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The Death of Disarmament in Russia?

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“You can lead a horse to water, but you can’t make it drink.”

— Anonymous

With growing confidence, analysts and policymakers have referred to “the death of arms control,” the Cold War industry that produced landmark agreements intended to curb the growth of opposing strategic arsenals. For better or worse, the United States did not keep arms control on life support. In October 1999 the US Senate rejected the Comprehensive Test Ban Treaty, which would eliminate the Department of Energy’s only proven means of ensuring the safety and reliability of the United States’ nuclear stockpile if ratified. Three years later, the Bush Administration legally withdrew from the Anti-Ballistic Missile Treaty, the 1972 pact with the Soviet Union that outlawed national missile shields. In May 2002 the United States and Russia did sign a new Strategic Offensive Reductions Treaty (known as the Treaty of Moscow) that will reduce strategic nuclear weapons to between 1,700 and 2,200 warheads by the end of 2012, but this legal vehicle was more an act of diplomatic charity than a necessary contract. Russia relishes the prestige that accompanies splashy arms control formalities, but America’s former peer did not need a treaty to see the benefits of strategic forces cuts—absent significant funding increases, its arsenal will decline to less than 2,000 warheads by 2015 with or without the new pact.¹ This reality was suggested by President Bush, who casually offered to “write it down on a piece of paper” if Moscow felt it needed an official agreement to do what the United States was “going to do over the next ten years” anyway.² Traditional arms control agreements with Russia, it seems, are as much a part of Cold War history as the Soviet Union itself.

Now, the same experts may be unwittingly witnessing the demise of disarmament in Russia. Most of the dismantlement programs the United States initiated to secure and ultimately destroy Russian nuclear, biological, and chemical weapon systems appear to be completed or no longer agree with Moscow's policy goals. The Department of Defense's Cooperative Threat Reduction (CTR) program and the Department of Energy's Defense Nuclear Nonproliferation (NN) program suffer from poor Russian cooperation as well as from access and transparency problems that have crippled major parts of the sister initiatives. In addition, Russia's spending priorities and contributions do not reflect a continuing, mutual interest in disarmament.

Moscow, to be sure, is willing to take advantage of US disarmament resources—but frequently acts against the spirit of the overall effort. Today, Russia seems to view these cooperative initiatives as a means to a strategic modernization program that includes the production of new weapon systems, the elimination and cleanup of older ones, and the maintenance of illicit biological and probably chemical warfare programs. The sum realities of poor transparency and cooperation, backward spending priorities, and stubborn proliferation practices—all key indicators of a country's true arms control intentions—bare a divergence of objectives and expectations between Washington and Moscow that may have already upended the well-meaning programs' primary purpose. A thorough and candid reexamination of US nonproliferation policy toward Russia is in order.

Early Success

To date, the oft-cited Cooperative Threat Reduction program has achieved a respectable measure of success in deactivating strategic weapons—nuclear warheads and their associated delivery systems—in Russia and the rest of the former Soviet Union. By the Defense Department's count, the CTR program has helped to destroy some 530 intercontinental ballistic missiles (ICBMs) and no less than 27 ballistic missile submarines over the last dozen years. The congressionally-mandated initiative also has effected the elimination of 475 submarine-launched ballistic missiles and about 120 heavy bombers.³ For its part, the Department of Energy (DOE) noted in late 2003 that it has “downblended” 200 metric tons of highly-enriched uranium (HEU)—enough material for around 8,000 nuclear weapons—into low-enriched ura-

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nium (LEU) and is purchasing another several hundred tons left over from dismantled warheads. DOE also claims to have improved the safety of a couple hundred metric tons of nuclear material through security upgrades.⁴

Success came early to the disarmament initiative because both sides were eager to cooperate—Washington to take advantage of a unique opportunity to reduce a lingering nuclear threat, and Moscow since it could ill-afford to maintain an aging, grossly oversized strategic arsenal. Today the CTR program has completed most of its goals, including 51 of 62 congressionally funded program areas;⁵ but instead of winding down earlier this decade, the CTR and NN missions started drifting into untouched areas of the Russian arsenal, like its biological weapons program, where Moscow was much less enthusiastic about disarmament and the transparency that process invariably requires. US policymakers also began saddling the programs with environmental projects and other untraditional missions that addressed Russian domestic problems, but not necessarily real US security interests. At the same time, the effects of uncooperative Russian behavior began to show in the way of failing projects and other unintended consequences.

Poor Transparency

Probably the greatest impediment to Russian disarmament is the United States' lack of access to most of the sites that need security upgrades and financial support. Responding to a Senate request, the nonpartisan US General Accounting Office (GAO) measured the access that Department of Defense and Department of Energy personnel have to biological and nuclear sites in Russia. According to the GAO, because of stonewalling by Moscow, the United States could certify that only two of Russia's 49 known biological sites had adequate security measures by 2003. The congressional watchdog agency made similarly discouraging findings at biological facilities that benefit from US-Russia collaborative research projects. Of those 14 biological sites where American and Russian scientists work together at the Pentagon's expense, Moscow had allowed DOD officials to complete basic US-funded security enhancements (perimeter fences) at only two—Obolensk, an anthrax research facility, and Vector,⁶ home of Russia's official smallpox sample—despite criminally negligent conditions at other labs. Moscow has since agreed in principle to open an additional two biological sites (Golitsino and Pokrov) to security upgrades, but the current rate's tortured progress is too slow to ensure that US nonproliferation goals will be safely met anytime soon.

Notably, the United States has no access to many of Russia's largest and most dangerous biological sites. Moscow refuses to allow Westerners into eight institutions believed to house dangerous pathogens, including five "anti-plague" institutes where actual strains are stored, one agricultural pathogen

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facility, and two (of four closed) major compounds still owned and operated by the Ministry of Defense (MOD). In September 2002, Senator Richard Lugar, now Chairman of the Foreign Relations Committee, was denied entry at two of the four MOD sites, including the Center for Military-Technical Problems of Biological Defense at Yekaterinburg (formerly Sverdlovsk), the site of an accidental anthrax release in 1979 that killed at least 66 people, and the Scientific Research Institute at Kirov-200 in Strizhi, where Russian officials have boldly lobbied for US pharmaceutical investments. During the same trip, the congressional delegation failed to pry loose from Russia a genetically altered strain of anthrax Moscow had earlier promised to deliver to the US government in exchange for a research grant. The Pentagon is eager to determine if the supergerm can defeat current US bio defenses, but Moscow refuses to honor its side of the deal despite an informal bilateral agreement to expand cooperation on these matters.⁷ Reportedly resistant to many common anthrax vaccines, the strain was developed at the Russian State Research Center for Applied Microbiology in Obolensk, one of the two sites that have benefited from US security upgrades.⁸ As Senator Lugar smartly noted, the four closed military facilities (the other two are at Sergeyev Possad and the Military Medicine Institute at St. Petersburg) represent “a mistake that must be corrected.”⁹

The secrecy surrounding the four MOD-run bio sites is worrisome. Based on available evidence, the Department of State recently determined that “Russia continues to maintain an offensive biological weapons program in violation of the Biological Weapons Convention,” a statement punctuated by firm assurances that “there is no disagreement about the nature of the program” within the US government.¹⁰ According to the White House, “Many key officials from the former Soviet offensive BW [biological warfare] program”—the world’s largest ever, at one point employing an estimated 60,000 people at more than 50 sites¹¹—“continue to occupy influential positions,” while “funding for activities at certain suspect military BW sites has continued.”¹² One such holdover was General Yuri Kalinin, from 1973 to 2001 head of the state-owned drug company Biopreparat, under which the Soviet Union conducted most of its biological warfare research and development. Several

years ago, Russian scientists charged that General Kalinin had diverted some American grant money intended for biological research in space to his organization; responding to the accusations, NASA later found that it had in fact funded with virtually no oversight a number of projects at Biopreparat subsidiaries once a part of the Soviet germ warfare program.¹³

That is not the first time Moscow has hidden an illegal biological weapons program from the United States. In 1992, 17 years after the Soviet Union ratified the Biological Weapons Convention and agreed to dismantle its vast biological warfare infrastructure, President Boris Yeltsin issued a diplomatic mea culpa, acknowledging an ongoing weapons program but then promising to shut it down immediately. In 2001, shortly after the 9/11 attacks, President Bush and President Putin again “confirmed their strong support” for the treaty.¹⁴ The Bush Administration’s judgment that the USSR’s successor state remains in violation of its Biological Weapons Convention commitment flows from a certification requirement that makes the President determine whether Russia is in compliance with its arms control agreements.

The Bush White House determined during the same certification process that Moscow is in violation of the 1997 Chemical Weapons Convention (CWC), the treaty that prohibits the development, production, stockpiling, and use of such devices, and mandates their destruction. The Department of State says it believes Moscow is lying about the full extent of its chemical agent and weapon inventory, and that a Russian declaration required by the CWC is “incomplete with respect to CW [chemical weapons] production, development facilities, and chemical agent and weapons stockpiles.”¹⁵ More specifically, Russia—which the President finds “may maintain CW production mobilization capacities,”¹⁶ a costly and illegal undertaking—likely omitted from the declaration modern weapons it has made. Since 1992 Russian scientists have been publicizing information on a new generation of agents called “Novichoks,” some of which are binaries—munitions consisting of two agents that are benign when kept separate but lethal when mixed—designed to defeat the Chemical Weapons Convention as well as Western detection and protection measures.¹⁷ Binaries are potentially far more difficult to detect and much easier to manufacture covertly because they can be made with common chemicals in relatively simple pesticide factories.

Testifying in 2003 to the arms control problems such issues have raised, the State Department’s top treaty verification and compliance official complained that the United States needs “greater access—not only to the biological weapons sites—but to chemical weapons activities as well.”¹⁸ Long-running negotiations have achieved little progress toward opening up suspect undeclared chemical weapons sites, with Moscow agreeing only to visits at previously declared storage and destruction facilities. (Under the Chemical

Weapons Convention, Russia is required to declare all former and current chemical weapons production facilities in its ownership or possession.) In response to Washington's concerns about the suspect sites and incomplete inventory, Russia provided some information and offered US experts the opportunity to review historical documentation used to prepare its stockpile declaration; but an American team that visited Moscow in late 2002 to review the papers found that Russia had "knowingly provided only documents already available to the United States and other CWC States Parties" through the treaty's organizing institution.¹⁹

The problem of access is not unique to biological and chemical sites. For years the Ministry of Atomic Energy has blocked US officials from helping Russia secure parts of its sprawling nuclear arsenal, including some 600 metric tons of bomb-grade fissile material and up to 25,000 warheads. Perhaps most alarmingly, GAO found that as of December 2002, the Ministry of Defense reported installing only about one-third of the 76 miles of perimeter fencing that the United States began providing Russia in 1997 for warhead storage sites at 52 separate locations, and that as of 2003 DOD has been unable to install security equipment to address insider theft threats at any of the sites because Moscow had not provided access. Meanwhile, the Department of Energy has finished installing security improvements at only 13 of the 133 buildings at sites in the nuclear weapons complex that fabricate, refurbish, or dismantle components and material for nuclear weapons, leaving nearly 60 percent of Russia's bomb-grade fissile material at risk. GAO put the blame for this state of affairs squarely at Moscow's feet when it reported that, "despite years of negotiations, Russia will not let DOE visit or begin work at nearly three quarters of the buildings in the weapons complex," and that a "lack of progress at these sites significantly hampers DOE's programmatic goals because weapons complex sites store most of the weapons-usable nuclear material in Russia."²⁰ Overall, the United States has been given access to only four of 49 biological weapons sites (eight percent) and to only 35 of 133 nuclear weapons complex buildings (26 percent).

Moscow seemed to agree with the basic GAO assessment. Only days after the investigative agency released its official findings on the access problem, Russian Atomic Energy Minister Alexander Rumyantsev proudly declared that the limitations will continue: "As for access by representatives of other countries to our sites where nuclear materials are located, we will not show all sites. And where the arrangement of these installations [is] confidential, we will not display them for international observation. . . . It is a question linked to our defensive capability."²¹ In response, Senator Lugar confirmed that there is "a lengthy list" of cases where Russia has "rebuffed" the United States in seeking access to nuclear sites.²² One year later, a top DOE official told Congress that

“achieving adequate transparency” for many initiatives was still “an ongoing problem,” and that the situation was “about the same . . . always difficult.”²³

Even when Russia does grant the United States access to a site, it is sometimes limited. Such is the case with a fissile material storage facility in Mayak designed and built with roughly \$375 million in Defense Department funds to ensure that the destruction of Russian nuclear weapons was not interrupted. In May 2002, four months before the project was to be finished, Russia began restricting the number of American personnel who could visit the entire region where the facility, then 90 percent complete, was located. Under Moscow’s orders, only ten US officials and contractors could be there at one time, delaying completion of the facility, GAO found, by forcing engineers to postpone necessary trips. The United States may face access problems at the Mayak site even now that it is finally completed. In spite of years of negotiations, Washington and Moscow have yet to reach a transparency agreement that would allow the United States to confirm that Russia is storing only fissile material from dismantled warheads at the facility, as planned.²⁴

Russia’s standoffishness is problematic not only because it fuels concerns that this party to the Chemical and Biological Weapons Conventions is illegally manufacturing the very types of arms that American tax dollars are intended to neutralize, or because some 200 nuclear and biological caches may not be secure. A lack of access is also dangerous because it ties up or simply wastes appropriated US funds that could be used for important nonproliferation missions elsewhere.

Unsatisfactory Cooperation

Other systemic problems have prevented US nonproliferation efforts from achieving their potential while reinforcing doubts about Russia’s commitment to the overall initiative. A general lack of cooperation on major CTR and NN projects is sometimes demonstrated by large-scale failures and disagreements.

In Krasnoyarsk, Russia, the United States spent nearly \$140 million to dispose of 30,000 metric tons of ballistic missile fuel (heptyl) and 123,000 metric tons of oxidizer (amyl) at Moscow’s request. As a part of this effort, the United States built a \$106 million disposition facility to convert the volatile liquids into commercially useful chemical products; but Moscow, without informing Washington, gave the heptyl and amyl to its space program, which then used it to power commercial launches and increase profits. According to the DOD Inspector General, from 1995, when the Defense Nuclear Agency contracted to build the disposition facility and Russian officials stated that it had stopped producing new heptyl, Russia executed 102 heptyl-

fueled launches that may have used more than 25,000 metric tons of the fuel—all without a word to an American official. To make matters worse, the Russian government, which admitted to secretly using the fuel only after the United States requested a sample to test the nearly operational project, helped reprocess the old heptyl in order to lower its launch insurance premiums (second-hand fuel from ballistic missiles is considered less than reliable). The final outcome was the loss of about \$140 million that could have been used for real disarmament projects in Russia or elsewhere.²⁵

Only weeks after the Krasnoyarsk episode became public knowledge, information concerning a second CTR disaster raised questions about Russia's commitment to the program, this time in Votkinsk, where the United States wasted \$95 million on another disposition facility. Again at Moscow's behest, the Pentagon had agreed to construct a closed burn system to remove solid propellant from Russian SS-24, SS-25, and SS-N-20 missiles, the idea being to let the engines flame out indoors (solid rocket fuel is difficult to remove by other means), thereby protecting the local environment from potentially dangerous vapors. The Department of Defense spent \$15 million on site improvements and \$80 million on the blueprints—the United States specially designed the plant to placate Russian environmental concerns—before learning that neither Washington nor Moscow would be able to obtain the land permits necessary to actually build the plant on its planned site ten miles from the city of Votkinsk.²⁶ A small-time politician there had made the project an election issue by playing on pollution fears, even though the United States had determined that the facility would pose a negligible air quality threat to the surrounding area. Moscow, for its part, could not or would not entice the city of 100,000 to change its mind.

A much pricier facility designed to destroy nerve gas weapons may face similar dangers because of local design approval roadblocks, environmental laws, and unfavorable court decisions. The United States is paying the lion's share of a billion-dollar, state-of-the-art, chemical weapons destruction facility in the Siberian town of Shchuch'ye intended to neutralize nearly two million artillery shells and rocket warheads filled with Sarin, Soman, and VX agents from around Russia. As of mid-2003, Russian authorities had not signed off on 25 of the 38 design packages that subcontractors sought approval for, even though DOD had started submitting them two years earlier. Officials from the US Army Corps of Engineers, which administers the construction contract, attributed the cost-ballooning delays to Russian bureaucracy. Even if the plant is finished, Russian red tape could quickly halt its operation. The Army warns that the regional environmental review board could yank the operating (and construction) permits, and the governor of the *oblast* (akin to an American state) could take action to suspend the project's

land allocation under local pressure, handing it a fate similar to the failed Votkinsk facility. The risks are not imagined; a Russian newspaper reported that the surrounding population and *oblast* officials were upset after hearing of plans to ship nerve agents into Shchuch'ye, quoting municipality heads as saying the Russian government "deceived" them when it amended a law to allow the transportation of the dangerous materials through the area.²⁷ For its part, the central government has been unwilling or unable to pass federal statutes that would protect the disarmament projects from such local and regional harassment.

On the NN side, by refusing to indemnify US companies and personnel operating in Russia against liability, Moscow has held up the Nuclear Cities Initiative—a program to shift weapon scientists and infrastructure in the closed cities of the Russian nuclear weapons complex to non-defense uses—as well as the Plutonium Science and Technology agreement—which provides for scientific and technical cooperation on the withdrawal of plutonium from military uses. Currently, Moscow is not held to a single liability standard for damages and injuries, meaning Russian subcontractor workers would have been able to take legal measures against US companies for damages and injuries that occurred during NN-related activities, including even premeditated acts like terrorist attacks. At issue, explained the Department of Energy official responsible for executing the programs, is the present unreliable state of the Russian legal system—it is "not yet free from manipulation."²⁸ In mid-2003 the bilateral agreements governing both threat reduction measures, totaling about \$100 million annually, were allowed to lapse because Russia would not accept for the DOE programs the same "umbrella agreement" that has applied to DOD-funded projects since 1992 (one advisor to the Duma, which must ratify it, claimed Russia could not afford to assume the liability²⁹). The fallout will have no short-term effect, since work initiated on 69 Nuclear Cities Initiative projects before the stoppage will continue as planned, but no new efforts can begin before a replacement agreement is reached. Nevertheless, Moscow's refusal to accept a single liability standard, and indications that it will do the same to the CTR program in 2007 when its umbrella protection expires, demonstrate a certain gamesmanship that in these two cases endangers key US disarmament priorities.

Backward Spending Priorities

Russia consistently complains that it cannot afford to make significant contributions to its own disarmament, but key indicators tell another story. Russia's once moribund economy has grown steadily in recent years, posting impressive, if cautious, gains since 1999 thanks in part to more competitively priced exports as well as a surge in oil and gas prices (see Figure 1).

Russian Gross Domestic Product Growth Rates (percentage)									
1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
-12.6	-4.1	-4.9	0	-5.0	3.2	9	5.5	4	7.3
Russian Defense Spending as a Percentage of Gross Domestic Product									
1998		1999		2000		2001		2002/2003	
3.1		3.5		3.6		3.8		unavailable	

Figure 1. Russian GDP and Defense Spending Growth.³⁰

As expected, its defense outlays have also spiked, expanding by about 44 percent between 1998 and 2001. In fact, Russia's military spending actually outpaced its economic growth in the same three-year period, jumping from 3.1 to 3.8 percent of gross domestic product. More recently released plans show Russia's 2004 defense budget up nearly 20 percent from last year, and official comments suggest this upward trend will continue.³¹ Moscow could use the extra funds to help dismantle its weapon stockpiles faster, but Kremlin contributions to the effort are flat. One analysis of Russia's defense budget estimates that its annual disarmament and nonproliferation spending increased by just 8 billion rubles during the high-growth period between 1999 and 2002, while total annual defense spending rose over 170 billion.³²

Instead, Moscow is upgrading its strategic forces by modernizing old weapon systems and creating new ones, including those that will, in the words of President Vladimir Putin, "ensure the defense capability of Russia and its allies in the long term."³³ While the modernization program does not point to a new arms race between Washington and Moscow, Russia's spending priorities counteract security gains to the United States accrued through the CTR and NN programs, and conflict with its responsibility to help finance its own disarmament.

A factory in Votkinsk is producing the SS-27 *Topol-M*, a 7,000-plus-mile range ICBM the Pentagon judges will be more capable than earlier models. Now deployed in silos in three regiments (30 missiles), the road-mobile version of the SS-27, carried in a canister on a new eight-axle transporter-erector-launcher, was flight-tested for the first time in 2000.³⁴ Reportedly a priority item in Russia's opaque 2003 defense budget, the advanced missile may ultimately be equipped with multiple warheads, possibly new "hypersound-speed, high-precision" ones Putin says can "adjust their altitude and course as they travel" in order to defeat missile defenses.³⁵ Moscow, which the Defense Department reports "has other missiles planned for deployment in the 21st century," recently bought from Ukraine 30 more slightly used SS-19 *Stilletos*, confirming its plan to delay retiring this powerful rocket that can carry six nuclear warheads.³⁶ Russia has said it will similarly extend the life of 154 of the

infamous SS-18 *Satan* and at least one division of the train-mounted SS-24 *Scalpel*, both ICBMs deployable with ten large nuclear warheads.³⁷ For the record, Russia has approximately 700 long-range missiles that can deliver some 3,000 nuclear warheads to anywhere in the world.³⁸

More strategic bombers are on the way, too. In 2002 Moscow announced plans to modernize all of its Tu-160 *Blackjack* long-range bombers, each capable of delivering a dozen 200-kiloton nuclear-tipped cruise missiles, and will add three more to its fleet.³⁹ Its air force is simultaneously re-vamping its cruise missile inventory, with a Russian company working on the long-range, nuclear-armed Kh-102 for the *Blackjack* and the older Tu-95 *Bear*. The standoff ground-attack weapon's conventional model, the Kh-101, was apparently test-launched as early as October 1998 from a *Bear*, and delivery to the air force may have already begun.⁴⁰ Russia now has about 80 heavy bombers and, judging from a recently released Defense Ministry doctrine, probably wants to sustain such a fleet.⁴¹

Russia also plans to build at least three new *Borey*-class ballistic missile submarines that will be the mainstay of its sea-based nuclear deterrent. The first boat, *Yuri Dolgoruky*, named for Moscow's 12th-century founder, is expected to be launched in 2005 and enter service in 2008. In March the Sevmash shipyard in Severodvinsk held the keel-laying ceremony for the second boat of this class, *Alexander Nevsky*, namesake of a 13th-century national hero credited with saving Russia from Western domination. The fourth-generation submarine's superior screw propeller will reportedly make it faster, with a greater range of detection of enemy ships than earlier Russian models thanks to an improved hydroacoustic complex.⁴² The *Alexander Nevsky* is considered a transitional design between the *Yuri Dolgoruky* prototype and future *Borey*-class boats that a shipyard official said will make them less expensive and faster to build.⁴³

The price tag for each ballistic missile sub—or “boomer”—sometimes unofficially estimated at about \$1.5 to \$2 billion, does not include the cost of developing an improved submarine-launched ballistic missile, likely a naval version of the *Topol-M*. The new missile is reportedly undergoing sea trials on a *Typhoon*-class submarine prior to installation on the three *Boreys*, all of which are scheduled to be operational by 2010.⁴⁴ Russia also plans to modernize its future naval strategic force with an improved version of the liquid-propelled, ten-warhead SS-N-23 *Sineva*, likely to be deployed on the navy's seven existing *Delfin*-class submarines.⁴⁵ Today, Russia owns 320 nuclear-tipped missiles for 20 submarines, 13 of which are declared operational.⁴⁶

Secret work on massive subterranean facilities may represent the greatest misuse of Russian funds. The largest, a complex with millions of square feet inside Yamantau Mountain in the southern Urals 850 miles east

of Moscow, is served by a railroad and a modern highway, and at one point, a former US Strategic Command chief estimated, housed at least 20,000 workers in newly fashioned cities.⁴⁷ Perhaps large enough to shelter 60,000 people for months on end, the facility is reportedly outfitted with a special air filtration system designed to withstand a nuclear, chemical, or biological attack as well as a nuclear weapon command and control center.⁴⁸ Unnamed officials have speculated that Russia could also use it for illegal weapons production and storage.⁴⁹ (Toward the end of the Cold War, the Soviet Union used secret underground bases in several Eastern European countries to conceal over 70 mobile-launched SS-23 *Spider* missiles in violation of the 1987 Intermediate-Range Nuclear Forces Treaty, which required the destruction of all such weapons.)

Anonymous US intelligence sources say the Yamantau Mountain project alone has cost Russia some \$6 billion since 1991⁵⁰—roughly the same amount the Defense Department has spent on the Cooperative Threat Reduction program. A separate facility at nearby Kosvinsky Mountain is believed to be a Russian version of the Cheyenne Mountain Operations Center, but, unlike the 1950s-era US command post, one capable of surviving a modern thermonuclear weapon assault. Back in Moscow, more leaked intelligence reveals, among other projects, a secret subway system designed to spirit Russian officials 40 miles out of the capital in the event of a nuclear war.⁵¹ In total, the Russian government may have as many as 200 additional deep underground sites in varying degrees of construction or modernization, all closed to US officials.⁵²

These strategic modernization efforts work against the CTR program, which was launched after all to enhance US security by eliminating as many of Russia's long-range nuclear weapon systems as possible. Coupled with Moscow's unwillingness to hand over additional ballistic missile submarines for dismantling, they also confirm an ill-considered Kremlin directive to preserve a three-pronged nuclear deterrent, including a robust seaborne leg costing billions of dollars. In mid-2001, the Russian navy's commander-in-chief said that 12 strategic nuclear submarines with ballistic missiles represent the minimum necessary force structure,⁵³ theoretically allowing Moscow to keep several boats under way at any one time. Nine months later, following a bureaucratic row over Russia's future strategic force structure, a Ministry of Defense spokesman acknowledged that funding "priorities are being given to the naval component in the [nuclear] triad in all of [Moscow's] prospective plans for military construction."⁵⁴ If true, a decision to pour money into a large naval deterrent has real resource implications—the \$2 billion bill for a single *Borey*-class submarine is roughly the size of annual US-Russia nonproliferation programs. By comparison, the

***“In spite of past and potential successes,
in many respects US disarmament efforts
in Russia are failing.”***

US Navy, which has extended the service life of its *Ohio*-class submarines from 30 to 44 years and has no plans for a new boomer, will have 14 of the Trident missile boats by 2012, with two of these in overhaul at any time. France and the United Kingdom each rely on just four submarines for their independent nuclear deterrents.

With the overall maintenance of a naval warhead an estimated 40 percent more expensive than a land-based warhead, it is unclear why Russia has decided to revitalize its ballistic missile submarine fleet instead of simply focusing on the lifespan of its ICBM and bomber legs.⁵⁵ One possible reason is Moscow’s traditional insistence on strategic parity with the United States; another could be an old-fashioned concern over shipbuilding jobs. Ballistic missile submarines are attractive because of their stealth, but Russia’s rail-mounted *Scalpels* and road-mobile SS-25 *Sickles* and *Topol-Ms* could also survive a nuclear first strike. Of course, Russia is entitled to upgrade and modernize its strategic nuclear forces, and Moscow presumably hopes to preserve its ailing weapons industries and national prestige. To understand, though, is not necessarily to forgive, and Russia’s conscious decision to vigorously invest in new ballistic missile submarines and new long-range bombers and new ICBMs and gigantic bomb shelters, but not in ongoing dismantlement projects, raises serious questions about its willingness to properly prioritize its growing economic resources.

Poor spending priorities are having their effect. For example, by Russia’s own count, it allocated only 5.5 billion rubles for chemical weapons destruction activities in 2003, just one-third of the program’s requirements and only 45 percent of the amount stipulated for that year. The 2004 budget is even worse, providing 5.4 billion rubles for chemical demilitarization programs, less than 47 percent of the planned funds. According to Victor Kholstov, head of the administering Russian Munitions Agency, “The overall funding gap in the program for the destruction of chemical weapons in Russia in recent years has come to 18 billion rubles.”⁵⁶ Since 1993 Moscow has obligated about \$95 million for chemical weapons destruction efforts, and GAO estimates that as a result of the meager contributions, at the current

rate Russia will not have destroyed its 40,000-ton declared stockpile until 2027, 15 years past the Chemical Weapons Convention deadline;⁵⁷ outside experts say it will take longer. Russia's ill-considered priorities have also cost the US government. For instance, GAO has concluded that Russian funding shortfalls have increased the aforementioned Mayak facility's estimated cost to the United States by \$138 million, deferred construction of its two planned fissile material storage buildings, and delayed its initial availability by about three years.⁵⁸

Russian Overseas Proliferation

Russia's ongoing assistance to other states' illegal weapons of mass destruction programs also raises questions about its intentions. Despite ostensible progress toward creating a tighter legal and bureaucratic framework for export controls, Russia continues to leak to rogue states "dual-use" technology and components—goods functional in both legitimate and illegal industries. Iran has benefited perhaps the most from this steady tech flow. In the first half of 2003 (the latest available reporting period), the US intelligence community judged that Russian entities "continued to supply a variety of ballistic missile-related goods and technical know-how" to potential adversaries of the United States, including Iran.⁵⁹ Such transfers, the CIA estimated, have "enabled emerging missile states to accelerate the development timelines for their existing programs . . . and lay the groundwork for the expansion of domestic infrastructures to potentially accommodate even more capable and longer range future systems."⁶⁰

Iran's acquisition of technology and materials from Russian entities, for example, helped Tehran accelerate the development of its 800-mile range *Shahab-3*, a few of which are likely available for use in a conflict, while continuing assistance probably supports the fundamentalist regime's efforts to build a self-sufficient production capability as well as develop newer missiles.⁶¹ Toward this end, Iran's defense minister has publicly acknowledged the development of a *Shahab-4* ballistic missile and is pursuing a progressively longer-range *Shahab-5*, which could have intermediate-range capabilities (about 2,000 to 3,500 miles).⁶² Such support is neither novel nor unique. Since at least 1997—two years after Moscow became a formal member of the forbidding Missile Technology Control Regime—testing equipment and components, including specialty steels and alloys, special graphite, guidance technology like gyroscopes, laser equipment, machine tools, and rocket engines and fuel technology have all found their way to Iran from Russia.⁶³ Moreover, the CIA judges that Russia remains a "key source" of biotechnology, chemicals, and related expertise for countries with active chemical and biological weapon programs, such as Iran and Syria.⁶⁴

Also calling into question Moscow's commitment to basic nonproliferation principles is its overt nuclear assistance to Iran's 1,000-megawatt, light-water reactor project at Bushehr, which would be capable of producing enough plutonium to construct approximately 35 nuclear weapons annually. In 1995, Iran signed an \$800-million deal with Russia to complete work on it originally begun by Germany. Tehran insists (and Moscow claims to believe) that the reactor is strictly for civil energy purposes, but there is no reason for a country as rich in oil and natural gas as Iran to spend billions of dollars to establish its stated goal of a complete nuclear fuel cycle—the ability to build bombs without importing nuclear material. The gas Iran flares off every year is worth considerably more than the price it is paying for the Bushehr reactor,⁶⁵ one of four nuclear efforts under way that could manufacture plutonium for weapons. In fact, Iran flares more gas annually than the equivalent energy its hoped-for reactors would produce.

There also is no reason for Iran to make weapons-grade uranium in undeclared facilities and without international safeguards. In late 2003, after detecting traces of highly enriched uranium—matter with no peaceful purpose in Iran—at a secret, unfinished pilot centrifuge enrichment plant in Natanz, the International Atomic Energy Agency (IAEA) reported that Tehran is trying to produce material that can be used in atomic bombs, a violation of its Nuclear Nonproliferation Treaty commitments.⁶⁶ Upon completion, the Natanz pilot plant could produce 10 to 12 kilograms of weapons-grade uranium per year, about half of what is needed for a bomb; however, a commercial facility on the same site could annually generate as much as 400 to 500 kilograms of weapons-grade material, enough for 15 to 20.⁶⁷ Shortly after the UN affiliate's determination, diplomats revealed that the IAEA had identified Russia (as well as China and Pakistan) as probable suppliers of some of the technology Iran used to secretly enrich uranium under its suspected nuclear weapons program.⁶⁸ Tehran agreed in November 2003 to suspend its enrichment-related activities, but then indicated it would honor existing contracts to buy more domestically-produced centrifuges.⁶⁹

Poorly executed export control laws may account for some, though certainly not all, of Russia's illegal dual-use chemical, biological, and missile-related transfers. President Putin is correct when he says that Russia lacks a "coherent system" for nonproliferation, and "lax enforcement remain[s] a serious concern" of the CIA;⁷⁰ but Moscow's casual nuclear sales, particularly its tacit support for Tehran's nuclear weapons program, are the product of high-level policy decisions, not bureaucratic inexperience and laziness. In May 2000 Putin amended the presidential decree on nuclear exports to allow Russia in certain cases to transfer nuclear materials, technology, and equipment to countries like Iran and Syria that do not have full-scope safeguards under the

Requirement of Russia	Status
1. Making a substantial investment of its own resources for dismantling and destroying WMD.	Russia has reneged on agreements to fund some individual programs. Its contributions to other programs remain anemic at the same time it has increased defense spending.
2. Forgoing any military modernization that exceeds legitimate defense requirements or is designed to replace destroyed WMD.	Russia is building ballistic missile submarines and an expensive new ICBM designed against the United States—the SS-27 <i>Topol-M</i> —while reportedly continuing work on a vast, multibillion-dollar network of underground bunkers, subways, and command posts designed to help Russia’s leadership wage and survive a nuclear war. Subterranean facilities under construction in the Ural Mountains alone cover a territory as large as the area inside the Washington, DC, Beltway.
3. Forgoing the use of fissile materials and other components from destroyed nuclear weapons in new ones.	The United States has no way of knowing what Russia is doing with some of its dismantled nuclear weapons because of access problems. Ongoing talks with Moscow have failed to yield more transparency.
4. Facilitating the US verification of weapons destruction activities using CTR funds.	Russia does not allow American officials into many relevant sites, so the US cannot confirm that much of its disarmament aid is being used appropriately.
5. Complying with all relevant arms control agreements.	The United States cannot verify that Russia is in compliance with the Chemical Weapons Convention and the Biological Weapons Convention. Moscow is known to maintain an offensive biological weapons program.
6. Observing internationally recognized human rights, including the protection of minorities.	The Bush and Clinton Administrations have criticized Russia’s human rights record in Chechnya, with the State Department reporting that federal security forces there have “demonstrated little respect for basic human rights.”

Figure 2. Status of the Cooperative Threat Reduction Certification Process.⁷¹

IAEA. Publicly, Moscow has shrugged off suggestions that Iran’s nuclear ambitions are anything but pure, while Kremlin officials hint that the well-being of Russia’s ailing nuclear industry will continue to trump Western proliferation concerns.

What Should Disarmament Look Like?

In spite of past and potential successes, in many respects US disarmament efforts in Russia are failing. One way for Washington to ensure better transparency and cooperation is to require more dependable Russian contributions. The Assistant Secretary of Defense for International Security Policy testified to this effect in 2003, when he gave support to a certification process that theoretically makes US funding for the billion-dollar chemical weapons destruction facility at Shchuch’ye conditional on the fulfillment of six basic requirements, including substantial foreign support and annual Russian contributions of at least \$25 million to chemical weapons elimination. According to the DOD official:

The value of [the funding] condition is that when you have contributions from multiple parties—in this case the United States as well as an international consortium, as well as Russia itself, you have buy-in from all the parties. You have an investment from all the parties. And in any good business agreement, if everybody is investing in the program, I think you’ve got a greater chance the people will go forward with that project and they will see it through.⁷²

A similar certification process for overall CTR funding also exists. Although it, too, includes a national security waiver the President may use to dismiss the requirements, the procedure itself is important because it frames Russia’s broader failings within the overall disarmament effort. Figure 2 depicts the status of Russian CTR certification requirements.

Holding Russia to a higher standard is not unreasonable. When properly motivated, Moscow has mustered the willingness to help tackle certain nonproliferation risks. The United States, for instance, has been allowed to make considerable progress when Russian secrecy has not prevailed. DOE has installed security improvements at 33 sites where the Russian navy requested assistance, mostly uninteresting rail transfer points and operational locations such as those where warheads are mated to missiles or loaded onto submarines.⁷³ In fact, because of what GAO termed “generally good access,” by early 2003 DOE had completed work at over three-quarters (85 of 110) of the buildings at civilian and naval fuel storage spots—including one of the largest nonmilitary sites, on which the department constructed a single facility to replace nine ramshackle buildings that warehoused nuclear material.⁷⁴ In addition, when taken to task, Moscow found over \$25 million (a modest start) for chemical weapons destruction in three consecutive years. For Russia, nonproliferation successes are usually a question of will, not opportunity.

These positive examples, though, are not the norm. Russia’s track record looks even worse when compared to fellow ex-Soviet republics Ukraine and Kazakhstan, which truly wanted to dismantle their leftover weapons of mass destruction using international assistance. In the run-up to Operation Iraqi Freedom, the White House identified three common elements to countries that have decided to disarm:

- The decision to disarm is made at the highest political level;
- The regime puts in place national initiatives to dismantle weapons and infrastructure; and
- The regime fully cooperates with international efforts to implement and verify disarmament; its behavior is transparent, not secretive.⁷⁵

The White House notes later in the same report, “The true measure of cooperation is to answer questions without being asked.”⁷⁶ We are nowhere close to this standard in Russia.

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