

September 1996

# WEAPONS OF MASS DESTRUCTION

## Status of the Cooperative Threat Reduction Program



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**National Security and  
International Affairs Division**

B-273023

September 27, 1996

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

Since 1992 the Department of Defense's (DOD) Cooperative Threat Reduction (CTR) program has sought to help the four newly independent states (NIS) of Belarus, Kazakstan, Russia, and Ukraine control and reduce threats posed by weapons of mass destruction inherited from the former Soviet Union (FSU). In response to your requests, we evaluated

- the draft 1996 multiyear CTR program plan in terms of its scope, depiction of project status and cost estimates, description of changes that occurred after the 1995 CTR multiyear program plan, and release to Congress and
- the progress, estimated costs, and potential impacts of CTR efforts to help control nuclear weapons and materials, eliminate strategic delivery vehicles, and destroy chemical weapons.

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## Background

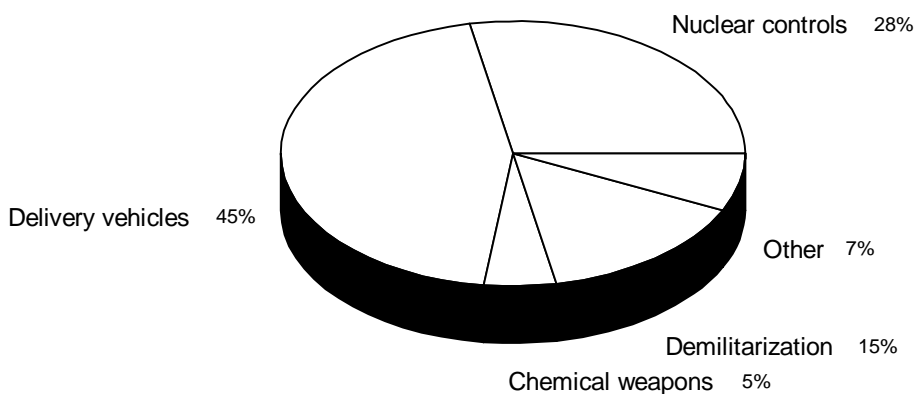
Upon its breakup in 1991, the Soviet Union bequeathed a vast array of weapons of mass destruction to Russia, Ukraine, Belarus, and Kazakstan. This legacy included about 30,000 nuclear weapons, 2,500 strategic nuclear delivery systems, and at least 40,000 metric tons of chemical weapons. In 1991, Congress authorized DOD to establish a CTR program to help these states (1) destroy weapons of mass destruction, (2) store and transport the weapons in connection with their destruction, and (3) reduce the risk of proliferation.

Congress has provided about \$1.5 billion in fiscal years 1992-96 to address CTR objectives. As shown in figure 1, DOD has allocated nearly three-quarters of these funds to delivery vehicle and infrastructure dismantlement and destruction and to improving nuclear material

controls.<sup>1</sup> It has allocated the remainder to demilitarizing defense activities,<sup>2</sup> destroying chemical weapons, and other efforts. CTR program officials have significantly increased obligations in recent years. As of August 5, 1996, the program had obligated over \$1 billion and disbursed \$571 million<sup>3</sup> (see app. I for a breakdown of CTR funding notifications, obligations, and disbursements). The CTR program generally procures goods and services for CTR recipient countries instead of providing funds directly to them.

**Figure 1: Allocation of CTR 1992-96 Funds as of August 5, 1996**

**Total notifications of fiscal year 1992-96 funds: \$1,502,110,000**



Note: The percentages depicted above are based on DOD's notifications to Congress of its plans to obligate funds for CTR projects. DOD must notify Congress at least 15 days before it may obligate funds for a project.

Source: GAO.

<sup>1</sup>Several CTR nonproliferation projects—including support for peaceful projects for NIS weapons scientists and controls over nonweaponized nuclear materials—have since been transferred from DOD.

<sup>2</sup>We will be reporting separately on CTR defense conversion efforts.

<sup>3</sup>This figure may understate the actual value of CTR work performed to date, due to lags in the CTR program's financial reporting process. See our report entitled Weapons of Mass Destruction: Reducing the Threat From the Former Soviet Union—An Update (GAO/NSIAD-95-165, June 9, 1995).

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In 1994 we reported that the program's projects could have widely varying effects and that DOD had not estimated total requirements for achieving program objectives.<sup>4</sup> We recommended that the Secretary of Defense institute a long-term planning process to help allocate CTR funds among competing demands. Congress subsequently required DOD to submit a multiyear CTR plan and cost estimate with its annual budget. DOD submitted the first version of this plan to Congress in 1995. The second plan, now in draft, is for 1996.

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## Results in Brief

The draft 1996 CTR multiyear plan is a significant improvement over its predecessor, but it does not adequately reflect uncertainties associated with some projects and cost estimates and it does not explain significant changes from the 1995 plan. Moreover, it does not reflect important developments that have occurred since it was drafted in December 1995. DOD officials have delayed the plan's release for several months, in part because they could not quickly adjust it to address changes in the President's budget submission for fiscal year 1997.

In many respects, the CTR program has made important progress over the past year. CTR officials resolved long-standing delays in designing a facility that Russia maintains is needed to store nuclear components from dismantled weapons. CTR officials also began responding to Russian requests for aid in improving nuclear weapons storage and transportation security and helped some FSU states dismantle nuclear delivery vehicles. CTR aid helped Ukraine remove nuclear warheads for shipment back to Russia and build a facility for neutralizing retired intercontinental ballistic missiles. In addition, DOD completed most of its dismantlement equipment deliveries to Russia and began jointly developing technical requirements with CTR recipients. The CTR chemical weapons destruction project demonstrated the feasibility of Russia's previously unvalidated destruction technology in the laboratory.

Despite such progress, DOD has not yet resolved important issues concerning the CTR program's Russian nuclear storage and chemical weapon destruction facility projects. Although the storage facility—which will cost the United States at least \$185 million—is now under construction, the United States and Russia have not yet agreed as to how DOD will be able to observe Russia's use of the facility to store materials from dismantled weapons. While CTR officials have capped financial

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<sup>4</sup>See our report entitled *Weapons of Mass Destruction: Reducing the Threat From the Former Soviet Union* (GAO/NSIAD-95-7, Oct. 6, 1994).

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support for the storage facility at a certain level,<sup>5</sup> they do not plan to similarly cap U.S. support to the planned chemical weapon destruction facility. As of September 4, 1996, they had yet to determine how much that facility's construction would cost the United States. A year-old CTR estimate of \$900 million was based on little design data. DOD may not have a more reliable estimate before it requests new funds for the destruction facility.

Concerns regarding the potential high cost of the chemical weapons destruction facility are compounded by uncertainties regarding its impact on the Russian chemical weapons threat. DOD officials consider this threat to be less urgent than the Russian nuclear threat. By itself, the facility would require over a decade to destroy declared chemical weapons stocks at one location. Russia would need to construct six more facilities to meet Chemical Weapons Convention requirements.<sup>6</sup> Other nations' commitments fall short of the billions of dollars that Russia will need to comply with the convention.

While CTR projects, if properly executed, should to some degree improve FSU controls over nuclear materials and augment Russia's chemical weapons destruction capabilities, CTR officials lack the data needed to independently determine the extent of such improvements. In contrast, CTR delivery vehicle dismantlement activities may yield some quantifiable measures of impact.

To date, DOD has allocated or requested almost \$1.5 billion for chemical weapon destruction, nuclear security, and delivery vehicle destruction projects for fiscal years 1992 through 1997. It estimates that the CTR program will cost a total of \$3.2 billion through fiscal year 2001.

This report recommends that the Secretary of Defense make needed improvements to future CTR multiyear plans and refrain from obligating funds for constructing a pilot chemical weapon destruction facility until DOD prepares a more reliable estimate of how much the facility's construction will cost the United States. It also suggests that Congress may wish to consider linking DOD's authority to obligate CTR funds for the nuclear storage facility to progress in concluding an agreement on the facility's openness to the United States.

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<sup>5</sup>The specific figure is controlled as "For Official Use Only."

<sup>6</sup>When the convention enters into force (in 1997, as currently projected), it will require parties to destroy chemical weapons stocks in 10 years, with a 5-year extension if needed.

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## CTR Multiyear Plan

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### Strengths and Weaknesses of the Draft CTR Plan

The CTR program office used the results of a new and improved bottom-up planning process in drafting the 1996 multiyear plan. The new process requires CTR officials to develop a separate, detailed project plan for each CTR project. The individual project plans use a standardized format that depicts each project's long-term funding profile, objectives, acquisition strategy, schedule, measures of effectiveness, and cost estimate basis. The CTR program office used the project plans, which are updated semi-annually, as the basis of its overall plan.

In contrast to the previous CTR multiyear plan, the December 1995 draft contained more detailed data concerning several CTR projects and was sometimes more candid in its description of the challenges facing CTR projects than the preceding plan. The draft plan also detailed, for the first time, the program's measures for assessing the effectiveness of CTR efforts. In its description of these measures, the plan noted that the program lacks the data and tools needed to independently assess the effectiveness of CTR chemical weapons and nuclear safety projects in achieving CTR objectives of reducing the threat from weapons of mass destruction. It indicated that such projects would instead be assessed in terms of their achievement of project milestones. The plan also indicated that the success of delivery vehicle destruction projects will be evaluated by determining the NIS countries' progress in meeting Strategic Arms Reduction Treaty (START) drawdown schedules. In doing so, the plan noted that the program will only be able to link such progress to specific CTR projects by using recipient-country statements—rather than on any available quantifiable data.

Despite these improvements over the prior multiyear plan, the December 1995 draft plan had some deficiencies. We found that it did not always fully depict known project uncertainties nor did it reveal the wide variations in certainty of the project cost estimates embedded in its depictions of program cost. For example, the draft plan did not distinguish between cost estimates based on contracts that had already been awarded or completed and estimates based on little or no design data. The draft plan also did not (1) indicate whether officials had omitted risk and contingencies from cost estimates or (2) fully identify and explain significant changes in the depiction of projects included in the previous plan.

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## Delayed Release of the Plan

Section 1205 of the National Defense Authorization Act for Fiscal Year 1995 (P.L. 103-337, Oct. 5, 1994 ) directs the Secretary of Defense to submit an annual report on DOD's plans and funding for the CTR program with the President's budget submission. This requirement for a multiyear CTR plan was intended to provide Congress with greater visibility into DOD's long-term CTR strategy and the resources needed to implement that strategy.<sup>7</sup>

DOD failed to comply with this requirement in 1996. Although the CTR program office completed its draft in December 1995, DOD did not complete action on the plan in time to submit it with the President budget's submission in April 1996. According to DOD officials, DOD failed to issue the plan primarily because the CTR program office could not quickly revise the draft plan to make it fully consistent with the President's budget submission for fiscal year 1997.<sup>8</sup> Such revisions were called for because the plan's 1996 spending assumptions had been rendered obsolete by the Fiscal Year 1996 National Defense Authorization Act—which was not enacted until February 1996.<sup>9</sup> Officials in the DOD Comptroller's office did not want to release the draft plan because it was not consistent with the President's budget submission for 1997. After weeks of discussion, DOD officials agreed to add an explanatory addendum to the plan. However, as of September 4, 1996, neither the plan nor the addendum had been submitted to Congress.

DOD officials told us in July 1996 that they hoped to submit the plan—without updating it—to Congress by the end of September 1996.<sup>10</sup> Because DOD will not update the plan before releasing it, the plan will not reflect significant CTR-related developments that occurred during the first half of 1996, nor will it reflect current budgets. For example, the plan would not reflect

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<sup>7</sup>In our October 1994 report we recommended that DOD institute a proactive, long-term CTR planning process to help allocate resources among competing demands and that it revise the resulting plan periodically.

<sup>8</sup>Other factors cited by DOD officials included a furlough experienced by DOD staff during a 1995 budget crisis, internal delays in moving the draft through DOD before reaching the Comptroller's office, and the need to obtain interagency comments.

<sup>9</sup>For example, statutory language barred use of \$60 million in fiscal year 1996 funds for Russia because the President could not certify that Russia was complying with multilateral obligations concerning biological weapons. The funds were instead made available for use in the other three CTR recipient states.

<sup>10</sup>H.R. 3230, (104th Cong.) as passed by the House of Representatives, would prohibit DOD from obligating any fiscal year 1997 CTR funds until 15 days after DOD has provided the plan and two other reports.



- the program's reallocation of \$60 million in fiscal year 1996 funds from Russian chemical weapons destruction to strategic delivery vehicle dismantlement work in Ukraine, Belarus, and Kazakstan;
- progress made in early 1996 in defining CTR dismantlement projects in Russia; and
- the U.S. response to Russian requests in March and June 1996 for help in upgrading as many as 50 nuclear weapons storage sites.

DOD officials informed us that the time-consuming process of updating the plan to reflect such changes would further delay the plan's release to Congress. They said the changes would be reflected in next year's multiyear plan.

## Securing Nuclear Weapons and Materials

Since the Soviet Union's collapse in 1991, the safety and security of FSU nuclear weapons and their fissile components have been sources of concern for the United States. The CTR program is seeking to address these concerns by helping Russia construct a fissile material storage facility and control its nuclear weapons.

## Storage of Fissile Weapons Components

The CTR program is supporting Russian Ministry of Atomic Energy (MINATOM) efforts to design and construct a facility at Mayak that will store 50,000 containers of fissionable material from dismantled nuclear weapons. While Russia has not sought U.S. help in dismantling its nuclear weapons, it has asserted that it lacks storage space for fissile materials from dismantled weapons and asked for U.S. help in designing and constructing such a facility. A key MINATOM official told us in March 1996 that MINATOM needs space for about 100,000 containers of fissile materials.<sup>11</sup>

## Progress on Mayak Design and Construction

The design of the Mayak facility is nearly 2 years behind schedule, due to a unilateral Russian design concept change in 1994 that eliminated the relevance of about a third of the CTR program's initial \$15-million design project. However, in July 1996, with CTR support, Russian designers provided a one-third design document to CTR officials. DOD officials anticipate certifying that the Mayak design is one-third complete in September 1996.

<sup>11</sup>Two to five containers could be needed to hold components from a single warhead. CTR program briefings indicate that 100,000 containers could hold components from approximately 25,000 weapons. We reported in October 1994 that Russia may have to store components from as many as 24,000 dismantled warheads by 2001.

## Lack of Progress on Mayak Transparency

Despite some stoppages, Russian construction activity has proceeded over the past year with CTR-supplied materials. The CTR program recently hired a U.S. design and construction contractor to help coordinate CTR aid at the Mayak facility. If construction continues as currently anticipated, the facility could begin storing its first 25,000 containers in 1999 and be entirely completed in 2001.<sup>12</sup>

While the design and construction of the Mayak facility have progressed over this year, the United States and Russia have yet to finalize transparency arrangements for the facility. This lack of progress in obtaining Mayak transparency arrangements is due largely to the failure to date of talks on a broader range of reciprocal U.S.-Russian transparency measures to complete an agreement that would have included Mayak and other facilities.

According to DOD, Mayak transparency should provide the United States with reasonable assurance that Russia is storing only materials from dismantled nuclear weapons and that these materials are not being reused for weapons. Russian officials appear to have agreed to Mayak transparency in principle. They have indicated that the facility will be transparent to the United States and stated that it will provide for “joint accountability and transparency measures permitting confirmation by the U.S.” In October 1994 Russian officials stated that they were prepared to pledge that Mayak would contain only materials from dismantled nuclear weapons and that these materials would not be reused for weapons.<sup>13</sup>

However, the United States and Russia have yet to conclude an agreement specifying exactly how Russia’s transparency pledges will be implemented at Mayak. According to executive branch officials, U.S. efforts to pursue such an agreement went into a hiatus when the U.S. and Russian governments launched the broader Safeguards, Transparency, and Irreversibility (STI) negotiations. STI would have addressed Russian concerns regarding reciprocity by establishing (1) reciprocal inspections to confirm each nation’s stockpiles of highly enriched uranium and plutonium from dismantled nuclear weapons, (2) data exchanges on

<sup>12</sup>DOD shipped almost 7,000 CTR-funded fissile material containers to Mayak by mid-July 1996 and plans to deliver another 17,000 containers by September 1997. DOD has obligated most of the \$50 million allocated for these containers and asked for another \$38.5 million in fiscal year 1997 funds for additional containers.

<sup>13</sup>In doing so, they appeared to link these pledges to reciprocal U.S. pledges. In the past Russian officials have raised the issue of reciprocity in connection with Mayak. U.S. officials have held that U.S. transparency rights derive from U.S. funding and would not result in reciprocal Russian access to U.S. storage facilities. DOD officials told us that Russian officials have not raised the issue since 1994.

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nuclear warhead and fissile material stocks, and (3) cooperative arrangements to monitor excess warheads awaiting dismantlement. However, the STI talks ceased in late 1995.

Given recent Mayak design and construction progress, DOD and MINATOM agreed in early 1996 that Mayak transparency efforts would proceed regardless of STI's status. U.S. and Russian technical experts met in June 1996 to discuss the planned Mayak material control and accounting process. According to a key DOD official, the talks established that this process—if supplemented by inspection equipment—would generate the data needed for transparency.

However, the United States and Russia have not begun discussing the extent to which the United States will have access to such data at Mayak. DOD officials have not developed a position concerning the degree of access DOD requires at Mayak or a timetable for completing transparency arrangements. Executive branch agencies disagree on whether talks on Mayak transparency should be pursued in a broader government-to-government forum or in the narrower DOD-MINATOM forum that addresses the Mayak project.

Until a detailed transparency arrangement is agreed upon, the United States does not know exactly how it will be able to insure that Mayak is being used as intended. A failure to reach such an agreement in the future would force the United States to choose between curtailing support for the facility—after investing many tens of millions of dollars—and compromising on its access rights. However, a key DOD policy official told us that the details of the Mayak transparency arrangements can be worked out over time without harm to the project and suggested that even a partially built facility—if eventually completed by Russia alone—would help secure Russian fissile materials.<sup>14</sup>

## Mayak Cost Estimates

DOD plans to spend at least \$185 million on Mayak design and construction. It has allocated \$119 million in fiscal year 1992-96 funds and asked Congress for another \$66 million for fiscal year 1997. As of August 5, 1996, DOD had obligated about \$72 million for Mayak design and construction.

While Mayak's construction could ultimately cost over \$800 million, according to a 1994 estimate by the U.S. Army Corps of Engineers, the facility's cost to the United States should be considerably less. In

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<sup>14</sup>Russian officials have also suggested that they will place the facility under International Atomic Energy Agency safeguards. DOD officials told us that they have not discussed this possibility with Russia in detail.

congressional testimony during 1996, DOD officials stated that the United States will pay no more than half of the cost of building Mayak. CTR officials plan to cap the CTR program's support of Mayak construction at a certain specific level of effort<sup>15</sup> and ask Congress for added funding on an as-needed annual basis.<sup>16</sup> The Corps will complete a more certain cost estimate—using the recently obtained one-third design data—by September 1996.

### Impact of Mayak on CTR Objectives

The theft or misuse of uranium and plutonium components from dismantled nuclear weapons would constitute an enormous security risk to the United States and other nations. The Mayak project, if properly executed, would provide Russia with a modern and secure facility for storing components from thousands of nuclear weapons.<sup>17</sup> MINATOM officials told us in March 1996 that the facility would help alleviate the build-up of materials from dismantled weapons and greatly improve the safety and security of the stored materials.<sup>18</sup>

Nonetheless, assessing the degree to which Mayak will improve Russia's existing storage capabilities is difficult. We reported in October 1994 that U.S. agencies had been unable to confirm a Russian shortage of storage space. The draft CTR multiyear plan acknowledges that the program cannot measure the impact of CTR fissile material storage projects—such as Mayak—on CTR program objectives because DOD lacks (1) direct knowledge of Russian nuclear warhead dismantlement activities, (2) control cases, and (3) data and models needed for assessing risk. DOD instead plans to assess the success of the project in terms of its achievement of project milestones.

### Nuclear Weapons Security Projects

Statements made by U.S. and Russian officials over the past 2 years indicate that Russian nuclear weapon security may need to be improved. A U.S. government expert told a congressional committee in August 1995 that the Russian nuclear weapons security system had not been designed to counter insiders who might be tempted to steal a nuclear weapon and

<sup>15</sup>The exact figure is controlled as "For Official Use Only."

<sup>16</sup>As a result, the CTR office dropped more than \$280 million in risk and contingency funds from the Corps' estimate.

<sup>17</sup>CTR briefings indicate that the facility's 50,000 containers will hold materials from about 12,500 nuclear weapons.

<sup>18</sup>MINATOM officials told us in March 1996 that Russia needs a second storage facility (at Tomsk) and that it would need outside financing. The Tomsk facility would be similar to the Mayak facility in capacity and cost. The United States and Russia have not yet agreed to cooperate in constructing such a facility.

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that the system was facing new strains engendered by the Soviet Union's collapse. In March 1996, the minority staff of the Senate Committee on Governmental Affairs, Subcommittee on Investigations, testified that "security at some nuclear weapon field sites may be suspect." Key Russian Ministry of Defense (MOD) officials have indicated concern about the possibility that nuclear weapons could be stolen in transit or damaged in accidents on Russia's deteriorating rail system. They have also stated that MOD's top nonproliferation priority is to improve security at nuclear weapon storage sites.

### Progress Concerning Nuclear Weapon Security

The CTR program has made progress over the past year in its efforts to improve Russian security over nuclear weapons slated for dismantlement. During 1996 the CTR program paid a Russian railyard almost \$1 million to complete the installation of CTR-supplied fire and intrusion detectors on railcars used to carry nuclear warheads. The program had previously given MINATOM armored blankets and emergency response equipment to help protect weapons in transit.

A new set of projects has begun emerging from CTR discussions with MOD over the past year. For example, the CTR program plans to deliver 150 supercontainers to MOD by early 1997 to help protect warheads in transit against penetration and fire. It has also begun shipping five rail-mobile emergency support modules to help respond to rail accidents and terrorist attacks.

The CTR program has also developed several new projects to help MOD protect its nuclear weapons in storage. It has agreed to help MOD develop a prototype automated nuclear weapon inventory system, which Russia reportedly lacks, and has begun providing needed computers and training. MOD will use the prototype in developing an operational system for weapons to be dismantled.

Perhaps most significantly, in 1996 MOD for the first time asked for CTR assistance in upgrading security at as many as 50 nuclear weapon storage sites. In response, the CTR program has moved to provide MOD with computerized site security assessment models and data on personnel security assessment tools. MOD has proposed that the CTR program establish a technical training base in Russia to install, test, and evaluate security technology equipment and procedures. Under such an approach, a CTR-funded contractor at the training base could support MOD-cleared Russian subcontractors—possibly by helping them identify security needs and procuring needed equipment from Russian firms.

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## Estimated Cost of Nuclear Weapon Security Enhancements

The CTR program has allocated a total of \$116 million in fiscal year 1992-96 funds—and has requested another \$15 million for fiscal year 1997—to help improve the security of nuclear weapons in Russia. This \$131 million includes \$89.5 million on the new MOD transit and storage projects, of which \$39.5 million is slated for improving MOD storage security.<sup>19</sup>

However, the costs of the MOD storage security projects—while still undefined—will almost certainly exceed \$39.5 million. The program manager for these CTR projects told us that each of Russia's 50 storage sites might cost about \$2 million to upgrade, based on DOD's current understanding of requirements.<sup>20</sup>

## Potential Impact of Security Enhancement Projects

While CTR aid could help improve the security of Russian nuclear weapons to some degree, assessing the extent of this improvement will be very difficult.<sup>21</sup> The CTR program's draft 1996 multiyear plan indicates that the program lacks the data and analytical tools needed to assess the extent to which its nuclear security projects are achieving CTR objectives.<sup>22</sup> Limited access to the sensitive locations where CTR nuclear weapons security aid is being used will affect the CTR program's ability to determine how effectively the assistance is being used. For example, Russian officials recently denied a DOD audit team access to MOD sites where CTR-supplied emergency response equipment was located and instead brought such equipment to the DOD team.<sup>23</sup> Similarly, any DOD integrating contractor for the nuclear weapons storage site security project would be precluded from visiting actual weapon storage sites.

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<sup>19</sup>The remaining \$41.5 million—\$131 million minus \$89.5 million—has already been largely obligated for the railcar, blanket, and emergency response projects.

<sup>20</sup>However, costs could increase if the as-yet-undefined CTR effort proves to be comparable to the Department of Energy's efforts to upgrade MINATOM's systems for protecting and accounting for weapons-usable fissile materials. The Department of Energy estimates that upgrading each MINATOM facility could cost \$5 million to \$10 million. See our report entitled Nuclear Nonproliferation: Status of U.S. Efforts to Improve Nuclear Material Controls in Newly Independent States (GAO/NSIAD/RCED-96-89, Mar. 8, 1996).

<sup>21</sup>In March 1996, MOD officials told us that they had used CTR-provided armored blankets in removing warheads from Ukraine and CTR-provided railcar upgrades to help secure nuclear warheads in transit. However, U.S. analysts have previously informed us that such aid would not make Russia's weapons transportation system safe by western standards.

<sup>22</sup>As a result, program officials plan to assess these projects in terms of their achievement of project milestones.

<sup>23</sup>According to DOD, this practice is consistent with U.S.-Russia CTR agreements which provide for access to sites of usage "if possible." We plan to provide Congress with a separate report on the CTR program's audits and examinations after DOD releases its currently overdue report accounting for CTR assistance.

## Dismantling Nuclear Delivery Vehicles and Infrastructure

According to DOD, Russia, Ukraine, Belarus, and Kazakstan inherited about 2,500 strategic nuclear delivery systems from the FSU, along with an extensive nuclear weapons-related infrastructure. According to U.S. estimates, these four states must eliminate over 900 strategic nuclear delivery vehicles and safely remove over 4,000 nuclear warheads from deployment by 2001 to comply with START requirements. These estimates also indicate that if Russia ratifies START II, it must also eliminate another 200 launchers and remove up to 3,000 warheads from deployment.<sup>24</sup> Under the terms of the Lisbon Protocol, Ukraine, Belarus, and Kazakstan must become non-nuclear weapons states by 2001.<sup>25</sup>

The CTR program has launched a broad array of projects to eliminate or reduce NIS nuclear delivery vehicles and infrastructure. These projects have helped Ukraine, Russia, Kazakstan, and Belarus dismantle nuclear delivery systems.

## Dismantlement Progress

Over the past year, progress has been made in implementing CTR nuclear dismantlement projects in the recipient countries. The CTR program has increased dismantlement-related equipment deliveries and completed some dismantlement projects. It has evolved from simply providing dismantlement equipment requested by the recipient countries to jointly developing technical requirements with them.

According to DOD, Ukraine is proceeding with eliminations of strategic delivery systems. In Ukraine, the CTR program has completed deliveries of fuels, cranes, vehicles, and other assistance to facilitate the removal of nuclear warheads. CTR assistance helped Ukraine complete an SS-19 missile neutralization facility, funded a contractor to destroy SS-19 missile silos, and provided intermodal tank containers and a storage facility to safely transport and store nearly 4,000 metric tons of liquid rocket fuel removed during missile dismantlement.

With CTR assistance, Ukraine will eliminate all of its SS-19 missiles and silos. The program has made less progress regarding Ukraine's SS-24 missile systems. Under START, Ukraine plans to destroy its SS-24 silos and

<sup>24</sup>START I limits the FSU to 1,600 delivery vehicles and 6,000 warheads by no later than 2001. The as yet unratified START II accord further lowers these limits and bans intercontinental ballistic missiles that carry multiple re-entry vehicles.

<sup>25</sup>As legal successors to the Soviet Union, Belarus, Kazakstan, and Ukraine became parties to START I through the Lisbon Protocol. In signing the protocol, these countries committed to eliminating strategic nuclear offensive arms from their respective territories. According to DOD, Ukraine and Kazakstan are now non-nuclear states and Belarus is scheduled to become so by the end of 1996.

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has already returned SS-24 warheads to Russia. However, it has not yet decided whether to dismantle its SS-24 missiles or retain them for space launch purposes.<sup>26</sup>

Recently, CTR program officials have begun work on defining Ukrainian nuclear infrastructure elimination projects. According to a Ukrainian Ministry of Defense official, such projects could include dismantling missile system fueling and storage sites and destroying nuclear warhead storage bunkers.

According to DOD, Russia is now ahead of its START I schedules. During the past year, the CTR program has nearly completed equipment deliveries to help Russia dismantle heavy bombers, submarine-launched ballistic missiles, and intercontinental ballistic missiles. For example, CTR assistance has recently provided intermodal containers and flatbed railcars to safely transport and store some 100,000 metric tons of liquid rocket fuel during dismantlement. CTR-provided equipment and services will also help dispose of this fuel.

Until earlier this year, the Russians had only requested CTR assistance in the form of equipment procurement and support. Now, however, CTR and Russian Committee of Defense Industry officials have begun to jointly develop Russian technical requirements for CTR aid. For example, both CTR and Russian officials are working together to eliminate over 900 solid rocket motors and 17,000 metric tons of solid rocket propellant. Also, in cooperation with the Russians, CTR program officials reviewed Russia's SS-18 elimination process and determined that the Surovatikha facility has reached full capacity and cannot meet START II goals. CTR officials are now considering a Russian proposal to increase the dismantlement rate at this facility by over 60 percent. In August 1996, U.S. and Russian officials held discussions to help improve Russian submarine-launched ballistic missile dismantlement processes.

In Kazakstan, CTR-provided equipment will help destroy seven heavy bombers and dispose of 7,800 metric tons of liquid rocket fuel. A CTR-funded contractor should begin restoring the SS-18 silo sites in September as Russia completes silo destruction efforts. By early next year, CTR aid plans to close nearly 60 nuclear weapon test tunnels. Program officials are also considering a project to dismantle a biological weapon production facility.

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<sup>26</sup>Under START, Ukraine is not required to eliminate its SS-24 missiles.



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In Belarus, a CTR-funded contractor should begin eliminating SS-25 missile launch pads by September 1996. A CTR-provided incinerator will help eliminate about 10,000 metric tons of liquid rocket fuel. In addition, CTR and Belarusian officials are defining nuclear infrastructure elimination projects that will help destroy missile storage and command and control bunkers and safely store radioactive materials.

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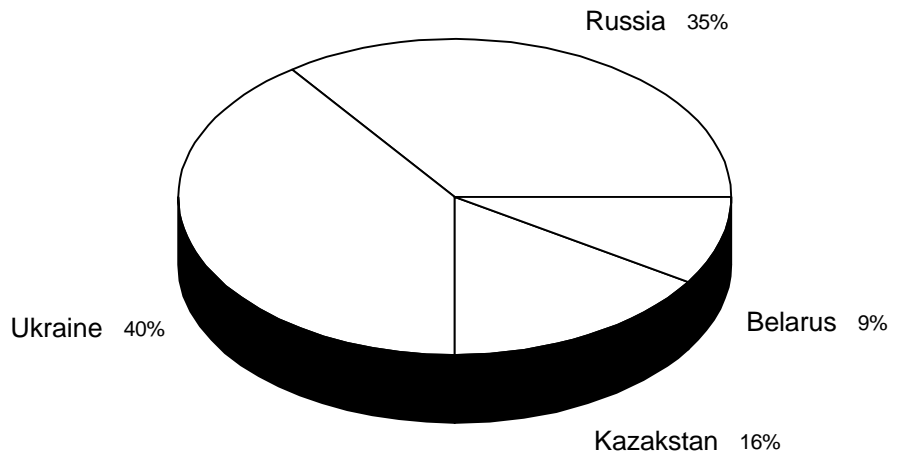
## Dismantlement Costs

The CTR program plans to commit about \$669 million for NIS dismantlement efforts through fiscal year 1996—a greater amount than it has invested in any of its other program areas. In addition, the CTR budget request for fiscal year 1997 allocates another \$47 million for Ukrainian dismantlement efforts and \$52 million more for Russia, including funding for initial START II-related efforts. The program has not requested any fiscal 1997 funds for Belarus and Kazakstan.

As of August 5, 1996, DOD had notified Congress of plans to obligate about \$669 million, had obligated nearly \$383 million and had disbursed almost \$218 million. Of the dismantlement funds notified to Congress, Ukraine will receive about \$267 million and Russia will receive \$236 million. Figure 2 shows the distribution of notified dismantlement funds among the recipient countries.

Figure 2: CTR Dismantlement Funds  
Notified as of August 5, 1996

**Total fiscal year 1992-96 funds notified: \$668,600,000**



Source: GAO.

Current CTR dismantlement cost estimates appear to be relatively certain at this point. However, future START II-related costs could increase total CTR dismantlement costs beyond the amount currently allocated for fiscal years 1992-97. A Russian official suggested to us that Russia could need several hundred million dollars to meet its START II requirements. Such an estimate may include contractor and logistics support for destroying submarine-launched ballistic missiles, dismantling SS-18s, and funding solid rocket motor and fuel elimination.<sup>27</sup> U.S. and Russian officials continue to define these efforts.

### Potential Impact of Dismantlement Projects

According to its draft multiyear plan, the program plans to assess the effectiveness of CTR dismantlement projects by determining how well recipients meet or exceed anticipated START drawdown rates. The plan acknowledges that the link between drawdowns and specific projects is

<sup>27</sup>The CTR program considers aid for Russian solid rocket motor fuel elimination to be a nonproliferation effort and not one linked to START II compliance.

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generally based on recipient countries' statements, rather than on quantifiable data available to the United States.<sup>28</sup>

However, in contrast to other CTR efforts, U.S. involvement in dismantlement activities may yield some quantifiable measures of impact. For example, CTR-funded projects have provided Ukraine with a capability—otherwise lacking—to dismantle and destroy its SS-19 missile systems. In Russia, CTR assistance could increase the missiles eliminated per year at an SS-18 dismantlement facility.

The overall impact of the destruction projects will probably vary from one CTR recipient to another. Without CTR dismantlement assistance, Ukraine probably could not meet its START I requirements. CTR assistance enabled Ukraine to return all of its nuclear warheads to Russia by June 1996. A Ukrainian Ministry of Defense official told us that with CTR assistance his country can adhere to START I and honor its treaty obligations.

In contrast, Russia met its START I delivery vehicle limit before significant amounts of CTR aid were delivered. However, a Russian official told us that CTR aid has helped Russia maintain its dismantlement efforts. He said that Russia dismantled more systems in the past year with CTR aid than in all prior years without it. Specifically, CTR efforts helped to safely store and transport some 100,000 metric tons of liquid rocket propellant and will soon help eliminate the fuel.<sup>29</sup> U.S. personnel have observed the use of CTR-provided assistance in dismantling bombers and submarine launchers, as well as the poor condition of Russian dismantlement equipment.

Russian officials have stated that CTR-provided hardware has been used to dismantle SS-18 missiles in Kazakhstan.<sup>30</sup> CTR assistance should help eliminate Kazakhstan's nuclear infrastructure, including 186 tunnels once used to test nuclear weapons at Degelen Mountain, and thus reduce the possibility of resumed nuclear testing at that site. A proposed CTR project at Kazakhstan's BioMedPreparat biological weapons production plant would dismantle key components of the facility, rendering it available for other purposes.

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<sup>28</sup>According to DOD, U.S. willingness to provide CTR aid had an important—if unquantifiable—impact on NIS decisions to undertake dismantlement efforts.

<sup>29</sup>Russian officials told us last year that rocket fuel transportation and disposition were the most crucial bottlenecks in meeting their treaty obligations.

<sup>30</sup>We noted in our June 1995 report Russian difficulties in transporting and eliminating liquid rocket fuel from dismantled SS-18s in Kazakhstan.

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CTR assistance to Belarus will help destroy concrete SS-25 launch pads in compliance with START. As in Kazakhstan, the CTR program should help dismantle the remaining nuclear infrastructure. While Belarusian government officials have approved several projects, CTR officials are still defining the specific requirements.

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## Destroying Chemical Weapons

Russia currently has the world's largest declared chemical weapon stockpile. The bulk of this 40,000 metric ton stockpile is comprised of nerve agents, rather than older mustard or blister agents. Russia has signed the Chemical Weapons Convention. Once it ratifies the convention, it will be committed to destroying this stockpile within 15 years of the convention's entry into force. Russia does not have an operational capability to destroy large quantities of chemical weapons.

DOD officials have stated that Russian chemical and nuclear weapon proliferation would pose a major security problem for the United States and that the eventual destruction of Russia's huge stockpile would significantly reduce the chemical weapon threat. However, DOD officials have also stated that the threat of chemical weapons is less significant and urgent than that of nuclear weapons.

To help address the threat posed by Russia's declared stockpile, the CTR program has adopted a strategy of "jump starting" Russia's chemical weapon destruction efforts. Executive branch officials have stated that CTR project assistance would help encourage Russian ratification of the Chemical Weapons Convention.

The program has taken the initial steps toward providing Russia assistance leading to creation of a pilot chemical weapon destruction facility at Shchuche that will have a destruction capacity of up to 500 metric tons of nerve agent contained in artillery shells and supporting eventual Russian establishment of a full-scale facility, capable of eliminating 1,200 metric tons annually. The purpose of the pilot facility is to gain sufficient design and operational data to obtain approval to expand the facility's industrial capabilities to reach the full-scale capacity. The intent of the U.S. support program is not to eliminate the entire Russian chemical weapon stockpile, but rather to provide Russia with a technologically proven starting point. CTR aid has also begun providing Russia with chemical weapon destruction-related laboratories.

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## Progress in Providing a Chemical Weapon Destruction Capability

The CTR program's chemical weapon destruction project has made some progress in the past year.<sup>31</sup> The CTR program and Russia concluded that Russia's previously unproved two-step destruction process is effective and feasible for destroying Russia's nerve agent stocks.<sup>32</sup> The United States and Russia also moved to clarify their plans and working relationship regarding the destruction facility by signing an implementing arrangement. The arrangement designated MOD as Russia's lead agency responsible for destroying chemical weapons and outlined U.S. and Russian roles in establishing the destruction facility. CTR and Russian officials also amended their July 1992 chemical weapons destruction agreement to increase U.S. funds by \$13 million and identify DOD aid to help establish the pilot facility.

U.S. and Russian representatives also developed a 1996 work plan for the pilot facility and five joint project plans. The project plans outlined each nation's specific tasks and milestones in 1996 to begin the process of designing and developing a pilot facility using the newly validated Russian destruction process. CTR program officials plan to award an engineering services contract in December 1996 for the facility's design and process scale-up, construction, and munitions processing equipment. By May 1997, CTR officials hope to have a preliminary design of the pilot facility and completed (1) tests on optimizing the Russian destruction technology and (2) a feasibility study to support Russian decisions on the facility's location.

An unexpected development was the project's loss of \$60 million of its \$73 million fiscal year 1996 budget. CTR program officials shifted these funds because the President could not certify that Russia was complying with multilateral obligations concerning biological weapons, as required by law.<sup>33</sup> Program officials were then unable to obligate the entire \$13 million during fiscal year 1996 because of Russian delays in signing the implementing arrangement, according to a CTR official who told us that Russia held up the arrangement in an unsuccessful attempt to obtain a U.S. commitment to fully fund the entire facility and provide greater intellectual property rights over the destruction process.

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<sup>31</sup>In March 1996, Russia issued its long-awaited comprehensive implementation plan for managing and destroying chemical weapons. The plan indicates that Russia will destroy its stockpile within the Convention's deadlines but leaves unanswered many questions about how it would do so.

<sup>32</sup>They also found that the second stage of the neutralization process, while creating a "slightly dangerous" mass of residue three to seven times as large as the destroyed nerve agent, nevertheless would be safe and irreversible. As such, the process would appear to comply with convention standards.

<sup>33</sup>Section 1208 of Public Law 104-106.

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Program officials also shipped three mobile chemical weapons destruction labs to Russia and reached agreement with Russian officials on a joint project plan to establish a central analytical laboratory in Moscow and begin hiring a contractor to oversee this project. DOD plans to award a contract by the end of September 1996. The mobile analytical laboratories are to (1) monitor and analyze environmental and verification samples at storage and destruction sites to assess the impact of chemical weapons destruction operations, (2) train personnel to operate destruction site laboratories and mobile labs, and (3) address public concerns about the safety of chemical weapons destruction activities. According to program officials, the mobile labs will cost \$3 million, including vehicles, training, travel, and spare parts.

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## Estimated Costs of Chemical Weapon Destruction

The CTR program's chemical weapon destruction project costs have been modest to date, relative to other CTR projects, but could increase greatly in the future. DOD has allocated \$68 million in fiscal year 1992-96 CTR funds for chemical weapons destruction. DOD has asked Congress for another \$78.5 million in fiscal year 1997 to continue program support. DOD will use the funds to further develop chemical and munitions processing equipment and systems and to begin designing the pilot facility. A 1995 CTR estimate—prepared without site-specific data—indicated that the pilot facility could ultimately cost as much as \$900 million to build.<sup>34</sup>

To date, the CTR program has not asked for construction funds and has not committed to provide Russia more than \$68 million in chemical destruction aid. U.S. and Russian experts have agreed to amend their bilateral assistance agreement annually to reflect yearly funding requirements—thus limiting the project's annual financial obligation to the amount agreed upon in the annual amendment.

Regardless of this arrangement, however, the total cost of the facility—and the U.S. share of that cost—remains undefined and potentially large. CTR officials told us that they hope to prepare a more certain cost estimate, based on a one-third completed design, in 1998. However, this estimate would not be ready until after DOD will have submitted its request for fiscal year 1998 funding. CTR officials told us that they do not plan to cap the program's total contribution to the project at a certain level, as they have for the Mayak project. DOD stated that, as with all CTR projects, funds

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<sup>34</sup>Russian officials told us in March 1996 that they estimate that the facility (including its surrounding infrastructure) would cost less than \$200 million to build. CTR officials have not reviewed this estimate and would not attest to its reliability.

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required for chemical weapon destruction will be assessed and requested from Congress on an annual basis.

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## Potential Impact of Chemical Weapon Destruction

CTR program officials plan to assess the effectiveness of their chemical weapons destruction projects only in terms of their success in achieving project milestones. According to a program document, without direct U.S. involvement in Russian chemical weapons elimination, the CTR program lacks the data, control cases, and risk assessment models needed to assess these projects' impact on the Russian chemical weapon threat. Moreover, DOD officials note that they cannot assess the program's impact because Russia will not complete the task of destroying chemical weapons until after the CTR program ends in 2001. Nevertheless, DOD stated that Russian movement toward that goal will allow DOD to assess progress.

While providing Russia with a proven chemical weapon elimination technology and a functioning pilot chemical weapon destruction facility capable of destroying 500 metric tons annually would greatly expand Russia's current capabilities, the sheer size of the Russian stockpile will limit the pilot facility's direct impact. The pilot would require more than a decade to destroy the artillery shells that constitute the site's 14 percent share of the total Russian stockpile. It would not address Russia's need to construct additional facilities at six more sites in time to meet the Chemical Weapons Convention's time frames.

CTR officials acknowledge that the pilot facility will not address Russia's overall Chemical Weapons Convention requirements and suggest instead that the U.S.-funded pilot facility could help "jump start" the slow-moving Russian effort to destroy its stockpiles. However, there are few current indications that Russia will find the needed resources. Russia estimates that it will need roughly \$3.3 billion in January 1995 dollars to destroy the stockpile, according to its comprehensive plan.<sup>35</sup> Russian officials told us in March 1996 that they lack such resources and are seeking non-Russian government sources of support.

However, foreign aid for this effort is very limited. Aid being provided by Germany, the Netherlands, Sweden, and the United States falls far short of Russia's stated requirements.<sup>36</sup> In May 1996, the United States and several other nations began discussing this issue in detail at a multilateral

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<sup>35</sup>The CTR program has not assessed this estimate.

<sup>36</sup>Germany will have provided about \$17 million by the end of 1996. The Netherlands has pledged a total of about \$16 million, and Sweden has provided and promised a total of about \$450,000.

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conference in Germany. Only the Netherlands pledged specified financial support for Russian chemical weapon destruction at the conference.

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## Recommendations

To help clarify the presentation of programmatic and cost issues, we recommend that the Secretary of Defense direct that the annual CTR multiyear program plan submitted to Congress identify and explain (1) significant cost, schedule, or scope changes from the preceding year's plan and (2) known uncertainties affecting project cost estimates and schedules.

We also recommend that the Secretary of Defense refrain from obligating any CTR funds for constructing a chemical weapons destruction facility in Russia until DOD has completed a construction cost estimate based on a one-third completed design and specified the U.S. share of the estimated costs.

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## Matter for Congressional Consideration

Congress may wish to consider linking DOD's authority to obligate some or all of the funds that it may provide for constructing a fissile material storage facility in Russia to completion of a transparency agreement regarding the facility's use.

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## Agency Comments

DOD concurred with our findings and recommendations. DOD stated that it will incorporate our recommendation regarding the CTR multiyear plan into subsequent versions. It also agreed not to obligate construction funds for the chemical weapon destruction facility until a 35-percent design has been completed and the costs have been better defined. DOD further stated that it will not completely disburse construction funds for the fissile material storage facility until transparency measures have been agreed with Russia. (DOD's comments are reproduced in app. II.)

CTR officials suggested several technical and editorial revisions. We have incorporated most of these suggestions into this report.

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## Scope and Methodology

This report is the latest of a series of GAO reviews of the CTR program since 1992 and draws upon data developed in the United States, Russia, and Ukraine. To assess the CTR program's current planning process, we reviewed the CTR program's draft multiyear plan, individual project plans, and cost estimates. In reviewing the draft plan, we assessed the level of detail and scope, the depiction of any uncertainties or difficulties



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concerning projects and cost estimates, and the description of changes that occurred after the CTR program's 1995 plan. We decided that, to be useful, the plan should provide a reasonably complete and candid depiction of the projects' status, prognosis, likely cost, and potential impact; identify any major changes from the preceding year's plan; and explain why those changes have come about; and be timely.

To assess the CTR program's progress, likely cost, and potential impact regarding controls over FSU nuclear materials, we reviewed reports and cables detailing discussions with NIS officials; interviewed officials at DOD's Threat Reduction Policy Office, CTR program office, Defense Special Weapons Agency, and Army Corps of Engineers. We also spoke with officials at the Department of State and the Arms Control and Disarmament Agency concerning the status of transparency discussions. In addition, we discussed the status and prognosis of the Mayak and nuclear weapon security projects with high ranking officials from Russia's Ministry of Atomic Energy and Ministry of Defense in Moscow in 1995 and in Washington in 1996. In doing so, we contrasted past and current depictions of project progress and assessed plans for overcoming current and foreseeable obstacles. We also reviewed the process used to prepare DOD's estimates of the cost of the Mayak facility. Our assessment concerning the likely impact of these projects was based in large part from data presented in the CTR program's draft program plan.

To assess the CTR program's progress, likely cost, and potential impact regarding the elimination of FSU delivery vehicles, we reviewed documents and interviewed officials at DOD's CTR program office. In addition, we discussed the status and prognosis of these projects with high ranking officials from Russia's Committee for Defense Industry and Ukraine's Ministry of Defense in Moscow and Kiev in 1995 and Washington in 1996. In doing so, we contrasted past and current depictions of project progress and assessed plans for overcoming current and foreseeable obstacles. Our assessment concerning the likely impact of these projects was based in large part from data presented in the CTR program's draft program plan.

To assess the CTR program's progress, likely cost, and potential impact regarding the destruction of Russian chemical weapons, we reviewed reports and cables detailing discussions with NIS officials; interviewed officials at DOD's Threat Reduction Policy Office, CTR program office, and Army Chemical and Biological Defense Command. We also spoke with an official at the Arms Control and Disarmament Agency concerning the status of the Chemical Weapons Convention. In addition, we discussed the

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status and prognosis of the chemical weapons projects with high ranking officials from the Russian President's Commission for Chemical Weapons Destruction and attended an international North Atlantic Treaty Organization conference in Bonn, Germany, on eliminating weapons of mass destruction. In doing so, we contrasted past and current depictions of project progress and assessed plans for overcoming current and foreseeable obstacles. We also reviewed the process used to prepare DOD's estimates of the cost of the pilot chemical weapons destruction facility. Our assessment concerning the likely impact of these projects was based in large part from data presented in the CTR program's draft program plan.

We conducted our review between August 1995 and August 1996 in accordance with generally accepted government auditing standards.

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We are sending copies of this report to other appropriate congressional committees; the Secretaries of Defense and State; 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 the report. Major contributors to this report are listed in appendix III.



Harold J. Johnson  
Associate Director, International  
Relations and Trade Issues

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## Abbreviations

DOD	Department of Defense
CTR	Cooperative Threat Reduction
FSU	former Soviet Union
MINATOM	Russian Ministry of Atomic Energy
MOD	Russian Ministry of Defense
NIS	newly independent states
START	Strategic Arms Reduction Treaty
STI	Safeguards, Transparency, and Irreversibility

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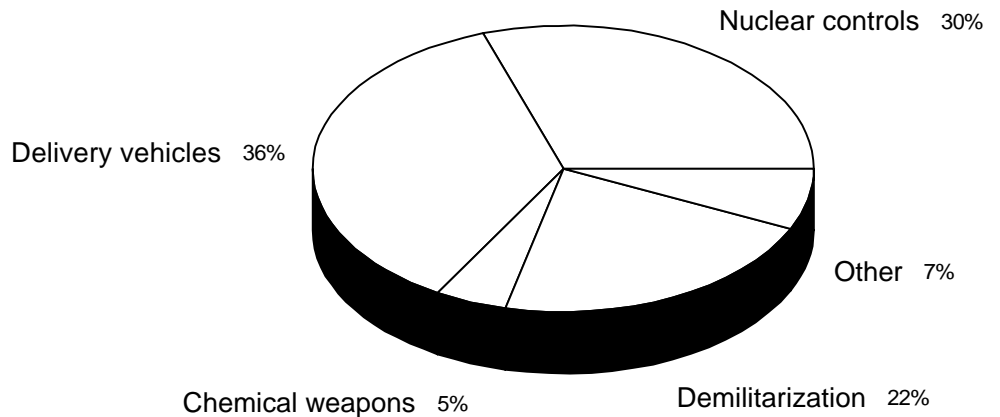
# Funding Status of the Cooperative Threat Reduction Program

The Cooperative Threat Reduction (CTR) program has made continued progress in obligating and disbursing funds. In our last report,<sup>1</sup> we noted that CTR obligations and disbursements had increased sharply to almost \$599 million and \$177 million, respectively, as of May 8, 1995. One year later (May 14, 1996) the program had obligated an additional \$411 million and disbursed another \$327 million.

As of August 5, 1996, the program had obligated over \$1 billion and disbursed more than \$571 million. Figures I.1 and I.2 depict the allocation of these amounts among the program's principal activities. Table I.1 lists the amounts that the Department of Defense (DOD) has notified, obligated, and disbursed for each CTR project as of August 5, 1996.

**Figure I.1: Allocation of CTR Obligations as of August 5, 1996**

**Total obligations of fiscal year 1992-96 funds: \$1,049,790,810**



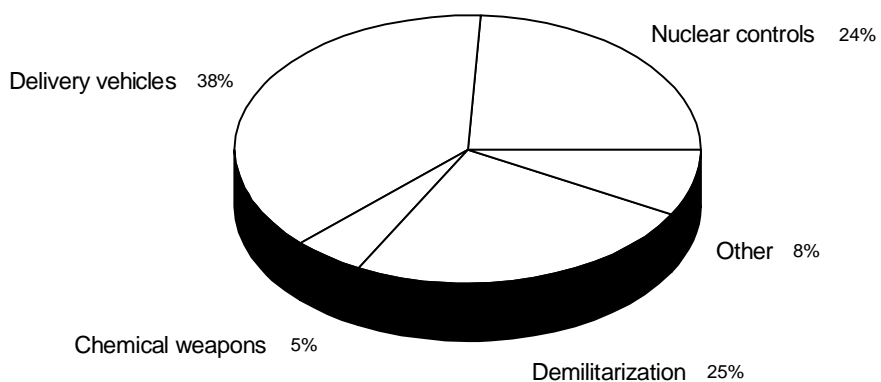
Source: GAO.

<sup>1</sup>Weapons of Mass Destruction: Reducing the Threat From the Former Soviet Union—An Update (GAO/NSIAD-95-165, June 9, 1995).

**Appendix I  
Funding Status of the Cooperative Threat  
Reduction Program**

**Figure I.2: Allocation of CTR  
Disbursements as of August 5, 1996**

**Total disbursements of fiscal year 1992-96 funds: \$571,064,508**



Source: GAO.

**Appendix I  
Funding Status of the Cooperative Threat  
Reduction Program**

**Table I.1: CTR Funding Status as of August 5, 1996**

Dollars in millions

<b>Projects by program area</b>	<b>Notification to Congress</b>	<b>Obligation</b>	<b>Disbursement</b>
<b>Chain of custody</b>			
Armored blankets (Russia)	\$5.000	\$3.244	\$2.905
<b>Emergency response training and equipment</b>			
Belarus	5.000	4.980	4.147
Kazakstan	5.000	2.793	0.830
Russia	15.000	14.385	12.946
Ukraine	3.400	2.995	1.381
<b>Export controls</b>			
Belarus	16.260	9.974	6.531
Kazakstan	7.260	4.200	2.455
Russia	2.260	1.517	0.038
Ukraine	13.260	7.729	5.538
Fissile material containers (Russia)	50.000	48.379	17.106
Fissile material storage facility design (Russia)	15.000	14.999	14.466
Fissile material storage facility (Russia)	75.000	57.044	12.396
Industrial Partnering Program	10.000	10.000	0.000
<b>Material control and accountability</b>			
Belarus	3.000	2.891	0.828
Kazakstan	23.000	7.718	2.364
Russia	45.000	42.817	18.349
Ukraine	22.500	21.522	3.200
Multilateral Nuclear Safety Initiative (Ukraine)	11.000	11.000	8.858
Security enhancements for railcars (Russia)	21.500	21.200	19.282
Weapons security storage (Russia)	28.000	2.758	0.374
Weapons security transportation (Russia)	46.500	24.764	3.692
<b>Subtotal</b>	<b>\$422.940</b>	<b>\$316.908</b>	<b>\$137.736</b>
<b>Demilitarization</b>			
Defense Enterprise Fund	7.670	7.670	7.670
Belarus	5.000	5.000	5.000
Kazakstan	7.000	7.000	7.000
Russia	10.000	10.000	10.000
<b>Industrial partnerships</b>			
Belarus	20.000	19.697	11.166
Kazakstan	15.000	14.905	6.701

(continued)



**Appendix I  
Funding Status of the Cooperative Threat  
Reduction Program**

Dollars in millions

<b>Projects by program area</b>	<b>Notification to Congress</b>	<b>Obligation</b>	<b>Disbursement</b>
Russia	38.000	37.339	12.358
Ukraine	55.000	54.119	40.816
International Science and Technology Center (Russia)	35.000	34.585	31.914
Research and Development Foundation (Russia)	10.000	10.000	5.000
<b>Science and Technology Center</b>			
Belarus	5.000	4.950	0.468
Kazakstan	9.000	8.950	0.640
Ukraine	15.000	14.932	2.374
<b>Subtotal</b>	<b>\$231.670</b>	<b>\$229.246</b>	<b>\$141.127</b>
<b>Destruction and dismantlement</b>			
Chemical weapons destruction (Russia)	68.000	48.681	28.325
Continuous communications link (Belarus)	2.300	1.158	0.790
<b>Government-to-government communications link</b>			
Kazakstan	2.300	1.576	0.670
Ukraine	1.000	0.989	0.464
<b>Nuclear infrastructure elimination</b>			
Kazakstan	23.500	7.084	3.170
Ukraine	23.400	0.896	0.296
Site restoration (Belarus)	25.000	19.430	12.174
Strategic nuclear arms elimination (Ukraine)	242.700	182.249	94.527
<b>Strategic offensive arms elimination</b>			
Belarus	33.900	2.510	0.082
Kazakstan	78.500	35.174	4.953
Russia	236.000	132.539	100.872
<b>Subtotal</b>	<b>\$736.600</b>	<b>\$431.392</b>	<b>\$245.128</b>
<b>Other program support</b>			
Arctic nuclear waste (Russia)	30.000	29.950	17.669
<b>Defense and military contacts</b>			
Belarus	3.524	0.780	0.366
Kazakstan	1.900	0.516	0.057
Russia	15.548	9.061	4.969
Ukraine	9.028	2.737	1.189
Other assessments and administration costs	50.900	29.203	21.823
<b>Subtotal</b>	<b>\$110.900</b>	<b>\$72.245</b>	<b>\$46.073</b>
<b>Total</b>	<b>\$1,502.110</b>	<b>\$1,049.791</b>	<b>\$571.065</b>

Note: Figures may not add due to rounding.

Source: DOD.

# Comments From the Department of Defense



ATOMIC ENERGY

ASSISTANT TO THE SECRETARY OF DEFENSE  
3050 DEFENSE PENTAGON  
WASHINGTON, DC 20301-3050

SEP 4 1996



Mr. Harold J. Johnson  
Associate Director  
International Relations and Trade Issues  
National Security and International  
Affairs Division  
U.S. General Accounting Office  
Washington, D.C. 20548

Dear Mr. Johnson,

This is the Department of Defense response to the General Accounting Office (GAO) draft report, "WEAPONS OF MASS DESTRUCTION: Status of the Cooperative Threat Reduction Program," dated August 15, 1996 (GAO Code 711215/OSD Case 1207). The Department concurs with the report.

The recommendation regarding the improvements to the Program Plan will be incorporated in the 1997 and subsequent versions.

Suggested technical and editorial corrections to the report were separately provided. The detailed comments to the report recommendations and matters for congressional consideration are provided in the enclosure.

The Department appreciates the opportunity to comment on the draft report.

Harold P. Smith, Jr.

Enclosure

GENERAL ACCOUNTING OFFICE DRAFT REPORT - DATED AUGUST 16, 1996

GAO CODE 711215 --- OSD CASE 1207

“WEAPONS OF MASS DESTRUCTION: STATUS OF  
THE COOPERATIVE THREAT REDUCTION PROGRAM”

\*\*\*\*\*

DoD COMMENTS IN RESPONSE TO THE RECOMMENDATIONS AND MATTER  
FOR CONGRESSIONAL CONSIDERATION

RECOMMENDATIONS

- RECOMMENDATION 1: The GAO recommended that the Secretary of Defense direct that the annual CTR multiyear program plans submitted to Congress identify and explain (1) significant costs, schedule, or scope changes from the preceding year’s plan and (2) known uncertainties affecting project costs estimates and schedules. (pp. 23-24/GAO Draft Report)

DoD RESPONSE: This recommendation will be incorporated into the 1997 and subsequent reports.

- RECOMMENDATION 2: The GAO recommended that the Secretary of Defense refrain from obligating any CTR funds for constructing a chemical weapons destruction facility in Russia until DoD has completed a construction cost estimate based on a one-third completed design and specified the U.S. share of the estimated costs. (p. 24/GAO Draft Report)

DoD Response: The DoD concurs that construction funds should not be obligated until a 35 percent design is completed and the costs are better defined.

Now on p. 23.

Now on p. 23.

---

MATTER FOR CONGRESSIONAL CONSIDERATION

- **SUGGESTION:** The GAO suggested that Congress may wish to consider linking DoD authority to obligate some or all of the funds that it may provide for constructing a fissile material storage facility in Russia to completion of a transparency agreement regarding the facility's use. (p. 24/GAO Draft Report)

**DoD Response:** DoD concurs with the recommendation that construction funds for the fissile material storage facility should not be completely disbursed unless and until transparency measures have been agreed with Russia. Since DoD and MINATOM are still working out the details of transparency at Mayak, to hold up funding for construction work would cause needless delays. DoD expects these details will be agreed in time for design and construction work to take account of transparency requirements. If such agreement cannot be reached, DoD's commitment to completing the facility will have to be reconsidered.

Now on p. 23.

# Major Contributors to This Report

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Jo Ann Geoghan  
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