has had some early success in upgrading controls at a direct-use facility under its lab-to-lab program. In addition, the U.S. and Russian Steering Groups for Energy's lab-to-lab program have agreed to develop a unified plan for cooperation with the principal MINATOM nuclear weapons-related facilities, and Energy is negotiating agreements for work at many of the other 80 to 100 facilities.[11]
- The Department of Energy has not yet determined the appropriate number of personnel and amount of resources needed to manage the planned expansion of the program. In fiscal year 1995, Energy manages a lab-to-lab budget of $15 million. Starting in fiscal year 1996, Energy will be responsible for implementing the proposed long-range plan, which calls for a budget increase in material protection control and accounting

[11]In addition, the Russian government issued a decree in January that commits it to improving material protection control and accounting at Russian nuclear facilities.

assistance to about $70 million per year. This budget level will continue until fiscal year 1999.

- The United States has yet to determine the degree of oversight needed to ensure program success. The Russians have already told Energy officials that the United States may not be allowed direct access to a small number of highly sensitive facilities. It is unclear to what extent currently negotiated audit and examination provisions under CTR will apply to the new projects in the proposed long-range plan. According to a State Department official, given the extremely important priority of preventing diversion of nuclear material, the executive branch has agreed in principle on the need for flexibility in pursuing adequate arrangements for ensuring that U.S. assistance is used as intended. The official also noted that most of the equipment provided is highly specialized, permanently installed, and not easily used for other purposes.

Even with a successful Energy-led program, the United States would not be able to control the extent to which Russian facilities meet international standards. According to a U.S. national laboratory official, Russia will be provided with all the elements to develop a nuclear material control system that is consistent with international standards, but responsibility for meeting the standards rests with the Russians. As a nuclear weapons state under the Nuclear Nonproliferation Treaty, Russia is under no treaty obligation to meet international safeguard standards.[12] In contrast, as non-nuclear weapons states under the treaty, Ukraine and Kazakhstan are required to meet IAEA safeguard standards.

Weapons Security

Two CTR projects to enhance nuclear weapons security—armored protective blankets and kits to upgrade railcars—are being completed. The United States and Russia are exploring new areas of cooperation on weapons security.

The CTR program provided 4,000 armored blankets to Russia between July 1992 and June 1993. In October 1994 the program completed shipping 115 kits to upgrade rail cars for transporting warheads. Russian officials told us in March 1995 that most of the kits were being installed and that the process had been delayed by a Russian funding shortfall that had been recently remedied.

[12]Russia has entered a voluntary agreement with the International Atomic Energy Agency (IAEA) to meet international safeguards requirements at some of its civilian nuclear power facilities and research reactors. Russia also is a signatory to the Convention on the Physical Protection of Nuclear Materials, and as such is obligated to meet defined standards of physical protection for nuclear material. Ukraine is also a signatory to the Convention.

Russian officials told us that Russia has used blankets to protect 600 strategic warheads being withdrawn from Ukraine. DOD, in commenting on a draft of this report, informed us that the blankets and rail cars have been used to move warheads within Russia and to Russia from Ukraine and Kazakhstan. DOD also noted that CTR assistance had helped secure and transport strategic warheads that had been deployed in Russia.[13]

We reported last year that—despite the rail car kits and the blankets—the FSU rail transportation system would still not be safe by Western standards. Russian officials told us that they were concerned about threats posed by criminals and poor rail conditions. U.S. and Russian officials are now exploring additional weapons security measures, including new types of rail cars and supercontainers for warheads in transit. The two countries are also considering computerized accounting systems for warheads and personnel security measures. While DOD has recently agreed to provide $20 million in such aid, its budget estimate includes far more for weapons security—a total of about $120 million in fiscal year 1995-97 funds for such purposes, including $42.5 million in fiscal year 1996 alone.

[13]DOD noted that there are over 1,000 such warheads. DOD officials do not know how many of these 1,000 have been transported with CTR aid.

Demilitarization

The International Science and Technology Center in Moscow appears to have had a good first year in addressing its nonproliferation objectives, although it does not preclude the possibility that scientists receiving Center funds may also work on Russian institutes' weapons activity with non-Center funds.[1] Most of DOD's defense conversion projects are not converting active production lines but are instead using previously dormant facilities that once produced items related to weapons of mass destruction.

International Science and Technology Center

During its first year, the International Science and Technology Center in Moscow appears to have made a good beginning in achieving its nonproliferation objectives by supporting work on peaceful projects for scientists engaged in weapons of mass destruction and missile delivery system activities. However, although CTR program materials have often described the recipients of Center funds as "former" weapons scientists, we found that scientists receiving Center funds may also continue to be employed by institutes engaged in weapons work. According to the State Department, the Center's objective is to intentionally fund weapons scientists in the FSU and redirect their efforts to peaceful activities. The Center prohibits use of its funds for weapons work.

With the collapse of the Soviet Union, the United States became concerned that FSU experts in weapons of mass destruction and related technologies might flee to other countries of proliferation concern to employ their specialized knowledge and maintain their livelihoods. According to State Department officials, many such experts are not being paid on a regular basis by their institutes. Continued economic deterioration could exacerbate this problem, particularly in light of decreased demand for this expertise and the inability of the governments to pay these experts on a regular basis. Estimates of the numbers of experts who potentially might engage in proliferation activities range from 10 thousand to several 10s of thousands of individuals. Center officials estimate that there are 3,000 core weapons of mass destruction and missile delivery system experts.

As a result, the United States, European Community, Japan, and Russia agreed to establish the Moscow Center to provide peaceful opportunities

[1]DOD categorizes U.S. support for the Center as CTR demilitarization activity, prompting our decision to discuss the Center here. The Department of State, which currently manages the Center project for DOD and which will assume complete responsibility for U.S. support for the Center in fiscal year 1996, commented on a draft of this report that it has always considered the Center to be a non-proliferation effort, not a demilitarization project.

to weapons scientists and engineers, particularly to experts on weapons of mass destruction and delivery vehicles. The Center selects projects from those submitted on a competitive basis, using a detailed review process. Center projects are carried out at various facilities and institutes throughout the FSU. To limit the potential diversion of funds, scientists and experts are paid directly on a quarterly basis rather than through their institutes and direct procurements of necessary equipment are made for the projects. An overhead payment up to 10 percent is made to the scientists' institutes upon successful completion of the project.

The United States has committed $46 million to the Center in Moscow.[2] As of May 8, 1995, DOD had obligated $22.8 million and disbursed $20.9 million to the Center. The Center, which has been in operation for about 1 year, has disbursed $2.8 million for salaries and related project costs. Its Governing Board has approved 130 projects—valued at $60 million—of nearly 400 proposals received.[3] Grants include approximately $25 million in U.S. funds and involve 8,200 scientists and engineers, including, according to Center officials, at least 1,000 core weapons of mass destruction scientists.

Recipients of seven Center grants at three different institutes told us that they had been involved in nuclear weapons development or nerve agent research—suggesting that they are among the Center's target group. They noted that the grants were important in redirecting their research and helping them survive the current economic conditions. State Department officials indicate that the target population appears to be staying in Russia, although the Center's role in encouraging them to do so is difficult to assess.

We found that Center-supported scientists are not necessarily employed full time on Center projects and that they may spend part of their non-Center funded time working on Russian weapons of mass destruction. They may remain employed by FSU laboratories and work less than 100 percent of their time on Center projects—some as little as 10 percent. This situation raises the prospect that the scientists could spend the remainder of their time on their institutes' work on weapons of mass destruction.

[2]This amount includes $5 million for projects in Belarus and $6 million for projects in Kazakhstan.

[3]DOD conducted a full financial audit of the Center in March 1995 and concluded that the Center's financial statement fairly presented its financial position as of December 31, 1994.

According to the State Department, Center and U.S. officials track the time the scientists spend on Center projects only and are not in a position to monitor their non-Center activities. Nevertheless, Center officials told us that they doubt that most scientists are actually working on other than Center projects. Center and State officials told us that the scientists maintain their connection to the institutes to retain important social benefits that the Center does not provide. U.S. officials stated that the Center is intended to help prevent proliferation and encourage commercial efforts, rather than to preclude scientists from working on Russian weapons of mass destruction, and that the Center prohibits the use of its funds for weapons-related work.

We also learned that the United States and the Center are taking some steps to guard against the risk that scientists participating in Center projects could create dual-use items—civilian goods with weapons applications—with Center funds. U.S. officials explained that the United States policy is not to fund a project if it advances the state of Russian weapons technology, but could consider doing so if it utilizes existing weapons technologies for civilian applications and would provide meaningful employment for the target group of scientists. For example, the United States is supporting, through the Center, development of a commercial streak camera. Streak camera technology can be relevant to nuclear testing, and the final product could be subject to export licensing if produced for export, depending on its technical capabilities. The Center project was reviewed for dual-use potential during a detailed U.S. review process for all Center proposals based on scientific merit and U.S. policy.

The State Department will assume responsibility for U.S. support for the Center in fiscal year 1996 and has prepared a multiyear plan to 2003. It estimates the project level will reach 225 projects, employing an estimated 12,000 individuals. State plans to budget approximately $90 million over the next 7 years for Center activities, $18 million annually through 1998 with a gradual decline to almost zero in fiscal year 2003. From the year 2003, State Department projects that nearly all funds will come from other U.S. agencies and non-governmental sources such as commercial partnerships. State officials hope to increase promotion of commercial partnerships where limited activities have occurred.

State officials could not provide detailed analysis to support these planning figures, which, they stated, were largely developed by DOD through fiscal year 1998. However, they informed us that they have initiated a process for reviewing and revising these figures. They added

that the funding levels were based on first-year spending rates, an unexpectedly large number of proposals, hopes of achieving a more targeted outreach to scientists, and overall political considerations.

Project monitoring is already an area of concern for Center officials, who said that, because of the limited number of staff, they can monitor projects only intermittently, instead of quarterly as desired. Additionally, State Department officials explained that project monitoring is a tool in reviewing dual-use concerns and that the United States has proposed that the Center hire six to eight new project staff to help free senior staff for monitoring activities.

Defense Conversion

According to DOD officials, U.S. defense conversion aid is not intended to be sufficient to convert the FSU's defense industry. The program is planning to promote defense conversion by providing leverage to U.S. investment in the FSU. Although DOD claims their conversion efforts reduce the threat of weapons of mass destruction, we found that most of these efforts are converting dormant facilities that once produced items related to weapons of mass destruction. In commenting on a draft of this report, DOD informed us that most of its efforts are aimed at converting production capability because it considers much of Russia's weapons production capability to be inactive. DOD stated that converting inactive capability will alleviate pressure on Russia to rearm or sell high-tech weapons abroad and also aid the Russian economy. We also found that, initially, DOD efforts did not give priority to privatization of defense enterprises, and some of these companies remain state owned .

The task of converting the FSU's defense industry to peaceful enterprises is enormous. One DOD official says that Russian officials claim that defense conversion will cost $150 billion and take 12 to 15 years. About 1,800 Russian defense plants are already undergoing conversion.

The DOD defense conversion efforts primarily consist of industrial partnerships between U.S. enterprises and FSU weapons producers and in many cases these partnerships are creating private spin-off enterprises. Most of these efforts have been initiated in the past year and are in the early stages of development. Until now, DOD has managed nearly all of the defense conversion projects, but after fiscal year 1995 all new projects are to be managed by the Defense Enterprise Fund—a DOD-funded non-profit venture capital fund.

DOD has $152.7 million available for obligation for defense conversion from fiscal year 1994 and 1995 funding. Currently, it plans to allocate an additional $70 million in fiscal year 1996-97 funds to the Fund. Up to $60 million of the $152.7 million is being obligated to convert former defense facilities to housing construction to help support the demobilization of Strategic Rocket Force officers. DOD is using the remaining $92.7 million primarily for industrial partnerships that will create joint ventures. The Fund will receive $27.7 million of this $92.7 million.

As of May 8, the CTR program had obligated $97.6 million for defense conversion and the Fund.[4] As of March, according to DOD, the value of defense conversion work performed was about $24.7 million, and as of May defense conversion projects had created 93 jobs for Americans and 1,475 jobs for FSU defense employees. DOD estimates expect U.S. companies to have exported more than $27 million, and projected sales of the 15 joint ventures are expected to exceed $53 million this fiscal year.

DOD-Managed Projects

DOD justifies the program by claiming that defense conversion efforts reduce the threat of weapons of mass destruction at their origin by converting enterprises to civilian sector endeavors. According to a DOD official, DOD focused on initiating projects at FSU firms and facilities that once produced weapons of mass destruction, but there is only one facility where an active production line is being converted to civilian use. The Defense Nuclear Agency initiated the defense conversion program by matching U.S. businesses with DOD-selected FSU defense enterprises. We also found that defense conversion took priority over privatization as criteria for selection. Although encouraging privatization is a U.S. policy, Defense Nuclear Agency officials said that it was not an initial concern of CTR defense conversion.[5] According to DOD officials, implementing agreements with the FSU republics do not make privatization a requirement for defense conversion projects, but DOD officials are working with the FSU governments to privatize CTR projects.

DOD-managed projects are at varying stages of implementation.

- In Russia, one project links GosNIIAS—a state-owned aviation enterprise on Russia's list of firms not to be privatized—to a U.S. firm with which it

[4]As of May 30, 1995, the CTR program had obligated nearly $118 million for defense conversion and the Defense Enterprise Fund.

[5]In Belarus, privatization is not permitted.

had previously been involved. DOD is providing $4.1 million to the U.S. firm, which has subcontracted $938,000 to GosNIIAS to begin to develop an air traffic control system in the Russian Far East. Unlike another Russian project we reviewed, the GosNIIAS project is not a joint venture and profits made could go back to GosNIIAS.

- In Ukraine, a U.S. commercial partner has teamed up with a Ukrainian enterprise, Hartron, which formerly made ballistic missile guidance systems for the SS-18 and SS-19. These firms will work together to develop nuclear power plant instrumentation and control systems, which are designed to improve nuclear safety. The United States provided a $5 million grant to the U.S. firm, which has contributed $14 million for this joint venture. As of July 1994, Hartron has about 10,000 employees and has several other on-going conversion efforts, including a Chinese-Ukrainian venture assembling televisions, an association with a U.S. computer firm to produce components, and a planned project linking banks with satellite communications.
- In Kazakhstan, a U.S. firm has teamed up with KazInformtelecom to build a national and international telecommunications system, which is projected to be operational in 11 cities in 12 months. The U.S. government is providing $5 million of the $16.1 million for this partnership. KazInformtelecom is a new company that was established in 1994. It is the executive contractor to convert part of the Saryshaghan testing site to civilian use. Saryshaghan tested surface to air and anti-ballistic missiles.
- Defense conversion funds are also being used to help provide housing to further Inter Continental Ballistic Missile (ICBM) demobilization. According to DOD, the shortage of housing is one of the most serious obstacles to eliminating strategic nuclear missile arsenals and closing missile bases. In Belarus, Russia, and Ukraine, provisions for housing are a statutory prerequisite for officer demobilization. In Ukraine, DOD plans to provide assistance that will result in 428 housing units at a cost of $30 million. The Ukraine housing requirement for demobilization is 6,000 units. In Russia, the DOD-funded housing project is expected to provide 500 units of the potentially 30,000 housing units needed at a cost of up to $20 million. In Belarus DOD plans to provide up to 207 of the 802 housing units needed at a cost of $10 million. All but one of these projects are aimed at creating new housing industries and infrastructure that can be used to create additional housing. As a result, housing project start-up costs appear high.

Defense Enterprise Fund-Managed Projects

New defense conversion projects are being developed by the Defense Enterprise Fund, a venture capital fund capitalized by DOD to finance joint ventures and promote FSU defense conversion. According to one Fund official, the Fund will take more risk than the average venture capital firms to fill a perceived void and will require that its projects are privatized. The Fund has recently begun operating. Its Board of Directors first met in September 1994. DOD has obligated $27.7 million available to the Fund. To date, the Fund has provided one $1.8 million loan. The Board has approved several other projects whose final terms and conditions are being negotiated.

DOD has proposed that about $118 million be provided to the Defense Enterprise Fund from fiscal years 1994 through 1997. In fiscal year 1995, $20 million was rescinded from the $40 million budget. DOD officials believe that the proposed funding is the minimum necessary to capitalize the Defense Enterprise Fund so it will have enough money to sustain itself after funding is completed. These officials believe that if funding is cut again the Fund will not have an opportunity to become self-sustaining and will just be an expensive mechanism to support joint defense conversion business initiatives. DOD justifies this funding based on other venture capital fund experiences and computer modeling of the $118 million, which shows the fund can be self-sustaining in certain scenarios. According to DOD officials, DOD took a conservative approach and modeled scenarios that predicted between 30 percent and 70 percent of the projects will default. These high default rates were based on pessimistic forecasts by other fund managers who predict problems trying to convert former Soviet weapons of mass destruction industries. Using the higher default rates, the Fund would have great difficulty sustaining itself. DOD has requested the Defense Enterprise Fund provide its own analysis based on DOD's funding profile.

Funding for the CTR Program (Fiscal Years 1992-95)

Dollars in millions

Projects	Notifications to Congress	Obligations	Disbursements
Destruction and dismantlement			
Chemical weapons destruction/lab—Russia	$55.000	$22.182	$7.336
Communications link			
Belarus	2.300	.974	.457
Kazakhstan	2.300	.614	.134
Ukraine	2.400	.650	.131
Environmental restoration-Project Peace	25.000	14.772	1.831
Nuclear infrastructure elimination			
Belarus	5.000	.000	.000
Kazakhstan	17.000	.000	.000
Ukraine	10.000	.000	.000
Strategic offensive arms elimination			
Belarus	6.000	.000	.000
Kazakhstan	70.000	.324	.049
Russia	150.000	112.083	19.639
Ukraine	205.000	89.536	19.279
Subtotal	**550.000**	**241.135**	**48.856**
Chain of custody/nonproliferation			
Armored blankets—Russia	5.000	3.244	2.905
Emergency response			
Belarus	5.000	4.288	3.604
Kazakhstan	5.000	2.045	.302
Russia	15.000	12.857	11.182
Ukraine	5.000	2.002	.179
Export controls			
Belarus	16.260	3.073	1.237
Kazakhstan	2.260	1.117	.137
Russia	2.260	.044	.011
Ukraine	7.260	3.337	.254
Fissile material containers—Russia	50.000	44.944	10.086
Material control and accountability			
Kazakhstan	5.000	4.923	.364
Russia	45.000	20.333	.568
Ukraine	12.500	11.504	.129

(continued)

Dollars in millions

Projects	Notifications to Congress	Obligations	Disbursements
Nuclear reactor safety—Ukraine	11.000	11.000	.046
Rail car security upgrades—Russia	21.500	21.500	17.649
Storage facility design	15.000	15.000	12.866
Storage facility equipment	75.000	27.356	2.511
Weapons security—Russia	20.000	.000	.000
Subtotal	**318.040**	**188.567**	**64.030**
Demilitarization			
Defense conversion/Industrial Partnerships			
Belarus	20.000	19.607	8.098
Kazakhstan	15.000	14.860	.105
Russia	40.000	17.218	3.681
Ukraine	50.000	38.286	4.280
Defense Enterprise Fund	27.670	7.670	7.670
Research and development foundation—Russia	10.000	.000	.000
Science and technology center			
Belarus	5.000	.000	.000
Kazakhstan	6.000	.000	.000
Russia	35.000	22.853	20.889
Ukraine	15.000	.414	.307
Subtotal	**223.670**	**120.908**	**45.030**
Other authorized programs/program support			
Arctic nuclear waste—Russia	30.000	19.520	5.270
Military-to-military contacts			
Belarus	7.524	.301	.098
Kazakhstan	.900	.074	.014
Russia	11.548	7.761	3.844
Ukraine	5.900	.869	.321
Other assessment costs	24.400	19.720	9.221
Subtotal	**80.272**	**48.245**	**18.768**
Total	**$1,171.982**	**$598.855**	**$176.684**

Note: *These figures were current as of May 8, 1995.*

Work Performed on Selected CTR Projects (Fiscal Years 1992-95)

Dollars in millions

Projects	Value of work performed	Disbursements
Destruction and dismantlement		
Chemical weapons destruction/lab—Russia	$7.649	$5.120
Environmental restoration-Project Peace—Belarus	4.958	.802
Strategic offensive arms elimination		
Russia	55.925	28.186
Ukraine	52.530	8.753
Kazakhstan	.045	.045
Chain of custody		
Emergency response—Belarus	4.125	3.340
Fissile material containers—Russia	14.254	6.501
Material control and accountability		
Kazakhstan	.850	.016
Russia	1.189	.368
Ukraine	.660	.117
Storage facility design—Russia	13.764	12.441
Storage facility equipment—Russia	4.744	.345
Demilitarization		
Defense conversion-industrial partnership		
Belarus	7.785	6.844
Kazakhstan	.113	.099
Russia	3.059	2.524
Ukraine	6.043	1.966
Defense Enterprise Fund	7.670	7.670
Science and technology center—Russia	20.313	20.313
Total	**$205.676**	**$105.450**

Note: These figures were current as of March 1, 1995.

Comments From the Department of Defense

Note: GAO comments supplementing those in the report text appear at the end of this appendix.

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ATOMIC ENERGY

Mr. Henry L. Hinton
Assistant Comptroller General
National Security and International
Affairs Division
U.S. General Accounting Office
Washington, D.C. 20548

2 June 1995

Dear Mr. Hinton:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report, "WEAPONS OF MASS DESTRUCTION: Helping the Former Soviet Union Reduce the Threat," dated May 19, 1995 (GAO Code 711118), OSD Case 9931. While the Department of Defense concurs with some of the findings in the report, we disagree with many of the GAO's assertions.

The Department is concerned that this draft GAO report was leaked to the press before the Executive Branch had a chance to review it for accuracy. Your office has assured us that it did not leak the draft and regrets the way the draft has been misused. Unfortunately, the unauthorized use of the information in the draft report distorted many of the GAO statements by taking them out of context. As a result, an inaccurate picture of the progress made under the Cooperative Threat Reduction (CTR) program was presented in the press. Unfortunately, such distortions may be used to justify Congressional actions which could unfairly damage this valuable program.

Offers of U.S. CTR assistance have helped to convince three nations with nuclear weapons to decide to become non-nuclear. Now the program is providing the FSU countries with material assistance to implement their dismantlement decisions. In the former Soviet Union, warheads are being deactivated, bombers are being chopped-up, weapons scientists are being employed on civilian work, and plants which produced high-tech weapons are being converted to civilian production. CTR helped finance the transfer of 600 kilograms of highly enriched uranium - enough for about 20 nuclear bombs - from Kazakhstan to secure storage in the United States. For the GAO report to say that the impact of the CTR program on reducing the threat to the U.S. has been "limited" is to miss the big picture.

The threat to the U.S. from FSU nuclear missiles and warheads has declined markedly since the CTR program got fully underway in 1993. The GAO neglects to connect the CTR program with this phenomenon, because it does not recognize that the effectiveness

of the program lies in a combination of leverage to obtain political commitments, and practical assistance to implement those commitments over a period of several years.

In reviewing the report, the Department also noted some inaccuracies, misleading statements, and out-of-date material. The Department's comments on these issues are discussed in the enclosure.

Technical corrections to the report are being provided separately. The Department appreciates the opportunity to comment on the draft report.

Sincerely,

Harold P. Smith, Jr.

Enclosure

Enclosure

DISCUSSION OF KEY ISSUES

DOD REVIEW OF RESULTS IN BRIEF

Now on pp. 2 and 4.

ISSUE 1: (GAO REPORT page 3): "By some measures the CTR program has made progress over the past year. However, the actual impact in FSU states to date is limited."

See pp. 2 and 4.

DOD COMMENT: The Department welcomes GAO's recognition that progress has been made, but strongly non concurs that the impact in the FSU states has been limited. By numerous measures, the CTR program has made significant progress over the past year and the actual impact in the FSU states has been substantial, rather than "limited". DOD recognizes that measuring and assessing the effectiveness of CTR assistance is a challenge. It is easy to misunderstand the way in which CTR has an impact in the former Soviet republics, but the GAO report misconstrues and systematically underestimates the manner in which CTR has contributed and continues to contribute to U.S. security.

See pp. 4-5.

The impact of CTR assistance on reducing the threat from the former Soviet Union's arsenal of weapons of mass destruction has been direct, concrete and increasingly important to U.S. national security. The impact of CTR assistance must be examined both on the basis of the direct, material effect of assistance delivered, and for the important decisions and actions it has supported and encouraged in the FSU countries. Using both measures, it is clear that CTR has dramatically improved U.S. national security.

Ukrainian leaders and parliamentarians made it clear that Ukraine would never have made the commitment to the Trilateral Statement, nor to ratify START or the NPT, had the U.S. not offered them the benefit of CTR assistance to help implement these decisions if Ukraine undertook them. In fact, Ukraine would not sign the Trilateral Statement without this commitment being included in the text:

> "President Clinton reaffirmed the United States commitment to provide technical and financial assistance for the safe and secure dismantling of nuclear forces and storage of fissile materials. The United States has agreed under the Nunn-Lugar program to provide Russia, Ukraine, Kazakhstan and Belarus with nearly USD 800 million in such assistance, including a minimum of USD 175 million to Ukraine."

See pp. 14-15.
See comment 1.

The political leverage and engagement provided by CTR assistance produced a Ukrainian commitment to work with the U.S. toward mutually agreed dismantlement goals, which is accelerating the process of denuclearization in Ukraine by several years. Over 800 warheads which threatened the U.S. have now been sent from Ukraine to Russia for dismantlement. By the middle of next year,

over 1,700 warheads will have left Ukraine, enough to destroy every major city in the United States. This is surely a supreme benefit for U.S. national security.

See p. 4.

The GAO report uses an incorrect and limited methodology to assess CTR's effect on U.S. security--how US-supplied equipment has been used to dismantle missiles, transport warheads, or chop bombers. This is actually the second stage of a two-stage process through which CTR assistance has had an impact. The first stage was the important commitments and decisions to denuclearize and demilitarize undertaken by FSU governments. Additionally, the GAO report does not reflect the fact that DOD could only begin to procure and deliver goods and services to the FSU in the past 18 months. The FSU republics finally agreed to sign key CTR implementing agreements only between the summer of 1993 and the end of that year. Thus, the CTR program, while initiated by Congress four years ago, could only begin major procurements of equipment after two years had elapsed.

See comment 1.

Even then, GAO underestimates the role of the material assistance provided. Concrete material progress accelerated in 1994 as implementation began. The CTR assistance provided to Ukraine in March of 1994--HUMVEES, emergency access equipment, communications equipment, truck batteries, power saws, and other tools--to assist with the deactivation of SS-19 and SS-24 ICBMs pursuant to the Trilateral Statement--had a direct, measurable impact on the reduction of the threat from these warheads. DOD continues this type of assistance today in Ukraine to accelerate the process of warhead deactivation.

See comment 2.

Likewise, today in Russia CTR guillotine shears, cranes, and cutting tools are being used at Engels Air Base to cut up Tu-95 bombers in compliance with START limits. US heavy equipment is in use at a naval base in Russia cutting the SLBM launch tubes out of nuclear submarines. Armored blankets and secure railcars provided through CTR assistance have been used to transport warheads from Ukraine and Kazakhstan to Russia for dismantlement, and within Russia.

Even focusing just on direct material assistance, the GAO statement about limited impact only applies to those elements of the CTR program, which, because they are multi-year projects, even the GAO report recognizes will have their main impact over a period of several years.

See comment 3.

Through a combination of leverage provided by the CTR program and direct material assistance, the following tangible reductions in the threat to the US have been made since the Soviet Union's disintegration:

See pp. 4 and 12-15.

- Missiles containing 2,825 nuclear warheads have been deactivated in the former Soviet Union (CTR provided direct assistance for deactivation of many of the missiles and transportation of many of these warheads);

See pp. 4 and 12-15.

See comment 4.

- 1,785 of these warheads have been deactivated from Ukraine, Belarus, and Kazakhstan (CTR assistance was used as leverage to obtain denuclearization decisions from Ukraine and Kazakhstan and to accelerate the process in Belarus);
- Over 750 missiles have been removed from their launchers and over 75 have been returned to Russia (CTR has provided direct assistance for removal of missiles from launchers);
- Approximately 630 strategic launchers and bombers have been eliminated (CTR has provided direct assistance for eliminating a portion of these according to START requirements);
- Over 1,000 strategic warheads that could target the U.S. are no longer deployed in Russia (CTR has provided direct assistance for securing and transporting these warheads and will provide help in storing their materials and components after dismantlement);
- Three countries with nuclear weapons decided to become non-nuclear (Discussions on the CTR program were the channel of communication through which the US could directly and effectively press our views on denuclearization with the FSU states in 1993 and 1994. CTR assistance provided the incentive to obtain denuclearization decisions from Ukraine and Kazakhstan and to accelerate the process in Belarus);
- All nuclear weapons are now out of Kazakhstan (CTR assistance was used to protect and secure these warheads during transport to Russia and within Russia); and
- Through Project Sapphire, 600 kilograms of highly enriched uranium from Kazakhstan was shipped for safekeeping in the U.S. reducing the potential for proliferation of this material. (The dialogue on nuclear issues begun with Kazakhstan through the CTR program encouraged Kazakhstani officials to come forward to ask U.S. help in disposing of the HEU, and CTR assistance was used to compensate Kazakhstan for the material).

See pp. 4-5.

GAO substantially downplays these crucial benefits to U.S. security. CTR assistance has provided both political leverage and material aid to assist the FSU states to achieve these results. CTR assistance was a catalyst for early efforts to address the deactivation of the nuclear forces in the former Soviet states and the withdrawals of weapons to Russia. Armored blankets, emergency response equipment, secure railcar modification kits, cranes, special cutting shears and much more have been provided where needed most to facilitate the weapons dismantlement and destruction process.

The U.S. has always made it clear that FSU states that make international commitments are obligated to carry them out, with or without U.S. assistance. The role of CTR has been and will continue to be to make the process of reductions faster and safer, and to encourage the successor states to the FSU to undertake these obligations in the first place. CTR assistance has been used to obtain republic commitments to forego a nuclear weapons capability and to dismantle weapons and has then provided direct and concrete assistance in the destruction and dismantlement process.

See pp. 2-5.

The CTR program has been fully operating since 1993. Since that time, security threats to the U.S. from weapons of mass destruction have declined. For the GAO to not make note of the remarkable decrease in the threat to the U.S. from nuclear weapons in the FSU from the start of intensive CTR activities in 1993 until the present seriously risks missing the forest for the trees!

ISSUE 2: (GAO REPORT page 3): "However, DOD has made less progress in conducting audits and examinations in FSU states receiving CTR funds."

See p. 3.

DOD COMMENT: GAO is correct that "less progress" has been made in conducting audits and examinations than in other areas of the CTR program. This is a natural consequence because substantial assistance needed to be provided before it could be audited. However, GAO's information is out of date and the thrust of their remarks is misleading. Until this year, only limited amounts of assistance had been delivered, making it impossible to audit meaningful quantities of assistance. With a significant increase in deliveries of assistance in FY 1994-FY 1995, substantial progress has now been made in conducting audits and examinations. Two audits have now been completed in Russia and one in Belarus--all of which have been successful. DOD completed a financial audit of the International Science and Technology Center in March 1995, as requested by the ISTC Board and required in the ISTC Statute. In May 1995, an audit and examination was also conducted in three Russian cities of the CTR assistance provided to Russia for secure railcar conversion kits. An audit is scheduled in June 1995 for Ukraine and one has been notified to Kazakhstan for July.

See comment 5.

The purpose of the audits and examinations under the CTR program is to ensure that assistance provided is being used as intended. This purpose is also met using a variety of other mechanisms including national technical means, technical team reports, contractor information and visits of U.S. Government officials. These are fully detailed in the Audit and Examination Report submitted to Congress.

Now on p. 3.

ISSUE 3: (GAO REPORT page 3/4): "...difficulties in working with the Russians in resolving key issues have slowed progress on several projects that could have major long-term significance. For example, the United States and Russia have yet to agree on the technology to be used in a chemical weapons destruction facility and will not do so until midway through fiscal year 1996 at the earliest. This uncertainty raises questions as to the program's need for the $104 million it is requesting in fiscal year 1996 to begin designing and constructing the facility."

See comment 6.

DOD COMMENT: DOD disagrees. The GAO assertion that the U.S. and Russia have not agreed on a CW destruction technology is false. Russia has selected a two-step process which involves the neutralization of chemical warfare agents. DOD would not have chosen this process; the U.S. preferred method of destruction of our chemical weapons stockpile is incineration. The U.S. and Russia are jointly evaluating the effectiveness of the Russian process which will likely effectively eliminate nerve agent-filled artillery munitions. Technical experts from the U.S. and Russia have been meeting at Edgewood Laboratory to begin the process of validating the selected technology. Once the Russian destruction technology is validated, the U.S. will assist Russia with the design and construction of the first nerve agent destruction facility, subject to prior notification of Congress and approval of necessary funding. The whole point of the DOD program is to "jump start" the Russian program and get them started on elimination--which is precisely the reason for the pilot destruction facility in the program.

See comment 7.

For purposes of comparison, the GAO report also should note that the U.S. chemical weapons destruction program is expected to require 20 years and over $11 billion in funding. It is thus not surprising that Russia's process for defining a technology and beginning destruction has already taken two years. Also, GAO downplays the fact that the CTR program is dealing with other sovereign nations and it takes time and effort to arrive at solutions which are acceptable to them and serve U.S. security interests. GAO should commend DOD for being persistent in seeking these objectives, despite the difficulties.

See comment 8.

Now on p. 3.

ISSUE 4: (GAO REPORT page 4): "Moreover, even if the facility were to be completed on schedule, uncertainties concerning resources, schedules and costs would compromise Russia's ability to destroy its chemical weapons stockpile in compliance with the chemical Weapons Convention timetables if the convention enters into force in 1996."

DOD COMMENT: Russia faces a tremendous challenge in destroying its chemical weapons stockpile. It will be difficult for Russia to meet the CWC's destruction milestones even with U.S. assistance. However, without this assistance, destruction of Russia's nerve-agent filled weapons will be delayed for several

years, which is not in the U.S. national security interest. In addition, without U.S. leadership in this endeavor, it is doubtful that other countries will be willing to provide the levels of assistance that Russia will need for CW destruction, given its dire economic conditions.

Now on p. 3.

ISSUE 5: (GAO REPORT page 4): "Congress may wish to consider reducing the CTR program's fiscal year 1996 request of approximately $104 million for design and construction of a chemical weapons destruction facility by about $34 million because of uncertainties regarding the expenditure. In addition, Congress may wish to consider withholding permission to obligate the remaining $70 million until the United States and Russia have agreed on a destruction technology."

DOD COMMENT: DOD disagrees with reducing funds in FY 1996 for design and construction of a chemical weapons destruction facility. As with many CTR projects involving complicated technologies, sensitive installations, and multiple bureaucracies, there are uncertainties regarding meeting obligation projections. DOD has developed an obligation plan and the $34 million is planned to be obligated in the 4th quarter of FY 1996 subject to approval of funding, required Congressional notifications and agreements. This $34 million would be used to hire a U.S. integrating contractor who would be responsible for coordinating U.S. support for the design and construction of a chemical weapons destruction facility. Any portion of the requested funds not obligated during FY 1996 would be expended in FY 1997. The problem is not overfunding of this important project, but rather attempting to accomplish practical results in the shortest possible time and establish momentum in a lagging Russian program.

See comment 9.

See comment 10.

It is incorrect to link the mid-1996 date to obligation rates, except possibly for the costs of acquisition of the integrating contractor that would support the design and construction of the facility. DOD provided GAO with the preliminary obligation plan for the entire $104 million requested in FY 1996. There is, as GAO indicated, a potential for some of this obligation to slip into FY 1997 due to normal difficulties associated with a major multi-year procurement action. However, these funds are required in FY 1996 so the necessary procurement actions can be initiated as scheduled. Postponing this funding until FY 1997 would delay U.S. support to the design and construction by at least one year--an outcome which is not in either country's best interest.

APPENDIX 1: IMPROVEMENTS IN PLANNING AND FUNDING

Now on p. 10.

ISSUE 6: (GAO REPORT page 7/8): "DOD has made progress in CTR program planning, and in obligating and disbursing CTR funds since

See p. 11.

See comment 5.

our last review of the program. However, it has made less progress in auditing and examining the aid that it has provided to the FSU...Although CTR agreements with the FSU states provide the U.S. government with the right to conduct such examinations, none have been conducted in Russia and Ukraine pending resolution of their concerns regarding implementing procedures. The United States and Russia have recently agreed on procedures for a trial audit of one CTR project scheduled for May."

DOD COMMENT: As previously indicated, the GAO assertion is inaccurate, and the draft report needs to be updated.

The report also does not reflect that delays in defining the process to execute the audit provisions of CTR Implementing Agreements with the Russian Federation generally resulted because the Russians were unfamiliar with the U.S. concept for an audit. The Russian concept for an audit was that of an arms control inspection. Russia was concerned about extending unimpeded access to sensitive Russian facilities without arms control inspection type procedures agreed to in advance. DOD has explained to Russian officials how an audit and examination works and following this explanation, Russia scheduled the first bilateral audit and examination in accordance with the terms of applicable CTR Agreements. The May 1995 audit was an actual audit and examination of an existing CTR project, valued at $21.5 million. We are confident that this initial event will clear the way for routine scheduling of these important audit and examinations.

ISSUE 7: (GAO REPORT page 7): "However, we have found that these disbursement figures significantly understate the value of CTR work actually performed to date."

DOD COMMENT: DOD concurs. DOD appreciates the GAO investigation into and clarification of the accounting understatement of the value of CTR assistance provided. DOD has consistently maintained that disbursements do not reflect accurately the value of assistance provided and is working to develop a data collection system which will address this problem.

ISSUE 8: (GAO REPORT page 8): "DOD is also working out arrangements with the Departments of State, Energy, and Commerce to streamline the CTR program by transferring nine projects to the Departments of State and Energy, beginning in fiscal year 1996.....These transfers raise some questions concerning how these programs will be coordinated with and prioritized against other CTR legislative objectives."

DOD COMMENT: DOD non concurs with the thrust of GAO's comment. GAO has not identified what questions are raised by the effort underway to streamline the CTR program. The decision to "transfer" funding and full management responsibility to the

See pp. 10-11.

agencies executing these activities as reflected in the President's FY 1996 Budget Request, is to ensure that these efforts are more effective and efficient - a goal which should be supported by GAO. No major interagency coordination or prioritization problems with regard to the CTR effort have been identified within the Executive Branch. In fact, there have been numerous examples of successful interagency coordination in the program. These range from effective consultations on completion of nearly 40 international agreements from 1992-1995, to setting priorities in the program, to cooperating in executing many CTR activities including export control and material control and accounting projects, to undertaking the successful Project Sapphire operation which removed 600 kilograms of highly enriched uranium from Kazakhstan.

Now on p. 11.

ISSUE 9: (GAO REPORT page 9): "DOD is four months late in providing Congress with a legislatively-mandated report on U.S. efforts to insure that CTR aid can be accounted for and is being used for intended purposes."

See p. 11.

DOD COMMENT: DOD concurs that the report had been held-up within DOD. The report has been sent to Congress.

APPENDIX II: DESTRUCTION AND DISMANTLEMENT PROJECTS

Now on p. 12 .

ISSUE 10: (GAO REPORT page 10): "To date, the overall impact of the CTR program's destruction and dismantlement projects has been limited." ..Footnote: "CTR program documents have suggested that since late 1991 CTR aid has facilitated the removal of thousands of FSU warheads. However, large scale deliveries of CTR strategic offensive arms elimination assistance did not begin until the fall of FY 1994."

See p. 12.

DOD COMMENT: DOD non concurs. To state that the overall impact of the CTR program's destruction and dismantlement assistance projects has been limited ignores, or at a minimum understates, the facts. CTR assistance has, as noted previously, provided both political leverage and material aid to assist the FSU states to achieve results that reduce the threat to the U.S. from former Soviet Union weapons of mass destruction. GAO does not convey an adequate understanding of the timelines involved in obtaining FSU republics' decisions, negotiating CTR agreements, and procuring and delivering equipment, or how all of these activities together have produced the desired result in reducing the FSU nuclear threat.

See comment 11.

Of the 38 CTR agreements in place, over 30 of them were concluded after June 1993. The dismantlement agreement with Russia was concluded in late August, 1993 and the dismantlement agreement with Ukraine was signed December 5, 1993. As indicated

See pp. 12-15.

previously, the benefit of CTR assistance prior to the conclusion of these agreements was based largely on the political leverage CTR provided the United States. The Department has consistently reported that the value of CTR assistance for reducing the threat to U.S. security is not limited to the number of warheads deactivated using U.S.-provided armored blankets to cover them during transport or the number of bombers eliminated using U.S.-provided cutting tools. While a significant amount of CTR-provided equipment and material assistance has been delivered since the fall of 1994, deliveries are usually the result of procurement actions initiated earlier and reflect the near completion of many assistance projects. Almost $800 million in CTR assistance had been committed under international agreements by the end of FY 1993. This CTR assistance was critical in U.S. diplomatic efforts to convince Ukraine and Kazakhstan to forego nuclear weapons and encourage Belarus to proceed with denuclearization.

See comment 1.

For example, in November, 1993, the Ukrainian parliament made ratification of START I contingent on the fulfillment of several conditions, including the availability of Western aid to assist with dismantlement. Following this action, President Kravchuk was able to point to CTR assistance to fulfill this condition and the Ukrainian Rada ratified the START Treaty in early February, 1994. This one decision is reducing the threat to the U.S. by 1,700 nuclear weapons, more than enough to destroy the United States.

See comment 2.

As explained previously, now that the republic commitments and agreements have been obtained and procurements are well advanced, CTR equipment is on-the-ground, materially helping with the destruction of nuclear weapons systems. In April 1995, Secretary Perry watched a demonstration of CTR-provided special cutting shears, crushers, and a guillotine that are being used at Russia's Engels Air Base to take the wings off Russian heavy bombers in accordance with START I elimination procedures.

See comment 12.

GAO's comments with regard to warhead dismantlement are equally misleading. While as the GAO states Russian officials have indicated that Russia neither needs nor wants a direct U.S. role in the warhead dismantlement process, GAO creates a misleading impression by failing to note that the U.S. is not the only country that is assisting Russia with dismantlement. The U.S. has fostered coordinated efforts among the NATO and G-7 countries to assist FSU dismantlement efforts, and a division of labor among ourselves, and our allies and friends. While the U.S. is not directly involved in physically dismantling Russian warheads, France is assisting Russia with machine tools for warhead dismantlement.

GAO does not accurately portray how CTR is helping to keep up the pace of Russian warhead dismantling. The Russians have asked the U.S. for specific items of assistance to alleviate bottlenecks in the dismantlement process. The U.S. is providing assistance with long-term, secure and centralized storage for the fissile

See comment 13.

material from dismantled warheads, one of bottlenecks identified by Russia. The U.S., Britain and France are all providing "supercontainers" for transport and temporary secure storage of nuclear weapons connected to dismantlement, the lack of which has caused yet another bottleneck. Recently, Russian officials informed DOD that this bottleneck slowed the warhead dismantlement rate in 1994 and early 1995.

Now on p. 15.

ISSUE 11: (GAO REPORT page 14): The portion on Kazakhstan, as written, is silent on the reason for the "delay" in delivering assistance.

See p. 15.

DOD COMMENT: DOD non concurs with the implication in the GAO report that the U.S. is somehow responsible for delays in delivering dismantlement assistance to Kazakhstan. The report does not address the main cause of the delay in providing silo dismantlement assistance in Kazakhstan. CTR assistance cannot be provided without agreement of the sovereign nations the U.S. is trying to assist. The provision of CTR assistance for silo dismantlement in Kazakhstan was delayed until the Governments of Kazakhstan and Russia agreed on the definition of their respective roles and responsibilities in the elimination of the SS-18 silos and to resolve the Russian security concerns about U.S. contractors working in and around silos which are similar to those still operational in Russia. In the spring of 1994, with the concurrence and support of the Government of Kazakhstan, the U.S. invited contractors to a site survey. The visit was canceled at the last minute when Russia raised these concerns. We have been diplomatically engaged with Russia and Kazakhstan ever since.

See comment 14.

The GAO report is out of date with regard to developments in the silo elimination project in Kazakhstan. With considerable effort on the part of DOD, this issue has been successfully resolved and DOD is proceeding with SS-18 silo elimination assistance. In fact, two firms under contract to DOD are now removing equipment from the silos prior to their destruction, and Kazakhstani technical experts attended the pre-proposal conference for the silo elimination project in Washington, DC, in May, 1995.

Now on p. 16.

ISSUE 12: (GAO REPORT page 15): "Despite several recent promising developments....many issues need to be resolved before large-scale funding can be undertaken...delays have plagued efforts to spend the current $55 million....Russian indecision for over a year on selecting the Central Analytical destruction laboratory's location delayed use of $30 million committed for that purpose."

See p. 16.

DOD COMMENT: The GAO report is accurate in indicating that many issues need to be resolved before large-scale funding can be undertaken. But, GAO neglects to note that DOD is working to resolve these issues and has budgeted according to estimated

See comment 15.

execution costs. As reflected in the 1995 Plan of Work, the Ministry of Defense (MOD) and President's Committee have agreed to prepare the Comprehensive Implementation Plan (CIP) in a phased approach that more closely reflects the structure of the Russian CW destruction program. In 1995 a Preliminary Implementation Plan, or PIP, will be prepared for Shchuche which has been designated as the location of the first Russian nerve-agent destruction facility. As evidenced by the constructive Executive meeting just completed, the phased approach to the CIP coupled with the Joint Evaluation is helping to overcome Russian skepticism of U.S. support of its chemical weapons destruction program.

See comment 16.

The GAO report is also out-of-date in this area, failing to state that Russia has in fact selected the location for the Chemical Analytical Laboratory (CAL). The Russian's have identified GosNIIOKht as the location of the CAL. A group of U.S. technical experts visited the facility in May 1995, and efforts are underway to prepare an Agreement/Implementation Plan for the CAL. Constructive work on the CAL now appears to be on track.

Now on p. 18.

ISSUE 13: (GAO REPORT page 17): In addition, the Chemical Weapons Destruction program identified about $34.3 million of the fiscal year 1996 budget request for undefined technology development requirements."

See comment 10.

DOD COMMENT: The GAO is incorrect in stating that the purpose for these funds is undefined. The $34.3 million would be the first installment on the integrating contractor that would provide the U.S. assistance to the design and construction of the Shchuche chemical weapons destruction facility, subject to required notifications to Congress and conclusion of the necessary agreements with Russia. This contract will be incrementally funded annually. The contract is planned to be awarded in the 4th quarter of FY 1996. This will be a very complicated procurement and must begin in FY 1996 to avoid delaying U.S. support to the design and construction of the first Russian CW destruction facility.

Now on p. 20.

ISSUE 14: (GAO REPORT page 19): "While the CTR program has made little progress in protecting non-military nuclear materials that present a high proliferation risk, the prognosis for doing so is improving as a result of recent agreements with Russia to upgrade controls at facilities using materials that could be used directly for nuclear weapons."

See pp. 20 and 23-25.

DOD COMMENT: Some progress has been made through CTR assistance and other U.S. bilateral cooperative programs which are concretely improving material control and accountability of weapons grade fissile materials, particularly at Russian

laboratories and research institutes. DOD welcomes GAOs prognosis on these efforts.

APPENDIX III: CONTROL OVER NUCLEAR WEAPONS AND MATERIALS

Now on p. 22.

ISSUE 15: (GAO REPORT page 21/22): "The CTR efforts to provide containers for the facility has also been delayed, although in this case the delays are due to U.S. technical and managerial pitfalls."

See p. 22.

DOD COMMENT: Russia has consistently indicated that fissile material containers were essential and needed as soon as possible for storage. While the GAO report accurately indicates there have been delays, it does not clearly reflect the circumstances involved. DOD took on the challenge of producing a container to meet Russian provided specifications, using U.S. methods and materials, in half the time it would take to prudently design, test, and produce a similar product under standard U.S. procurement processes in normal circumstances. To execute this project, both civilian and government (including Department of Energy) technical expertise has been used throughout program evolution and a rigorous test program developed to ensure containers meet required specifications.

As the program proceeded, test results indicated design changes were needed; they were implemented and retests performed. A self-initiated management review was also conducted to ensure that program management was being executed in the most efficient and effective manner in light of the technical challenges of the development and manufacture of the containers. This review did in fact conclude that efforts to provide containers had been delayed due to U.S. technical difficulties and coordination problems. These problems are being addressed as project implementation continues. It is important to remember that fissile material may be stored in these containers for generations, and thus it is crucial that the design be of the highest possible quality.

Now on p. 23.

ISSUE 16: (GAO REPORT page 22): "To date, the CTR program has made little progress in protecting nuclear material that present a proliferation risk."

See comment 17.

DOD COMMENT: DOD partially non concurs. GAO has focused narrowly on one aspect of the CTR program--the material control and accounting projects at specific institutes and facilities. Using as the yardstick the 80-100 institutes and facilities in the former Soviet states where systems of material protection, control and accountability need improvement, the progress made in protecting nuclear material that presents a proliferation risk appears relatively insignificant.

See comment 18.

However, Russian military spokesmen have specifically cited CTR assistance as improving the safety and security of nuclear weapons during storage and transport. Additionally, CTR helped finance the transfer of 600 kilograms of highly enriched uranium--enough for about 20 nuclear weapons--from Kazakhstan to the U.S. (Project Sapphire) in 1994. This one action was a critical step in protecting nuclear material that presented a proliferation risk. This project was partially funded by CTR and made possible as a result of the confidence and contacts with Kazakhstan built through the CTR program. It was because of our good relations with Kazakhstan, fostered through the CTR program, that we were made aware of the materials and were able to reach agreement to transport the materials away.

See comment 19.

Progress also has been made in other CTR projects which are improving protection of nuclear material that presents a proliferation risk, including efforts to enhance material control and accounting assistance at specific institutes and facilities, assistance to three republics in tightening their export control systems, and with Russia under the lab-to-lab program for improving material protection, control and accounting, which has been supported by CTR in FY 1995. Nevertheless, DOD agrees that the former Soviet state systems of control and accountability currently remain inadequate to ensure protection and accurate accounting of fissile material and much remains to be done in this area.

See comment 20.

APPENDIX IV: DEMILITARIZATION

Now on p. 27.

ISSUE 17: (GAO REPORT page 27): "Most of DoD's defense conversion projects are not converting active production lines but instead using previously dormant facilities that once produced items related to weapons of mass destruction."

DOD COMMENT: DOD non concurs with the implication of the GAO statement. This statement does not accurately reflect the wide variety of defense conversion projects being undertaken through CTR, nor the purposes of the existing defense conversion programs. CTR defense conversion efforts are converting weapons production capability to civilian production. As noted on the attached list (TAB A), the plant capacity in the FSU states that is being converted through CTR projects has been producing a wide variety of threatening technologies, including missile testing and tracking equipment, biological warfare research and production, missile systems, nuclear hardened computer chips, control systems for missiles, and construction of ICBM silos and support facilities.

See comment 21.

The CTR projects are converting production lines which were "active" until quite recently. After the demise of the former Soviet Union, Moscow drastically cut back its orders to weapons

firms, an action that favors U.S. security. That "most" of the Russian weapons production capability is now considered "inactive" is not suprising. But, the excess production capacity - the plants, the machines and the people - still exist. They are unemployed or under employed, and searching for opportunities to survive in dire economic conditions. Their idleness and possible desperation to obtain contracts poses a threat to U.S. security. The U.S. wants managers of such plants to put their people and facilities to work producing peaceful civilian products. This will protect U.S. security, as it helps the Russian economy. The alternatives for these managers are either to pressure Moscow to rearm or to sell high-tech weapons abroad, for example to Iran. There is clearly a Russian incentive today to promote arms sales abroad to keep factories producing and defense workers employed. Both of the alternatives to conversion - Russian rearmament and arms sales abroad - will harm U.S. security.

The conversion of excess FSU weapons production capacity to peaceful purposes is far from being a problem with the CTR defense conversion program - it is the point of the program.

See comment 22.

Instead of the criticism conveyed in the draft report, the CTR defense conversion program should receive high marks from the GAO for accelerating from start-up to 15 active projects in a little more than a year. Concrete results to absorb excess FSU weapons production capacity are already being realized through the CTR program. Through CTR defense conversion projects, for example, a company in Russia that was producing cruise missiles, ICBMs and maneuverable satellites will be bottling cola together with Double Cola Company of Chattanooga, Tennessee. A Belarusian company which is capable of producing satellite systems, night vision devices and range finders is now manufacturing laser pointers with the Byelocorp Scientific Corp. of New York. A Kazakhstani enterprise which was involved in biological warfare research and production is standing up a venture with Allen and Associates of Washington, D.C. to manufacture and distribute vitamins, pharmaceuticals and antibiotics.

GAO should also keep in mind that, while its primary purpose is improving U.S. national security, this program is good for U.S. business. It has involved 15 U.S. companies from 10 different states in business ventures in the former Soviet republics, giving them access to markets and technologies they might not otherwise be able to develop. DOD's conversion investments are "win-win-win." They help reduce the threats from weapons of mass destruction, they help the FSU states build peaceful, commercially viable market economies while reducing excess weapons production capacity, and they provide opportunities for U.S. industry's entry into potentially large markets for civilian goods and services.

Now on pp. 27-30.

ISSUE 18: (GAO REPORT page 27-29): "During its first year, the International Science and Technology Center in Moscow appears

to have made a good beginning in supporting work on peaceful projects for scientists engaged in weapons of mass destruction. However, although the CTR program describes the recipients of center funds as "former" weapons scientists, we found that scientists receiving Center funds may continue to be employed by Institutes engaged in weapons work....We also learned that scientists participating in Center projects may be creating dual-use items--civilian goods with weapons application--with Center funds."

DOD COMMENT: DOD appreciates the GAO conclusion that the ISTC has made a good start, but non concurs with GAO's implication that the CTR goal of reducing the threat to the U.S. from "brain-drain" of FSU weapons scientists is not being accomplished through this program. The U.S. has no illusions that all former Soviet weapons scientists could be fully re-employed on peaceful civilian research endeavors, especially not for $35 million, the amount of the U.S. contribution to the ISTC in Russia. But, the report should note that:

See p. 27.
See comment 23.

- The primary purpose of the ISTC is to prevent "brain-drain" of FSU weapons scientists. Every weapon scientist who stays in Russia with work, defense or otherwise, is one fewer that could be hired by Iran or North Korea to develop nuclear weapons, other weapons of mass destruction or delivery systems.

See p. 27.

- The ISTC was established in November 1992 as an inter-governmental organization that receives financial support from the European Union, Finland, Japan, Sweden and the U.S. to provide opportunities to weapons scientists and engineers to redirect their talents to peaceful activities. The objective of the ISTC is to minimize the incentives for these weapons scientists to engage in activities that would result in proliferation of nuclear, chemical and biological weapons, missile delivery systems and related expertise.

- The potential for "dual use items" is considered during the technical and scientific review of every project, and scientists are encouraged to apply their weapons knowledge to peaceful projects. Science Center projects are, in fact, producing technologies which are accessible to U.S., Japanese, and European governments and firms through licensing and intellectual property rights agreements as part of Science Center grants and contracts. A license for one such project has already been obtained by Delco Corporation, a U.S. company.

See p. 28.

- A full financial audit of the ISTC was conducted by the U.S. in March, 1995.

See comment 24.

See p. 27.

See comment 25.

See p. 28.

- Every hour these experts spend on peaceful civilian research projects is an hour not spent in development of weapons of mass destruction.
- The ISTC is a successful example of the effectiveness of the DOD Cooperative Threat Reduction program in preventing proliferation of weapons expertise and reducing the threat to the U.S. from weapons of mass destruction left by the former Soviet Union.
- GAO's description of the recipients of ISTC grants has been mischaracterized and taken out of context. Although there may have been inconsistencies in references in DOD documents, DOD generally describes the recipients of ISTC grants as "former Soviet" weapons scientists.
- Over 130 projects have been approved by the ISTC Board and over 8,200 weapons scientists and engineers are or will be working on these peaceful civilian research projects.

Now on p. 28.

See p. 28.

ISSUE 19: (GAO REPORT page 28): "The United States has contributed $46 million to the Center in Moscow."

DOD COMMENT: The U.S. contribution for the ISTC program in Russia is $35 million. An additional $5 million is budgeted for ISTC projects in Belarus and $6 million for projects in Kazakhstan.

APPENDIX V: FUNDING FOR THE COOPERATIVE THREAT REDUCTION PROGRAM

Now on p. 35.

See comment 26.

ISSUE 20: (GAO REPORT page 36): Defense Enterprise Fund notifications to Congress are $27.67.

DOD COMMENT: As notified to Congress, only the initial $7.67 million of these funds were for projects in any country. The remainder was notified by country.

Now on p. 35.

See p. 35.

ISSUE 21: (GAO REPORT page 37): Other program support/miscellaneous notifications to Congress are $80.272 million.

DOD COMMENT: Funds for the Arctic Nuclear Waste Study project, a $30 million Congressional earmark, have been proposed to be obligated and notified as a part of "Other Authorized Programs," separate and distinct from "Other Program Support." DOD has notified no projects in a "miscellaneous" category to Congress.

Defense Conversion Contract Summary

US Partner State	FSU Partner Country	Previous Endeavor	New Endeavor
AT&T Wireless Systems NJ	KazInformTelecom Kazakhstan	Missile testing and tracking	International telecommunications link
Allen & Associates Int'l DC	Biomedpreparat Kazakhstan	Biological warfare research & production	Manufacture & distribute vitamins, pharmaceuticals, & antibiotics
Byelocorp Scientific Corp NY	Gidromash Kazakhstan	Missile systems, aircraft hydraulics, motors, & machines	Manufacture, service & distribute valves and ASME certified pressure vessels
KRAS Corp PA	Nat'l Nuclear Center Kazakhstan	Nuclear weapons testing; reactor testing	Printed Circuit Board production
Double Cola Company TN	NPO Mashinostroyenia Russia	Produced cruise missiles, ICBM's, maneuverable satellites	Establish a complete cola bottle manufacturing facility?
Int'l American Products SC	Leninets Russia	Radar, avionics systems	Joint venture to produce dental chairs and dental supplies
Hearing Aids Int'l NH	Istok Russia	Electronic gear for space & military applications; radar, lasers	Produce low cost, high performance hearing aids
Rockwell Int'l TX	GosNIIAS Russia	Design and testing of military avionics	Produce air traffic control hardware and software based on GPS & GLONAS
KRAS Corp PA	Integral Belarus	Nuclear hardened chips for Soviet military	Retooling, mgt, marketing, & manufacturing low end IC's
Byelocorp Scientific Corp NY	BelOMO Belarus	Satellite systems, night vision devices, range finders	JV to manufacture and sell laser pointers
Federal Systems Group VA	Minsk Computer Belarus	Mainframe computers for MoD	Radio frequency computer modems, battery chargers
Westinghouse Electric PA	NPO Harizon Ukraine	Developed, produced, & installed control systems for missiles and space systems	Joint venture to produce instrumentation & control devices for nuclear plants
Federal Systems Group VA	KOMMUNAR Ukraine	Manufacturer of aerospace and military electronics	Design, manufacture, and distribute cellular telephones in Asia and Ukraine
ABB Susa, Inc - American Int'l Svcs NJ-VA	Central Design Inst Montazhnik Ukraine	Construction of ICBM silos and support facilities	Construction of housing units on greenfield site southeast of city of Khmelnytsky
Gill Herbert Int'l Construction AL	Fregat Ukraine	Naval Supplies	Prefabricated housing/construction in Pervomysk
Defense Enterprise Fund			Provide funding for joint ventures between FSU and US defense

The following are GAO's comments on DOD's letter dated June 2, 1995.

GAO Comments

1. The draft report states that without CTR assistance Ukraine could not dismantle its nuclear weapons.

2. DOD's statements that CTR-provided equipment is being used to cut up heavy bombers and nuclear submarines are inaccurate. While some CTR-provided equipment is in use at Engels Air Base, the guillotine shears have not been used to cut up any aircraft to date. In addition, while heavy equipment being provided through the CTR program to cut up nuclear submarines is not yet operational, some CTR-supplied equipment is being used to cut launcher tubes out of submarines.

3. We question DOD's emphasis on the tangible impact of the program with regard to dismantlement efforts. In various documents, DOD officials attribute the deactivation of thousands of nuclear warheads and the dismantlement of hundreds of strategic launchers to CTR assistance. When asked to document their claims, DOD officials could not provide the data needed to substantiate the direct impact of CTR dismantlement assistance.

4. According to a DOD official, the phrase "these warheads" refers to the class of warheads rather than to a specific number of warheads moved.

5. As of May 18, 1995, the date of the draft report, our information on CTR audits and examinations was accurate. We have modified the report to reflect the most recent developments.

6. We have added language to clarify our meaning. The United States and Russia have not agreed on the applicability of the Russian destruction technology for a chemical weapons destruction facility because the necessary data will not be available until the ongoing joint evaluation is concluded. Unlike the U.S.-preferred incineration process, the Russian technology has no record of performance outside the laboratory, and the Russians have not provided sufficient data to allay U.S. concerns about the technology's technical and cost uncertainties. Without the joint evaluation results, a U.S. commitment to support an uncertain technology would be premature.

7. It is precisely because of the difficult history of chemical weapons destruction in the United States with what is now a proven technology, that we questioned the basis for DOD's assumption that the Russian

technology inevitably will be "validated" to be feasible and affordable for use in a large-scale facility.

8. While the chemical weapons destruction project management may have been persistent in its efforts to overcome U.S. and Russian differences, we also must note that in many significant differences—such as selection of a chemical weapons destruction technology and selection of the type of chemical weapons (artillery- or air-delivered munitions) to be destroyed first, among others—the Russian position has prevailed. We believe that this reinforces DOD's point on the difficulties the chemical weapons destruction project faces.

9. We believe that it is necessary to link obligation rates to the final reporting data for the critical joint evaluation study because the nature and scope of future U.S. support for several efforts—the preliminary implementation plan, the pilot demonstration system, and the Russian chemical weapons destruction facility—are related directly to the results of the testing.

10. In response to our questions, DOD provided us with several revised "preliminary" funding breakouts and schedules, just prior to, during, and after the time it received our draft report for comment. In the latter revisions, the $34.3 million for additional technology development activities to be determined—that we recommended be reduced—had changed to show about $23 million for testing specific types of equipment, and the remainder of the $34.3 million was reallocated to other parts of the project.

11. Our understanding of such timelines was illustrated in our October 1994 CTR report. (See page 1, footnote 1 of this report.) We stated that the ". . . program was initially slowed by the time needed to complete agreements between the United States and former Soviet republics, fully develop projects, and comply with legislated requirements . . . ."

12. In our October 1994 CTR report, we also stated that the Russians do not want U.S. assistance in dismantling their nuclear warheads. At that time, DOD had no comment on our assessment.

13. Our draft report described how the CTR program is providing assistance to help the Russians safely store components from dismantled nuclear weapons and stated that the U.S. and Russia are discussing the provision of supercontainers.

14. As of May 18, 1995, the date of our draft report, the information on dismantlement efforts in Kazakhstan was accurate. We have modified the report to more accurately reflect the current status of these efforts.

15. The "Statement of Work for a Comprehensive Plan to Support the Russian Chemical Weapons Destruction Program," dated January 1994, stated that a U.S. contractor would prepare a comprehensive plan to "include all the key milestones for the destruction of the entire Russian CW [chemical weapons] stockpile and the estimated associated costs." The preliminary implementation plan for the first site only is a significant decrease in scope.

16. DOD is incorrect in stating that the draft report was "out-of-date." We noted in the draft report that the Russians—after a year-long delay—had selected the site for the Central Analytical Laboratory in March 1995 and we characterized this event as one of several recent positive developments.

17. The draft report clearly distinguishes between nuclear material protection, control, and accounting, and nuclear weapons security. Our finding that the CTR program has made little progress in protecting nuclear material that presents a proliferation risk refers to nuclear material protection, control, and accounting projects not only at specific facilities, but also to the establishment of national material control and accounting systems in Russia. We also disagree with DOD's comments that we narrowly focused on one aspect of the program. Our assessment in this area relates to all known sites where nuclear material directly usable in nuclear weapons is located.

18. While we agree with DOD that Project Sapphire was a critical step in protecting nuclear material that presented a proliferation risk, Project Sapphire was not a CTR project. Project Sapphire was funded by State, DOD, and Energy. We have added a footnote that explains that some CTR funds were used to pay for DOD's portion of Project Sapphire and that DOD's portion of Project Sapphire was not funded out of the material protection, control, and accounting program for Kazahkstan. In addition, we believe that Project Sapphire represents a unique response to a specific proliferation threat and does not represent an ongoing strategy of the CTR program to improve nuclear material protection, control, and accounting in the FSU. We note that the administration is currently developing a strategy to improve material protection, control, and accounting systems at all known facilities using direct use material in the former Soviet Union.

19. Although some progress has been made in other CTR projects that are involved in improving protection of nuclear material, the projects involve either (1) facilities using nuclear material that presents a low proliferation risk (such as low enriched uranium and irradiated plutonium) or (2) projects in their initial stages involving facilities using material presenting a high proliferation risk (such as highly enriched uranium and unirradiated plutonium). We have made changes to the draft that more accurately show that the CTR program has made little direct impact in protecting nuclear material that presents a high proliferation risk.

20. DOD's comment on progress made with Russia under the laboratory-to-laboratory program overstates the impact of fiscal year 1995 CTR funds on the program. The Department of Energy's lab-to-lab program has successfully completed a project to upgrade physical protection of approximately 100 kilograms of highly enriched uranium at the Kurchatov Institute in Moscow. However, the project was completed in February 1995 using Energy's funds. Fiscal year 1995 CTR funds for Energy's lab-to-lab program were not transferred to Energy until April 20, 1995.

21. We have revised the text of the report to acknowledge that most defense conversion projects are focused on converting inactive defense factories that still have production capability. We also acknowledge in the report that DOD believes converting excess production capability will alleviate pressure on Moscow to rearm or sell high-tech weapons abroad and will also aid the Russian economy.

22. Although DOD has accelerated the start-up of 15 projects in a little more than a year, we believe that it is too early to judge the success of these projects. One of the projects that DOD gives high marks to in its comments was considered by officials responsible for managing the program as stalled from its inception. After receipt of our draft report, DOD officials informed us of progress on this project.

23. The report already notes the primary purpose of the program is to prevent proliferation.

24. This concept is not disputed anywhere in the report.

25. DOD's assertion that it generally describes the recipients of Center grants as "former Soviet" weapons scientists is incorrect. DOD often—in testimony, budget submissions, and briefing documents—used the

terminology, "former" weapons scientists or scientists "formerly" involved in a weapons program. The Assistant Secretary of Defense, while testifying before the House Appropriations Committee, Subcommittee on Defense, on March 9, 1994, described the recipients as "former weapons scientists," and the 1996 Budget Submission describes the recipients as "scientists and engineers formerly involved with weapons of mass destruction."

26. The $27.67 million totals the amount notified to Congress for all the republics.

Comments From the Department of State

Note: GAO comments supplementing those in the report text appear at the end of this appendix.

See comment 1.

United States Department of State

Chief Financial Officer

Washington, D.C. 20520-7427

UNCLASSIFIED WHEN DETACHED
FROM CLASSIFIED ENCLOSURE

JUN 1 1995

Dear Mr. Hinton:

Thank you for the opportunity to provide Department of State comments on your draft report, "WEAPONS OF MASS DESTRUCTION: Helping the Former Soviet Union Reduce the Threat," GAO Job Code 711118.

If you have any questions concerning this response, please call Ms. Anne Harrington, PM/RNP, at (202) 736-7696.

Sincerely,

Richard L. Greene

Enclosures:
Department of State Comments.
Classified Annex.
Suggested Changes.

cc:
GAO/NSIAD - Mr. Shafer
State/PM/RNP - Ms. Harrington

Mr. Henry L. Hinton, Jr,
Assistant Comptroller General,
National Security and International Affairs,
U.S. General Accounting Office.

See comment 1.

UNCLASSIFIED WHEN DETACHED
FROM CLASSIFIED ENCLOSURE

Now on pp. 2-5.

Department of State Comments on the
GAO Draft Report,
"WEAPONS OF MASS DESTRUCTION:
Helping the former Soviet Union Reduce the Threat,"
GAO Job Code 711118

Page 3, Para 3, sentence one:

Comment:

This sentence understates the political importance of the Nunn-Lugar program in achieving broader dismantlement and nonproliferation objectives - a continual omission in the GAO reports on the program to date. As we have noted several times to GAO during its investigations, the program has a very important political role in facilitating dismantlement and nonproliferation in all the recipient states. This political role is above and beyond its narrow functional ability to effect dismantlement on the ground.

For example, CTR assistance to Belarus, Ukraine, and Kazakhstan was crucial in persuading them to become non-nuclear states through the removal of the nuclear forces stationed on their territories. Nunn-Lugar assistance addressed the concerns of these nations that they not be saddled with the costs of removing these forces as well as beginning cooperative efforts to address non-proliferation and defense conversion problems also arising from the demise of the former Soviet Union. Taken as a whole, Nunn-Lugar was a key element in persuading these states to join the international system as non-nuclear states fully engaged in multilateral efforts to address the transition to a post-cold war international security system.

And in this capacity, Nunn-Lugar assistance had a very important role as a catalyst for early efforts of the newly independent states to address the early deactivation of the nuclear forces stationed in these countries. For example, the emergency shipment of assistance to facilitate the early deactivation of nuclear forces in Ukraine was a crucial demonstration of our resolve to do whatever was required to support implementation of the Trilateral Statement.

Similar effects have been seen in Kazakhstan and Belarus. In all three countries the process of early deactivation of these forces is nearly complete and almost all the warheads have been returned to Russia for dismantlement.

In Russia, the catalytic effects have been similar. Nunn-Lugar has been significant in convincing the Russians that they should proceed with their ambitious dismantlement schedules for both missiles and warheads with full knowledge that shipments of American aid were forthcoming to supplement their efforts in the outyears. Based on this understanding, the Russians have already dismantled thousands of nuclear warheads and hundreds of missiles in keeping with their plans to meet the goals established by the START treaties and Presidential Nuclear Initiatives.

These other, very important effects of the Nunn-Lugar assistance to the Newly independent states should be cited in the report.

Now on p. 3.

Page 3, para 4, sentence three

Comment:

This sentence leaves the impression that there are several such problem areas and this is incorrect. All available information is that the Russians are pushing ahead with dismantlement at a rapid pace and have been able to transcend any programmatic bumps by finding interim solutions from their own resources. For example, the Russians have made extensive use of interim storage facilities for fissile material from dismantled warheads pending completion of the long-term storage facility - a project delayed by the Russian decision to change the design. See also comments on the assertions that immediately follow on the CW program.

Note too, that the report asserts in this sentence that the supposed programmatic delays could have "major long term significance" to Russia's dismantlement effort - a point which contradicts the GAO assertion earlier that Nunn-Lugar assistance is not important to Russia's dismantlement effort.

Now on p. 4.
See p. 4.

See comment 2.
See comment 3.

Page 3, last para through the para on Matters for Congressional consideration on page 4:

Comment: This paragraph understates the degree of progress made in recent talks on defining a destruction technology. This sentence also misses the key point that much of the additional funding requested is for long lead time procurement of major items of equipment that will not be effected greatly by the specific technical approach to CW elimination. Continued availability of U.S. funds is also key to the U.S. tactic of leading the Russian CW effort through a robust and aggressive U.S. dismantlement assistance program. It is only through this tactic that we and the Russians have made progress on meeting Russian elimination obligations under the CWC and this progress would be limited by conditional withholding of the requested CW assistance.

In the area of progress on the elimination method to be used, there is now agreement in principle on the technical approach to be used to neutralize the Russian nerve agents so that they have no military effectiveness. We have now completed successful lab tests in the U.S. destroying VX nerve gas; in July we will jointly perform these elimination tests with the Russians. This is the first step of the elimination process with the second being further chemical processing of the chemicals produced by the first phase to make them incapable of being reprocessed back into weapons. Technical discussions on the second issue continue.

We have also made recent progress in site selection for the pilot nerve agent elimination facility. The Russians have now identified a site near Moscow where they plan to construct the facility. The Russians have begun work on securing the required permits and plan to conclude this process in August. Similarly, we expect to have permits in place for the central analytical laboratory in August.

Construction of the pilot elimination facility is a very large undertaking and most of its elements are independent of the particular destruction technology to be used. Early funding requests will be used for the U.S. to perform design of the facility, engineering, and procurement of long-lead time equipment (e.g. mechanical destruction equipment for eliminating the shells) and supplies needed that are independent of the elimination technology. Additionally, it should be noted that within the set of technical approaches under consideration for elimination all are essentially chemical processing and most equipment is common to all of the approaches.

With regards to the suggestion that Congress may want to conditionally withhold funding for the pilot facility, this approach would undermine the U.S. tactic of leading the joint destruction effort through a well-funded and fast-moving program of assistance to kick-start the troubled Russian efforts that preceded it. (A tactic that has worked well in several other Nunn-Lugar areas such as denuclearization of the non-russian states.) Limiting U.S. assistance with conditionality will undermine this strategy.

Undermining this strategy could further limit Russia's ability to adhere to the CWC elimination schedule. As noted in the GAO report meeting this schedule will be difficult in any case but further limitations will only retard the only area of progress towards these goals.

Now on pp. 10-11.

Page 8, para 2, sentence 4.

See pp. 10-11.

This sentence leaves the impression that there are open questions that have not been resolved by the executive branch in addressing these issues -- this is not the case. The administration has already established a mechanism for coordinating the implementation and planning of these programs through an Interagency Working Group chaired by the National Security Council Staff. This group has already met and coordinated in detail the long-term plans of the programs effected by the transfer of responsibilities and meets as required to resolve overlapping issues. To date, this process has gone very well and we are unaware of any specific unresolved issues -- if they exist they should be explicitly stated for consideration by both the executive and congressional branches.

Page 8, para 3

See comment 4.

This paragraph needs to be updated since it significantly understates progress on audits and examinations. We have now conducted an A&E visit in Russia and one is now scheduled for Ukraine in June. The A&E effort for Nunn-Lugar is now well underway and should provide an important tool for monitoring program implementation.

Now on p. 12.

Page 10, para 1

Comment:

See comment 5.

This paragraph makes the same narrow interpretation of the program's impact in purely functional terms as does Page 3, para 3. This approach misses the very important political role that has resulted in the early deactivation and removal of almost all strategic forces in Ukraine, Kazakhstan, and Belarus -- which have reduced the aggregate threat to the U.S. by several thousand warheads and several hundred missiles. Similarly, U.S. assistance has been important in allowing Russia to accelerate its already robust dismantlement rate, including the elimination of several thousand warheads and several hundred launchers. The implication in the existing text is exactly the opposite: Instead of U.S. Nunn-Lugar assistance being superfluous to these efforts it has been significant and has had an enormous catalytic effect. See comments on page 3, para 3 for more detail.

Now on p. 15.

Page 14, Kazakhstan para, last sentence

Comment:

See p. 15.

The last statement needs explanation. The basic problem forestalling the large-scale delivery of silo dismantlement assistance to Kazakhstan was the need to work out a division of labor between the U.S., Russia, and Kazakhstan regarding the elimination of the SS-18 silos deployed in Kazakhstan. This arrangement took over a year to conclude due to discussions between Kazakhstan and Russia. U.S. assistance is now well advanced with functional requirements established by joint agreement with all three parties, and major elements are already in the procurement process.

Now on p. 15.

Page 14, Belarus para

Comment:

See p. 15.

See comment 6.

The existing text leaves the incorrect impression that U.S. Nunn-Lugar assistance is superfluous since some of the strategic forces have already been withdrawn. This is incorrect on two counts.

First, as noted above, U.S. assistance was crucial in securing Belarus agreement to becoming a non-nuclear state. By providing cooperative projects that provided substantive U.S. assistance, the U.S. demonstrated our resolve to have them enter the new international system as non-nuclear states.

Second, although some of the ICBMs have left Belarus, much more needs to be done to finish all aspects of START requirements. To meet START treaty obligations the launch pads must be eliminated and we are now discussing the provision of assistance in this area. Similarly, discussions continue on elimination of liquid fuel from other missiles whose launchers were destroyed under the START I treaty.

Finally, we would also note that several items provided through Nunn-Lugar are probably being used for the withdrawal of warheads including armored blankets and emergency response equipment.

Now on p. 24.

Page 24, last tic on the page

See p. 24.

Comment:

It should be noted, however, that the Russian government has issued a series of Presidential decrees that commit it to upgrading MPC&A at all Russian nuclear facilities. This Russian commitment will ease the way to U.S. cooperation, particularly once the Duma passes their Atomic Energy legislation.

Now on pp. 27-30.

Page 27-30 (ISTC):

Attached are the line-by-line recommended changes to pages 27-30 of the subject draft report. These changes may seem extensive, but, as this is the first time that the Science Centers program has been included in an audit report on the Cooperative Threat Reduction (CTR) Program, many readers of the report will not be as familiar with the program or its objectives as they are with other CTR activities. It is important that the Science Center's objectives and activities be accurately characterized.

Now on p. 27.

See p. 27.

Page 27:

General Comments:

The International Science and Technology Center (ISTC) is listed in the DoD FY 95 budget as a "Demilitarization" activity under CTR. The State Department considers the Science Centers program to be a nonproliferation program. State is aware that DoD regrouped certain areas of CTR activity recently as part of their long-term planning exercise. As the agency responsible for coordinating the Science Centers program and the agency that will have full responsibility for the program as of FY 96, the State Department always has and will continue to manage the program as a nonproliferation effort. The fact that the Science Centers program has been included under several DoD definitional categories over its lifetime is confusing.

Now on p. 27.

See comment 7.

Page 27, second paragraph.

Comment:

There should be no confusion about the intended target audience of the ISTC program. The fact that there are some semantic differences between how OSD and State have described these individuals has little relevance to the program's objectives as stated in the ISTC Agreement: to provide opportunities to weapons scientists and engineers in Russia and other NIS countries, particularly those with knowledge and skills in weapons of mass destruction and missile delivery systems, to redirect their talents to peaceful activities. The main thrust behind ISTC activities has always been to minimize the incentives for these weapons scientists to engage in activities that would result in proliferation of weapons of mass destruction and missile technologies to potentially proliferant states, such as Iran or North Korea. There is no connection, direct or indirect, between Center-funded projects and weapons projects. To ensure this, the objective and scope of work of each proposal is examined carefully before it receives funding to make sure that the final product does not have military applications. Every hour spent on an ISTC project is one less hour spent working on weapons of mass destruction and one more hour spent developing skills that could allow for permanent transition to the civilian sector. These points are almost completely absent from the report.

Now on p. 27.

See p. 27.

Now on pp. 27-28.

See p. 27.

See p. 28.

See p. 28.

Page 27, third paragraph.

Comment:

It is a fact that many scientists and engineers with knowledge of weapons of mass destruction are not being paid on a regular basis by their institutes. This is not a speculation or possibility, as the report language implies. Similarly, the decrease in defense contracting, which has been a primary source of many of the institutes at which these scientists reside, is not speculative and can be documented. The report should not imply that economic hardship and the associated proliferation risk at key facilities are hypothetical.

Page 28, paragraphs one-three.

Comment:

Our recommended changes clarify points in the report, with a view to providing a full picture to the reader who may not be familiar with the program. Several key issues are:

The importance of the direct payment of salaries and direct procurement of equipment is not described. The ISTC opted to pay scientists involved in projects directly, rather than giving funding to their institutes, to ensure that the funds actually get to the scientists. This system works and has been audited by the Defense Contract Audit Agency in the ISTC's first audit. Also, the ISTC, operating under its internal procurement regulations, directly procures equipment used in projects. This ensures a fair and competitive process and, again, eliminates the need to transfer equipment funds to NIS institutes. Between salaries, equipment, and project-related international travel, the ISTC Secretariat directly controls 75-80% of all project monies. This is a very high degree of direct accountability.

The United States has not "contributed" $46 million to the ISTC. It has committed $46 million. Funds are only disbursed to the ISTC once a specific project has been approved and a signed project agreement between the ISTC and the recipient institute has been received and certified by DoD. The ISTC, in turn, holds USG funds in an off-shore U.S. bank account until it is ready to make a quarterly payment to the recipient NIS institute. This limits the exposure of any USG funds.

Of the $46 million committed to the ISTC, only $35 million is available for projects in Russia. The remainder is allocated for use in other NIS states that are certified to receive CTR funds.

See p. 27.

See comment 8.

The ISTC intentionally funds weapons scientists in the former Soviet Union; that is its purpose. By funding these scientists, the Center aims to aid in redirecting their efforts to peaceful activities. There is already anecdotal evidence that the Center's funding is having an impact on scientists and allowing them to stay in the NIS and pursue non-weapons activities, rather than have to seek employment elsewhere.

Now on pp. 28-29.

Page 28, paragraph four.

See comment 9.

Comment:

The report's analysis of the percentage of time spent by scientists on ISTC projects was based on review of a very small sampling of projects. We have raised this issue with the ISTC and have reviewed the files and find that the majority of weapons scientists involved in ISTC projects spend most of their time on ISTC projects. The primary reason that scientists maintain affiliations with their home institutes is so that they can continue to receive their social benefits (health, pension, etc.) which are directly related to employment at their institutes. The ISTC, which does not pay any taxes, does not fund social benefits. Working even part-time on ISTC projects reduces the amount of time weapons specialists have available for other activities. Also, many scientists work part-time on each of more than one ISTC project, and some work on other non-ISTC projects with other collaborators, such as DOE lab-to-lab and NIS-Industrial Partnering Program projects. We regularly check on overlap during our review process and know that certain scientists' time is fully devoted to peaceful, non-weapons work.

Now on p. 29.

Page 29, paragraph one.

See comment 10.

Comment:

It certainly is appropriate to raise the dual-use issue. It is something to which we and the ISTC pay particular attention. There is, however, no evidence that ISTC projects lead to products with direct application to weapons. Dual-use issues are addressed in each project agreement. While it is true that, except for a few narrow areas, military systems are becoming largely dependent on technologies developed in the civilian sector, there is no "automatic" transferability of civilian technologies to the military without significant additional research and development. The example cited in the report displays a basic misunderstanding of the technology involved. Streak cameras are used in nuclear weapons testing.

The streak camera in question, however, is not relevant to nuclear testing. It is not shielded for this type of use and is designed for use in plasma physics and observing chemical reactions. It operates in the pico-second time duration mode, not nano-second, as would be appropriate for nuclear testing use. This project is a good example of how the ISTC can support the work of weapons scientist in finding civilian applications for weapons technologies and is something we see as a positive part of the ISTC's agenda.

Now on pp. 29-30.

Page 29, paragraph 3.

Comment:

See pp. 29-30.

The State Department has made significant progress since GAO first raised the budget planning issue. The decision to transfer full management and funding responsibility for the program from DoD to State was made after the initial FY 96 CTR budget requests had been formulated by DoD. State has now integrated budget planning into its overall program review currently underway. A recent meeting of technical experts at Los Alamos National Laboratory went a long way to define the areas of highest risk in which this program could have the greatest impact. We will now work on matching figures to the desired outcomes.

Now on pp. 28-29.

Page 30, paragraph one.

Comment:

See pp. 28-29.

We have re-ordered the information to improve its accuracy and clarity. We also would like to draw attention to the fact that the auditing and monitoring for ISTC projects operates under the terms of the ISTC Statute as approved by the intergovernmental Governing Board. The ISTC's auditing and monitoring procedures are consistent with other CTR audit provisions. The Defense Contract Audit Agency (DCAA) conducted the first annual audit of the ISTC and presented a clean report to the Governing Board at its March 1995 meeting. During that audit, DCAA gained easy access to a number of project sites and found that financial procedures were in order. DoD representatives on the DCAA audit team were able to confirm records of DoD funds expenditure by the ISTC and carry out audits as provided for in article VI (Accounting, Audit, and inspection) of the memorandum of agreement between DoD and the ISTC on contributions of funds. In addition, the ISTC financial staff currently spends approximately one week each month in the field doing spot audits and program managers likewise are in regular contact with institutes to monitor technical progress. The ISTC's comment on this issue is, "there are detailed auditing procedures that work better than implied in this report." We will, of course, continue to work with the ISTC to ensure that appropriate resources and personnel are available to conduct full and meaningful project reviews.

Now on p. 30.

See comment 11.

Page 30, para 2

Comment:

It should be noted that while some facilities have decreased their defense related production all retain the capability to produce weapons of mass destruction prior to conversion through retooling to civilian production. Cooperative industrial partnerships will largely eliminate this capability and will reduce calls from the defense-industrial complex for increased military production for both internal needs and markets abroad.

Now on pp. 30-31.

See coment 12.

Page 30, para 3

Comment:

The paragraph implies that the U.S. plans to provide a significant fraction of this huge cost and overstates the cost of converting just WMD enterprises - the scope of the NL Defense conversion effort. The cost estimate cited is for all Russian defense enterprises and WMD facilities that constitute a small fraction of this totality. Thus total WMD conversion costs will be a fraction of the number cited.

U.S. defense conversion efforts are only intended as a catalyst to provide an important example for the remaining enterprises. By providing key WMD facilities with critically needed assistance, the U.S. will be greatly reducing the Russian capability to produce Weapons of Mass Destruction.

The following are GAO's comments on the Department of State's letter dated June 1, 1995.

GAO Comments

1. Classified enclosure concerning chemical weapons destruction issues has been detached from the letter.

2. We have added language to clarify our meaning. The United States and Russia have not agreed on the applicability of the Russian destruction technology for a chemical weapons destruction facility because the necessary data will not be available until the ongoing joint evaluation is concluded. Unlike the U.S. preferred incineration process, the Russian technology has no record of performance outside the laboratory, and the Russians have not provided sufficient data to allay U.S. concerns about the technology's technical and cost uncertainties. Without the joint evaluation results, a U.S. commitment to support an uncertain technology would be premature.

3. State Department officials notified us that their written comments on our draft report contained some out-of-date and incorrect information concerning the Chemical Weapons Destruction project. As a result, State officials stated in our exit meeting that State deferred to DOD concerning program-specific comments. Consequently, we responded only to DOD's comments on program details.

4. Our information on CTR audits and examinations was accurate as of May 18, 1995, the date of the draft report. We have modified the report to reflect the recent progress in conducting such examinations.

5. Russia was dismantling its nuclear warheads and launchers before any CTR dismantlement assistance arrived in September 1994. While Russia appears to maintain a robust dismantlement rate, we could not determine to what extent CTR assistance would accelerate the Russian dismantlement rate.

6. While we do not take issue with State's assertions about the political impact of offering Belarus CTR assistance, the United States and Belarus have yet to sign an implementing agreement detailing the requirements for CTR dismantlement assistance.

7. DOD has often—in testimony, budget submissions, and briefing documents—used the terminology, "former" weapons scientists or

scientists "formerly" involved in a weapons program. The Assistant Secretary of Defense, while testifying before the House Appropriations Committee, Subcommittee on Defense on March 9, 1994, described the recipients as "former weapons scientists," and the 1996 Budget Submission described the recipients as "scientist and engineers formerly involved with weapons of mass destruction." The report notes that there is no connection between Center-funded projects and weapons projects beyond the fact that the same scientists could be working on both projects.

8. We cannot comment on the impact of anecdotal evidence.

9. We did not perform a statistical analysis of all Center projects. Rather, based on the review of approximately 10 percent of the existing projects, we point out that scientists working on Center projects could also be working on current weapons programs. U.S. and Center officials, as well as recipients, confirmed that no restrictions exist to prohibit this from occurring. The text was changed to reflect the receipt of social benefits as a reason for part-time employment at the institutes.

10. The example cited in the report does not display a basic misunderstanding on our part. The report uses streak cameras as an example of an item, funded by the Center, that is dual-use in nature. Streak cameras are relevant in nuclear testing, the project was subject to the dual-use review by the U.S. officials, and the final product could be subject to export licensing.

11. We have revised the text of the report to acknowledge that most defense conversion projects are focused on converting inactive defense factories that still have production capability. Our report now points out that DOD believes converting production capability will aid the Russian economy and alleviate pressure on Moscow to rearm or sell high-tech weapons abroad. Neither DOD or the Department of State have provided any information showing how the industrial partnership program would largely eliminate the capability to produce weapons of mass destruction.

12. This paragraph focuses on overall defense conversion and not just weapons of mass destruction. Although the DOD defense conversion program emphasizes converting weapons of mass destruction facilities, not all conversion projects are converting these types of facilities. In one case, a firm in Ukraine was formerly producing engines and parts for naval vessels.

Comments From the Department of Energy

Note: GAO comments supplementing those in the report text appear at the end of this appendix.

Department of Energy
Washington, DC 20585

MAY 26 1995

Mr. Charles Bolton
U.S. General Accounting Office
Washington, D.C. 20548

See comment 1.

Dear Charles:

In response to your request, I am submitting final comments on the draft General Accounting Office report titled, "Weapons of Mass Destruction: Helping the former Soviet Union Reduce the Threa".. These comments apply to the section titled, "Material Protection, Control and Accounting" on pages 22-25.

Now on p. 23.

Page 23, top paragraph, line 3

- insert the words "nuclear weapon complex" after the words "80 to 100".

Now on p. 23.

Page 23, paragraph 2, line 2

- insert the words "nuclear weapon complex" after the words "80 to 100".

Now on p. 24.

Page 24, second paragraph, line 2

- Strike the word "six" and insert the word "five".

Now on p. 24.

Page 24, second paragraph, line 4

- Insert the words "cooperate on" after the words "with GAN to".

Now on p. 24.

Page 24, second paragraph, line 10

- Insert the words "and nuclear-weapon related" after the worlds "Russian civilian".

Now on p. 24.

Page 24, second paragraph, line 11

- Before the first period, insert the words, "and physical protection".

Page 24, first bullet, line 1 and 2

Now on p. 24.

See comment 2.

- Suggest striking the first sentence and replacing it with the following: "Plans are being developed and implemented to address the deficiencies at the majority of the 80-100 facilities. Initial contracts for improvements are in place and will be expanded". Backup information to support this statement is being sent by classified fax.

Page 25, first bullet, line 1

Now on pp. 24-25.

- Strike the words "It is unclear to what extent" and after the word "DOE" insert the words "needs to determine".

Page 25, first bullet, line 3

Now on p. 24.

- Strike the words "in its budget".

Page 25, first bullet, line 5

Now on p. 25.

- Strike the year "2000". Insert the year "1999".

Page 25, second bullet, line 3

Now on p. 25.

- Strike the word "will" and replace it with "may".

Page 25, last paragraph

- Strike the last sentence. Attached is a memorandum for DOE staff that suggests changes.

Thank you for the opportunity to comment on the report.

Sincerely,

Kenneth N. Luongo
Director
Office of Arms Control
and Nonproliferation

17 May 1995

NOTE TO: KEN LUONGO, DIRECTOR, NN-40

FROM: KEN SANDERS, DIRECTOR, NN-44

SUBJECT: COMMENTS ON GAO REPORT ON CTR PROGRAM CONCERNING MPCA

Background

On May 12, 1995, Julie Hirshen (GAO) faxed a draft portion of the GAO Cooperative Threat Reduction report dealing with MPCA. She requested review with respect to classification.

Comments

1. Classification --- I don't believe any of the text is classified.

See comment 3.

2. Substance --- Re penultimate sentence in report: "As a nuclear weapons state under the Nonproliferation Treaty, Russia is under no treaty obligation to meet international safeguards standards." **This sentence is not correct.**

Russia has a formal legal obligation under their Safeguards Agreement with the IAEA (INFCIRC/327), albeit a "voluntary agreement like that of the U.S., to meet international safeguards requirements.

Further, as a signatory to the Convention on the Physical Protection of Nuclear Material" (INFCIRC/274), Russia has formal legal obligations for physical protection of nuclear material. In addition, Russia has actively participated in formulation of the international guidelines for physical protection of nuclear material (INFCIRC/225 rev. 3) and promotion of the use of these guidelines.

Russia, therefore, **does have obligations** to meet international standards for MPCA.

cc: Michael McClary, NN-40

The following are our comments on the Department of Energy's letter dated May 26, 1995 and memorandum dated May 17, 1995.

GAO Comments

1. We have changed the report to reflect wording changes suggested by the Department of Energy.

2. The statement that currently there is no agreement with the Russians for work at the 80 to 100 facilities is accurate. However, we have made changes to the report to reflect the agreement in principle reached by the U.S. and Russian lab-to-lab steering groups for work at MINATOM nuclear weapons related facilities and Energy's current efforts to negotiate agreements for work at many of the other 80 to 100 facilities.

3. Energy's assertion is incorrect. However, to more accurately reflect Russia's international obligations, we have added a footnote that Russia has entered into a voluntary arrangement to meet international safeguards at some of its civilian nuclear power facilities and research reactors. However, this falls short of having to meet international standards for all of its nuclear facilities as in the case of Ukraine and Kazakhstan. We also added that Russia is a party to the Convention on the Physical Protection of Nuclear Materials that obligates it to meet defined standards of physical protection of nuclear materials.

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