

GAO

Report to the Chairman and Ranking
Minority Member, Committee on Armed
Services, House of Representatives

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WEAPONS OF MASS DESTRUCTION

Effort to Reduce Russian Arsenals May Cost More, Achieve Less Than Planned



**National Security and
International Affairs Division**

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The Honorable Floyd Spence
Chairman
The Honorable Ike Skelton
Ranking Minority Member
Committee on Armed Services
House of Representatives

Since the early 1990s, the Department of Defense (DOD) has supported Russia's design and construction of two facilities intended to promote U.S. national security by helping to reduce Russian arsenals of nuclear and chemical weapons. The first, a storage facility now under construction at Russia's Mayak nuclear complex, is intended to facilitate Russia's elimination of nuclear weapons by providing safe and secure storage for nuclear materials (such as plutonium) removed from such weapons. The second, a pilot chemical weapons destruction facility to be built near Russia's Shchuch'ye chemical weapons storage depot, is intended to destroy that depot's nerve agent weapons, accelerate destruction of such weapons at other depots by providing a proven destruction technology, and help Russia comply with the Chemical Weapons Convention.¹ DOD has supported these facilities through its Cooperative Threat Reduction (CTR) program.²

Your committee has expressed concerns about the cost of the Mayak and Shchuch'ye facilities, the likelihood that they will become operational on schedule, and the extent to which the United States is likely to realize its national security objectives for them. Accordingly, our specific objectives in response to your request were to assess

¹The Chemical Weapons Convention prohibits the development, production, acquisition, stockpiling, retention, transfer, and use of chemical weapons. The Convention, which entered into force on April 29, 1997, requires signatory states to destroy any stocks that they may have of such weapons over a 10-year period and provides for the possible granting of a 5-year extension.

²The CTR program was initiated in 1991 to help former Soviet states reduce risks posed by weapons of mass destruction. The Congress has provided DOD with more than \$2.7 billion through fiscal year 1999 for the CTR program. For more information regarding this program, see our reports entitled Weapons of Mass Destruction: Status of the Cooperative Threat Reduction Program (GAO/NSIAD-96-222, Sept. 27, 1996), Weapons of Mass Destruction: Reducing the Threat From the Former Soviet Union—An Update (GAO/NSIAD-95-165, June 9, 1995), and Weapons of Mass Destruction: Reducing the Threat From the Former Soviet Union (GAO/NSIAD-95-7, Oct. 6, 1994).

- whether the Mayak project will be completed on schedule and within past DOD estimates of its total cost to the United States,
- whether the United States has made progress in ensuring that the completed Mayak facility would achieve U.S. national security objectives by safely and securely storing retired materials taken only from dismantled nuclear weapons,
- whether the Shchuch'ye project will be completed on schedule and the status of DOD efforts to estimate its total cost to the United States, and
- whether the completed Shchuch'ye facility will achieve U.S. national security objectives by helping Russia destroy the Shchuch'ye depot's stocks and accelerate elimination of all Russian chemical weapons under the Chemical Weapons Convention.

Results in Brief

Russian funding shortfalls have substantially increased the Mayak facility's estimated cost to the United States while underscoring the need for substantial additional assistance if the Shchuch'ye project's broader objectives are to be attained. Russian reluctance to share critical information with the United States may limit Mayak's national security benefits and has contributed to delays in the Shchuch'ye project.

Russia's failure to fund its share of the costs of the Mayak facility has already increased estimated U.S. costs for Mayak from \$275 million to \$413 million, deferred construction of one of the facility's two planned storage buildings, and delayed the facility's initial availability by about 3 years. U.S. costs for Mayak could ultimately increase to almost \$1.3 billion if DOD eventually opts to build the facility's originally planned second building and help Russia prepare, package, and transport plutonium for storage at Mayak.

Notwithstanding its growing investment in the Mayak project, the United States continues to lack clear assurance that Russia will actually use the Mayak facility in a manner that will ensure the achievement of all U.S. national security objectives for the project. U.S. and Russian negotiators have drafted—but have not yet concluded—an agreement that could assure DOD that weapons-grade plutonium at Mayak is securely stored and would not be used for weapons in the future. However, Russian negotiators have not agreed to U.S. proposals aimed at confirming that Mayak's plutonium would originate solely from dismantled weapons and that Mayak would thus support Russia's dismantlement of nuclear weapons.

The Shchuch'ye project has fallen about 18 months behind schedule since October 1997 and now is not scheduled to begin operating until 2006. Several factors, including Russia's failure to promptly provide needed information about the chemical weapons to be destroyed, have slowed both completion of the facility's conceptual design and DOD's efforts to refine its \$750 million estimate of the pilot facility's cost to the United States. The project also fell behind schedule because DOD increased the time allotted for constructing, testing, and starting up the pilot facility, due in part to funding limits.

The United States lacks assurance that the Shchuch'ye project will achieve its broader national security objectives of accelerating the destruction of such weapons at other depots and helping Russia comply with the Chemical Weapons Convention. As designed, the U.S.-funded pilot facility would destroy most of the depot's 5,600 metric tons of chemical weapons—although not until well past Russia's Chemical Weapons Convention deadline for destroying its entire chemical weapons stockpile—and provide Russia with a proven technology for use at its four other nerve agent depots. However, Russia's economic difficulties strongly suggest that it would be unwilling or unable to invest the billions of dollars needed to construct and operate destruction facilities at the four depots that store the rest of its 32,000 metric ton nerve agent stockpile. As a result, DOD is counting on large-scale assistance from other nations to fund the additional facilities needed to help Russia fully comply with the Chemical Weapons Convention and so realize the Shchuch'ye project's broader objectives.

This report suggests that if the Congress wishes to have greater assurance that the Shchuch'ye project will achieve its stated broad national security objectives, it may wish to require DOD to identify specific funding sources for the construction of the four additional chemical weapons destruction facilities or provide further justification for continuing the project.

Background

The Mayak facility is intended to promote U.S. national security interests by allowing Russia to safely and securely retire nuclear materials removed from dismantled nuclear weapons. The Soviet Union, which had about 30,000 nuclear weapons at the time of its collapse, may have produced as much as 200 metric tons of plutonium and 1,200 metric tons of highly enriched uranium—sufficient for producing over 70,000 nuclear weapons. Following the 1991 Soviet collapse, Russian officials indicated that a shortage of secure storage space for nuclear material might impede their ability to retire and eliminate nuclear warheads.

Although U.S. agencies were unable to confirm the existence of such a shortage, DOD agreed in 1992 to provide \$15 million to help Russia design a facility to hold nuclear materials from dismantled weapons. In 1993, DOD agreed to provide another \$75 million to help build such a facility at Mayak. DOD informed congressional committees in 1996 that it would cap its growing investment in Mayak at half of the facility's cost. Based on then-current DOD cost estimates, such a cap would have limited total U.S. expenses for Mayak at about \$275 million. As of February 1999, DOD had obligated about \$165 million for Mayak and expended about \$83 million.

Mayak's two planned storage buildings were designed to accommodate a total of 50,000 containers³ filled with as much as 66 metric tons of plutonium and 536 metric tons of highly enriched uranium.⁴ By mid-1998, the first of these storage buildings and several support buildings had been partially constructed. Initial operations were to start in 1999.

DOD has also been supporting design and construction of the Shchuch'ye pilot chemical weapons destruction facility to promote U.S. national security by (1) destroying all nerve agent-filled munitions at a Russian chemical weapons storage depot, (2) accelerating Russia's chemical weapons destruction efforts by providing a proven nerve agent destruction technology and a facility design that could be adapted for use at other storage sites, and (3) helping Russia meet its Chemical Weapons Convention deadlines. By ratifying the Chemical Weapons Convention in 1997, Russia agreed to destroy its chemical weapons by 2007, with a possible extension to 2012. However, it does not have an operational capability to destroy large quantities of chemical weapons⁵ and its seven declared chemical weapons storage depots contain 40,000 metric tons of chemical weapons agent—the world's largest chemical weapons stockpile. Over 80 percent of this stockpile consists of the lethal nerve agents sarin, soman, and VX. According to executive branch officials, the destruction of Russia's chemical weapons stockpile, especially its nerve agents, would

³In addition to the cost of the Mayak facility, DOD also has spent \$63 million to produce about 32,700 nuclear material containers for Russian use at a facility such as the one being built at Mayak.

⁴These amounts are sufficient to build more than 29,000 nuclear weapons.

⁵The United States ratified the Chemical Weapons Convention on April 25, 1997, and is obligated to destroy its 31,500-ton stockpile by 2007. The Congress had already directed the U.S. Army to destroy this stockpile. According to the Army, 13 percent of the stockpile had been destroyed by mid-January 1999. It plans to complete the destruction of the entire U.S. stockpile by 2004.

significantly reduce the chemical weapons threat faced by the United States.

In 1994, DOD began taking initial steps toward providing Russia the capability of destroying chemical weapons at the Shchuch'ye depot, which stores about 2 million artillery projectiles and rocket and missile warheads filled with nerve agents. The project would result in a pilot facility capable of destroying 500 metric tons of nerve agents annually. Russia could expand the pilot facility into a full-scale facility capable of destroying 1,200 metric tons annually. DOD plans to fund the entire cost of the pilot destruction facility. As of the end of 1998, DOD had obligated about \$95 million for the project and expended about \$56 million.

Mayak Will Cost DOD More and Be Available Later Than Planned

Because of Russian funding shortfalls, DOD now plans to bear about 90 percent of the cost of constructing a truncated version of the Mayak facility that will be available almost 3 years later than previously scheduled. DOD estimates that the smaller facility will cost the United States about 50 percent more than the amount that DOD had previously planned to contribute toward the full-sized facility. U.S. costs could increase to as much as \$1.3 billion if DOD opts to expand Mayak to its originally-planned size and to help Russia load Mayak with plutonium.

Russian Funding Shortfalls Lead to Higher U.S. Costs, Smaller Facility, Delayed Opening

DOD's 1996 assumption that Russia would pay for half of Mayak's costs has not been born out by subsequent events. According to a DOD estimate, through 1999 Russia had programmed about \$45 million for Mayak—less than 14 percent of all U.S.-Russian Mayak funding. In April 1998, Russian officials informed DOD that Russia would be unable to contribute significant funds for Mayak in the future and asked DOD to fund Mayak's completion.

After concluding that it could not allocate the funds needed to complete the entire facility by 1999 as planned, DOD chose to extend the time allotted for constructing Mayak's first storage building and to defer the second storage building. DOD estimated that the smaller facility could be completed by mid-2002 at a cost of \$413 million—\$138 million more than DOD's 1996 cap of \$275 million for the full-sized facility. DOD's new estimate included \$20 million to cover the cost of extending the project and \$36 million for new infrastructure items needed to operate Mayak. The

truncated, 25,000-container facility would be able to hold 50 metric tons of plutonium and 200 metric tons of highly enriched uranium.⁶ In January 1999, Russia agreed that DOD would contribute no more than \$413 million for a 25,000-container facility.⁷

However, DOD officials continue to budget and plan for the possibility that DOD will opt in 2000 to proceed with the deferred second storage building, which could be completed by mid-2006 and designed to hold an additional 100 metric tons of plutonium. DOD officials told us that Russia would need the second building if it chooses to retire more plutonium as a result of the elimination of nuclear weapons. DOD estimates that the second building would cost the United States another \$230 million—raising total U.S. Mayak design and construction costs to about \$642 million.

DOD May Help Russia Prepare Plutonium for Storage at Mayak

DOD may also provide another \$650 million to help Russia prepare, package, and transport plutonium for storage at Mayak. In April 1998, Russian officials informed DOD that Russia lacked the resources to fully utilize its capabilities for preparing and packaging materials for storage at Mayak and that this lack of resources could constrict Russian nuclear weapons dismantlement. According to DOD officials, DOD subsequently proposed that it would help Russia prepare, package, and transport plutonium for storage at the facility. DOD officials informed us that such aid would be contingent on Russia's willingness to provide the United States with access to the facilities that would prepare and package the plutonium.

The CTR program office estimates that helping Russia prepare, package, and transport 50 metric tons of plutonium for storage at Mayak's first building by 2006 could cost DOD about \$223 million. The cost of such an

⁶Unlike highly enriched uranium, plutonium produces heat and can change in ways that could raise safety concerns if stored at too high a temperature for too long. While Mayak's first building was designed to safely hold no more than 33 metric tons of plutonium, the initial results of a DOD-sponsored study indicate that it could safely hold the 50 metric tons of plutonium that Russia now plans to retire at Mayak. Containers holding 50 metric tons of plutonium would fill about half of the building's storage capacity. The remaining half could be used to store up to 200 metric tons of highly enriched uranium. Whether Russia will store any highly enriched uranium at Mayak is unclear, given that it has agreed to sell 500 metric tons of uranium from dismantled weapons to the United States after converting the uranium into low-enriched fuel for power reactors.

⁷The Congress has barred the obligation or expenditure of any fiscal year 1998 funds for Mayak until 15 days after DOD notifies the Congress that DOD and Russia have entered into an agreement that specifies the total cost to the United States for the facility, as well as an agreement that incorporates the principle of transparency with respect to the use of the facility (P.L. 105-85, sec. 1407).

effort would increase sharply if DOD were also to help Russia fill Mayak's second building—if constructed—with another 100 metric tons of plutonium. The CTR program office estimates that preparing, packaging, and transporting a total of 150 metric tons of plutonium for storage at a two-building Mayak facility by 2010 would cost DOD roughly \$650 million. Such an effort, coupled with the cost of designing and constructing both buildings, could raise total U.S. Mayak costs to almost \$1.3 billion, as shown in table 1.

Table 1: Mayak Facility's Capacity, Schedule, and Cost Estimates

	Mayak facility, as planned in 1996	Mayak facility, as currently planned	Mayak facility, if expanded to originally-planned size
Capacity	Two buildings holding a total of 50,000 containers	One building holding a total of 25,000 containers	Two buildings holding a total of 50,000 containers
Estimated start of operations	1999	2002	2002 (first building) 2006 (second building)
Estimated U.S. cost of design and construction	\$275 million	\$413 million	\$642 million
Estimated U.S. cost of loading facility with plutonium (preparation, packaging, and transportation)	\$0	\$223 million (50 metric tons)	\$650 million (150 metric tons)
Total estimated U.S. cost of facility design, construction, and loading	\$275 million	\$636 million	\$1.29 billion

Note: Shaded areas represent potential future costs.

Source: GAO analysis of DOD information.

Russian Officials Press for Additional U.S. Support

Russian officials continue to seek additional U.S. support for various Mayak-related facilities. In 1998, DOD refused to pay about \$76 million for items—including a garage, a car wash, a bus station, and an overly large heating plant—that it considered non-essential. In November 1998, Russian officials argued that Russia could not afford to pay for several such items that they stated would be needed to ensure Mayak's certification for operation by Russian authorities. DOD officials, while rejecting almost all of the items, agreed to pay for a fire station and to consider heating plant options because they considered these items to be integral to Mayak's safe

operation. Russia's continued economic difficulties suggest that it will continue to press DOD for additional support for such items in the future.⁸

Full Achievement of U.S. National Security Objectives at Mayak Hinges on Russian Decisions

The United States cannot ensure it will achieve the full range of its Mayak national security objectives unless and until Russia agrees to measures needed to confirm that the completed facility contains only materials from dismantled nuclear weapons. DOD appears to have made greater progress toward being able to confirm that weapons-grade materials at Mayak are not available for reuse in weapons and are being stored securely and safely.

Ongoing Negotiations Continue Efforts to Define U.S. Access

In a January 1996 joint statement with the U.S. Secretary of Defense, the Russian Minister for Atomic Energy stated that the Mayak facility would have "joint accountability and transparency measures" that would permit the United States to confirm Mayak's use. However, in September 1996, we reported that the United States and Russia had not made any progress in finalizing transparency arrangements for Mayak, which was then scheduled for completion less than 3 years later.⁹ We noted that without a detailed transparency arrangement the United States would be unable to ensure that Russia was using Mayak to store materials from dismantled weapons and that those materials were not being reused for weapons. We therefore suggested that the Congress consider linking DOD's ability to obligate funds for constructing Mayak to the completion of a transparency agreement.

The Congress subsequently barred DOD from obligating fiscal year 1998 funds for Mayak until 15 days after DOD had notified the Congress that DOD and Russia had entered into an agreement incorporating the principle of transparency with respect to the facility's use.¹⁰ In October 1997, the United States and Russia began negotiating an agreement to define the

⁸Russia's economic situation raises concerns about its ability to pay the cost of operating Mayak once the facility is completed. Russian officials have stated that Mayak could cost as much as \$80 million a year to operate. Although DOD officials have not estimated Mayak's life-cycle costs, a U.S. contractor estimate suggests that the facility could cost Russia about \$12 million to \$13 million a year for operations and maintenance.

⁹See our report entitled [Weapons of Mass Destruction: Status of the Cooperative Threat Reduction Program](#)

¹⁰This restriction is found in P.L. 105-85, sec. 1407.

transparency measures that the United States would be allowed to employ at Mayak. By February 1999, the negotiators had partially drafted a possible agreement. DOD officials that we spoke with could not predict when the agreement would be completed.

Weapons Origin of Mayak's Future Contents in Doubt

DOD is attempting to secure sufficient access to the plutonium entering Mayak to be confident that it was removed from dismantled nuclear weapons. Knowing that the plutonium originated from nuclear weapons would provide evidence that Russia is dismantling such weapons.

U.S. officials have defined several criteria for assessing whether plutonium originated from a nuclear weapon. DOD officials informed us that Russian negotiators have offered to allow U.S. measurements relevant to one of these criteria to be made as plutonium enters Mayak for storage and to supplement these measurements with written pledges that the stored material originated from weapons. U.S. officials told us that Russian negotiators have agreed to measurements that would provide confidence that Mayak's plutonium is weapons grade.

However, according to U.S. officials, Russian negotiators have not agreed to allow U.S. measurements regarding the shape of the alleged plutonium components and other U.S. criteria. Russian officials have stated that all plutonium components will be reshaped before they are shipped to Mayak for U.S. measurement.¹¹ Such reshaping would reduce DOD's ability to confirm that the weapons-grade plutonium entering Mayak had been removed from weapons and that Mayak is directly supporting Russia's elimination of nuclear weapons. Russian negotiators rebuffed a U.S. request to allow measurements of Mayak-bound plutonium at the reshaping facility prior to its reshaping because of (1) the lack of any U.S.-funded activities at the reshaping facility and (2) Russian sensitivities concerning the information that the United States would obtain. DOD officials informed us that they intend to make the taking of weapons-origin measurements a condition of any CTR aid to Russia's preparation, packaging, and transportation of plutonium for storage at Mayak.

¹¹According to DOD officials, Russian negotiators stated that the reshaping was intended to deny International Atomic Energy Agency inspectors access to sensitive information. The Agency's membership includes more than 100 nations that do not have nuclear weapons. See our report entitled [Nuclear Nonproliferation and Safety: Challenges Facing the International Atomic Energy Agency](#) (GAO/NSIAD/RCED-93-284, Sept. 22, 1993).

Draft Access Agreement Provides Pledge That Materials Will Not Be Removed and Allows DOD Monitoring

DOD is also seeking to increase its confidence that nuclear materials stored at Mayak would not be used to produce new Russian nuclear weapons and would be stored securely.¹² The draft agreement contains provisions addressing both of these objectives, although questions remain concerning Russia's plans for providing physical security for the facility.

The draft agreement includes a Russian pledge not to remove any material from Mayak—other than for emergency purposes¹³—without first negotiating sufficient provisions to assure the United States that the materials would not be reused for weapons. To bolster U.S. confidence that these materials would be securely stored, the draft agreement would provide the United States with considerable access at Mayak. U.S. monitors would be allowed to inspect Mayak six times a year and utilize data generated by Mayak's material control and accounting system. U.S. monitors would be allowed to spend at least 5 days to conduct the initial inspection. During each inspection, they would be allowed to download recorded data from sensors used by the Russians to identify, scan, and track each container as it passes through Mayak's unloading and incoming control rooms. Annually, U.S. monitors would be able to select randomly up to 120 storage shafts and verify the identifying tags on the containers in those shafts against Mayak's records.¹⁴ U.S. monitors would have the right to scan one container from each of the selected shafts to determine its contents. Russia also would be required to inventory a random number of containers twice a year with U.S. participation.

Details regarding Mayak's physical security measures remain unclear, however. DOD officials informed us that Russia has been reluctant to provide information about Russia's plans to provide physical security for the facility. The lack of such information could impair DOD's ability to assess Russian requests for safety-related equipment.

DOD has addressed Mayak's safety by reviewing its design. DOD officials reviewed Russian design documents in October 1996 and identified several

¹²In November 1998, Russian officials informed us that they had secured temporary storage space for materials from nuclear weapons that would be sufficient until Mayak begins operating in 2002. They stated that the temporary storage space is unsuited for long-term storage, in part because it depends heavily on guards for security.

¹³The draft agreement specifies the United States would have to be notified of any such removal.

¹⁴One hundred twenty shafts a year would constitute about 4 percent of Mayak's shafts and could contain almost 2 metric tons of plutonium.

safety concerns. A 1997 U.S. follow-up review concluded that the Russians had incorporated some changes in their design and had provided sufficient additional data to resolve remaining issues. DOD officials informed us that they are continuing to monitor the design of key safety-related components.

Shchuch'ye Project Has Fallen Behind Schedule

The Shchuch'ye project has fallen behind schedule since October 1997, delaying the preparation of a more accurate cost estimate and the pilot facility's planned start-up date. The project has fallen behind schedule largely due to delays in completing the facility's conceptual design and U.S. funding constraints.

Development of the Facility's Conceptual Design and Cost Estimate Is Behind Schedule

In October 1997, U.S. and Russian officials agreed to a joint schedule for the Shchuch'ye project. This new schedule estimated that the facility's conceptual design¹⁵ would be completed by April 1998. DOD officials have recently verified that it was not completed until February 1999. DOD officials attributed this 10-month delay to three factors.

The conceptual design fell behind schedule partly because Russia did not promptly provide detailed specifications for the types of chemical weapons stored at the Shchuch'ye depot to U.S. engineers, despite repeated U.S. requests. Without these specifications, U.S. engineers could not verify that the facility's weapons-handling equipment would safely extract nerve agents from these weapons. According to a DOD official, by the end of January 1999, Russia had provided enough information about the weapons stored at the Shchuch'ye depot to allow completion of the conceptual design. However, the delay led DOD to defer fabrication of test weapons-handling equipment from January 1999 to July 1999. According to a DOD official, this delay could impact the overall project schedule.

The conceptual design also fell behind schedule partly because of delays in verifying the safety and effectiveness of Russia's chemical agent destruction process for Russian VX nerve agent.¹⁶ The process employs a chemical compound to neutralize the nerve agents extracted from the

¹⁵In U.S. engineering practice, a project's conceptual or preliminary design is complete when 35 percent of its total design is complete.

¹⁶This process had already been demonstrated to be effective destroying other Russian nerve agents.

chemical weapons and then transforms the neutralized agents into a solid waste product, which will be stored in bunkers next to the facility. During testing, U.S. engineers discovered that the waste product's flash point¹⁷ was about 20 degrees Fahrenheit below the threshold that U.S. fire code standards would classify as "explosive."¹⁸ In response to U.S. concerns, Russian engineers modified the chemical compound used to neutralize the nerve agents to produce a waste product with a flash point that was acceptable, according to a DOD official.¹⁹ However, several additional months were needed before U.S. and Russian engineers were able to produce acceptable test quantities of the modified chemical compound.²⁰

In addition, the facility's conceptual design fell behind schedule partly because Russian officials did not obtain needed investment and site permits until June 1998—1 year behind schedule. Russian officials were reluctant to complete more than 10 percent of the Shchuch'ye facility's design without these permits, which are roughly equivalent to a U.S. environmental impact assessment. According to DOD officials, the October 1997 schedule underestimated the length of time the Russian Ministry of Defense would need to obtain the permits under new laws and regulations that strengthened the role of regional commissions.

Due to the delay in completing the conceptual design, DOD officials have deferred the completion of a more reliable estimate of the pilot facility's cost from April 1998. Their preliminary estimate of the pilot facility's cost is about \$750 million. DOD officials expect that the final cost estimate for the pilot facility will be about the same or lower than the preliminary estimate. DOD intends to fund the entire cost of the Shchuch'ye pilot facility with CTR funds, including its start up and demonstration with various agents and munitions. In accordance with our 1996 recommendation, the Secretary of Defense has stated that DOD will not obligate funds for the Shchuch'ye pilot facility's construction until DOD has

¹⁷A volatile combustible substance's flash point is the lowest temperature at which vapors above it will ignite when exposed to flame.

¹⁸DOD officials acknowledged that the waste product's low flash point should have been identified during DOD's 1996 review of the Russian process.

¹⁹Under U.S. fire code standards, the modified waste product would be classified as flammable.

²⁰A DOD official informed us that the project might encounter additional delays in verifying the Russian process. For example, Russian scientists were not able to start joint toxicology testing and waste evaluation in early February 1999 as planned. The resultant delay of this activity until early summer 1999 could impact the overall project schedule, according to this DOD official.

developed a sound cost estimate based on a completed conceptual design.²¹

Pilot Facility Construction and Start of Operations Delayed by 18 Months

The October 1997 joint schedule would have also accelerated the Shchuch'ye pilot facility's construction and start of operations by about 2 years over prior U.S. schedules. Under this schedule, the pilot facility would have started operating in December 2004. According to DOD officials, Russian officials sought to accelerate the schedule because they had publicly committed to begin destroying chemical weapons earlier than the prior schedule would have allowed. According to DOD officials and documents, DOD officials were concerned about the new schedule's practicality as they signed it, and they told Russian officials that its implementation would be subject to confirmation of U.S. funding and other factors.

In June 1998, DOD officials abandoned the October 1997 schedule and adopted a new schedule that shifted the start of the pilot facility's operations to June 2006, a delay of 18 months. They did so because the completion of the facility's conceptual design had been delayed, annual CTR funds would not be sufficient to support the accelerated construction schedule,²² and DOD's experience with U.S. chemical weapons destruction facilities demonstrated that more time would be required to test and start up the pilot facility.

Pilot Facility Construction Schedule Depends on Russian Funding

DOD's plans to fund the entire cost of building the Shchuch'ye pilot facility hinge on Russia's ability to prepare the facility's site for construction and operations. U.S. officials have conditioned U.S. assistance for the pilot facility's construction on Russia's completion of several social and industrial infrastructure projects, such as gas and water lines, storm sewers, housing, and a rail line from the storage depot to the destruction facility. These projects are estimated to cost almost \$240 million. Russia must complete initial social and industrial infrastructure projects by late August 1999 before DOD officials will authorize the U.S. contractor to

²¹See our report entitled [Weapons of Mass Destruction: Status of the Cooperative Threat Reduction Program](#).

²²The funding shortage worsened when CTR officials cut about \$85 million from the Shchuch'ye project budget in fiscal years 2000 and 2001 to provide additional funding for the Mayak project. This funding was restored in fiscal years 2002 to 2004.

mobilize for construction in September 1999. Russia was scheduled to start construction of the initial infrastructure projects in May 1998 but has delayed doing so until June 1999—leaving only 3 months for their completion. Russia will have to complete additional social and industrial projects for U.S. assistance to continue.

Shchuch'ye Project May Not Fully Achieve All U.S. Objectives

The Shchuch'ye project cannot achieve its broader national security objectives unless Russia receives a large infusion of additional funding. Destroying Russia's large chemical weapons stockpile, particularly its nerve agents, has been a long-standing U.S. goal. The Shchuch'ye project was intended to serve this goal by (1) destroying all nerve agent-filled munitions at one Russian chemical weapons storage depot, (2) accelerating Russia's chemical weapons destruction efforts by providing a proven nerve agent destruction technology and a facility design that could be adapted for use at four other nerve agent-filled weapons storage sites, and (3) helping Russia meet its Chemical Weapons Convention deadlines. Although the U.S.-funded pilot facility would largely achieve the first objective, Russia's faltering economy and limited international assistance raise serious doubts about the sources of funding for constructing the four additional facilities needed to fully achieve the second and third objectives.

Pilot Facility Would Destroy Most Weapons at Shchuch'ye Depot

As designed, the Shchuch'ye pilot facility would destroy 95 percent of the nerve agents stored at the nearby depot. The depot stores about 2 million weapons, mostly artillery rounds and rocket warheads, filled with about 5,600 metric tons of chemical agents (about 14 percent of Russia's total declared chemical weapons stockpile)—primarily nerve agents.²³ The pilot facility will not be able to destroy 5 percent of the nerve agents, which are contained in large-diameter rocket and missile warheads that will not fit on its processing lines.

²³The Shchuch'ye facility would not destroy a small amount of phosgene-filled projectiles stored at the Shchuch'ye depot. Phosgene is a widely used commercial chemical (carbonyl chloride) and the weapons themselves present a minimal threat, according to DOD officials.

Extending Shchuch'ye Technology to Other Depots Could Cost Russia Billions of Dollars

Although the Shchuch'ye project would provide a proven design for a chemical weapons destruction facility that Russia could use at four other nerve agent storage depots, DOD and State Department officials informed us that Russia's dire economic outlook could hinder its ability to provide the billions of dollars needed to erect four additional destruction facilities. DOD officials told us that Russia could adopt the Shchuch'ye design for use at (1) the Kizner depot—which stores artillery projectiles and rocket warheads similar to those at Shchuch'ye—and (2) three depots that store air-deliverable nerve agent weapons, if the weapons-handling equipment were redesigned. However, Russia could require over \$3 billion to construct these four additional facilities and provide needed infrastructure—as well as additional billions of dollars for their operations.

According to DOD officials and documents, Russia is directing its limited funds toward the design and construction of two facilities to eliminate bulk blister agents, rather than nerve agents. Executive branch officials are counting on substantial assistance from other nations to fund the construction of the four additional facilities needed to destroy Russia's entire nerve agent stockpile. However, according to DOD and State Department officials, foreign assistance for Russia's chemical weapons destruction efforts is largely limited to U.S. support for the Shchuch'ye project, although Germany has provided some aid to help Russia eliminate blister agents. DOD officials expressed hope that the U.S. investment in building the Shchuch'ye pilot facility will encourage other nations to help Russia eliminate its chemical weapons.²⁴

Russia Is Unlikely to Meet Its Chemical Weapons Convention Targets

The Shchuch'ye pilot facility's limited capacity and delayed start of operations will prevent Russia from destroying the Shchuch'ye depot's nerve agent stocks before Russia's Chemical Weapons Convention deadline of 2007. The U.S.-funded pilot facility is scheduled to begin destroying nerve agents by 2006 at a rate of about 500 metric tons annually. At this rate, it would finish destroying the small- and medium-diameter weapons that contain 95 percent of the depot's 5,600 metric tons of agent in 2017—10 years after the expiration of Russia's Convention deadline and 5 years

²⁴According to DOD, foreign international assistance for Russia's chemical weapons destruction program currently totals about \$18 million. Germany is providing about \$9.6 million to help eliminate bulk blister agents; Italy has pledged \$8 million for a facility at Kizner; and two other countries are funding public health studies. Other interested countries are waiting for Russia to demonstrate its commitment to the program before pledging assistance, according to DOD.

after the expiration of an extension to that deadline. By completing the full-scale facility with a capacity of 1,200 metric tons annually, Russia could destroy the Shchuch'ye depot's entire nerve agent stockpile by its extended Convention deadline. However, to do so, Russia would have to provide about \$250 million to expand the facility—roughly the same amount that it failed to provide for the Mayak project. DOD officials informed us that DOD has no plans to help construct the full-scale facility.

Although Russia's 1995 chemical weapons elimination plan called for the completion of five nerve agent facilities by 2001, even the most advanced of these projects—the Shchuch'ye pilot facility—will not become operational until 2006. The Shchuch'ye depot's stocks constitute only about 17 percent of its nerve agent stockpile. Given Shchuch'ye's role as a pilot facility for the Russian nerve agent destruction program, Russia is unlikely to destroy the nerve agents stored at the four other depots in time to meet even its extended Convention deadline.²⁵

According to a State Department official and a nongovernmental organization, ongoing efforts to eliminate Russian chemical weapons—however prolonged—are important to ensuring the continued viability of the Convention itself and securing a broader range of security benefits flowing from the Convention. The State Department official said that Russia's ability to meet its Chemical Weapons Convention time frame is less important than its willingness to persevere in its efforts to eventually eliminate its entire chemical weapons stockpile.

Conclusions

The recent history of the Mayak and Shchuch'ye projects indicates that U.S. efforts to reduce the threat of Russian nuclear and chemical weapons will cost more than previously estimated and take longer than previously scheduled. Unless Russia and other foreign nations take certain steps, these facilities will not provide the United States with all the national security benefits that it sought. Russia's funding shortfalls and reluctance to provide DOD with crucial information have hampered DOD's efforts and limited prospects for achieving all of these projects' intended benefits within expected time frames.

²⁵Russian defense officials, speaking before the collapse of the Russian economy in mid-1998, stated that Russia was unlikely to meet its Chemical Weapons Convention targets. According to DOD officials, Russian officials have expressed interest in obtaining assistance in improving security at Russia's seven chemical weapons storage sites as the weapons there await destruction. Russia has yet to define the specific physical security improvements needed at each of its storage sites.

The extent and nature of the partially built Mayak facility's costs and benefits to the United States remain unsettled. Russia's funding shortfalls will substantially increase U.S. costs beyond the \$165 million that DOD has obligated to date and the \$275 million cap that DOD set in 1996. Although current plans call for no more than \$413 million in U.S. funding for Mayak, the United States could ultimately spend up to \$1.3 billion to design and build an enlarged facility and load it with 150 metric tons of plutonium. Mayak's national security benefits would be constrained by a continued Russian refusal to allow U.S. confirmation that the materials at Mayak were removed from weapons. However, Mayak could still provide the United States with some assurance that at least 50 metric tons of weapons-grade plutonium—enough to provide Russia with more than 6,200 nuclear weapons—were being securely stored and were not available for use in weapons. If expanded to its originally-planned size, Mayak could allow DOD to monitor Russia's storage of roughly 75 percent of all the plutonium estimated to have been produced by the Soviet Union—an amount sufficient for more than 18,000 nuclear weapons.

The Shchuch'ye project's outlook is more problematic. If constructed, the pilot facility would slowly eliminate about 17 percent of Russia's nerve agents over the next 2 decades. Given that DOD already has obligated about \$95 million for the Shchuch'ye project, achieving this limited benefit would cost the United States an additional \$655 million—assuming Russia can fund needed infrastructure projects that may cost almost \$240 million. Nonetheless, the \$750 million investment by the United States would not be sufficient to ensure the realization of the project's broader objectives—accelerating Russia's destruction of its entire 32,000 metric ton nerve agent stockpile and its fulfillment of its Chemical Weapons Convention deadlines. Although the Shchuch'ye project could provide a proven technology for these facilities, Russia's ongoing economic difficulties—as illustrated by Mayak's funding shortfalls—strongly suggest that it would be unwilling or unable to invest the billions of dollars needed to construct the additional facilities it will need. As a result, DOD is counting on substantial assistance from other nations to fund the construction of these additional facilities and ensure that the Shchuch'ye project realizes its broader objectives.

Matter for Congressional Consideration

Since substantial international assistance is essential for achieving the Shchuch'ye project's broader objectives, the Congress may wish to direct the Secretary of Defense to report to it regarding the specific sources of funding for the four additional facilities needed to eliminate Russia's nerve agent stockpile. If the Secretary of Defense cannot identify these likely

sources with specificity, the Congress may wish to consider seeking further justification for the project from the Department of Defense.

Agency Comments and Our Evaluation

Although DOD and the Department of State generally concurred with the factual information presented in this report, both agencies took exception to our suggested matter for congressional consideration. DOD also disagreed with some aspects of our analysis, particularly those concerning the projects' ability to realize their national security objectives.

DOD objected to statements in our report that it stated suggest that the United States would not realize its national security goals at Mayak or Shchuch'ye. DOD stressed that these projects would achieve their most pressing national security goals. For example, DOD stated that Mayak would achieve its major security objective of safely and securely storing fissile material that could otherwise be used to assemble nuclear weapons. It also stated that ensuring that such materials were derived from dismantled nuclear weapons was not Mayak's primary or sole security objective. Similarly, DOD expressed confidence that Shchuch'ye would destroy a substantial and threatening portion of the Russian chemical weapons stockpile and validate technology needed to facilitate destruction of similar agents elsewhere. DOD recommended that we alter the initial paragraph of our conclusion to better reflect its perspectives.

We did not intend to suggest that the United States is unlikely to achieve any of its national security goals at Mayak and Shchuch'ye. Instead, as stated in our report, we concluded that the United States cannot ensure it will achieve the full range of its national security objectives for Mayak unless and until Russia agrees to allow the United States to undertake measures needed to confirm that Mayak contains only materials from nuclear weapons. Our report also concluded that, although the Shchuch'ye facility could eliminate the bulk of the Shchuch'ye depot's chemical weapon stocks, the project is very unlikely to achieve its broader objectives unless Russia receives a large infusion of additional funding.

These objectives have long been key elements of the rationale for supporting the Mayak and Shchuch'ye projects. For example, Mayak's primary function as a repository of materials derived from Russian nuclear weapons elimination has been reflected since 1992 in the titles of U.S.-Russian agreements governing U.S. aid for Mayak. In congressional testimony in March 1996, DOD officials reaffirmed Mayak's intended role in removing potential bottlenecks in Russia's elimination of nuclear weapons.

In 1997, the executive branch made weapons-origin transparency one of three key U.S. transparency negotiation objectives. While a U.S. failure to achieve such transparency would not degrade Mayak's usefulness for storing materials that could be used for weapons, it would eliminate Mayak's role in providing assurance that CTR aid is facilitating the dismantlement of Russian nuclear weapons—and would therefore signal a diminution of Mayak's intended national security benefits.

Similarly, the executive branch's rationale for constructing the pilot Shchuch'ye destruction facility has long included the goal of "jump-starting" Russian chemical weapons elimination. Without the realization of this goal, the \$750 million Shchuch'ye project would result only in the gradual elimination of about 17 percent of Russia's nerve agents and the validation of its technology. It would not help eliminate the remaining 83 percent of Russia's nerve agents, including the air-deliverable nerve agents that the United States originally placed a higher priority on destroying than the munitions at Shchuch'ye.

DOD acknowledged that Russia needs a large-scale infusion of funds from other nations to fully implement its Chemical Weapons Convention obligations. However, DOD stated that the report we suggest it provide to Congress concerning such funding would penalize the project for its current problems and could ultimately hurt efforts to obtain foreign funds. It stated that tying the Secretary of Defense's ability to obligate funds to such a report would be ill-advised. DOD also suggested that Russia's plans to enlarge the pilot facility could allow it to eliminate Shchuch'ye's stocks within its Chemical Weapons Convention deadline—if the deadline is extended by 5 years—and that Russia's economy could recover sufficiently to allow Russia to fund its chemical weapons elimination efforts. The Department of State stated that the report that we had suggested would needlessly slow the project without adding significantly to available information.

We disagree with these critiques. According to DOD, it plans no further funding of chemical weapons destruction facilities beyond the pilot plant at Shchuch'ye. Thus our suggestion is motivated not by the pilot project's current problems but by the fact that its benefits will be limited to a relatively modest reduction of Russian nerve agent stocks unless foreign governments begin committing funds on a scale that they have yet to do. While a Russian economic recovery could allow Russia to expand the pilot facility and build new facilities, Russia's current and projected economic condition suggests that such speculation is not a sound basis for near-term

U.S. decision-making. Because prospects for achieving Shchuch'ye's broader objective of "jump-starting" Russia's destruction of its entire stockpile appears to rest on the possibility of support from countries other than the United States or Russia, we believe that the Congress may wish to weigh the likelihood of such support in considering this costly project. The presentation of current and complete executive branch information concerning this topic could therefore assist the Congress in this decision.

We have modified the wording of the matter for congressional consideration to clarify our intent.

DOD's and State's comments are reprinted in appendixes I and II. The agencies also provided technical suggestions that were incorporated where appropriate.

Scope and Methodology

Our Mayak and Shchuch'ye assessments are case studies utilizing extant data and information. To assess the status and projected cost of the Mayak facility, we interviewed officials of DOD's Threat Reduction Policy Office, the Defense Threat Reduction Agency's Cooperative Threat Reduction Office, the Army Corps of Engineers, the Bechtel Corporation, and the Los Alamos National Laboratory. We reviewed and analyzed current and past status and conference reports, design documents, safety and thermal analyses, and cost estimates concerning Mayak. We also interviewed officials from Russia's Ministry of Atomic Energy and monitored a 2-day senior level conference near Washington, D.C., on Mayak's prospects that was jointly sponsored by the Defense Threat Reduction Agency and the Russian Ministry of Atomic Energy. The conference included presentations by Russia's VNPIET design bureau and South Urals Construction Company.

To assess the efforts being made to ensure that Mayak will store materials from dismantled nuclear weapons safely and securely, we interviewed DOD and other U.S. officials concerning the ongoing transparency negotiations. We also reviewed the currently agreed-upon language in the draft agreement.

To assess the Shchuch'ye project's current status, prospects for completion, and potential cost to the United States, we interviewed officials of DOD's Threat Reduction Policy Office, the Defense Threat Reduction Agency's Cooperative Threat Reduction Office, and the Army Corps of Engineers. We reviewed and analyzed current and past status and

conference reports, design documents, and other analyses concerning the project.

To assess the Shchuch'ye facility's potential impact on Russia's prospects for meeting its international chemical weapons commitments, we reviewed the provisions of the Chemical Weapons Convention and identified the specific milestones applicable to Russia, and reviewed CTR program documents to determine the facility's planned date of initial operations and its capacity. We also met with DOD and State officials regarding other nations' assistance to Russia's chemical weapons elimination effort.

We conducted our review from October 1998 through March 1999 in accordance with generally accepted government auditing standards.

As agreed, we plan no further distribution of this report until 14 days from the date of the report, unless you publicly announce its contents earlier. At that time, we will send copies of this report to other congressional committees; the Honorable William Cohen, Secretary of Defense; the Honorable Madeleine Albright, Secretary of State; and the Honorable Jacob Lew, Director, Office of Management and Budget. Copies will also be available to others upon request.

This report was prepared under the direction of Harold J. Johnson, Associate Director, International Relations and Trade Issues. If you or your staff have any questions concerning this report, he can be reached at (202) 512-4128. Major contributors to this report were Boris Kachura, Pierre Toureille, and Michael Rohrback.



Henry L. Hinton, Jr.
Assistant Comptroller General
National Security and International Affairs

Comments From the Department of Defense



STRATEGY AND
THREAT REDUCTION

ASSISTANT SECRETARY OF DEFENSE

2900 DEFENSE PENTAGON
WASHINGTON, DC 20301-2900

I-99/02656

MAR 26 1999

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 (DoD) response to the General Accounting Office (GAO) draft report, "WEAPONS OF MASS DESTRUCTION: Challenges Facing DoD Efforts to Help Eliminate Russian Nuclear and Chemical Weapons," dated February 19, 1999 (GAO Code 711384/OSD Case 1756).

DoD generally agrees with the facts presented in the report concerning the status of the two projects and with the conclusions concerning rising costs, schedule delays, and uncertainty concerning Russia's ability to fulfill its future financial commitments. We nonconcur, however, with certain statements in the report that suggest the United States is unlikely to realize its national security objectives from the Mayak and Shchuchye projects. DoD is confident that both the Mayak and Shchuchye projects can achieve their most pressing national security objectives despite the impediments we have encountered in implementing them.

The major U.S. national security goal of the Mayak project is to provide for the safe and secure storage of fissile material that could otherwise be used to assemble over six thousand nuclear weapons. That goal will be met in FY 2002, when the Mayak facility is scheduled to become operational. Although we continue to press for transparency measures to attain high confidence that such material is from dismantled



See p. 18

See p. 18

nuclear weapons that goal is not the sole or primary national security objective of the Mayak project.

The facility at Shchuchye, when built, will destroy a substantial portion of Russia's chemical weapons (CW) stockpile, and that, in itself, will enhance U.S. security and serve nonproliferation objectives. Moreover, DoD fully expects that this project will validate the technology that will facilitate the destruction of stockpiles of similar nerve agents at four other weapons depots. The proposed matter for Congressional consideration risks penalizing Shchuchye, and delaying the elimination of dangerous nerve agent, for problems encountered in a pilot project. Given the lengthy environmental impact process in the U.S., for example, it is not unreasonable that the Government of Russia took longer than expected in its own review of Shchuchye as a dismantlement site. It also may be inappropriate to extrapolate from today's economic problems that Russia will still be experiencing dire economic conditions in the next five to fifteen years that will preclude the provision of adequate resources for CW destruction.

See p. 19

The draft report should give increased weight to the greater significance and risk of the CW agents stored at Shchuchye. Since these depots store chemical agents in weaponized form, they are most readily available for military use by ground forces, and most difficult to destroy. Although the CW agents at Shchuchye represent only 14% of the declared Russian stockpile, they constitute nearly half of all weaponized nerve agent for ground forces use. Despite the delays experienced in designing the pilot chemical weapons destruction facility near Shchuchye, the overall goal of destroying Shchuchye's CW agents remains a priority. Continuation of this project has a high likelihood of successfully completing the stated national security objectives.

See p. 19

In this regard, the statement in the last sentence of the third paragraph on page three that, "The Shchuchye facility itself will not begin operating until 2006 and would not finish destroying most of the Shchuchye depot's stockpile until 10 years after the expiration of Russia's Convention deadline of 2007" is not entirely correct. The Russian plan is to begin building the second stage of the destruction facility, adding two munitions processing lines (including one for large caliber rocket and missile

See p. 3

warheads) in a separate building to increase the destruction rate to 1200 metric agent tons a year. This would enable destruction of the Shchuchye stockpile in 6-7 years. Moreover, the deadline for destruction of CW under the Chemical Weapons Convention can be extended for five years.

DoD therefore believes that it would be ill advised to consider tying the Secretary of Defense's ability to obligate funds for Shchuchye – and maintain progress in accomplishing DoD objectives there -- to a report the Secretary would be required to submit to Congress specifying how to fund the application of Shchuchye's technology to accelerate CW elimination.

The Administration recognizes that a large-scale infusion of funds from other nations for additional chemical destruction facilities will be needed to help Russia fully implement its Chemical Weapons Convention (CWC) obligations. Under the Expanded Threat Reduction Initiative, the United States will continue to strongly encourage other nations to join in this effort.

Continued U.S. Government investment will provide an excellent example for other possible donor nations and international and financial institutions. DoD is working closely with the Government of Russia and other agencies of the U.S. Government and the European Union to promote Russian efforts to hold a CW donors conference this summer. Reduction or elimination of U.S. funding could have a deleterious impact on such international support and the longer term prospects for significant financial assistance for CW destruction.

The Department of Defense looks forward to advancing its work on CW destruction with the Russian Government and through the support of potential donor nations, and will continue to apprise the Congress of these efforts.

In view of the comments above, DoD specifically recommends that the second full paragraph on page three be changed to read "The United States may not *fully* realize *some of* its national security objectives at Shchuchye." DoD also recommends the section heading on page 13 of the draft report that states, "Shchuchye national security objectives unlikely to be met" be changed to read, "Shchuchye national security objectives

See p. 19

See p. 3

unlikely to be *fully met in the near-term*. Without the proposed modifiers, the statement as it appears in the draft report could be taken out of context to mean that none of the project's national security objectives will be met. The recommended revision more properly accords with the substance of the paragraphs that follow it in the report.

DoD recommends that the first paragraph of the conclusions on page 16 be rewritten as follows:

See p. 16

"If completed, the Mayak and Shchuchye projects will significantly advance the U.S. efforts to reduce the threat of Russian nuclear and chemical weapons. However, both projects will cost more than previously estimated and take longer than previously scheduled. Moreover, Russia's funding shortfalls and reluctance to provide DoD with crucial information has hampered DoD's efforts and limited prospects for achieving intended project benefits within expected timeframes."

See p. 8

DoD also recommends that the fourth sentence of the second paragraph on page 7 of the draft report be modified as follows: "DoD officials, while rejecting almost all of the items, agreed to pay for a fire station and to consider options for the heating plant because they considered these items to be integral to the safe operation of the Mayak facility." This revision more clearly indicates that DoD officials regard the fire station and heating plant as integral to the safe operation of the Mayak facility, and not infrastructure in the same sense as the items whose funding we rejected – garages, car washes, bus stations, and overly large heating plant.

In addition to the above comments, suggested technical changes for clarification and accuracy have been provided separately.

On behalf of the Department of Defense, I appreciate the opportunity to comment on the draft report.

Sincerely,



Edward L. Warner III

Comments From the Department of State



United States Department of State

Chief Financial Officer

Washington, D.C. 20520-7427

APR 16 1999

Dear Mr. Hinton:

We appreciate the opportunity to review your draft report, "WEAPONS OF MASS DESTRUCTION: Challenges Facing DoD Efforts to Help Eliminate Russian Nuclear and Chemical Weapons," GAO/NSIAD-99-76, GAO Job Code 711384.

In general, the draft report does an excellent job of describing U.S. efforts to help eliminate Russian nuclear and chemical weapons (CW) and outlining potential issues for Congress. The text accurately characterizes the important, if modest, contribution of the pilot CW destruction facility towards implementing Russia's Chemical Weapons Convention elimination requirements. However, the report recommends as an issue for Congressional consideration an additional report, which State believes will needlessly slow implementation without significantly adding to the available information on this subject.

Enclosed are the Department's recommended technical changes, the most important of which are to clarify the text discussing weapons origin confidence at Mayak.

If you have any questions concerning this response, please contact Mr. Phillip Dolliff, Bureau of Political-Military Affairs, Office of Strategic Policy and Negotiations (PM/SPN) at (202) 647-7426.

Sincerely,

Bert T. Edwards

Enclosure:
As stated.

cc:
GAO/NSIAD – Mr. Toureille
State/PM/SPN – Mr. Dolliff

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

See p. 19

See comment 1.

Appendix II
Comments From the Department of State

The following are GAO's comments on the Department of State's letter dated March 16, 1999.

Comment

1. We have not reprinted the Department of State's technical comments. We have incorporated these comments as appropriate.

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