Weapons Proliferation and Organized Crime

Russian Military Dimensions

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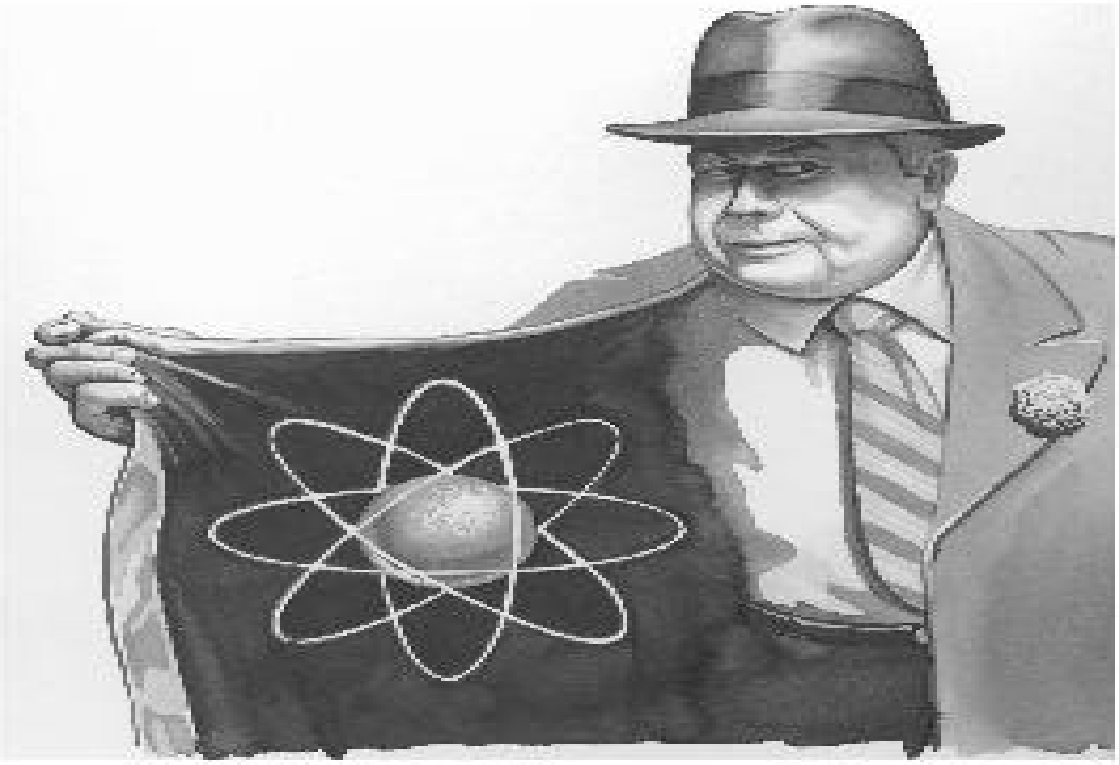
AS THE END of the twentieth century approaches, the widespread availability and distribution of weapons of all types are fueling armed conflicts, organized criminal activity, and random violence in many regions of the world. Arms trafficking—whether black market, gray market, or the injudicious legal sale of weapons—has been a prominent security concern for those areas of the world most affected. While military and law enforcement specialists assessed weapons trafficking throughout most of the post–World War II years in a cold war context. the dissolution of the Soviet Union



at the end of 1991 marked a watershed for an already serious problem. Vast new weapon stockpiles and willing distributors—unrestrained by cold war political limitations and encouraged by huge profits and turmoil—have entered local, regional, and international arms markets in increasing numbers.

The end of the cold war also marked the start of a new era of concern about the proliferation of weapons of mass destruction (WMD) and the evolving role of state and nonstate actors in WMD acquisition, spread, and employment. The former Soviet Union (FSU) became a central focus of regional and world proliferation concerns. Russia—which inherited the bulk of huge Soviet WMD stockpiles, manufacturing potential, and technologies—became a particular worry. Confident Russian official assertions about WMD security were accompanied by private expressions of extreme concern, wild rumors, frequent seizures of low-grade radioactive materials, and a handful of more serious documented proliferation cases. Collectively, these developments suggested that the potential for serious WMD leakages from Russia and the FSU was beginning to be realized.

Across the spectrum of arms proliferation—from infantry small arms to WMD-associated components and systems—a substantial role has come to be played by "organized crime." Organized criminal involvement takes various forms, including traditional civil sector organized crime groups, ethnic criminal groupings often linked to conflict areas, shadowy commercial ventures, and corrupt government officials of all types. Russia and the FSU also emerged as central concerns in this regard as well, because crime and corruption in the wake of Soviet dissolution quickly began to shape and influence every dimension of state and private life. Military establishments in the region—shrinking, impoverished, and demoralized—were far from immune to these pressures, and in the case of the Russian armed forces in particular, have become major participants in the illegal diversion of weapons as well as being profoundly affected by crime in other ways.

This article examines some little-addressed aspects of weapons proliferation—the phenomenon of widespread Russian *military* criminality and the extent to which the Russian military plays a role in the black and gray conventional arms market. In particular, while noting a pattern of systemic Russian armed forces criminality associated with conventional arms trafficking, the article addresses several Russian military organizations most closely involved with nuclear and chemical weapons and considers their roles as potential vectors for WMD diversion.

The Russian Criminal Environment and the Armed Forces

Russia and other states of the FSU have become fertile seedbeds for the development of the most pernicious forms of random and organized crime. Throughout the region, interests of local, regional, and international criminal groups have coincided with the appearance of disrupted economies, requirements for hard currency, and reduced law enforcement effectiveness. The established Russian criminal environment in 1996 illustrates the corrosive impact that widespread criminality has had on state security institutions throughout the region.[1] The Russian Ministry of the Interior (MVD) has continued to chart the steadily—and in some cases dramatically—rising rates of crime against persons and property, while acknowledging that true figures are nearly half again as great as published figures because of underreporting.[2] It is institutionalized organized crime, however, that poses the greatest threat to Russian national cohesiveness and stability.

Russian law enforcement specialists typically estimate that some 3,000 to 4,000 or more criminal gangs exist in Russia, the most powerful of which have cut out spheres of criminal activity that include arms and drug trafficking, gambling, banking, petroleum exports, automobile theft, precious metal smuggling, and a host of other ventures. A number of these criminal groupings have interregional or international dimensions.[3]

Official 1994 Russian estimates of organized criminal penetration of state institutions indicated

that organized criminal groups controlled some 40,000 state and private organizations, including hundreds of state enterprises, joint-stock companies, cooperatives, banks, and markets.[4] In 1995 the Russian MVD underscored the continuing criminal penetration of Russian institutions by reporting that "criminal structures in the state now control over 50 percent of economic entities."[5] Similarly, Russian interior minister Anatoly Kulikov also announced in the fall of 1995 that some 1,600 linkages among criminals and high government officials were being investigated, and he estimated that some 30 to 50 percent of criminal profits were used to bribe state officials.[6]

The deepening association of military and security establishments with criminal enterprise has been especially alarming. One 1995 Russian assessment characterized the growing relationship between the "criminal world" and the "power ministries" (Defense, Interior, and other security ministries) this way:

> At one fine point, two lines—the power ministries and the criminal world—intersected. . . . The criminal world was admitted to secret facilities. The power ministries—to the criminal world.[7]

Clearly, a variety of Russian and foreign sources has documented that institutionalized military crime is now flourishing in Russia. Military crime and corruption are associated directly with the Russian Ministry of Defense (MOD), the General Staff, and other senior staffs; military transportation, construction, and logistic organizations; combined arms units and commands; technically oriented and highly trained strategic strike and air defense formations; military research organizations; and military-educational components. Individual military criminals range in rank from general and field-grade officers to the newest conscripts, while organized criminal groupings within the military work independently and in partnership with "commercial" ventures and outside civil sector "mafias" at home and abroad. Analogous problems are present in those Russian law-enforcement and security bodies that are intended to support internal order and combat crime.

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Russian military life at the start of 1996 is characterized by a mosaic of corrupt generals, drug and arms trafficking officers, and illegal diversions of huge financial and materiel resources. It is further marked by the widespread criminal activities of Russian peacekeeping and combat forces as well as other forms of military crime that have spread well beyond Russian and regional borders. This largely unbridled criminal penetration of the Russian military establishment—together with a host of fiscal, restructuring, and social problems—continues to erode its cohesiveness, reliability, and combat effectiveness.[8]

As part of this overall environment, and fully reflective of it, is the flourishing trade in weapons. While there are varying estimates of the number of uncontrolled arms circulating in the Central Eurasian region, all of these estimates put the number in the tens of millions of weapons. Arms disseminated through black, gray, and legal channels reach a variety of recipients ranging from custom handguns delivered to local "mafia" kingpins; helicopter and fixed-wing aviation resources delivered to drug cartels abroad; and bulk deliveries of weapons and military equipment to paramilitary groups and to other states and organizations. The main Russian arms providers include government institutions like the "official" state arms sales companies *Rosvooruzheniye* and the *Voyentekh*; specially established business ventures and joint stock companies; corrupted bureaucrats and officers directly and indirectly involved in official arms sales; free-lance officers and servicemen whose duties give them access to weapons and equipment; and, of course, organized criminal groups.[9] In regard to Russia, per se, there is a fundamental conclusion that analysts soon reach when examining the weapons

trade: *Russian military and security forces remain the principal source of arms becoming available to organized crime groups, to participants in regional conflicts, and to corrupt state officials engaged in the black, gray, and legal arms market in their various dimensions.*[10]

The Russian Military and WMD Proliferation

The clearly unrestrained military-criminal trade in conventional arms of all types raises justifiable concerns in Russia and around the world regarding the security of Russian "weapons of mass destruction"—nuclear, chemical, and biological arms—and their associated components and technologies. Given the systemic criminality in other Russian branches of service, there is substantial reason to question whether military personnel responsible for Russian nuclear, chemical, and biological weapons are more fundamentally reliable than the demonstrably corrupt military officials assigned to responsible positions elsewhere. Particular causes of concern include the large WMD stockpiles in Russia; the slow pace of their destruction or neutralization; questions surrounding security, control, and oversight of WMD assets; and lagging military reform programs. To illustrate the potential for WMD diversion from military vectors, it is instructive to examine several prominent military organizations concerned with WMD—and specifically with military nuclear and chemical programs.

For the Russian armed forces, the responsibility for "nuclear munitions" is assigned to the 12th Main Directorate of the Ministry of Defense (*Glavnoye Upravleniye Ministerstvo Oborony),* or 12th GUMO. Unlike most other "main and central directorates" of the Soviet (and later Russian) Defense Ministry, the secretive 12th GUMO was nearly invisible to public view until recently. As retrospective Russian assessments have revealed, the directorate had its origins at the very end of World War II, when a so-called First Main Directorate was established under the USSR Council of Ministers to "coordinate work on atomic projects."[11] Two years later a "special department" was set up in the Ministry of Defense to study US nuclear weapons employment and effects. Following the successful development and testing of a Soviet nuclear weapon in 1949, the First Main Directorate and the MOD's special section were merged to form an MOD "Main Directorate" designated "to provide centralized direction of testing, stockpiling, and operating nuclear weapons and . . . protection against nuclear weapons." This organization was the direct progenitor of today's 12th GUMO, whose critically important role is described by its chief, Col Gen Ye. P. Maslin, as follows:

> Military research and scientific test organizations as well as military units engaged in the immediate operation of nuclear munitions are subordinate to today's Russian Federation Ministry of Defense Main Directorate. In connection with the reduction of tactical nuclear weapons, the elimination of intermediate and shorter range missiles and the limitation of strategic nuclear arms, the task of eliminating nuclear munitions and increasing the safety of the remaining ones also has been assigned to the Main Directorate in recent years.[12]

Today, the 12th GUMO maintains large central nuclear munitions depots which have been filled further with tactical, operational-strategic, and strategic nuclear weapons withdrawn into Russia from non-Russian areas of the FSU or otherwise taken off-line and redeployed.[13] The 12th GUMO also transports nuclear warheads and runs a variety of research, development, and support facilities. It vigorously asserts exclusive control over these sites, insisting that they are fully secure and should be the province only of MOD inspectors and oversight. But the 12th GUMO is part of the Russian military and Russian society, and as a consequence is susceptible to the same economic, political, and criminal pressures.

While General Maslin and other senior 12th GUMO officers characterize theft from 12th GUMO facilities as "impossible," in 1995 Maslin also identified newly recognized vulnerabilities from criminal or terrorist groups. These are found principally in the theft of nuclear weapons while in transport, which Maslin indicates must be taken "into account in planning our actions on a day-to-day basis." Further, exercises were run re-

garding the theft of nuclear weapons from 12th GUMO facilities to answer the question "What if?" Maslin candidly summarized the findings:

> And I must tell you frankly that as a result of those exercises, I became greatly concerned about a question that we had never even thought about before: *What if such acts were to be undertaken by people who have worked with nuclear weapons in the past? For example, by people dismissed from our structures, social malcontents, embittered individuals?* This question is so serious that I had to deliver a report on it to an interdepartmental commission of the Russian Security Council. (Emphasis added)[14]

In a country filled with embittered, desperate, active duty and former servicemen—many long since engaged in criminal activities and some veterans of Soviet/Russian nuclear weapons programs—Maslin's remarks seem well considered. They also stand in sharp contrast to the typical reassurances issued by him and his fellow officers.

Evidence of criminality and disaffection in nuclear-associated units is more directly in evidence at deployed military nuclear facilities and operational sites where living conditions are poor and oversight lax.[15] As illustrative of what is clearly a far larger problem, they raise serious questions about security and oversight. For example, in reviewing detected military criminal cases in late summer 1994, acting Chief Military Procurator G. N. Nosov identified Strategic Rocket Forces (SRF) criminality fostered either by the poverty in which many officers found themselves or as a consequence of opportunity and potential monetary gain. He noted that an SRF officer had set up a currency exchange and shop at his quarters on base where he sold food at inflated prices. Also, a major general and former chief of the SRF's Financial-Economic Directorate had illegally transferred two billion 1993–1994 rubles to several private firms.[16]

The activities of Maj Gen Vladimir Rodionov, commander of a Long-Range Aviation (LRA) division in the Russian Far East, and his deputy are illustrative as well. Long-Range Aviation is one of Russia's nuclear strike forces, tasked to hit targets deep in enemy territory. The two officers, however, transformed their "top secret" LRA operating base into a transshipment point for moving commercial goods (and businessmen) between cities in the Commonwealth of Independent States and China. Profits for the illicit transport operations were shared with bomber pilots and crews, who came to see the commercial enterprise as their principal job.[17] These kinds of incidents suggest in small ways that conspiring military personnel—given an opportunity—would be willing to sell military nuclear components or even a weapon for the kind of large payments likely to be proffered.

Perhaps the most notable example of this danger involved a nuclear materials theft from a navy nuclear facility in northern Russia. The circumstances of the theft and its implications have gradually become more publicly visible over the last two years. The incident—discussed below—centered specifically on a Northern Fleet nuclear fuel storage facility near Murmansk.

Russian military and security forces remain the principal source of arms becoming available to organized crime groups.

For several years now, the Northern Fleet has stood out as a center of military-civil sector crime and generally sloppy administration. From the mid-1980s to date, numerous examples of declining readiness and rising levels of carelessness have become increasingly evident, while the looting and more sophisticated, systematic theft of fleet resources have involved both military and civilian crime groups. In addition to these continuing problems, decommissioned Russian nuclear submarines—100 or more, some with nuclear fuel unloaded—were characterized by one specialist as "floating atomic bombs."[18]

However, the theft of three "live fuel assemblies" (known by the initials STVS) for obsolete "Victor 1" nuclear submarines at a Murmansk area naval storage facility some time in late 1993 speaks most directly to nuclear security and the potential for criminal penetration. More specifi-

cally, the theft involved a total of 4.3 kilograms of nuclear material, of which .85 kilograms was uranium 235. While the theft itself was not as significant as some others, what it revealed about Northern Fleet nuclear storage security and criminal opportunity was more significant.[19]

After months of fruitless investigation, three Russian navy officers (a captain 2d rank, captain 3d rank, and senior lieutenant) were finally identified in 1994 as the thieves. The investigation, which was concluded in mid-1995, indicated that the officer-thieves had planned to sell the material to an organized crime figure who expressed an interest but never followed through. Military prosecutors were more troubled with security conditions at the nuclear materials storage site than with the theft itself. There was minimal perimeter security; essentially no protective alarm system; poor locks; elderly untrained guards afraid to handle their issued pistols; and STVS containers secured only by plastic seals that had been unchecked for years.[20] The broader implications this incident has for military sites holding radioactive fuels or warheads is not certain. At a minimum, however, it suggests that some sites fall far short of the high security levels military specialists assert.

Similarly, the security of Russia's military chemical stocks and technologies continues to be the target of many critics. In fall 1995, former Russian military scientist Vil S. Mirzayanov judged that the theft and illegal production of Russian chemical agents was a greater risk than the dangers associated with the nuclear arsenal. He highlighted the lax security at military chemical depots and the alleged duplicitous statements by Russian military officials on the status of research and testing, and he also underscored the extreme environmental hazards and inadequate chemical destruction approaches and resources.[21] In short, he and others described a chemical weapons infrastructure that was at least as trouble-plagued as the military nuclear system.[22]

By all accounts, Russia inherited the largest chemical weapons arsenal in the world—about 40,000 metric tons of chemical agents, which are resident in bombs, missile warheads, artillery shells, other munitions, and canisters.[23] They are maintained under the purview of the Russian Federation Radiological, Chemical, and Biological Defense Troops—and, in the view of some internal Russian critics, the stocks are vastly underestimated.[24]

As with conventional and nuclear weapons, disaffected military personnel pose a substantial threat of chemical weapons diversion. This was illustrated in October 1995, when former Lieutenant General of Chemical Troops Anatoly Kuntsevich was charged by the Russian Federal Security Service with delivering about 800 kilograms of chemicals in 1993 to unidentified Middle East buyers and with the subsequent attempted smuggling of an additional five-and-a-half tons in 1994.[25] The chemicals—said to be taken from military facilities—reportedly could be used for civil applications or in the creation of chemical weapons. Just a few years earlier, Kuntsevich had been in charge of the important Shikany 2 military chemical facility and was a 1991 Lenin Prize winner for his role in developing Soviet binary chemical agents.[26] His arrest underscored the vulnerabilities resident throughout Russian military structures and—if the charges prove true—further suggests that even the most sensitive military systems are subject to criminal diversion by military specialists at all levels.

Conclusions

There are several judgments suggested by an examination of the Russian military, organized crime, and weapons proliferation. First, the trafficking of conventional arms—with Russian military materiel constituting the most substantial source—is continuing apace on the black and gray markets in the Central Eurasian region and internationally. Russian military officers and organizations are frequent and active participants in illegal and irregular arms trade activity, which relies in substantial measure upon complex ties with corrupt bureaucrats and state companies, civil-sector criminal groupings, shadowy joint stock companies, and commercial enterprises. In addition to the consequences this trafficking has

for fueling conflict and instability, it continues to undermine the integrity, reliability, and readiness of the struggling Russian armed forces.

The avowed security of Russian military nuclear and chemical stocks is subject to substantial doubt.

Finally, in light of systemic Russian military crime and particularly close military-criminal ties to the arms trade, the avowed security of Russian military nuclear and chemical stocks is subject to substantial doubt. Reported security shortfalls at military nuclear and chemical facilities and the demonstrated or potential criminal vulnerability of active and former military personnel involved in nuclear and chemical programs, suggest that military vectors for WMD proliferation are far more likely than previously considered. Overall, the Russian military's role in weapons proliferation—and that of other lesser-examined FSU successor state militaries and security forces as well—will be a substantial consideration in the development of stability and peace in the Central Eurasian region and beyond. Of special importance, these developing military-criminal linkages may represent one of the greatest WMD proliferation dangers, a potential that increasing numbers of Russian official spokesmen are acknowledging. □

Notes

1. For a substantial survey of crime and its association with various aspects of Russian life, including the military, see "Prestupnost'—ugroza Rossii" (Criminality—a threat to Russia), in the special edition of *Obozrevatel'*, no. 2, 1993, which is dedicated entirely to this topic.

2. "Kak poborot' prestupnost" (How to overcome crime), *Krasnaya zvezda*, 10 March 1995; and Penny Morvant, "Crime Roundup," *OMRI Daily Digest*, pt. 1, 17 March 1995.

3. Olga Kryshtanovskaya, "Russia's Mafia Landscape," *Izvestiya*, 21 September 1995, as translated in *The Current Digest of the Post-Soviet Press* 47, no. 38 (1995): 3.

4. See Dmitry Alyokhin, "Law and Order: Head of the Chief Administration for Combating Organized Crime Discusses Organized Crime—and the Rector of the Russian Ministry of Internal Affairs Institute Talks about That New Educational Institution," *Segodnya*, 18 May 1994, as translated in *The Current Digest of the Post-Soviet Press* 46, no. 20 (1994): 16. For excellent treatments of organized crime in Moscow and the former Soviet Union, as well as its implications, see Joseph Serio, "Organized Crime in the Soviet Union and Beyond," *Low Intensity Conflict and Law Enforcement* 1, no. 2 (Fall 1992): 127-51; and Mark Galeotti, "Organized Crime in Moscow and Russian National Security," *Low Intensity Conflict and Law Enforcement* 1, no. 3 (Winter 1992): 237–52.

5. Kryshtanovskaya, 3.

6. Anna Paretskaya, "85 Suspected Criminals Run for Duma Elections," *OMRI Daily Digest*, no. 193, pt.1, 4 October 1995.

7. Sergey Smirnov, "Takoy vot biznes: strelba po svoim" (That's what business is about: shooting at your own), *Literaturnaya gazeta*, no. 16, 19 April 1995.

8. For a more detailed assessment of the development and status of Russian military criminality, see Graham H. Turbiville, Jr., "Mafia in Uniform: The Criminalization of the Russian Armed Forces," Foreign Military Studies Office, Fort Leavenworth, Kansas, May 1995.

9. For an account of various dimensions of questionable arms trafficking involving Russia's Izhevsk arms factory, see Smirnov, "That's What Business is All About."

10. For a detailed examination of the Russian military's role in weapons trafficking, see Graham H. Turbiville, Jr.,"Weapons Proliferation and Organized Crime: The Russian Military and Security Force Dimension," *Occasional Paper*, US Air Force Institute for National Security Studies (INSS), Colorado Springs, Colorado, 1996.

11. See the instructive article by the chief of the 12th GUMO, Col Gen Yevgeniy Petrovich Maslin, "Nuclear Weapons: Results and Prospects," *Vooruzheniye, politika, konversiya*, no. 4 (7), 1995, as translated in JPRS-UMA-95-026.

12. Ibid.

13. Anton Surikov and Igor Sutyagin, "The Movement and Storage of Russian Nuclear Weapons," *Jane's Intelligence Review*, May 1994, 202–3.

14. Interview with Col Gen Yevgeniy Maslin by Vladimir Orlov, "A Threat of Nuclear Terrorism Exists in Russia," *Moskovskiye novosti*, no. 44, 25 June–2 July 1995, as translated in *The Current Digest of the Post-Soviet Press* 47, no. 25 (1995): 26.

15. These include launch sites, rocket technical bases, assembly and disassembly facilities, and other operational-level storage facilities for nuclear components. Surikov and Sutyagin address some of these sites.

16. G. N. Nosov, "Army: Everything's for Sale," *Moscow News*, 26 August–1 September 1994.

17. Yelena Matveyeva, "Airforce-Style Charter Flights," *Moscow News*, no. 4, 21 January 1993.

18. "A total nightmare," *Izvestiya*, 17 March 1995, as translated in Joint Publications Research Service (JPRS)-TAC-95-012-L. By fall 1995, Russian specialists were just as concerned about the problem, which seemed to have no promise of early resolution. The paper by L. P. Malyshev, "Problemy obespecheniya ekologicheskoy I tekhnologicheskoy bezopastnosti v protsessakh radikal'nogo sokrashcheniya strategicheskikh vooruzheniy Rossii" (Problems of supporting ecological and technological security in the process of radically reducing Russian strategic weapons), presented at the Foreign Military Studies Office (FMSO)-sponsored conference "Evolving Post-Cold War Security Issues," Moscow, 12–14 September 1995, reiterated the dangers associated with decommissioning submarines.

19. Viktor Litovkin, "Raspad: Ulovnyy protsess nad tremya ofitserami Severnogo flota" (Breakdown: Criminal trial of three Northern fleet officers), *Izvestiya*, 12 May 1995; Charles Hanley, "Doomsday

Bazaar," pt. 2, Associated Press, 27 March 1995; and Mikhail Kulik, "Exclusive: Some Problems of Storing Nuclear Materials in the Northern Fleet," *Yadernyy kontrol: Obozreniye po problemam oruzhiya massovogo unichtozheniya v Rossii I novykh nezavisimykh gosudarstvakh* (Nuclear control: Review of problems of weapons of mass destruction in Russia and the newly independent states), February 1995, as translated in Foreign Broadcast Information Service (FBIS)-SOV-95-046-S.

20. While a spectrum of recommendations was made to improve this and other sites, and while some initial measures were taken, funding has prevented their implementation.

21. "Russia's Chemical Arsenal Not Safe from Thievery," *New York Times News Service*, 1 October 1995. See also Oleg Zharov, "Blister Action Disarmament: A `New Guy' in the Class," *Novaya Yezhednevnaya Gazeta*, 7 February 1995, as translated in FBIS-SOV-95-031.

22. The fatal March 1995 sarin attack by Aum Shinrikyo sect members in a Tokyo subway almost immediately generated speculation about a Russian connection to the chemical agents or technologies used, and again spotlighted the ambiguous security and status of Russian chemical weapons stocks. Russian, Japanese, and other investigators quickly identified a substantial number of alleged sect ties to the Russian military and the Russian Academy of Sciences, though Russo-Japanese linkages to sarin production remained ambiguous.

23. Of these, 32,300 metric tons were declared to be paralyzing nerve gases such as sarin, soman, VX, and others, while the remainder were stated to comprise older agents such as lewisite and yperite in separate and combined forms. I. P. Beletskaya, "Russian Chemical Weapons," *Vestnik Rossiyskoy akademii nauk*, February 1995, as translated in JPRS-UST-95-025.

24. Ibid. The "underestimation" case is made particularly strongly in Lev Fedorov, "We Were Preparing for an All-Out Chemical War," *Obshchaya gazeta*, 26 January 1995, as translated in FBIS-SOV-037-S. The 40,000-metric-ton figure has continued to be used officially, however, as reiterated by Lt Gen Yuriy Tarasevich, deputy chief of the Radiological, Chemical, and Biological Protection Troops, in Yuriy Golotyuk, "Russia Embarks on Destruction of Combat Poison Gases. Gas Attack in Tokyo Subway Prompts Russian President to Sign Edict," *Segodnya*, 28 March 1995, as translated in FBIS-SOV-95-067. In late November 1995, the chief of the Radiological, Chemical, and Biological Defense Troops, Col Gen Stanislav Petrov, had to forcefully deny Russian Security Council charges that the military secretly maintained 100,000 metric tons of chemical agents. (Scott Parrish, "General Denies Russia Has 100,000 Tons of Chemical Weapons," *OMRI Daily Digest*, no. 228, pt.1, 22 November 1995.) The charge was made by Aleksei Yablokov, chief of the Interagency Commission on Ecological Security of the Russian Security Council. The military continues to stipulate that only 40,000 metric tons are dispersed at Shikany and some six other principal chemical weapon storage sites.

25. The charges were released by Federal Security Service (FSB) Chief Mikhail Barsukov, Leonid Beres, and Aleksandr Koreyskiy, "Well-Known Scientist's Travails," *Kommersant-Daily*, 24 October 1995, as translated in *EVP Press Digest*, 24 October 1995.

26. During the 1980s—and perhaps earlier—the Soviet Union embarked on a Shikany-based research and development effort to create binary chemical agents. This effort was carried out by a research team that included Kuntsevich. The new weapons were characterized as five to eight times more powerful than earlier nerve agents, and allegations about their continued testing have continued to 1995. These agents—whose quantities and disposition remain unknown—are not included in the 40,000-metric-ton total.

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