

# THE DEFENSE MONITOR

The Newsletter of the Center for Defense Information

## GETTING TO ZERO: The Path to a World Without Nuclear Weapons

### U.S. Nuclear Forces and Conventional Force Alternatives

BY PHILIP E. COYLE, CDI SENIOR ADVISER AND TODD FINE, WSI PROGRAM ASSISTANT

**IN THEIR JANUARY 2007 OP-ED**, George Shultz, William Perry, Sam Nunn and Henry Kissinger advocated “A World Free of Nuclear Weapons.” To imagine a world without nuclear weapons means that the United States and the other nuclear powers can find a way to get rid of them. In other words: “Getting to zero.” But, how to reach “zero” is usually where the debate stalemates. With characteristic candor, Shultz himself admits he doesn’t know how to get to zero, and doubts if his colleagues do.

Nevertheless, even without the newly invigorated debate that Shultz *et al.* have engendered, the total number of operational U.S. weapons has been declining. In 2002, the United States counted roughly 6,000 nuclear weapons as operational. In 2007, the number of operational U.S. nuclear weapons had been reduced to about 3,800.

In 2012, in accordance with the Moscow Treaty, the United States will be permitted to have a force in the range of 1,700 to 2,200 operational weapons, as shown in the figure below.

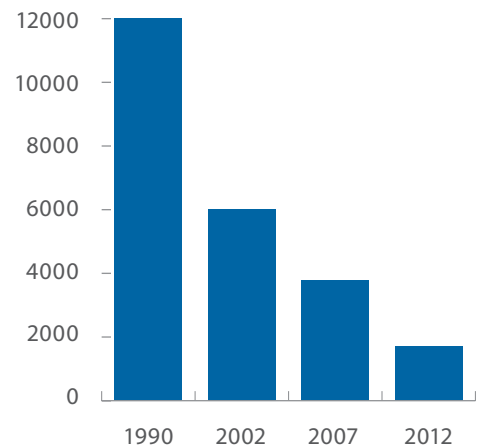
Although under the Moscow Treaty many weapons will be held in reserve, nuclear strategists have been fairly comfortable adjusting to lower figures and have not raised significant resistance. However, it is also important to note that a substantial part of the reductions under the treaty occur simply by “naming” nuclear weapons as being in reserve, not by actual dismantling. Thus, decision-makers and strategists can argue that they need to maintain a nuclear infrastructure that accommodates a reserve level much higher than the treaty limits.

Notably, for three decades Congress has supported the continuing

reductions in the stockpiles of U.S. nuclear weapons regardless of the political party in power.

Going beyond the Moscow Treaty reductions, nuclear strategists are entertaining prospects of lower and lower totals of nuclear weapons. A sum of 500 U.S. nuclear weapons seems to be emerging as a straw man, and various posture proposals with a 500-warhead figure and also 1,000 are being advocated.<sup>1</sup> The Fiscal Year

APPROXIMATE AND PROJECTED U.S. NUCLEAR WEAPONS STOCKPILES



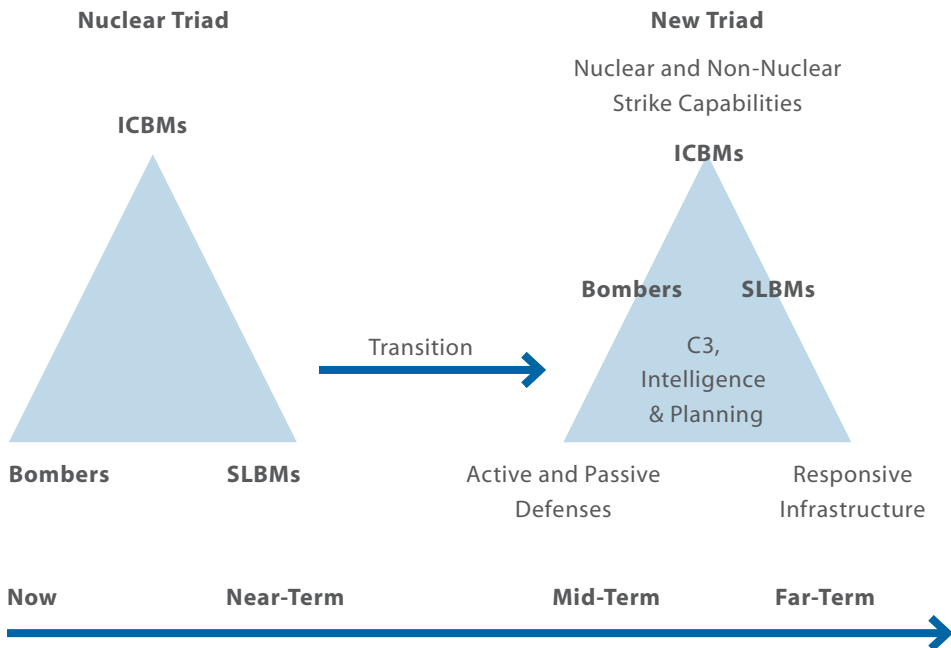
<sup>1</sup> The Drell-Goodby proposal is of a 500+500 force “of 500 operationally deployed nuclear warheads, plus 500 in a responsive force.” Sidney D. Drell and James E. Goodby, *What Are Nuclear Weapons For? Recommendations for Restructuring U.S. Strategic Nuclear Forces*, Arms Control Association, Revised and Updated October 2007, [http://www.armscontrol.org/pdf/20071104\\_Drell\\_Goodby\\_07\\_new.pdf](http://www.armscontrol.org/pdf/20071104_Drell_Goodby_07_new.pdf), p. v.

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IN MEMORIAM  
BOARD ADVISER  
PAUL NEWMAN

## THE NUCLEAR TRIAD AND THE NEW TRIAD



Source: <http://www.acq.osd.mil/ncbdp/nm/nuclearstockpile.html>

2007 Defense Authorization Act mandates two separate nuclear posture reviews that may affect future U.S. policy.<sup>2</sup> Yet recent posture proposals still don't persuasively articulate the contemporary missions of the American nuclear forces that might remain after further reductions. If many of the proposed missions for nuclear weapons are inconceivable or irrational, those missions will not justify the retention of nuclear weapons to carry them out.

As continued reductions occur, many long-held assumptions and analytical frameworks that undergird the U.S. nuclear weapons posture become more tenuous. Most critically, as the U.S. stockpile passes below 1,500 nuclear weapons to the next stage of 1,000 or even 500, the notion of a strategic triad may become

less meaningful. If the overall force becomes less capable of supporting massive retaliation strategies according to Cold War-style strategic operating plans, it becomes more illusory to contemplate the resilience of the traditional triad against overwhelming attack. If U.S. nuclear forces are to take on a more vague "deterrent" posture directed toward all potential foes, a strategic dyad or a strategic monad might work for a sensible and less accident-prone U.S. strategic construct. Another way to say this is that as the U.S. ICBM force gets smaller, the other two legs of the strategic triad, most especially the SLBM force, become more important. As Congressional Research Service analyst Amy Woolf has pointed out, we currently hear few coherent arguments for the maintenance of a large ICBM force.<sup>3</sup>

## The Prompt Global Strike Alternative

So while dramatically lower stockpile levels are remarkable with figures a fraction of Cold War standards, even lower sums of 500 nuclear weapons, or only 200, still beg important questions about the possible situations for which an American president might order their use.

The Pentagon is clearly shifting away from nuclear options in almost all its war plans. One alternative option is Prompt Global Strike (PGS), that is, the rapid delivery of conventional weapons at intercontinental range. The continuing development of the PGS program and framework demonstrates that U.S. military planners desire *conventional* options when it is desirable to attack targets at long ranges on short notice. By definition, such situations call for swift action or response, using conventional – not nuclear – warheads. Dramatically, the Pentagon has illustrated the desire to incorporate conventional alternatives by refashioning the traditional nuclear triad into a "New Triad" that incorporates non-nuclear strike capabilities, as illustrated below.

Indeed, the U.S. military has never preferred nuclear options, and gradually over the past 50 years military planners have moved away from options that involve nuclear forces. Such changes are often prompted within the U.S. military itself: first with the Army giving up its tactical nuclear weapons and then with the Navy and the Air Force doing likewise. Today, U.S. nuclear capabilities are centered in the "Nuclear Navy" of ballistic missile submarines and in

<sup>2</sup> Congress has mandated a special Congressional Commission on Strategic Posture, which is scheduled to release its public report December 1, 2008. However, its current progress indicates this may be delayed significantly. The regular Nuclear Posture Review is mandated to release its report to Congress "not later than March 1, 2010."

<sup>3</sup> Amy Woolf, *U.S. Strategic Nuclear Forces: Background, Developments, and Issues*, Updated January 24, 2008, Order Code RL33640, pp. 26-27.

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the Strategic Air Force. Increasingly, these outposts appear more isolated from the rest of the DOD.

Institutionally, the push away from nuclear options is strong, but there are still difficulties with conventional alternatives. Conventional Prompt Global Strike (PGS) is now itself a presidential level decision requiring integrated system-of-systems solutions involving only conventional weapons. This means that before using conventional weapons in a PGS mode, the White House requires an integrated picture of the accuracy, timeliness, effectiveness and collateral damage that would be produced as a result.

The mistaken Chinese Embassy bombing during the Kosovo War reiterated the obvious: increasingly accurate targeting systems still cannot negate intelligence weaknesses. The combination of all sources of uncertainty can make the decisions to use even conventional weapons platforms problematic.

However, these same concerns also apply to the contemplated use of nuclear weapons, as likely collateral damage and other effects to U.S. forces and innocent civilians are even more difficult to assess. Contemporary norms against nuclear testing make the physical evaluation of these options impracticable.

Today, however, the trend with precision strike weapons is that as they become more accurate and powerful they can perform soft and medium-hard target missions that might have once been considered for nuclear weapons. These could include destroying an enemy ICBM being readied for launch, or other highly destructive enemy weapon systems massing for an attack. Notwithstanding gaps in overall systems integra-

tion, conventional weapons — not nuclear weapons — are the choice weapons for such targets. It is now inconceivable that an American president would use nuclear weapons against soft or medium-hard targets given the many and growing conventional options at hand.

If nuclear weapons are considered for any mission at all, they could only be contemplated for medium-hard to hard targets which conventional weapons would be too weak to destroy, or for a set of widely dispersed targets which must be neutralized completely all at once. Even if new proliferators like Iran were to create hard targets, they might be few enough in number that conventional forces would be preferable. Controversial commando raids by U.S. Special Forces would almost certainly have fewer political and environmental costs than the use of nuclear weapons.

The premises behind contemplated use of PGS are that time is of the essence, no other action suffices, and the use of PGS is justified by the urgent, extreme nature of the crisis. Thus, to be acceptable to the American public, any use scenario would require that the president had no better option, had to act quickly, and failing to act would have been strategically and politically unacceptable. In addition to cruise missiles launched by naval platforms, the newly developed conventional systems under PGS could fulfill these criteria in most circumstances.

**Presidential Criteria for Nuclear Use**  
Taking our logic to the next step, we can develop criteria under which nuclear use by an American president might be considered. These criteria are a necessary, but not necessarily

sufficient, set, as other factors might further pertain against nuclear use. For an American president to choose to use nuclear weapons, the following would be required:

1. A unique mission or crisis situation that is extremely unlikely to be solved by other means.
2. A mission that cannot be accomplished as well or with the required decisive finality if conventional weapons had been used.
3. A mission whose benefits must outweigh the inevitable backlash, recriminations and criticisms that would follow, and
4. A mission that has to put an end to the crisis situation that motivated the use of nuclear weapons in the first place. If the end result is unchanged or the problem is essentially ongoing, no U.S. president could justify the use of nuclear weapons.

There are few missions that would meet these requirements. U.S. conventional capability offers other ways to accomplish many of the missions tested by the first criterion. Under the second criterion, although conventional weapons strikes might not be able to eliminate the threat as conclusively, they could probably do so if their deployment level was increased. Hard targets that could not be conclusively destroyed with conventional bombs might be taken out by ground forces.

The third criterion is also significant. Using nuclear weapons would have enormous costs; only removing an extraordinarily immediate and severe threat to U.S. security would jus-

tify their use. This will likely remain the case unless there is some shift that eliminates the nuclear taboo. The United States didn't use nuclear weapons against North Korea in the 1950s when – compared to today – the U.S. military had many fewer options, and when it might have been more politically acceptable to do so. As time has passed, the nuclear taboo has only become stronger, and it remains despite the confusion and uncertainty of the post-Cold War period.

Also, the unique cost of nuclear use suggests that any proposed use should have some finality in addressing the threat. Nuclear weapons use against individual nuclear installations or individual terrorist bases would not eliminate the overall problem. The demonstrated use of nuclear weapons might alter the threat perceptions of some U.S. foes, but, given the motivations of conceivable future adversaries, it could also enhance their commitment. The difficult fourth criterion of finality symbolizes why we still hear inchoate threats of nuclear retaliation to a hypothetical major terrorist attack.

### **The “Uncertain Future” Argument**

One often hears the argument that the United States needs nuclear weapons for an “uncertain future,” which is so difficult to imagine today that we just can't appreciate how important nuclear weapons might be. The “uncertain future” argument is open-ended in that its premise is that the world has become unstable in surprising and unpredictable ways that will extinguish our very existence if we do not act. The crisis is so severe that moral arguments about the use of nuclear weapons are thrown out the window. “If a few million of the enemy's people die, and that's the price

to protect the United States from annihilation, it would be regrettable but necessary,” the argument might go. “Worldwide 50 million people die every year anyway.”

At present, the Russian military sees the reinvigorated calls for nuclear elimination as uniquely American. Their view is that the reason many American foreign policy strategists are comfortable discussing getting rid of nuclear weapons is because of U.S. conventional military superiority. And if Russia would actually abandon its nuclear arsenal, then the U.S. military advantage would be incontestable. Russians see nuclear weapons as even more relevant today because they are the only way they could respond to our large conventional military advantage. Of course, this is exactly the argument that the U.S. made during the Cold War; America felt it needed a “flexible response” to stop the vast Russian Army coming through the Fulda Gap.

Thus if restraint is not exercised in the number of deployments of PGS Weapons, their sheer numbers could prevent progress in further reducing the U.S. and Russian nuclear weapons stockpiles. While reductions in the nuclear weapons stockpiles of all nations will be a necessary part of “getting to zero,” such steps will not be sufficient. Ultimately, “getting to zero” will require moral leadership and recognition that the use of nuclear weapons will not be a politically tenable choice for a U.S. president or for any other world leaders.

Nevertheless, further reductions are a necessary part of the process because – as the numbers come down – it becomes easier to work with other countries to build confidence and envision even smaller nuclear stockpiles.

### **Conclusions**

The new wave of nuclear posture literature that recommends 500 or 1,000 U.S. nuclear weapons notably lacks detail when it comes to articulating the future missions that would justify those levels. As the Pentagon works to create more precise conventional alternatives, policymakers should consider whether those conventional weapons might fulfill missions that were once considered only for nuclear weapons.

Nuclear weapons stockpiles in the U.S. and Russia are coming down, and new proposals would reduce them even more. Getting to zero won't be easy. Steps taken to reduce nuclear weapons stockpiles further may enable more concrete discussions about getting to zero, but ultimately moral leadership will be required. However, whatever the size of the U.S. stockpile, nuclear weapons should not be retained for missions that are inconceivable or lack credibility.

Prompt Global Strike (PGS) is an example of a conventional weapons program that could carry out some current nuclear weapons missions, especially those involving soft and medium-soft targets. Yet, even conventional PGS requires presidential level decisions and confidence in the expected outcome.

Possible uses of nuclear weapons must be considered in the framework of the four presidential criterion listed earlier. Considering these criteria, the scenarios under which the use of nuclear weapons might be considered can probably be dealt with using conventional weapons, to the extent that those scenarios would have been credible for nuclear weapons. Proposals for retaining nuclear weapons should meet these criteria.



## Getting to Zero

BY JACK MENDELSON, FORMER CDI SENIOR ASSOCIATE

**FOR DECADES, ELITE POLICY CIRCLES** treated with skepticism, if not scorn, the idea of abolishing nuclear weapons. Since last year, however, when former senior U.S. government officials published an op-ed, “A World Free of Nuclear Weapons,”<sup>1</sup> it has become possible, even fashionable, to discuss a nuclear weapons-free world. For the first time in many years, advocates of nuclear abolition – including the 2008 Democratic Party<sup>2</sup> – no longer risk ridicule or exile to the loony fringe of national security experts.

While nuclear arms are often hyped as fundamental to U.S. security, they are also the only weapons that can destroy the United States as a functioning society. A compelling argument can be made that eliminating this enormous destructive capability would reduce the likelihood of nuclear weapons use and thereby enhance U.S. security. An added, often unstressed and even paradoxical, benefit of a nuclear weapons-free environment would be to make the United States, the most sophisticated conventional military power in the world, even more dominant.

A world without nuclear weapons, however desirable, cannot be attained without profound revisions to existing policies and programs. The following discussion elaborates some

of the changes needed for a nuclear-free world. Not all changes noted below are required of all nuclear weapons states and – because many of them are interlinked, incremental and/or costly – timelines are generally left undefined. But any high-level commitment by the United States and other major nuclear powers to seek a nuclear-free world that does not invoke these changes would be simply an exercise in rhetoric.

### Changes in Policy

As the leader of the world’s most powerful nation – and the first to produce and use nuclear weapons – the next U.S. president will have to spearhead the movement towards a nuclear-free world. The process will require strong political leadership, and must start with a White House mandated review of existing strategic policy.

The next president must ensure this review results in policies that *downplay* the role of nuclear weapons in U.S. security policy and *delegitimize* their use – by any nation – in warfare. The United States cannot claim that nuclear weapons are essential to its security and that in every crisis “all options are on the table,” and conversely expect to dissuade other nations from retaining or acquiring these weapons.

If the U.S. government can agree

to downplay and delegitimize nuclear weapons, then a public declaration should be made to announce their diminished role in U.S. security policy. A formal statement is necessary because the credibility of existing agreements and policy commitments regarding nuclear weapons and their use (or non-use) has been seriously compromised.

Next, the United States and the other major nuclear powers should formally re-commit (as in the Nuclear Non-Proliferation Treaty and as many U.S. administrations have done in the past) to the eventual elimination of all nuclear weapons. This commitment may be without a date certain, acknowledging that it is to be accomplished incrementally and in connection with progress in establishing overall transparency, resolving regional conflicts and designing more realistic security guarantees.<sup>3</sup> A nuclear weapons-free world will not be attainable unless nations believe their overall security has been enhanced in the process.

Additionally, the United States and the major nuclear powers should abandon the rhetoric surrounding pre-emption and preventative war. They should also cease claiming the right to use nuclear force against non-nuclear threats, whether conventional, terrorist, chemical or biological.

1 *The Wall Street Journal*, January 4, 2007, p. A15

2 The platform says that: “America will seek a world with no nuclear weapons and take concrete actions to move in this direction. We face the growing threat of terrorists acquiring nuclear weapons or the materials to make them, as more countries seek nuclear weapons and nuclear materials remain unsecured in too many places.... America will be safer in a world that is reducing reliance on nuclear weapons and ultimately eliminates all of them.”

3 It is more credible for the United States to offer to protect an ally with conventional forces than it is to threaten to use nuclear weapons if such use would provoke nuclear retaliation against the United States.

These policies are more provocative than protective and, impact negatively on the willingness of other nations' to give up the nuclear option, and should be disavowed.<sup>4</sup>

In short, the major nuclear powers should declare they are henceforth retaining nuclear weapons solely for deterrence, retaliation or as a last resort when the survival of the nation is at risk. Such declarations could be made at the Nuclear Non-Proliferation Treaty (NPT) review conference in 2010.

The 2010 NPT review conference would also be an appropriate venue for the United States and the other major nuclear powers to restate their 1978 Negative Security Assurances (NSA)<sup>5</sup> vis-à-vis non-nuclear states and sign a legally binding treaty to enshrine those pledges. The major nuclear powers have taken so many exceptions to these assurances (e.g., claiming the right to use nuclear weapons against chemical and biological attack, to keep "all options on the table" when dealing with potential adversaries, and to use "mini-nukes" against terrorist targets), that the existing NSAs are now virtually worthless.

The United States and China, as well as India, North Korea and Pakistan, should also make explicit that they do not intend to resume<sup>6</sup> nuclear testing and are prepared to sign and/or ratify the Comprehensive Nuclear Testing Treaty (CTBT).<sup>7</sup> At the same time, the next U.S. president should attempt to convince the requisite two-thirds of the Senate to

support CTBT ratification and join with other major nuclear powers<sup>8</sup> in seeking its acceptance by the remaining nuclear-capable states designated under the treaty.

In compliance with the treaty, and to avoid creating pressure to resume testing itself, the United States should abandon plans to develop a "reliable replacement" warhead (RRW) or to add warheads with new military missions to the stockpile. It should, of course, continue support of the Stockpile Stewardship Program and the International Monitoring System, two key elements in maintaining confidence in the CTBT. Bringing the CTBT into force and renouncing major upgrades to existing arsenals – which should apply to all the nuclear powers – will go a long way toward revalidating the non-proliferation regime.

### Changes in Programs

In addition to major strategic policy adjustments, the U.S. and Russian presidents should agree to continue reductions in strategic nuclear forces and, with other major nuclear powers, develop measures to enhance the transparency and predictability of nuclear infrastructures.

Of immediate concern is the relationship between the 1994 Strategic Arms Reduction Treaty (START) and the 2003 Strategic Offensive Reductions Treaty (SORT or the Moscow Treaty). START limits U.S. and Russian strategic offensive nuclear forces to approximately 6,000 weapons and expires on Dec. 5, 2009. SORT reduces

the permitted level of deployed nuclear warheads for each side to between 1,700 and 2,200 as of Dec. 31, 2012.

A bare-bones document that remains in force for three years beyond the end of START, SORT has no monitoring provisions. Thus, the United States and Russia will have to decide by the end of 2009 whether to carry over existing START monitoring provisions or design new ones. In either case, verification should be as comprehensive and intrusive as possible. Expanding nuclear infrastructure transparency is critical to establishing sufficient confidence for the United States and Russia to accept lower force levels and continue transitioning towards a nuclear weapons-free world.

The smaller nuclear powers have hitherto refused to consider reductions in their nuclear weaponry because of the asymmetry in the size between their forces and those of the United States and Russia. But in connection with negotiations on extending and/or revising the SORT agreement, the smaller nuclear powers should be challenged to begin to provide greater transparency regarding their nuclear infrastructures and activities. Their willingness to do so will be a measure of their commitment to the goal of a nuclear free world.

As for Russia and the United States, the speed and depth of nuclear force reductions under any SORT follow-on arrangement will be a further indication of their commitment to eventual nuclear disarmament.

4 The option to pre-empt always is present and no nation will be so naïve as to believe a declaratory statement will eliminate the option. But there is an enormous difference between publicly proclaiming "pre-emption" as a policy and declaring, as NATO did after the fall of communism, that nuclear arms are "weapons of last resort."

5 NSAs are reciprocal, unilateral statements by the five major nuclear powers promising not to use nuclear weapons against non-nuclear members of the NPT.

6 Or "undertake" in the case of Israel.

7 North Korea has committed to total denuclearization and Pakistan has said it will join the treaty if India does. That leaves India and Israel as two key countries, along with the United States and China, whose ratification is required to bring the CTBT into force.

8 France, Russia and the U.K. have ratified the CTBT.

One positive step would be for the two sides to agree in 2009 to attain the limits established by the Moscow Treaty before Dec. 31, 2012.<sup>9</sup> Another step might be to agree that strategic systems slated for removal under SORT will be de-alerted and/or rendered incapable of use well before the two sides are physically able to withdraw or destroy them.<sup>10</sup>

The United States and Russia should also continue the reduction process beyond the levels agreed to in SORT. The simplest approach would be to extend SORT and lower the levels of permitted warheads by some figure – perhaps 700 – to 1,000-1,500.<sup>11</sup> Even at this lower number, the United States and Russia would have nearly as many nuclear weapons as all the smaller nuclear powers combined.<sup>12</sup> In conjunction with these reductions – and to involve other nuclear powers in the arms control process – China, France and the United Kingdom should pledge not to increase their own strategic nuclear deployments.

Another step should be an effort to establish verifiable limitations on non-deployed and non-strategic nuclear weapons held in reserve.<sup>13</sup> Nuclear weapons deployed in the field are generally well-guarded and difficult to divert.<sup>14</sup> But potential security problems, particularly in Russia and South Asia, plague those weapons held in reserve or storage. Again, because of force size asymmetry, this

measure is likely to be limited initially to the United States and Russia.

Efforts to reduce and secure non-strategic nuclear warheads should be spearheaded by withdrawal of all U.S. tactical nuclear weapons (approximately 200) from NATO Europe. The Pentagon long ago concluded that there was no military requirement for tactical nuclear weapons in Europe – and it is hard to conceive of a scenario in which they might be used – but the NATO allies have resisted breaking this symbolic connection to the U.S. nuclear deterrent. Weaning the allies from this attachment may be difficult and should be done in the context of encouraging a general de-emphasis on the nuclear option.<sup>15</sup>

A final step that will demonstrate that the United States is on the way to a nuclear-free world involves constraints on anti-ballistic missile defenses. Missile defenses might have a role in a future without nuclear weapons but, placed amongst uncertain and unsettled nuclear power relationships, defenses undercut willingness to undertake significant force reductions. If the next president cannot cancel the program outright, he should commit the United States not to expand national ballistic missile defense beyond a modest number of interceptors,<sup>16</sup> say 100, and place a moratorium on overseas deployments. The Russians have made it clear that the latter restraint will be

critical if they are to engage fully in the nuclear weapons reduction (and eventual elimination) process.

### Clearing the Path

If the measures discussed above can be implemented in the next two years, the major nuclear powers will be on the path to a nuclear weapons-free world. But these precursor steps will require a wise and confident U.S. president and an objective and knowledgeable Congress and the recognition by both that downplaying the role of nuclear weapons in national security policy, continuing the process of strategic force reductions and limitations, adopting extensive transparency measures, seeking to resolve regional conflicts, establishing more comprehensive security arrangements, and committing to eventual elimination of all nuclear weapons comprise the best route to ensuring the survival of the United States in the 21st century. ■

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*Jack Mendelsohn was a member of the U.S. SALT II, START I and NATO delegations, deputy director of the Arms Control Association, and an instructor at the University of Chicago, the Naval Academy and George Washington University. A version of this paper was presented at a symposium sponsored by the Oxford Research Group at the Royal Society, London.*

9 A notional target date might be the spring 2010 NPT Review Conference.

10 For example, warheads and/or small but vital components could be removed from missiles.

11 The Russians were prepared to accept a 1500 warhead limit at the time the Moscow Treaty was being negotiated.

12 Estimated to be roughly 400 weapons each for China and France, 200 for the U.K., plus-minus 100 for India, Israel and Pakistan, and less than 10 for North Korea.

13 About 27,000 nuclear weapons are already in the arsenals of nine countries around the world, the overwhelming majority of which (approximately 26,000) belong to the United States and Russia. Most of those weapons are in storage or reserve status and not covered by arms limitation agreements.

14 However, the U.S. Air Force recently and unknowingly loaded a bomber with six nuclear weapons for a training flight. It is also investigating an incident involving missile launch officers "asleep at the switch."

15 Withdrawal of tactical nukes from Europe does not have to be conditioned on Russian reciprocity. The United States could seek a Russian commitment to transfer their tactical weapons from numerous, insecure storage locations to more modern storage facilities.

16 As of early 2008, a total of 24 ground-based interceptors were based in Alaska and California. The 1972 ABM Treaty, as amended, permitted 100 interceptors in a world with considerably more offensive nuclear warheads.

# Joint Strike Fighter

## The Latest Hotspot in the U.S. Defense Meltdown

BY WINSLOW T. WHEELER, STRAUS MILITARY REFORM PROJECT AND PIERRE SPREY

### POLITICIANS IN THE UNITED STATES

are papering over serious problems in the country's armed forces. Equating exposure of flaws with failure to support the troops, Congress, the presidential candidates and think-tank pundits repeatedly dub the U.S. armed forces "the best in the world." Behind this vapid rhetoric, a meltdown – decades in the making – is occurring. The collapse is occurring in all the armed forces, but it is most obvious in the U.S. Air Force. There, despite a much needed change in leadership, nothing is being done to reverse the deplorable situation the Air Force has put itself into.

The U.S. Air Force's annual budget is now in excess of \$150 billion: well above what it averaged during the Cold War. Despite the plentiful dollars, the Air Force's inventory of tactical aircraft is smaller today than it has ever been since the end of the Second World War. At the same time, the shrunken inventory is older, on average, than it has been ever before. Since George W. Bush came to office in 2001, the Air Force has received a major budget "plus-up," supposedly to address its problems. In January 2001, a projection of its budgets showed \$850 billion for 2001 to 2009. It actually received \$1,059 billion – not counting the additional billions (more than \$80 billion) it also received to fund its operations in Iraq and Afghanistan. With the "plus-up" of more than \$200 billion, the Air Force actually made its inventory troubles worse: from 2001 to today, tactical aircraft numbers shrank by



The F-35A, while being towed at the Inauguration Ceremony on July 7, 2006.

about 100 aircraft and their average age increased from 15 years to 20, according to the Congressional Budget Office. Not to worry, the Air Force and its politicians assert, the solution is in hand; it is called the F-35 Lightning II Joint Strike Fighter. It will do all three tactical missions: air-to-ground bombing, air-to-air combat and specialized close air support for ground troops – and there will be tailored variants for the Air Force, Navy and Marines. Most importantly, it will be "affordable" and, thus, the United States can buy it in such large numbers that it will resolve all those shrinking and ageing problems.

Baloney. When the first official cost and quantity estimate for the F-35 showed up on Capitol Hill in 2001, the Department of Defense (DOD) predicted 2,866 units for \$226 billion. That is a not inconsiderable \$79 million for each aircraft. The latest official estimate is for a smaller number of aircraft (2,456) to cost more (\$299 billion). That represents a 54 percent increase in the per-unit cost to \$122 million, and the deliveries will be two years late.

The Government Accountability Office reported in March that the United States can expect the costs to increase some more – perhaps by as much as \$38 billion – with deliveries likely to be delayed again, perhaps by another year.

That is just the start of the rest of the bad news. The price increases and schedule delays cited above are for currently known problems. Unfortunately, the F-35 has barely begun its flight-test program which means more problems are likely to be discovered – perhaps even more serious than the serious engine, flight control, electrical and avionics glitches found thus far.

Take the F-22 experience; it was in a similarly early stage of flight testing in 1998. Its program unit cost was then \$184 million per aircraft but it climbed to a breathtaking \$355 million by 2008. Considering that the F-35 is even more complex (19 million lines of computer code compared to four million, and three separate service versions compared to one), the horrifying prospect of the F-35's unit cost doubling is not outlandish. The last tri-service, tri-



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mission “fighter” the United States built, the F-111, tripled in cost before being cut back to barely half the number originally contemplated.

The DOD currently plans to spend more than \$10 billion to produce fewer than 100 F-35s per year at peak production. U.S. Air Force leaders would like to increase the production rate and add a few more F-22s. That plan is irresponsibly unaffordable (which contributed to the recent departure of the secretary of the Air Force and the Air Force chief of staff).

The unaffordable nature will become even more obvious when the unavoidable F-35 cost increases emerge. The inevitable reaction, just as in past programs, will be a slashing of annual reduction, the opposite of the increase the Air Force needs to address its inventory problems.

The DOD fix is simple: test the F-35 less and buy more copies before the testing is completed. Two test aircraft and hundreds of flight-test hours have been eliminated from the program, and there is now a plan to produce more than 500 copies before the emasculated testing is finished. This approach will not fix the program but it will help paper over the problems and make the F-35 more cancellation-proof in the Pentagon and on Capitol Hill.

It gets even worse. Even without new problems, the F-35 is a “dog.” If one accepts every performance promise the DOD currently makes for the aircraft, the F-35 will be:

- Overweight and underpowered: at 49,500 pounds (22,450 kilograms) air-to-air take-off weight with an engine rated at 42,000 pounds of thrust, it will be a significant step backward in thrust-to-weight ratio for a new fighter.

- At that weight and with just 460 square feet (43 square meters) of wing area for the Air Force and Marine Corps variants, it will have a “wing-loading” of 108 pounds per square foot. Fighters need large wings relative to their weight to enable them to maneuver and survive. The F-35 is actually less maneuverable than the appallingly vulnerable F-105 “Lead Sled” that got wiped out over North Vietnam in the Indochina War.

- With a payload of only two 2,000-pound bombs in its bomb bay – far less than U.S. Vietnam-era fighters – the F-35 is hardly a first-class bomber either. With more bombs carried under its wings, the F-35 instantly becomes “non-stealthy” and DOD does not plan to seriously test it in this configuration for years.

- As a “close air support” attack aircraft to help U.S. troops engaged in combat, the F-35 is a nonstarter. It is too fast to see the tactical targets it is shooting at; too delicate and flammable to withstand ground fire; and it lacks the payload and especially the endurance to loiter usefully over U.S. forces for sustained periods as they maneuver on the ground. Specialized for this role, the Air Force’s existing A-10s are far superior.

However, what will the advocates protest, of the F-35’s two most prized features: its “stealth” and its advanced avionics?

What the U.S. Air Force will not tell you is that “stealthy” aircraft are quite detectable by radar; it is simply a question of the type of radar and its angle relative to the aircraft. Ask

the pilots of the two “stealthy” F-117s that the Serbs successfully attacked with radar missiles in the 1999 Kosovo air war. As for the highly complex electronics to attack targets in the air, the F-35, like the F-22 before it, has mortgaged its success on a hypothetical vision of ultra-long range, radar-based air-to-air combat that has fallen on its face many times in real air war. The F-35’s air-to-ground electronics promise little more than slicker command and control for the use of existing munitions.

The immediate questions for the F-35 are: how much more will it cost and how many additional problems will compromise its already mediocre performance? We will only know when a complete and rigorous test schedule – not currently planned – is finished. The F-35 is a bad deal that shows every sign of turning into a disaster as big as the F-111 fiasco of the 1960s.

In January, the United States will inaugurate a new president. If he is serious about U.S. defenses – and courageous enough to ignore the corporate lobbies and their minions in Congress and the think-tanks – he will ask some very tough questions. These will start with why an increased budget buys a shrinking, ageing force. After that the new president will have to take steps – unavoidably painful ones – to reverse the course the country is now on.

The man who best deserves to be inaugurated next January will actually start asking those questions now. ■

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*This piece was originally published in the Sept. 10, 2008 issue of Jane’s Defence Weekly. It is reproduced here with permission obtained by the author.*

# The Other Meltdown: Our Defenses

BY WINSLOW T. WHEELER, DIRECTOR, STRAUS MILITARY REFORM PROJECT

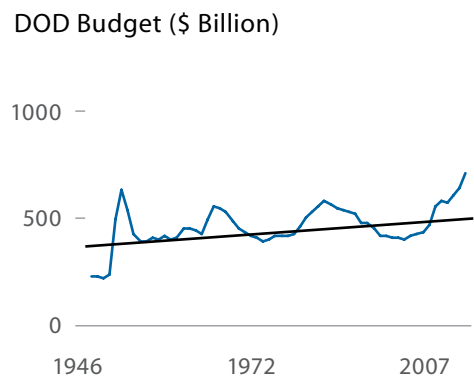
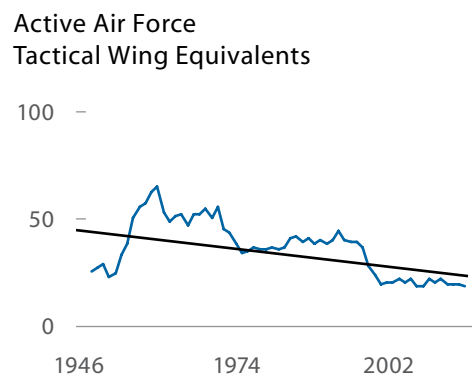
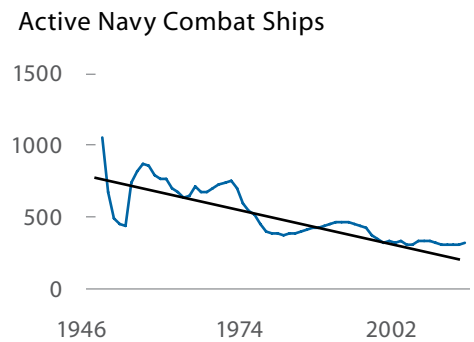
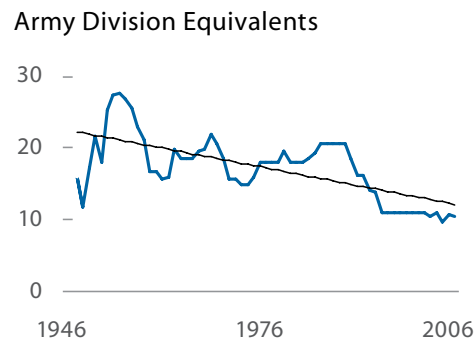
**WITH THE PROFOUND PROBLEMS** the new president will face next year in the economy, healthcare, energy and social security, as well as gridlock in Washington and the wars in Iraq and Afghanistan, some might be tempted to take solace that our defenses, while costly, are sound. Sorry, Mr. President-Elect; that's not the case. You have a real mess on your hands in the Department of Defense. Consider the facts:

America's defense budget is now larger in inflation-adjusted dollars than at any point since the end of World War II. However, our Army has fewer combat divisions than at any point in that period; our Navy has fewer combat ships, and the Air Force has fewer combat aircraft. The graphs below show this grisly, decades-old deterioration and the increasing cost.

It gets worse. According to data collected by the Congressional Budget Office (CBO), and many others, major categories of military hardware are, on average, aging dramatically. In some cases, our equipment is older than it has ever been. The current, officially approved plan in each of the military services is for this problem to get worse.

Significant elements of our armed forces are less ready for combat than they should be. Air Force and Navy combat pilots get one-half to one-third of the in-air training time they should have. Army units are sent into Iraq and Afghanistan without the months of training and retraining they need with all the equipment and people they will take with them into combat.

## MORE MONEY = FEWER FORCES



The emphasis that we, as Americans, give to technology does not rescue us. As was the case in Vietnam, the immeasurable technological advantage we hold over our enemies in Iraq and Afghanistan means little to nothing in winning the form of conflict we find ourselves in. For waging conventional war, we are burdened by technological failures at extraordinary cost. The Air Force's newest fighter, the F-35, can be regarded as only a technical failure, and it will cost multiples of the aircraft it replaces, the aging, overweight F-16. The Navy's newest destroyer can-

not protect itself effectively against aircraft and missiles, and the Army's newest armored vehicles can be and have been destroyed by a simple anti-armor rocket that was first designed in the 1940s.

Despite decades of acquisition reform from Washington's best minds in Congress, the Pentagon, and the think tanks, the Government Accountability Office (GAO) tells us that cost overruns in weapon systems are higher today, in inflation adjusted dollars, than any time since they have measured. Not a single current major weapon has been delivered on time,

on cost and as promised for performance.

The Pentagon refuses to tell Congress and the public exactly how it spends the hundreds of billions of dollars appropriated to it each year. The reason is simple; it doesn't know how the money is spent. In a strict financial accountability sense, it doesn't even know if the money is spent. Decades of reports from the Department of Defense Inspector General and GAO make this problem painfully clear.

For solutions, some argue for even more money for a defense budget that already is at historic heights and that approximates what the entire rest of the world spends for military forces. We must stop throwing dollars at the Pentagon: the evidence – while counter-intuitive – is irrefutable that more money makes our problems worse. As the Army, Navy, and Air Force budgets have climbed, their forces have grown smaller, older, and less ready.

Others argue for “acquisition reform” but their proposals are riddled with loopholes, and they consistently refuse to cede control of decisions to any but those who have a track record of failure piled upon failure.

What then is to be done?

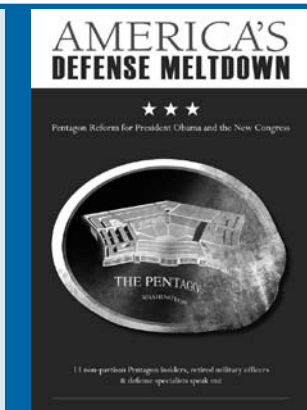
The road to real reform starts with three simple principles:

- No failed system can be reformed if it cannot be accurately measured. A crash program to make Pentagon spending accountable is essential. But, it is also insufficient. DOD must also have an ability to predict much more accurately the cost, performance, and schedule of its future programs and policies. The current bias, based on advocacy, is the heart and core of business as usual.
- The basis for competence cannot just be intelligence and hard work; it must also be objectivity and independence. The latter are impossible without ending a fundamentally corrupt incentive system. The currently iron-clad control of the Pentagon decision-making process by people (in and out of uniform) who are free to collect salaries and other emoluments from defense contractors and their support structure in Washington must end – without compromise. The similar sham of members of Congress and – especially – their staff pretending to perform oversight and then accepting jobs from those they “oversee” (including the Pentagon) must also end.
- The money party in Washington

for the defense budget must end. The global economic meltdown now confronts the Pentagon budget with a mandate to economize, and to do so in a very major way. The days when big Pentagon spenders can dream up new tricks to grow the DOD budget are over. Today's defense budget is more than three times the combined size of every single nation currently or potentially hostile to us. National security “leaders” who can not find safety at a significantly different standard will bankrupt us and must be discarded.

While simple, these principles will be extremely difficult to implement. The paragons of cost, bias, and deceit will reveal themselves by their obstreperous rancor at the idea of accepting these principles and the tough minded actions they imply.

Such uncomplicated principles offer the promise of real reform to a system desperately in need of it. What is lacking is a president – or a candidate for that office – with the strength of character to acknowledge the depth of our problems, to embrace principles such as those stated here, and then to withstand the typhoon of acrimony that will ensure from those who seek to keep us fat and fading. ■



#### NEW PUBLICATION FROM CDI PRESS

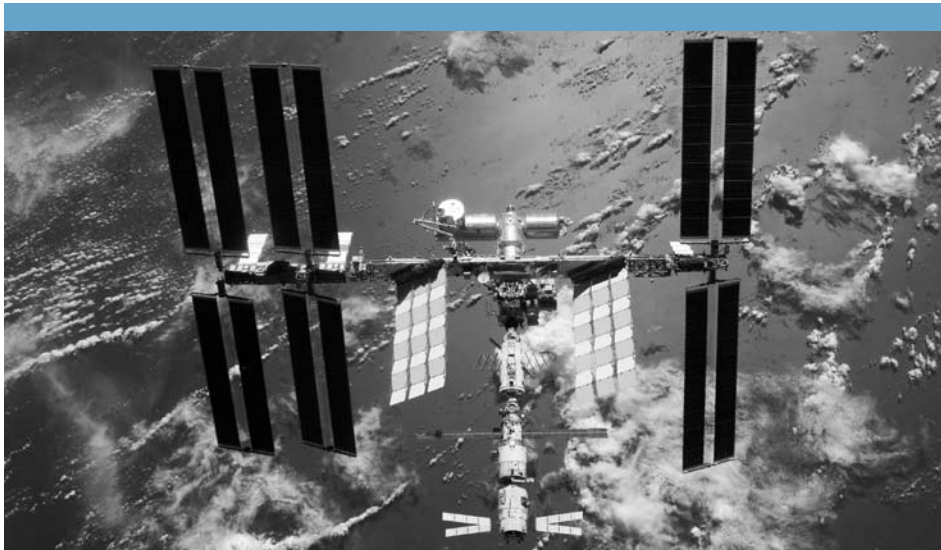
CDI and the Straus Military Reform Project have released a new military reform anthology, “America's Defense Meltdown” this month for President-elect Obama and the new Congress. Edited by Straus Military Reform Project Director Winslow Wheeler, the new book examines and proposes solutions for America's collapsing defense structure, including analysis from retired military officers, Pentagon insiders and defense analysts.

The advance, electronic version of the book is available on the CDI Web site, [www.cdi.org](http://www.cdi.org), and copies of the book can be ordered by calling our Washington, D.C. office at (202) 332-0600.

# Restricting U.S. Access to the ISS?

## One of Missile Defense's Unintended Consequences

VICTORIA SAMSON, CDI SENIOR ANALYST



NASA

Backdropped by Earth, the International Space Station is seen from Space Shuttle Discovery.

**IN JANUARY 2004, PRESIDENT BUSH** released his "Vision for Space Exploration," calling for the commencement of a manned moon mission in preparation for a manned Mars mission. Since the Shuttle fleet was already scheduled to be retired in 2010, NASA decided to make the official date Sept. 30, 2010. However, the replacement spacecraft will not be ready until 2015,<sup>1</sup> which has left NASA wondering how it would reach the \$100 billion International Space Station (ISS).<sup>2</sup> Currently, the United States depends on Russian spacecraft to get to the ISS; however, given recent strained relations between the United States and Russia, this arrangement may be at risk.

The Shuttle program costs NASA \$3 billion annually, whether it is flying any of the spacecraft or not.<sup>3</sup> The average cost of each flight is estimated to be \$150-200 million.<sup>4</sup> Attempting to get the most from its program,

NASA established a flight schedule for the Shuttle that would have 17 Shuttle launches in support of the ISS from 2005-2010.<sup>5</sup> This allows for only 2.5 months between each launch, an aggressive schedule considering that each Shuttle requires four to five months of maintenance before being relaunched.<sup>6</sup> GAO states that while "NASA officials stated repeatedly that NASA is committed to safely flying the Shuttle until its retirement and will not succumb to schedule pressure," it must be noted that "the compressed nature of the manifest will continue to test that commitment."<sup>7</sup>

The United States needs a special waiver to buy spots on Soyuz flights. This is a result of the 2000 Iran, North Korea and Syria Nonproliferation Act, which prevents the United States from purchasing Russian space technologies as long as Moscow is cooperating with Tehran on missile and nuclear issues. This act was amended

in 2005 to allow the purchase of seats on Russian spacecraft to the ISS until Jan. 1, 2012.

In April 2007, the United States and Russia agreed on terms for delivering American crew and cargo to and from the ISS between 2009 and 2011 via Russian Soyuz spacecraft. In addition, Russia's expendable Progress vehicles can take cargo to the space station. Around 2010, NASA expects to pay for six Progress and four Soyuz flights annually.

In a briefing paper published this summer to persuade Congress to continue the waiver, NASA called spots on the Soyuz "the only sure solution," otherwise "the United States has no choice but to de-crew all U.S. astronauts (and de-facto the Canadian, European and Japanese astronauts) from the International Space Station in 2011."<sup>8</sup> NASA urged Congress to pass this waiver by the end of Fiscal Year 2008 (Sept. 30) so that Russia could build up its supply of Soyuz spacecraft, as each takes three years to construct. NASA's dire warnings paid off. On Sept. 24, 2008, the House allowed the waiver to continue from Jan. 1, 2012, to July 1, 2016.

NASA is also seeking commercial carriers to the ISS. In 2006, it started its Commercial Orbital Transportation Services (COTS), a nearly \$500 million initiative to get the private sector involved. The two companies chosen for this were Rocketplane Kistler (RpK) and SpaceX.<sup>9</sup> However, NASA gave RpK the boot in October 2007 since the company hadn't raised sufficient private capital for its program; it was replaced in February by Orbital Sciences.<sup>10</sup> This quick reshuffling does not bode well for the program.

"The high cost of space transportation has been the biggest obstacle to the exploration of space and the uti-

lization of space,” said Valin Thorn, COTS program deputy manager, NASA’s Johnson Space Center.<sup>11</sup> Orbital is working on a cargo-only capsule, the Cygnus, which will have one demonstration flight, and then will be docked to the ISS and practice transferring mock cargo by December 2010.<sup>12</sup> SpaceX is developing a reusable capsule for crew and cargo called Dragon, and a booster rocket called Falcon 9. SpaceX hopes to hold a test flight in June 2009 in which the Dragon will be put in a brief orbit, followed by a November 2009 flight where Dragon will fly near the ISS, and a docking attempt in March 2010.<sup>13</sup> SpaceX argues it could demonstrate the transportation of crew to the ISS by 2012. SpaceX finally successfully launched a satellite with its Falcon 1 on Sept. 29, 2008: its fourth attempt.<sup>14</sup> The Falcon 9 has never been flown. GAO is dubious about the COTS program: “In our opinion, the schedule is optimistic when compared to other government and commercial space programs we have studied.”<sup>15</sup>

NASA’s intended replacement for the Shuttle is the Ares I Crew Launch Vehicle (CLV), which will carry the Orion crew exploration vehicle (CEV) – both of which are still in development, and won’t be ready until 2015. GAO states, “NASA’s schedule leaves little room for the unexpected. If something goes wrong with the development of the Ares I or the Orion, the entire Constellation Program could be thrown off course and the return to human spaceflight delayed.”<sup>16</sup>

Also, the United States is focusing on spacecraft that could reach the ISS and at least the Moon, which increases the complexity greatly. According to Michael Griffin, head of NASA, “We get one system; it must be capable of serving in multiple roles, and it must

be designed for the more difficult of those roles from the outset.”<sup>17</sup>

Additionally, a design review in October 2007 determined the Ares I spacecraft would vibrate so violently upon take-off that it very well could kill its crew.<sup>18</sup> NASA has since convened an expert panel and, according to Steve Cook, manager of the program for NASA’s Marshall Space Flight Center, “It is not a show stopper.”<sup>19</sup> The panel has decided the vibrations, while two to three times stronger than what NASA recommended, are not as dangerous as originally feared. Still, NASA is working to reduce them.

The European Space Agency (ESA) and Japan are working on alternatives for space cargo transport: respectively, the Automated Transfer Vehicle (ATV) and Japan’s Aerospace Exploration Agency (JAXA) H-II Transfer Vehicle (HTV). These both have technical and budgetary difficulties. Even if their progress improves, GAO points out, “These vehicles were designed to augment the capabilities of the Shuttle and have significantly less capability to deliver cargo to the ISS.”<sup>20</sup>

If the United States wants to continue to have ISS access, it will need Russian spacecraft. However, U.S.-Russian relations are presently at a nadir unmatched since the Cold War ended. This has much to do with U.S. intentions for a missile defense system in Europe, which ostensibly is for protection against an Iranian attack. The system is regarded with suspicion by Russia, which recognizes Iran doesn’t pose a long-range ballistic missile threat and thus has concluded that Russia, not Iran, is the actual target of the U.S. missile defense system. This was not helped by those in the United States who used

the Georgia crisis as justification for the U.S. missile defense system.

We are seeing real and immediate consequences for the obstinate U.S. insistence on putting a dubious technology in the field against a dubious, far-off threat. This imbroglio indicates that as much as NASA is supposed to be a civilian agency, its operations are increasingly affected by national security issues. U.S. policymakers would do well to remember that when determining funding for both the missile defense systems and the Shuttle replacement. ■

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# Countdown to Air Force Cyber Command Stopped

CHELSEA DILLEY, CDI RESEARCH ASSISTANT

**AIR FORCE CYBER COMMAND** (AFCYBER) was to become operational on Oct. 1, 2008, but the countdown to its launch on the AFCYBER website has stopped and all efforts related to this controversial command have been suspended, according to an internal Air Force e-mail obtained by Nextgov. It is not certain who ordered the halt in development but some Air Force officials think it may have come from Adm. Michael Mullen, chairman of the Joint Chiefs of Staff, who is pushing for the Navy to play a larger role in cybersecurity.<sup>1</sup> The Air Force Secretary Michael B. Donley and Chief of Staff Gen. Norton A. Schwartz announced Aug. 14, they are “considering delaying currently planned actions,” but that they are still “committed to providing full-spectrum cyber capabilities to include global command and control, electronic warfare and network defense.” The current delay in action is to allow “ample time for a comprehensive assessment of all AFCYBER requirements and to synchronize the AFCYBER mission with other key Air Force initiatives.”<sup>2</sup> Air Force officials have announced they are confident the command will continue after the command’s mission, capabilities and size have been evaluated by the Air Force’s new leadership.

The recent change of leadership, after the June resignation of Air Force Chief of Staff Gen. T. Michael Moseley and Secretary Michael W. Wynne, has given cause for re-evaluation of all of the Air Force’s responsibilities, especially this new, highly controversial command. The August 2007



Image © U.S. government / Air Force

scandal surrounding the Air Force’s mishandling of its nuclear weapons,<sup>3</sup> followed by the discovery in March 2008 that 18 months earlier, nuclear missile fuses were mistakenly shipped to Taiwan,<sup>4</sup> hardly adds confidence in the proposed command. It is reassuring that the new leaders will be evaluating all new projects including AFCYBER to ensure they do not have the same lack of commitment to quality control, and that similar mistakes are not made.

It is also speculated that the recent suspension could be in part due to the command’s “hard sell” when attempting to publicize AFCYBER.<sup>5</sup> The media marketing of the command included grandiose claims of the command’s capabilities, necessity and certain success. The Air Force has designated itself the overall protector of the cyber domain, yet both the Army and the Navy have cyberspace capabilities comparable to the Air Force’s and are also adept in defending against cyber attacks. Although the Air Force’s grab for power by naming themselves the defenders of cyberspace has not been

*The Air Force has designated itself the overall protector of the cyber domain, yet both the Army and the Navy have cyberspace capabilities comparable to the Air Force’s and are also adept in defending against cyber attack.*

publicly disputed by the other services, it makes sense that the Joint Chiefs of Staff would want to review whether the Air Force should be in charge of protecting, or rather, “dominating” cyberspace.

The decision has come at a bad time in light of the recent cyber attacks between Russia and Georgia. Some, including Wynne, worry that this suspension is sending the message that “the United States is not interested in focusing on warfighting in the cyber domain.”<sup>6</sup> This is not the case: the suspension is based on valid concerns and questions surrounding the purpose, mission and resources of the command. Although AFCYBER has been halted, there are many other programs within the Department of Homeland Security, the Army and Navy working to ensure the security of cyberspace.

All aspects of AFCYBER have been ordered to stop and are under review. However, the Air Force base in Barksdale, Louisiana and possibly others who were competing and being considered for the permanent

headquarters for the major command are continuing to jostle for the lead in this competition.<sup>7</sup> The original list of locations in 18 states was to be narrowed significantly and a preferred location was to be announced this November. The final decision regarding location of the AFCYBER headquarters was not to be announced until September 2009.<sup>8</sup>

The new Chief of Staff Norton Schwartz will be evaluating the new command along with the Joint Chiefs of Staff and should have a decision on AFCYBER later this month.<sup>9</sup> No matter what reasons brought about the halt, it is reassuring that expensive and elaborate programs such as AFCYBER are being reviewed. This serious interest in evaluating command structure and necessity by the Air Force's new leadership could help bring back a positive view of the Air Force. If the necessary changes are made, the crucial questions surrounding AFCYBER are answered and the decision to continue the program is made, hopefully the result will be a legitimate and reasonable program that has the support of all those involved in cybersecurity. ■

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## CDI ADVISER FEATURED IN EMMY AWARD-WINNING NBC SHOW

On Sept. 22, 2008, the television newscast program "NBC Nightly News" with Brian Williams was awarded an Emmy for their coverage of the controversy over body armor for U.S. troops overseas.

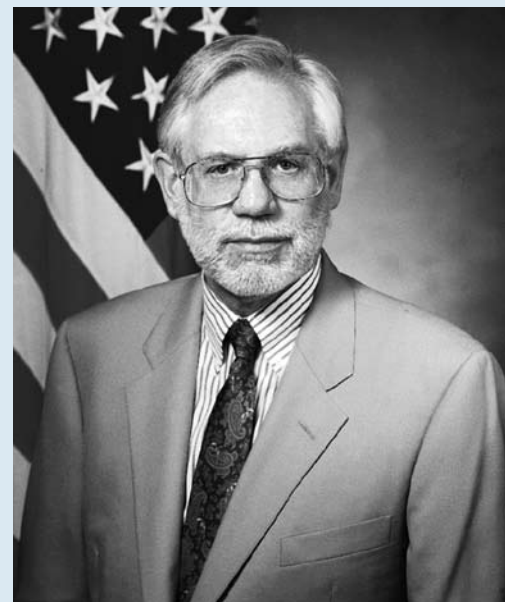
The category was "Outstanding Investigative Journalism in a Regularly Scheduled Newscast," and the winning show was titled "The Best Defense? The Secret Battle Over Body Armor." The NBC series called attention to the need for a fair, balanced and refereed body armor testing program, and CDI expertise contributed to that outcome.

On May 20-21, 2007, CDI Senior Adviser Philip Coyle appeared in two of the NBC programs that aired during the series, and served as an independent observer at body armor tests which were conducted for NBC at an independent test laboratory in Germany. In early May 2007, Coyle traveled to Germany to observe field tests of body armor sponsored by "NBC Nightly News." Coyle was joined by retired U.S. Army Gen. Wayne Downing, former commander in chief of the Special Operations Command and former White House national director and deputy national security adviser for combating terrorism. Except for travel expenses, Coyle was not paid by NBC.

The tests were conducted at the Beschussamt Mellrichstadt ballistics laboratory, a testing center in northern Bavaria that NBC chose for their well-known expertise and independence. The purpose of the tests was to see if the Pentagon is buying the best body armor or whether commercially available body armor is better. In those tests a type of body armor called "Dragon Skin" outperformed the Army's standard body armor called "Interceptor."

On June 6, 2007, Coyle testified before the House Committee on Armed Services at their hearing to examine this issue. At the hearing, the Army argued that their "Interceptor" body armor is better. Coyle recommended that the best way to resolve this matter would be for the U.S. Army Test and Evaluation Command to conduct comparable side-by-side tests of both "Interceptor" and "Dragon Skin" body armor, and that those tests should be overseen by an independent third party such as the DOD director of operational test and evaluation. Subsequently, the Army agreed to this recommendation and those tests are ongoing.

CDI Senior Adviser Philip Coyle is pictured during his time as assistant secretary of defense during the Clinton administration.





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