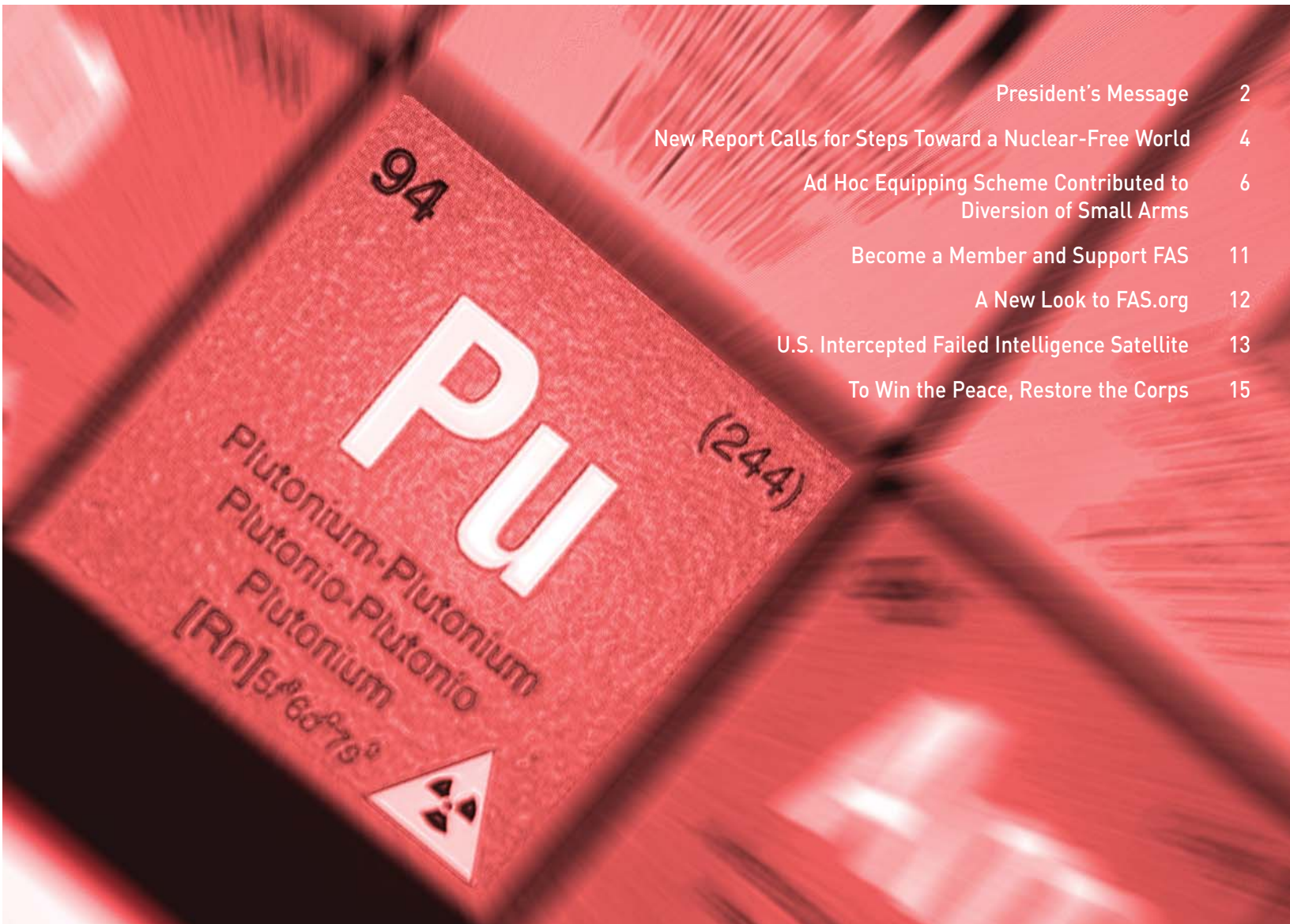


Public Interest Report

THE FEDERATION OF AMERICAN SCIENTISTS

Volume 61, Number 1 Spring 2008



President's Message	2
New Report Calls for Steps Toward a Nuclear-Free World	4
Ad Hoc Equipping Scheme Contributed to Diversion of Small Arms	6
Become a Member and Support FAS	11
A New Look to FAS.org	12
U.S. Intercepted Failed Intelligence Satellite	13
To Win the Peace, Restore the Corps	15

TOWARD TRUE SECURITY

FAS and the Natural Resources Defense Council published a report that calls for the immediate declaration that the sole mission of all U.S. nuclear weapons is to deter a nuclear attack, take all nuclear weapons off launch-ready alert, and reduce the U.S. arsenal to a total of 1000 nuclear warheads. The PDF of the report is located at http://www.fas.org/press/news/2008/feb_toward_true_security.html.
More on page 4.

AD HOC SCHEME CONTRIBUTED TO DIVERSION OF SMALL ARMS

At the outbreak of the insurgency in Iraq, weapons were rapidly transferred to the Iraqi Security Forces using an ad-hoc security program with no clear accountability requirements. These weak standards contributed to the diversion of weapons to unintended users within Iraq and outside its borders. Katarzyna Bzdak reports on the poor preparation by the U.S. for the post-war period in Iraq.
More on page 6.

U.S. INTERCEPTED SPY SATELLITE

While the Bush administration justified the interception on the basis of public safety, there was virtually no mention of the political consequences or the arms control implications of the United States conducting its first anti-missile test in more than two decades. The U.S. and other space-faring nations should be working to ban anti-satellite weapons.
More on page 13.

About FAS

The Federation of American Scientists (FAS), founded on 8 December 1945 as the Federation of Atomic Scientists by Manhattan Project scientists, works to ensure that advances in science are used to build a secure, rewarding, environmentally sustainable future for all people by conducting research and advocacy on science public policy issues. Current weapons nonproliferation issues range from nuclear disarmament to biological and chemical weapons control to monitoring conventional arms sales and space policy. FAS also promotes learning technologies and limits on government secrecy. FAS is a tax-exempt, tax-deductible 501(c)(3) organization.

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Phone 202.546.3300
Fax 202.675.1010
E-mail fas@fas.org.

EDITORIAL STAFF

Editor: Henry Kelly
Managing Editor: Monica A. Amarelo

PRESIDENT'S MESSAGE**The Risks of Maintaining
the Nuclear Status Quo
Are Very Real**

When the Secretaries of the Air Force and Navy receive an urgent directive from the Secretary of Defense instructing them to “to undertake a comprehensive review and physical inventory by serial number of all nuclear weapons and nuclear weapons-related materials under the possession or custody of your respective military department or agency” it’s hard to avoid the impression that the U.S. nuclear program is not being managed by the A-team. The inventory is going to take a lot of work. The United States has 4,075 operational nuclear weapons and 5,400 in a reserve stockpile. And there are huge inventories of associated equipment. (Worldwide there are 31 thousand nuclear weapons today – 94 percent owned by the United States and Russia, and the rest owned by six other countries.

The March 26 directive was prompted by the astonishing discovery that some of this associated equipment—four highly classified Mark-12 fuses for the weapons carried by Minuteman missiles—was mistakenly sent to Taiwan as helicopter batteries. This debacle comes on top of news last year that six W80-1 nuclear warheads capable of yields up to 150 kilotons were mistakenly flown across the country—and the mistake went unnoticed for a full day. Hans Kristensen of FAS found that there were 237 “Dull Sword” incidents involving mistaken handling of nuclear weapon equipment since 2001.

And we’ve all but forgotten the fiascos that convulsed Los Alamos National Lab a few years ago. There were at least three incidents of missing computer disks filled with sensitive design information with the most recent insult being the discovery of weapons information during a raid on a

nearby methamphetamine lab. The Defense Department is quick to point out that no one was in immediate danger because of these incidents. What they do not point out is that, in spite of enormous precautions, mistakes are made even with the most dangerous and sensitive equipment.

The most frightening risks, of course, lie in the security of the command and control systems used by the United States and Russia to give instructions to the weapons that they maintain ready to launch in seconds. The U.S. has 776 weapons in this status and the Russians 629. Several frightening stories have emerged over the years chronicling alerts triggered by false alarms. In 1995 the Russian program went to full alert—and President Yeltsin’s “nuclear suitcase” activated—because of an alarm generated by a Norwegian research rocket. It’s become increasingly difficult to get a clear picture of the Russian measures for physical protection of their materials or the reliability of their communication system. U.S. help through the Cooperative Threat Reduction and other programs have greatly reduced the risk of physical diversion but there are continued reports of attempts to steal or divert Russian fissionable materials. There’s certainly reason to believe that the security of antiquated communication networks is at increasing risk to error and potentially malicious hacking.

What’s clear from all this is that the risks of maintaining the nuclear status quo are very real. The core question is whether the risks are worth the benefits gained. There is growing bipartisan consensus that they are not.

Building on Ronald Reagan’s observa-

tion that nuclear weapons are "...totally irrational, totally inhumane, good for nothing but killing, possibly destructive of life on earth and civilization" a path-breaking 2007 article in the *Wall Street Journal* by George Shultz, William Perry, Henry Kissinger, and Sam Nunn outlined the "tremendous dangers" presented by nuclear weapons and concluded that "Reassertion of the vision of a world free of nuclear weapons and practical measures toward achieving that goal would be, and would be perceived as, a bold initiative consistent with America's moral heritage. The effort could have a profoundly positive impact on the security of future generations." A recent meeting sponsored by the four authors at the Hoover Institution of Stanford resulted in another *Journal* article by the four and an additional set of proposals.

In parallel with this work, FAS, The Natural Resources Defense Council, and the Union of Concerned Scientists released an updated version of *Toward True Security: Ten Steps the Next President Should Take to Transform U.S. Nuclear Weapons Policy*, which was first published in 2001. While the recommendations are not identical to those of the Hoover Institution, there is a remarkable degree of overlap—including steps to reduce the risk of launches from false warnings, reintroducing the Comprehensive Test Ban Treaty, steps aimed at the elimination of short range nuclear weapons, stopping the production of fissionable materials worldwide, and substantially reducing the size of nuclear arsenals.

This broad bipartisan consensus, together with the opportunity presented by having an American president willing to look at the issue with fresh eyes, presents a rare opportunity to make progress in one of the most important and politically hazardous areas of U.S. and world security policy. Nuclear weapons policy in the U.S. has been suspended in a strange floating

world for at least a decade. Once the crown jewels of U.S. security, it has drifted with increasingly strained efforts to explain the role and mission of any U.S. nuclear weapons in today's world given the overwhelming U.S. superiority in conventional weaponry – let alone explain why we could conceivably need 10 thousand wantons. Trapped with increasingly unconvincing strategic justification, the programs are fighting to avoid errors generated by what must be mind-warping boredom and inaction. The disastrous timing of the debate over the Comprehensive Test Ban Treaty—which followed hard upon the Senate's failure to remove President Clinton from office—allowed the rawest kind of politics to dominate what could have been a reasoned debate about U.S. nuclear policy. The scars left by this process, coupled with old-fashioned pork barrel politics, have protected the programs from serious scrutiny in spite of the fact that they have been unable to convince serious security analysts of either party that they have a clear mission – particularly in their current form.

Here's what should happen:

We should work to create a strong bipartisan consensus on the need to dramatically reform U.S. nuclear posture and rebuild the international coalition on non-proliferation. The Senate is critical for this. Partisan wrangling over the core principles would be disastrous.

The new president should undertake immediate, unilateral steps that could meet the Shultz, Kissinger, Perry, Nunn objective of being a "bold initiative consistent with America's moral heritage". This is essential for the United States to be taken seriously in international debates after eight years where our reputation as a moral leader has been badly damaged. The ten steps outlined in *Toward True Security* would be an excellent start. Of the steps, an ability to move seriously toward a CTB would be the most difficult but create the strongest impression

that U.S. attitudes have changed.

Immediately begin work to replace the Strategic Arms Reduction Treaty scheduled to expire on December 5, 2009 with an agreement that would move toward total inventories of nuclear weapons far below the 1000 recommended as a unilateral U.S. step.

As an initial step toward building an aggressive Nuclear Non-Proliferation Treaty (NNPT) that could move toward a goal of zero nuclear weapons worldwide, the United States should announce that it is willing to put its entire nuclear fuel cycle under international control and commit to a complete cessation of production of fissionable material under an acceptable non-proliferation regime.

Work with the current nuclear nations to rebuild the NNPT with a determination to fulfill the original intention of the treaty, which was to create a world with no nuclear weapons where civilian nuclear power could be used safely.

Find a bipartisan agreement on missile defense. This could include supporting R&D but making any further deployment contingent on (1) the defense system's capability being demonstrated through rigorous testing and (2) developing deployment plans in cooperation with other nuclear-armed states that are working to dramatically reduce their nuclear arsenals.

In Washington you often hear the last of a lengthy list of speakers justify his turn at the microphone by saying: "everything that needs to be said has been said but not everyone has said it". It's hard to find anything about nuclear policy that hasn't been said over and over again since 1946. But at this point it seems that most of the people with serious expertise in the field of nuclear policy are close to saying the same thing. This is an unprecedented moment. Let's not blow it.



FAS

New Report Calls for Steps Toward a Nuclear-Free World

By Ivan Oelrich, Vice President of the FAS Strategic Security Program

The Federation of American Scientists, along with the Natural Resources Defense Council (NRDC), the Union of Concerned Scientists (UCS), and independent analysts, have issued a report, *Toward True Security*, that calls for immediately declaring that the sole mission for U.S. nuclear weapons is to deter nuclear attack, for taking all nuclear weapons off launch-ready alert, and for reducing the U.S. nuclear arsenal to a total of 1000 warheads, including reserves, as an immediately achievable, secure step toward a nuclear-free world.

According to the report, the greatest nuclear dangers to the United States are an accidental, unauthorized or mistaken Russian nuclear attack, the spread of nuclear weapons to more nations, and the acquisition of nuclear materials by terrorists. U.S. nuclear weapons policy, the report concludes, fails to adequately address these risks and too often exacerbates them.

Toward True Security stresses the need to take U.S. nuclear weapons off hair-trigger

alert. "Increasing the amount of time required to launch U.S. weapons would ease Russian concerns about the vulnerability of its nuclear weapons," said Ivan Oelrich, a physicist and vice president for strategic security programs at FAS, and a report co-author. "That would give Russia the incentive to take its weapons off alert, reducing the risk of an accidental or unauthorized Russian launch on the U.S."

The report echoes the sentiments of former Secretaries of State George Shultz and Henry Kissinger, former Secretary of Defense William Perry, and former Senate Armed Services Chairman Sam Nunn. They outlined their prescription for embracing a "vision of a world free of nuclear weapons" in two *Wall Street Journal* opeds. The first ran in January 2007; the second ran last month.

"The next U.S. president can reduce the dangers that nuclear weapons pose to the United States and to the rest of the world by taking unilateral steps to lessen U.S. dependence on nuclear weapons," said Dr.

Lisbeth Gronlund, a physicist and co-director of the Union of Concerned Scientists' Global Security Program, and a report co-author. "It has been nearly two decades since the Berlin wall came down, but U.S. policy is still mired in Cold War thinking. It's time for a major change."

Toward True Security goes beyond the former government officials' recommendations by arguing that the United States should not wait for bilateral or multilateral agreements; it should take unilateral steps to begin the process. These steps, the report maintains, would make the United States safer, whether or not the eventual goal of a worldwide ban is ever achieved.

"Our next president should declare that the only purpose for U.S. nuclear weapons is to deter and, as a last resort, respond to the use of nuclear weapons by another country," said Christopher Paine, director of NRDC's Nuclear Program and a report co-author. "Making it clear that we will not use nuclear weapons first would reduce the incentive for other nations to acquire them to deter a potential U.S. first strike."

Dr. Richard Garwin, a National Medal of Science recipient, developer of the hydrogen bomb, and a report co-author, added that the U.S. stockpile would still provide a credible deterrent with significantly fewer warheads. "The U.S. should unilaterally cut its nuclear arsenal to no more than 1,000 nuclear warheads," he said. "There is no plausible threat that justifies maintaining more than a few hundred survivable nuclear weapons, and no reason to link the size of U.S. nuclear forces to those of any other country."

The report outlines 10 specific, unilateral steps the next president should take to transform U.S. nuclear policy, which would

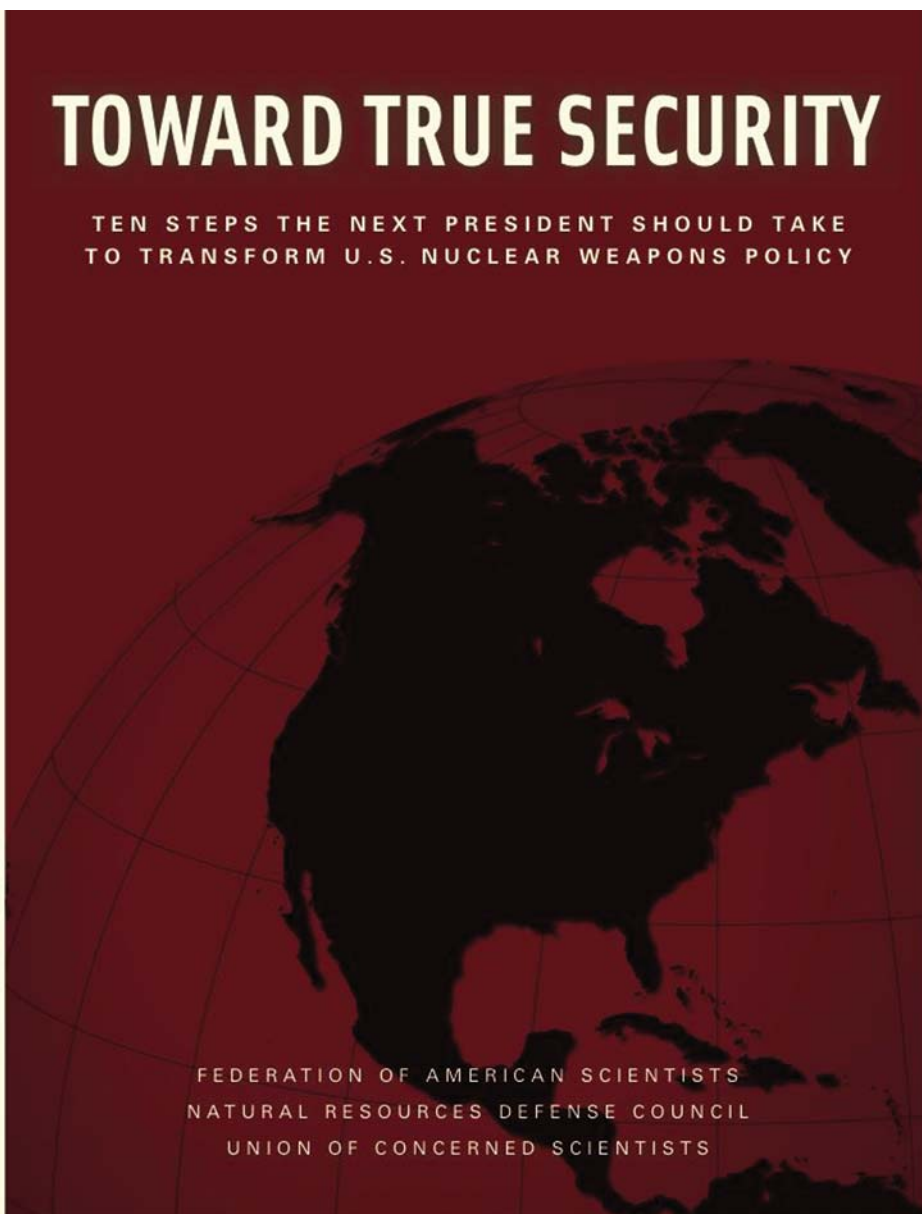


put the world on a path to eventually ban nuclear weapons, and demonstrate global leadership:

1. Declare that the sole purpose of U.S. nuclear weapons is to deter and, if necessary, respond to the use of nuclear weapons by another country.
2. Take nuclear weapons off alert, so they can be launched within days instead of minutes.
3. Eliminate preset targeting plans. Replace them with the capability to promptly develop a response tailored to a specific situation if nuclear weapons are used against the United States or its allies.
4. Promptly reduce the U.S. nuclear arsenal to no more than 1,000 warheads.
5. Halt all programs to develop and deploy new nuclear weapons.
6. Retire all U.S. nonstrategic (tactical) nuclear weapons.
7. Commit to making further cuts in the U.S. nuclear arsenal on a bilateral or multilateral basis.
8. Declare that the United States will not resume nuclear testing, and work with the Senate to ratify the Comprehensive Test Ban Treaty.
9. Halt further deployment of the ground-based missile defense system and drop any plans for a space-based missile defense system.
10. Reaffirm the U.S. commitment to pursue nuclear disarmament and present a plan to meet that goal.

A copy of the report is located at http://www.fas.org/press/news/2008/feb_toward_true_security.html.

FAS



Attention FAS Members

In our continuing effort to provide the FAS community with articles about national security, learning technologies and other areas of science and technology policy, we are inviting members to submit proposals for articles (maximum of 1,000 words). Selection of articles is at the discretion of the Editor and completed articles will be peer-reviewed.

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address, including email in all correspondence.

Proposals should be sent to:

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Federation of American Scientists

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or to mamarelo@fas.org.

6 Ad Hoc Equipping Scheme Contributed to Diversion of Small Arms

By Katarzyna Bzdak, Scoville Fellow at the Federation of American Scientists

U.S. failure to balance rapid equipment transfers with stringent accountability procedures is just one example of the poor preparation for the post-war period in Iraq. At the outbreak of the insurgency, weapons were rapidly transferred to the Iraqi Security Forces using ad-hoc security assistance programs that had neither clear nor stringent accountability requirements. As the insurgency took root and expanded, expediency became the primary consideration in the effort to develop the ISF.ⁱ

These weak accountability standards contributed to the diversion of weapons to unintended end users within Iraq and outside its borders. Several government watchdog and media groups reported on suspected cases of diversion and U.S. authorities made changes to strengthen accountability measures. These stricter measures slowed the pace of weapons transfers, leading Iraq to purchase weapons from countries like Serbia and China. More recently, the U.S. moved toward a happy medium between rapid weapons transfers and accountability standards, modifying traditional security assistance programs, namely the Foreign Military Sales program, to quickly move much needed equipment to the ISF.

At the end of major combat operations in Iraq, Multinational Force-Iraq (MNF-I)ⁱⁱ—the military command spearheading the U.S. effort in Iraq—and the Coalition Provisional Authority (CPA)—the transitional government that temporarily administered Iraq until June of 2004—were jointly responsible for training and equipping the security forces of Iraq, under the so-called “train-and-equip program”. After the collapse of many ISF forces in the spring of 2004, particularly during the battle of Fallujah, the U.S. changed the overall structure of MNF-I and greatly



increased the flow of resources to Iraqi military and police forces. The Department of Defense administered the program while the Multinational Security Transition Command-Iraq (MNSTC-I), a subordinate command of MNF-I established in June of 2004, implemented it on the ground.ⁱⁱⁱ Special funds—the Iraq Relief and Reconstruction Fund (IRRF) and later the Iraq Security Forces Fund (ISFF)—were established to sustain the train-and-equip program and to bolster ISF capabilities as quickly as possible.^{iv}

Due to conditions on the ground at the time, and perhaps because U.S. security assistance programs were not configured for wartime conditions, the train-and-equip program operated outside of traditional security assistance programs. DOD officials argued that “accountability requirements normally applicable to these programs did not apply,”^v and proceeded with a degree of flexibility in the program’s implementation. General

David Petraeus—then commander of MNSTC-I—admitted that rapidly equipping the Iraqi forces was considered more important than keeping thorough records of equipment distribution (which would have been legally required by established assistance programs).^{vi} As one U.S. Army Colonel put it: “We had folks getting killed because equipment wasn’t moving. Were there times when all the right forms were not signed? Probably. But we had a mission to do, and we were going to do it the best way we could at that time.”^{vii}

The ad-hoc nature of the train-and-equip program was problematic: recent reports from official United States Government agencies and news media outlets have exposed lax accountability standards for weapons transfers to the ISF, particularly with regard to small arms. According to some sources—including U.S. government officials, the Turkish government, and a number of news organizations—equipment paid for and delivered by the U.S. ended up in the hands of insurgent and criminal groups, both within Iraq and outside its borders. While most of the evidence remains uncorroborated or anecdotal, some diversions have been confirmed and the frequency of these reports suggests that the poor accountability standards practiced by U.S. forces had damaging consequences.

The Special Inspector General for Iraq Reconstruction (SIGIR), the Government Accountability Office (GAO), and the Inspector General of the Department of Defense (DODIG) have each issued reports highlighting the haphazard and inconsistent accounting procedures for weapons transferred to the ISF and revealed that thousands of weapons are simply unaccounted for. The overarching problem is that the materiel tracking system used to monitor

the train-and-equip program was poorly organized and poorly maintained. No centralized mechanism was established to track the distribution of weapons, serial numbers were sporadically recorded, and there was general confusion about which regulations applied to the program. These problems were compounded by a lack of sufficient staff dedicated to maintaining accountability procedures. The end result was a disorganized and inconsistent system.

The Special Inspector General's October 2006 audit first drew attention to the lack of accountability standards for arms transfers to the ISF, specifically for arms procured under the Iraq Relief and Reconstruction Fund.^{viii} SIGIR found weapons accountability to be "questionable" because the property books^{ix} maintained by the Multinational Security Transition Command-Iraq did not account for all weapons known to be procured by IRRF funds.^x The audit also found that the DOD and its subordinate commands failed to comply with the DOD's Small Arms Serialization Program (SASP), which requires a contractor to provide the serial numbers for small arms so that they can be entered into a centralized database for the purposes of tracking.^{xi}

In a July 2007 report, the GAO found similar problems in weapons transfer accountability procedures. Echoing the findings of the Special Inspector General, the GAO found that MNSTC-I failed to create and maintain a centralized database of equipment transferred to ISF prior to December 2005.^{xii} In the final tabulation, the property books failed to account for 190,000 weapons: 110,000 AK-47s and 80,000 pistols.^{xiii} The GAO report additionally found that DOD officials did not think they were required to conform to the normal requirements for small arms registration. In fact, there was general confusion amongst DOD officials as to whether (and what) other regulations applied to the train-and-equip program.^{xiv} These problems were compounded by criti-

cal personnel shortages: former MSNTC-I officials argued they had neither sufficient staff to devote to managing the accountability process for weapons transfers nor a fully operational equipment distribution network.^{xv} ^{xvi}

The DOD Inspector General's audit of the Iraq Security Forces Fund, released in November of 2007, concluded that MNSTC-I failed to establish sufficient controls and procedures for equipment transfers.^{xvii} More specifically, the Inspector General found that MNSTC-I did not maintain accountable property records, provide adequate oversight (MNSTC-I only had 1 auditor and 16 comptrollers for a FY2007 budget of \$5.5 billion, far fewer oversight staff than other commands with smaller budgets),^{xviii} or provide adequate resources for efficient management.^{xix}

While it is by no means certain that all or even most of these unaccounted for weapons fell into the wrong hands, many reports have surfaced revealing apparent diversions of weapons to unintended users, including insurgent groups.

Among the most prominent examples are reports in the Turkish and U.S. media that cite cases of American-supplied Glock 9-mm pistols ending up in the hands of the PKK and other criminal organizations in Turkey.^{xx} According to a 20 August 2007 Newsweek report, more than "1,000 [Glocks] had been taken from criminals, guerillas, terrorists and assassins all over the country," some of which were reportedly traced to the U.S. Mission in Iraq.^{xxi} The same report cited a "senior Turkish security official" who estimated that 20,000 Glocks had been transferred over the Iraq-Turkey border in the past three years.^{xxii} In August of 2007, the Pentagon confirmed that the serial numbers of some weapons discovered in Turkey matched those distributed to Iraqi police forces.^{xxiii} Department of Defense General Counsel William Haynes was dispatched to assuage Turkish concerns and assess the extent of these problems.^{xxiv}

A recent *New York Times* report based on interviews with over two dozen officials alleges that the supply chain to the ISF was

See *Small Arms*, p. 8



Small Arms, from p. 7

mired in chaos, and that many weapons supplied by the U.S. were sold for private gain by corrupt officials involved in the process. According to the *Times*, weapons from a profiled warehouse were distributed to “anybody with cash in hand,” including private contractors, non-U.S. security guards, and Iraqi militias.^{xxv} The article cites several U.S. military personnel that described the disappearance of entire batches of weapons. The DOD and the Department of Justice have launched criminal inquiries to assess these claims.

In a closed door hearing before the House Defense Committee on Appropriations, DOD Inspector General Claude Kicklighter confirmed that U.S. weapons were diverted.^{xxvi} Kicklighter admitted that “[w]e were also beginning to find some weapons that the U.S. had supplied to [Iraqi security forces] were in the hands and control of insurgent groups and U.S. contractors in Iraq.”^{xxvii} Kicklighter revealed that a contractor implicated in a bribery scheme in Kuwait ran a warehouse in Iraq where weapons for Iraq’s police were stored, although it is unclear whether any of these weapons were pilfered.^{xxviii}

Clearly, the train-and-equip program suffered from major failings in accountability methods and procedures. While conclusive links have not been established, these lax standards may have contributed to the diversion of weapons from the ISF. The scale of diversion is unknown, and perhaps unknowable.

To improve accountability, MNSTC-I drafted a more rigorous and consistent standard operating procedure for the distribution of equipment. The command is also attempting “to improve procedures for transfer and acceptance of real property” and setting up a section to ensure accurate and timely oversight of accounting processes documents.^{xxix} Per a recommendation from SIGIR, MNSTC-I is also establishing a serial numbers inventory system.^{xxx} MNSTC-I also noted it is entering receipts from weapons delivered prior to the establishment of the aforementioned system into the property books.^{xxxi}

Congress also weighed in on the matter, enacting several requirements for arms exports to Iraq in the most recent National Defense Authorization Act (January 2008). Section 1228 requires registration for all small arms; the establishment of an end-use monitoring program for all defense

articles of a lethal nature and the maintenance of detailed records of the origins, transport, and distribution of military equipment transferred under any of the U.S. funds or security assistance programs.^{xxxii} This legislation effectively covers the main critiques of the train-and-equip program from government oversight groups.

Perhaps most significantly, weapons for the Iraqi Security Forces are now procured through the Foreign Military Sales (FMS) program instead of ad-hoc funds. The Iraqi Ministry of Defense took over primary responsibility for weapons procurement in late 2005,^{xxxiii} utilizing the FMS program to purchase urgently needed equipment. In 2006, the Pentagon notified Congress that it made \$2.25 billion in proposed FMS agreements with Iraq; in 2007, this figure jumped to \$4.9 billion.^{xxxiv} While it is unclear exactly how procedures have changed on the ground (efforts to obtain this information from the Defense Security Cooperation Agency and MNSTC-I were unsuccessful), the FMS program is statutorily obligated to abide by DOD standards for arms transfers, which “specify accountability procedures for storing, protecting, transporting, and registering small arms and other sensitive items transferred to foreign governments,”^{xxxv} and require countries to “provide substantially the same degree of security afforded to [defense articles and services] by the United States.”^{xxxvi} The more stringent requirements associated with FMS are evident in the recent transfer of M-4 and M-16 rifles to the ISF. These rifles are being “matched to their users with a sophisticated database using fingerprints and retinal scans, as well as serial numbers.”^{xxxvii}

While the shift to the FMS program has assured more stringent safeguards in weapons transfers, it has increased delays and significantly slowed the flow of critical materials to the ISF. Iraqi President Jalal Talabani has argued that the U.S. FMS system is too slow at delivering weapons, noting in October 2007 that only one out of five Iraqi



police officers was armed.^{xxxviii} Defense Secretary Robert Gates and Commanding General in Iraq David Petraeus criticized delays in military deliveries, arguing that the FMS system was designed for peacetime transfers, not for the kind of emergency situation present in Iraq where rapid transfers are critical to ongoing combat efforts.^{xxxix} According to Senators John Warner and Carl Levin, military commanders in Iraq complained “of problems in the U.S. bureaucracy that are hindering the delivery of badly needed military equipment for Iraqi forces purchased with Iraqi funds.”^{xl}

Although timelines vary by product and by the urgency of a particular request, U.S. Air Force Lt. Col. Keith Muschalek estimated that it takes roughly a year from the acceptance offer (which occurs about 120 days after Iraqis send a letter of request) until merchandise is delivered.^{xli} Secretary Gates stated that only \$600 million of the equipment Iraq paid for has been delivered, leaving \$2 to \$3 billion in the pipeline.^{xlii} As Lt. Col. Muschalek stated, “one of the biggest problems is (Iraqi officials) understanding the FMS system and program.”^{xliii} Citing the delays in the FMS system, the Iraqi MOD recently signed a \$100 million deal with China for additional military material, including AK-47 assault rifles, and a \$230 million deal with Serbia to buy assault rifles, machine guns, anti-tank weapons, ammunition, and explosives.^{xliv}

In a letter to the House Armed Services Committee, Secretary Gates noted that the DOD has dramatically increased its security assistance staff (from 6 to about 70) in Iraq to expedite FMS procedures, that the Pentagon has developed a tracking system to establish common operating procedures for FMS transfers to Iraq, and that the State Department has expedited all sales to Iraq.^{xlv} The DOD has also opened a Budget, Execution, Acquisition and Requirements Operations Center at the Ministry of Defense in Iraq to increase staff involved in the procurement process and to centrally manage



the internal Iraq Ministry of Defense budget execution process (which should improve accountability of current contracts and FMS cases). Additionally, U.S. security assistance staff in Iraq has dispatched mobile teams to train Iraqi officials to use the FMS program more effectively and efficiently.^{xlvi}

Though the train-and-equip program initially proceeded haphazardly, U.S. authorities responded to the criticisms and critiques of the program, particularly as it related to weapons transfers, with increased accountability standards. The early failure to track weapons may have caused widespread diversions of arms to militias, insurgent groups, and other criminals. The scope of this problem will likely never be known.

Fortunately, the DOD, Congress, and the Multinational Transitional Command-Iraq all took steps to bolster accountability standards. Unfortunately, as the Special Inspector General for Iraq has pointed out, many of these procedures were established

or implemented after weapons transfers had already begun.^{xlvii} Though the damage done in Iraq may not easily be rectified, if at all, we can only hope that the lessons learned by using an ad-hoc equipping scheme will inform future U.S. methods.

i The ISF consists of Ministry of Defense (MOD) forces, the Iraqi Army, Special Operations Forces, the Navy, and the Air Force; and Ministry of the Interior (MOI) forces, namely the Iraqi Police forces, which include several functionally specified branches, like the National Police and the Border Enforcement Police.

ii Multinational Force-Iraq replaced the Combined Joint Task Force 7.

iii Until May of 2004, MSNTC-I was known as Combined Joint Task Force-7. See Government Accountability Office, Report to Congressional Leadership and Committees, *Securing, Stabilizing, and Rebuilding Iraq: Key Issues for Congressional Oversight* (GAO-07-308SP: 24 January 2007), p. 33.

iv The US has spent approximately \$19.2 billion dollars to develop the ISF from 2003 to March 2007, \$2.8 billion of which was spent specifically on the purchase and transport of equipment to the ISF. See: United States Government Accountability Office, Report to Congressional Committees, *Stabilizing Iraq: DOD Cannot Ensure that US-Funded Equipment has Reached Iraqi Security Forces* (GAO-07-711: July 2007), p. 1.

See *Small Arms*, p. 10

Small Arms, from p. 9

v United States Government Accountability Office, Report to Congressional Committees, *Stabilizing Iraq: DOD Cannot Ensure that US-Funded Equipment has Reached Iraqi Security Forces* (GAO-07-711: July 2007), introduction.

vi Josh White, "General Blames Clerical Errors in the Case of Missing Arms," *The Washington Post*, 8 August 2007.

vii Eric Schmitt and Ginger Thompson, "Broken Supply Channel Sent Arms for Iraq Astray," *The New York Times* (11 November 2007).

viii Interestingly, Senator John Warner, Chairman of the Senate Committee on Armed Services, commissioned SIGIR to report on the logistics capabilities of the ISF: a review of accountability procedures for weapons transfers to the ISF was not formally requested by any government agency.

ix These were essentially two Excel spreadsheets intended to record issues pertaining to MOD and MOI equipment (including weapons), which were first developed in July 2005. MSNTC-I personnel began entering equipment data into the property books at the end of 2005, relying on the file copies of original issue documents to account for weapons that were already transferred. MSNTC-I began to transfer the data from Excel to Access at the time of the audit. See: Office of the Special Inspector General for Iraq Reconstruction, *Iraqi Security Forces: Weapons Provided by the US Department of Defense Using the Iraq Relief and Reconstruction Fund* (SIGIR-06-033: 28 October 2006), p. 1.

x The property books for three of the twelve weapons types transferred under IRRF were inaccurate. IRRF funds were used to purchase 751 M1-F assault rifles (none of these rifles were listed in the MOD or MOI property books); 176,866 handguns (the property books only accounted for 163,386, a discrepancy of 13,180 firearms (over 7%); and 518 MP-5 machine guns (the property books only accounted for 419, a difference of 99 machine guns (about 19%). See: Office of the Special Inspector General for Iraq Reconstruction, *Iraqi Security Forces: Weapons Provided by the US Department of Defense Using the Iraq Relief and Reconstruction Fund* (SIGIR-06-033: 28 October 2006), p. 8.

xi Of the 370,000 IRRF-funded weapons, only 10,000 (about 2.7%) were registered with the SASP. SIGIR did find that MNSTC-I maintained file copies of documents that "appeared to contain the serial numbers of weapons issued to various ISF organizations." However, only a small fraction of these serial numbers were recorded in the property books: of the 505,093 weapons that were issued or warehoused, the serial numbers of 12,128 were recorded, about 2% of the total. See: Office of the Special Inspector General for Iraq Reconstruction, *Iraqi Security Forces: Weapons Provided by the US Department of Defense Using the Iraq Relief and Reconstruction Fund* (SIGIR-06-033: 28 October 2006), p. 9-10.

xii When the property book system was finally developed, efforts were made to recover past records and issuance data. This was a difficult task, since 355,000 weapons had already been distributed by September of 2005. See: United States Government Accountability Office, Report to Congressional Committees, *Stabilizing Iraq: DOD Cannot Ensure that US-Funded Equipment has Reached Iraqi Security Forces* (GAO-07-711: July 2007), 11.

xiii According to the former commander of MNSTC-I, 185,000 AK-47 assault rifles and 170,000 handguns were distributed to Iraqi Security Forces by September 2005. MNSTC-I property books, however, accounted for only 75,000 AK-47s and 90,000 pistols distributed in the same period. United States Government Accountability Office, Report to Congressional Committees, *Stabilizing Iraq: DOD Cannot Ensure that US-Funded Equipment has Reached Iraqi Security Forces* (GAO-07-711: July 2007), p. 11.

xiv The GAO also found that MNSTC-I failed, from the onset of the train-and-equip program, to "consistently [collect] supporting



records confirming the dates the equipment was received, the quantities of the equipment delivered, or the Iraqi units receiving the items." MNSTC-I has attempted to bolster the collection of these documents since June of 2006 (22 months after its establishment) but the GAO nonetheless found "continuing problems with missing and incomplete records" in a review of the January 2007 property books. See: United States Government Accountability Office, Report to Congressional Committees, *Stabilizing Iraq: DOD Cannot Ensure that US-Funded Equipment has Reached Iraqi Security Forces* (GAO-07-711: July 2007), introduction, 7.

xv United States Government Accountability Office, Report to Congressional Committees, *Stabilizing Iraq: DOD Cannot Ensure that US-Funded Equipment has Reached Iraqi Security Forces* (GAO-07-711: July 2007), 2-3.

xvi United States Government Accountability Office, Report to Congressional Committees, *Stabilizing Iraq: DOD Cannot Ensure that US-Funded Equipment has Reached Iraqi Security Forces* (GAO-07-711: July 2007), 9.

xvii The Inspector General found that an "end-to-end audit trail" for ISFF-procured equipment was impossible to establish because of inconsistencies in receiving reports, serial number recordings, hand receipts, and posting references (which are used to trace equipment back to the original obligation document, like a contract, purchase order, or invoice).^{xvii} In a review of two weapons contracts, the Inspector General found that "MNSTC-I could not prove that the ISF received 12,712 of 13,508 weapons procured"—the weapons that could be accounted had not yet been transferred to the ISF (they remained in a warehouse). See: Office of the Inspector General, United States Department of Defense, *Management of the Iraq Security Forces Fund in Southwest Asia – Phase III* (Report No. D-2008-026: 30 November 2007), 7-9.

xviii In comparison, the US Army Training and Doctrine Command, with an FY2007 budget of \$3.2 billion, had 8 auditors and 64 comptrollers; the US Army Forces Command, with an FY2007 budget of \$3.0 billion, had 6 auditors and 47 comptrollers; and the US Army Tank-Automotive and Armaments Command, Life Cycle Management, had 7 auditors and 45 comptrollers for an FY2007 budget of \$3.6 billion. See: Office of the Inspector General, United States Department of Defense, *Management of the Iraq Security Forces Fund in Southwest Asia – Phase III* (Report No. D-2008-026: 30 November 2007), iii.

xix Office of the Inspector General, United States Department of Defense, *Management of the Iraq Security Forces Fund in Southwest Asia – Phase III* (Report No. D-2008-026: 30 November 2007), 14.

xx See Christopher Dickey, "Iraq's Arms Bazaar; How Firearms Intended for Iraqi Security Forces are Winding Up in the Hands of Extremists Across the Region," *Newsweek*, 20 August 2007; David S. Cloud and Eric Schmitt, "U.S. Weapons, Given to Iraqis, Move to Turkey," *The New York Times*, 30 August 2007; "Turkey Confirms US Weapons Supplied to Iraqis, Pentagon Confirms," *Turkish Daily News*, 31 August 2007; "28 Guns Seized," *Turkish Daily News*, 8 August 2007; Sedat Gunec and Emine Kart, "Pentagon Official Visits Ankara for Talks on PKK Arms Claims," *Today's Zaman*, 27 July 2007; "Pentagon: We Don't Know the Whereabouts of 190,000 Weapons Sent to Iraq," *Today's Zaman*, 5 October 2007.

xxi Christopher Dickey, "Iraq's Arms Bazaar; How Firearms Intended for Iraqi Security Forces are Winding Up in the Hands of Extremists Across the Region," *Newsweek* (20 August 2007), p. 32.

xxii Christopher Dickey, "Iraq's Arms Bazaar; How Firearms Intended for Iraqi Security Forces are Winding Up in the Hands of Extremists Across the Region," *Newsweek* (20 August 2007), p. 32.

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xxvii Richard Lardner, "Flow of Weapons to Iraq Still a Problem," *AP*, 29 January 2008.

xxviii Richard Lardner, "Flow of Weapons to Iraq Still a Problem," *AP*, 29 January 2008.

xxix Office of the Inspector General, United States Department of Defense, *Management of the Iraq Security Forces Fund in Southwest Asia – Phase III* (Report No. D-2008-026: 30 November 2007), 37.

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xxx Office of the Special Inspector General for Iraq Reconstruction, *Iraqi Security Forces: Weapons Provided by the US Department of Defense Using the Iraq Relief and Reconstruction Fund* (SIGIR-06-033: 28 October 2006), p. 12.

xxxii Office of the Special Inspector General for Iraq Reconstruction, *Iraqi Security Forces: Weapons Provided by the US Department of Defense Using the Iraq Relief and Reconstruction Fund* (SIGIR-06-033: 28 October 2006), p. 12.

xxxiii US Congress, *National Defense Authorization Act for Fiscal Year 2008* (H.R. 4986: 3 January 2008), 375.

xxxiv Iraq also began to bear most of the costs of the train-and-equip program in general. As of September 2007, the Iraqi government has invested an additional \$16.6 billion of its own funds to develop the ISF. The Iraqi government's expenditures for the ISF exceeded US contributions for the first time in 2007, and MNSTC-I anticipates that Iraq will spend about \$11.6 billion on the ISF in 2008 alone. See: James Jones, Chairman of the Iraqi Security Forces Independent Assessment Commission, Testimony to House Armed Services Committee, US House of Representatives (6 September 2007), p. 19.

xxxv See the "Major Arms Sales Notifications" of the Defense Security Cooperation Agency's website for further information on these proposed sales: http://www.dsca.mil/PressReleases/36-b/36b_index.htm.

xxxvi United States Government Accountability Office, Report to Congressional Committees, *Stabilizing Iraq: DOD Cannot Ensure that US-Funded Equipment has Reached Iraqi Security Forces* (GAO-07-711: July 2007), 6.

xxxvii United States Defense Security Cooperation Agency, Security Assistance Management Manual, DOD 5105.38-M, p. 93.

xxxviii Paul Tait, "M-16s a Step Forward for Iraqi Forces, Says US," *Reuters*, 22 April 2007.

xxxix "US Looking to Speed Up Iraq Arms Deliveries Says Gates," *AFP*, 5 October 2007.

xl "US Looking to Speed Up Iraq Arms Deliveries Says Gates," *AFP*, 5 October 2007.

xli "Iraq Says US Behind in Arms Deliveries: Only a Fraction of \$2b Order Has Been Filled," *The Boston Globe*, 3 November 2007.

xlii Seaman William Selby, USN, "U.S. Foreign Military Sales Program Builds Momentum in Iraq," *American Forces Press Service*, 28 February 2008.

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xlviii Office of the Special Inspector General for Iraq Reconstruction, *Iraqi Security Forces: Weapons Provided by the US Department of Defense Using the Iraq Relief and Reconstruction Fund* (SIGIR-06-033: 28 October 2006), p. 12-13.

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FAS was among the first organizations to publish material online and the website is a premier destination on the internet (<http://www.fas.org>). The redesign is the first major renovation of the site since 2003.

The most obvious change is the look and feel. Most content is organized by the three main program areas – strategic security, information technologies and energy and the environment – and via the horizontal navigation along the top of the page. The new layout better organizes the site's hundred thousand pages and images to make it easier to find information. The new design also takes advantage of new technologies such as video stream.

The FAS website has grown since 1995 to provide a rich set of resources that is used by more than a million unique visitors a month. The site is a valuable resource for other organizations with almost 8,000 websites linking to the FAS.org homepage. FAS.org is often the only place to find documents and reports that were once widely available through other websites.

The new site is a work in progress. In the coming months new options and sections will be added to make it easier to share useful information on the FAS site. Please send your comments and suggestions to press@fas.org.

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U.S. Intercepted Failed Intelligence Satellite

By Ivan Oelrich, Vice President of the FAS Strategic Security Program

The United States intercepted a dying reconnaissance satellite with a missile launched from a Navy ship. The administration justified the intercept on the basis of public safety. That is a long stretch, indeed, and there was virtually no mention of the political consequences of the United States' conducting its first anti-satellite test in over two decades.

The United States, along with China, Russia, and other space-faring nations, should be working to ban anti-satellite weapons. Such a ban would work strongly in the best interests of the United States because we depend more, by far, than any

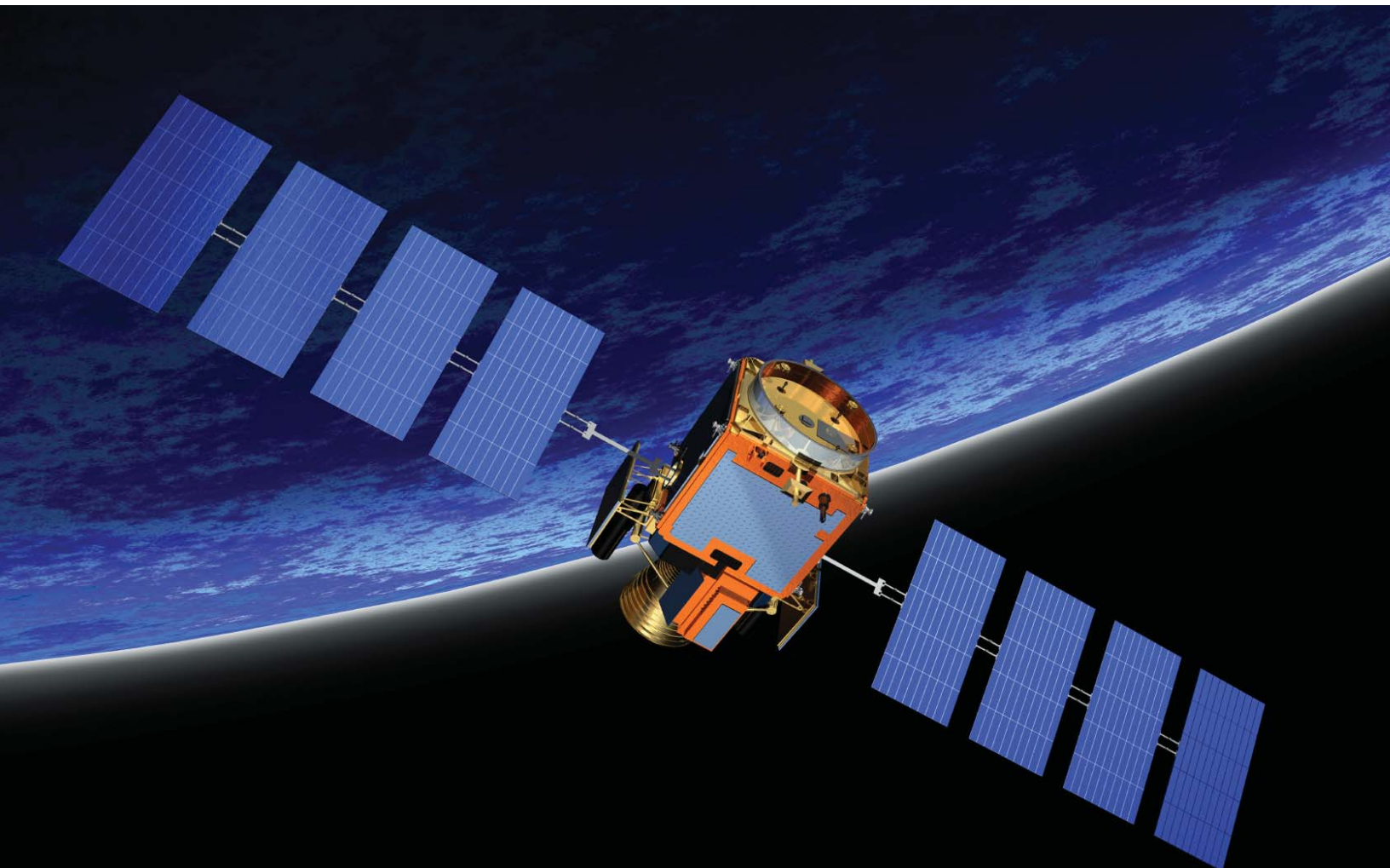
other nation on access to space for our economy and security. Any measure that reduces the threats to satellites will enhance American security. The test was a public relations bonanza, showing the public how a defensive missile can protect us from a—largely imaginary—danger from above.

In December 2006, the United States launched a 5000 pound spy satellite from the military space center at Vandenberg, California. Virtually everything about these satellites is highly classified. The government declined to name the manufacturer, much less give details about what it did. Most accounts assumed it was a photoreconnaissance

satellite. It was designated as US193.

It was successfully placed into a 220 mile high orbit but radio communication with the satellite was soon lost. At 220 miles, the Earth's atmosphere, while tenuous, still exerts some drag on a satellite the size of a small school bus that is pushing through it at 17,000 miles per hour. Reconnaissance satellites are normally placed in low orbits; they are just big cameras after all and you get better resolution in the pictures if the camera is closer to the thing it is photographing.

See *Satellite*, p. 14



Satellite, from p. 13

Reconnaissance satellites usually carry some propellant and small thrusting rockets, for three reasons. First, if there is a particular place on the Earth that the spy satellite needs to photograph, the orbit of the satellite will—eventually—bring the satellite right overhead but the intelligence analysts, the military, or the president might not be able to wait. So the satellite can use its propellant and rockets to nudge it a little one way or the other to shift its orbit enough to bring it over the desired spot on the Earth sooner rather than later. Second, because the satellite is in such a low orbit, it will lose

for a separate oxidizer and fuel. Just squirt some onto a catalyst in a reaction chamber and it decomposes, forming hot hydrogen and nitrogen gas that rush out a rocket nozzle, creating thrust.

The problem with US193 was that radio control was lost, the propellant was not used up, the satellite was about to reenter the atmosphere, and the propellant tank was still filled with a thousand pounds of hydrazine. There was a chance that the tank would not burn up on reentry, some chance it would land on a populated area, and some chance the hydrazine would injure someone. Hence the plan to intercept the satellite.

When the interceptor hit the satellite, it was not like a bullet hitting a car, punching a hole in the side and coming out the other side. The interceptor hit the satellite at about 18,000 miles per hour and the energy of the interceptor was far more than needed to melt and even vaporize the material of the interceptor. This happened so quickly it was as though it were an explosion. Shock waves traveled through the structure of the satellite and broke it into pieces, some large, some as small as dust.

But the interceptor did not “shoot down” the satellite. The satellite weighed 5000 pounds and the interceptor weighed 20 pounds. Even if the satellite broke up into pieces, those pieces would move in roughly the same direction as the satellite was moving, that is, in the same orbit. Some smaller pieces would encounter proportionately more air resistance and come down sooner than the satellite would have. But if the propellant tank broke free, the density of the propellant tank was higher than the average density of the satellite so the propellant tank by itself would stay up longer than the satellite by itself would have, had it remained whole.

So what is going on? When control of the satellite was first lost, the risk from the satellite was dismissed as trivial, not worth any real concern. Then we needed to “shoot it down.” I cannot attribute motives without being able to read minds but a normally skeptical person could be forgiven for at least suspecting that this satellite offered a chance for the Navy to test its missiles in an anti-satellite mode for the first time since the end of the Cold War. I have seen virtually no discussion of the arms control implications of this. Is the U.S. fueling an anti-satellite arms race? Who knows, but I don’t think anyone in this administration cares.

For more information please visit the Strategic Security Blog – <http://www.fas.org/blog/ssp>.

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“I cannot attribute motives without being able to read minds but a normally skeptical person could be forgiven for at least suspecting that this satellite offered a chance for the Navy to test its missiles in an anti-satellite mode for the first time since the end of the Cold War. I have seen virtually no discussion of the arms control implications of this.”

energy to air resistance and slowly come closer to the Earth. The rockets can be used as a booster to occasionally nudge the satellite a little higher to keep it in orbit. Third, when the propellant is almost gone and the satellite is doomed to reenter the atmosphere, the last bit of propellant can be used to intentionally slow the satellite and force it down, usually aiming for the Pacific Ocean where debris will fall harmlessly.

The propellant was hydrazine, a compound of hydrogen and nitrogen. It is not the most efficient propellant but is extremely simple to use. It is a monopropellant, which means it can be used by itself with no need

You Can’t “Shoot Down” a Satellite

Almost all press reports included some statement about how the Navy was going to “shoot down” the satellite. The image suggested a hunter with a shotgun shooting down a duck. Bang! The duck gets hit, its wings fold, and it falls to Earth. Not the way it works with a satellite.

This is a satellite; it is in orbit. It stays in orbit because of its momentum and the balance between the centrifugal force and the Earth’s gravity. It is not being “held up” the way an airplane’s wings hold it up in the air.

To Win the Peace, Restore the Corps

* Originally published by The Baltimore Sun on November 27, 2007.

By Arthur S. Obermayer and Kevin F. F. Quigley

The United States can win any war on the battlefield, but we have not learned how to win the peace. We are losing the fight to win over the people we are trying to help. But there is a way to right our course for the future - by looking to our past.

Overwhelming military superiority is not the key, because its use wreaks havoc and destroys lives. Moreover, our traditional public diplomacy efforts have not worked, with Karen Hughes the most recent government PR chief to resign after accomplishing very little.

The decline of the U.S. in world opinion demands that we find more effective ways to regain a leadership role. Primarily, we should aim to help people achieve better health, education, housing and jobs in countries that need it the most.

On that front, our nation has achieved some successes: the Marshall Plan to rebuild Europe after World War II, recovery efforts following the Indian Ocean tsunami of 2004, and aid in the wake of Pakistan's devastating earthquake two years ago (making Pakistan one of the very few nations where approval of the U.S. has risen in recent years). Now, however, only our military has the means to such ends.

U.S. foreign aid is primarily structured along impersonal, government-to-government lines, and most government agencies have proved ineffective working on a people-to-people level. The one government entity with a positive record in this area is the Peace Corps. But despite the Peace Corps' success since its inception in 1961, its budget has remained small.

President John F. Kennedy wanted 100,000 volunteers overseas within 10 years. Today - although 20 additional nations are seeking Peace Corps help and three times



as many volunteers apply as can be accommodated - budgetary limitations have kept the number of volunteers down to 8,000. However, there are 190,000 alumni, represented by the National Peace Corps Association. They yearn for continuing involvement in a mission that has transformed not only their lives and those of people they have helped but also their perspectives on the world.

Among the alumni is Connecticut Sen. Christopher J. Dodd, who served as a volunteer in the Dominican Republic. Based on that experience, he is sponsoring a bill to double the size of the Peace Corps. In the months after 9/11, Sen. John McCain of Arizona and President Bush both advocated major growth of the Peace Corps. Unfortunately, there was little follow-up.

Like Mr. Dodd, other alumni want to help now, and their expertise is invaluable. Most are mature leaders in business, education, government and the nonprofit world. Many are primed for a new career challenge that a managerial role in the Peace Corps could offer. They have the motivation to resist outside influences and to distinguish an expanded role for the Peace Corps from the political and bureaucratic vagaries of government agencies.

To have a significant impact, the Peace Corps needs to be at least 10 to 20 times larger. But even with renewed alumni participation, it cannot grow quickly enough on its own. Through its separate, distinct operation, it must enlist the vast array of nonprofits doing grassroots work abroad. They fall into three major categories: nongovernmental organizations, non-proselytizing faith-based groups, and universities. In addition to growing its own operations, the Peace Corps could also help fund these nonprofit efforts. There are thousands of American philanthropic initiatives from which it could select programs for expansion grants.

The time is right politically to broaden the scope and impact of the Peace Corps. The millions who donate to such charities represent a powerful constituency who would back the move. Its objectives are nonpartisan and should be supported by Republicans and Democrats.

In the media every day, everywhere, we are witness to suffering. As we see the conventional, military-based approach to conflict resolution failing, we must seek alternative means to ending wars and winning the peace. The cost of an expanded Peace Corps would be roughly 1 percent of our current military budget. Can we afford not to act promptly?

About the writers:

Arthur S. Obermayer is president of the Obermayer Foundation, which focuses on social justice issues. His e-mail is arthur@obermayer.us. Kevin F. F. Quigley is president of the National Peace Corps Association. His e-mail is president@rpcv.org.

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