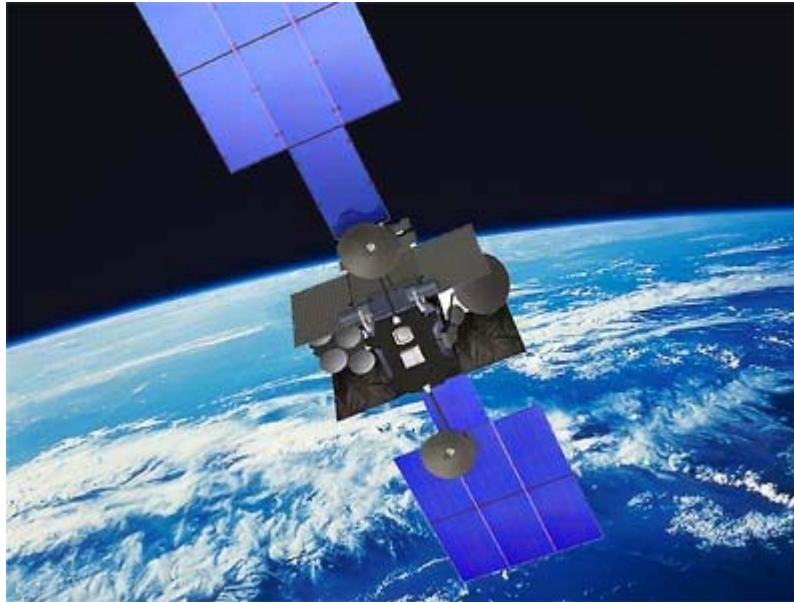


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A variety of problems, from a lack of space situational awareness capabilities to serious procurement problems, such as with TSAT (above), are evidence of the Air Force's neglect of space. (credit: Boeing)

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The Air Force's other blind spot

It's not just the nuclear mission: space is also weakening under Air Force custodianship

by James B. Armor, Jr.
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There has been much public discussion of the Air Force's loss of focus on the nuclear mission, both intercontinental ballistic missiles (ICBMs) and bombers, leading to the forced resignation of the Secretary and Chief of Staff in June. Although the real reason for their departure remains a contentious open debate—too much emphasis on air superiority, prioritizing “the next war rather than the one we're in”, advocacy with the Congress outside the Department of Defense chain, Air Force power grabs for executive agency authority over UAVs and cyberspace—the proximate cause was clearly the errors and miscues with the nuclear mission and related

materiel. There is, however, general agreement that this was an inevitable result of a long slide in assigned resources and management attention since the end of the Cold War in the early '90s.

But there's another domain equally important to the security of the nation, and equally ebbing under Air Force custodianship: space. Space has experienced the same long slide since the '90s as the nuclear mission. In fact, responsibility for organizing, equipping, and training both space and ICBMs forces is assigned to the same Major Command (MAJCOM), Air Force Space Command (AFSPC).

AFSPC was first created in 1982. In 1992 Strategic Air Command (SAC), responsible for all US air- and land-based nuclear forces, was disestablished. The management of nuclear forces went briefly to Air Combat Command (ACC), but then in a "marriage of convenience" the ICBM mission moved to AFSPC. Partly because of its "catchall" nature, there has been confusion about the true mission of AFSPC ever since. For example, "near space" (very high altitude airships) was temporarily assigned to AFSPC earlier in this decade. Even today many in Air Force leadership would further assign Cyberspace or Integrated Intelligence, Surveillance, and Reconnaissance (ISR) missions to AFSPC, in a blur of mediums and missions.

In addition to being assigned to the same Command, the personnel management specialty code for ICBM and space operators is one and the same. Basically, the Air Force does not distinguish between ICBM and space professionals and assignments and training track back and forth. An insightful vignette on this confusion: the Air Force combined the space and missiles uniform badges into a single badge in 2006, affectionately called "Space Wings". After the recent nuclear incidents and the criticism for lack of management focus, the missile

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badge—the “Pocket Rocket”—was again split out in 2008.

But overwhelming this mission confusion, the end of the Cold War in the early '90s marked a steady decline all things military, especially “strategic” missions like nuclear and space. The tremendous military success of Desert Storm in 1991—touted as the first “space war” due to the significant contributions of GPS, satellite communication, and detection and tracking of Iraqi Scud tactical missiles by missile warning satellites—were in significant measure due to very clever use by the Air Force and other military services of all those space systems had been developed for strategic purposes during the Cold War. Using space forces for tactical, terrestrial missions by all the services and agencies has been a major priority since then, and it requires major investment.

To say that there has been discontent with Air Force stewardship of space is a major understatement. All the services and agencies, the Office of the Secretary of Defense (OSD), and Congress have cycled from skepticism to rage at “Air Force shenanigans” in shorting the space budget. Every year there’s a process game where the Air Force cuts the space budget and OSD and Congress, with the loud support of the services and agencies that depend on Air Force space systems, restore it. Cynics point out that this is a Machiavellian way to increase the total Air Force budget—which works. It may work, but it comes at the expense of outrage by all who must intervene. Other organizations manage this discontent in different ways. For example, the Navy, true to its own traditions, simply ignores the Air Force and builds some of its own communications satellites. The National Reconnaissance Office (NRO), on the other hand, engages in outright warfare, the recent, late Space Radar program being a case in point. The Air Force and NRO fought so fiercely over budget, acquisition, and operational authority that the program failed to crystallize and was cancelled by a disgruntled OSD and Congress, both of which support the need for the program. Over the last few years, Congress directed first a virtual, and now an actual, separate Major Force

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Program (MFP) to insure visibility into Air Force handling of the \$12+ billion space budget.

At this point I want to stop and defend the Air Force. The USAF, I think, rightly objects when accused of poor stewardship of space. The truth is that the Air Force has done nothing short of a spectacular job of bringing the US to its current pre-eminence in space. Every major category of space system—navigation and timing, communications satellites, missile warning, weather, imagery and signals surveillance and reconnaissance, and more—owes its heritage to Air Force visionary leadership and management, both in the USAF and as the majority partner in the NRO. The Air Force has also created a global space infrastructure—launch systems; range; satellite command, control, and tracking; technical schools and graduate education; and a cadre of trained space professionals—that is second to none. I believe the technological and independent culture of the USAF was absolutely essential to this historic success. I do not believe any other military branch could have done as well.

Also, with the severe underfunding of the Air Force (of all the military services, in fact) since the “peace dividend” and “procurement holiday” of the '90s, all Air Force missions have reached a crisis. The USAF has been put in an impossible position to properly sustain, much less modernize and recapitalize, all its vital missions. The Air Force even went to the extreme position of downsizing its manpower to pay for recapitalization. That failed, partially because the Air Force was also asked to send a large number of its airmen to gap-fill Army jobs in Iraq and Afghanistan, like convoy driving, physical security, and terrestrial communications. That airmen responded with vigor, courage, and excellence to these challenges makes me especially proud to have been a member. Some say too much focus on air superiority—F-22, F-35—was the cause for firing the Chief and Secretary. Maybe, but the need

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for air superiority for the security of the nation seems pretty foundational to me. With F-15's literally falling apart in midair, they were right to put their careers on the line to insure the safety of our airmen and our nation's security.

But all that said, and despite Air Force protestations that air and space are a seamless "aerospace" medium, USAF priorities for space are clearly lower than for air superiority. Getting past the shortfall in overall Air Force resources, the space doctrine of the USAF has been primarily to support terrestrial operations, precision strike in particular. There is nothing inherently wrong with space support to terrestrial operations—in fact, it's a clear asymmetric advantage—but it has had the effect of neglecting the space superiority mission. Although the Air Force has some extraordinary localized space surveillance capabilities, global space situational awareness (SSA) is barely rudimentary compared with that for the air domain. It can take weeks to find a satellite that changes its orbit, something that is especially important if you are trying to avoid conjunctions (collisions) in the increasingly crowded space domain. Lack of timely characterization of space debris, space weather, and capabilities of foreign satellites and anti-satellite systems is disconcerting at best. Lack of ability to promptly attribute the cause of an incident in space—a satellite that ceases to function, for example—is an invitation to bad behavior by those who know they can't be traced. Piracy and jamming of commercial satellite communications is already becoming commonplace. Keep in mind 80% of military satellite communication is over commercial satellites.

Also, space operational command and control (C2) is severely outmoded. It has been especially difficult to extricate the space C2 capabilities out of the nuclear C2 system in Cheyenne Mountain for budgetary reasons and Congressional concerns (BRAC related). Fortunately, US Strategic Command's (STRATCOM's) Joint Space Operations Center (JSpOC) under 14th Air Force leadership appears to have turned the corner. Furthermore, the JSpOC has made excellent progress in

collaborating with the NRO Operations Center (NROC).

Just as troubling given the shortfall in resources for US military space is the lack of initiative in military-to-military relationships with spacefaring friends and allies including NATO, and with commercial interests.

Congress had to order the Air Force to share space surveillance data with commercial and foreign entities (CFE), which the USAF does now with considerable reluctance. The failure to engage with European allies to encourage them to make their Galileo system more fully compatible with GPS is infamous. (This was consistent with White House policy at the time, so the Air Force can to some extent be legitimately excused.) Now, in their newly released defense policy, Europeans contemplate the development of their own space surveillance network since, again in part, they cannot rely on SSA support from the US. They also envision enhanced space support capabilities and an independent European space C2 infrastructure.

In another disheartening example of the Air Force's space blind spot, many space system users represented by STRATCOM and other experts in government and industry have for years asked the Air Force to look into smaller, more responsive satellites. Again, these new space technologies consistently fell below the Air Force cut line. It took Congress and OSD to direct the establishment of a Joint Operationally Responsive Space (ORS) Office, plucking primarily Air Force people and resources, before anything happened. (Ironically, it was the Air Force Undersecretary, acting as the DoD Executive Agent for Space, who implemented the Joint ORS Office over the objections of the Air Force Chief and Secretary.)

In short, it was just a matter of which mission started to break down first, nuclear or space. I could argue that space failures have already occurred. For instance, the shocking unpreparedness of US space systems when China successfully demonstrated an ASAT in January 2007 and the ensuing scramble to develop protection for critical national space assets. Also, the jury-rigged nature

of the destruction of a failed NRO satellite that was in a state of imminent and hazardous uncontrolled reentry, intercepted a by US Navy Standard Missile using missile defense command and control, none of which are Air Force systems. Finally, space acquisition has experience sustained public censure for horrific cost overruns and technical failures on critical space acquisition programs, in part due to the Air Force's loss in focus on developing capable technical personnel.

Here's a simple cultural example of the Air Force's space blind spot. The Air Force Association's (AFA) excellent *Air Force Magazine* annually publishes a Space Almanac. As is usually the case, in the August 2008 edition

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of the Space Almanac, aside from the space cover and the 16-page list of space systems, organizations, and history (including ICBM forces, by the way), there is not a single article on space systems. The magazine is cover-to-cover aircraft stories. (In fairness, *Air Force Magazine* does publish articles about space activities in other editions.) The excellent editorial in the opening pages of the edition emphasizes the need for "independence" for air forces to be successful and not "casting the air forces into a wholly supportive role." That is exactly what Air Force has done to space forces. It's crippling our ability to secure the space domain for all legal use. National security space needs autonomy to prosper.

This is well recognized. There have been dozens of blue ribbon studies over the past decade about the failure of National Security Space (NSS) to thrive, the most important of which was the 2001 Commission to Assess United States National Security Space Management and Organization, chaired by Donald Rumsfeld. The commission called for unification of management of NSS activities. When Rumsfeld became the Secretary of Defense he largely implemented the Commission findings and, together with the Director of Central Intelligence (DCI), George Tenet, appointed a single leader, Peter B. Teets, as both the Under Secretary of the

Air Force and the Director of the NRO (DNRO). Unfortunately, circumstances conspired to undermine this direction. After 9-11, everyone was focused on responding to global terrorism and the wars in Afghanistan and Iraq. (Space systems played a central and crucial role in those wars, and continue to be critical to the ongoing counterterrorism campaign.) The establishment of the Director of National Intelligence (DNI) created a powerful intelligence bureaucracy, the ODNI, which reabsorbed authority over the NRO. When Secretary Teets departed in 2005, the key space leadership positions were again separated. Dr. Donald Kerr (now the Principle Deputy DNI) was appointed as the DNRO; Dr. Ronald Sega was appointed as the Air Force Undersecretary (currently vacant), and unified National Security Space management collapsed.

The results of the most recent study, the Allard Commission, are just now being publicly released. No surprise, it came to substantially the same conclusions as the 2001 Rumsfeld Commission: space needs unified management and accountability. It recommends re-establishing the National Space Council under the President's National Security Advisor; a unified DoD-ODNI Space staff under a dual-hatted Undersecretary for Space; a unified "command" consolidating all DoD and intelligence community space activities (AFSPC Space (not ICBM) headquarters and operations, space systems development at the Space and Missile Systems Center (SMC), the space activities at Air Force laboratories, and the NRO); and unified management of technical space personnel.

Most space professionals have their own similar recommendations on how to end the long slide. Although alternatives vary, they all call for unified, accountable leadership and more autonomy for space. (My own alternative is to create a Space Corps *inside the Air Force* with its own personnel, budget,

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and HQ staff, much like the Army Air Corps General HQ created during World War 2.) But it is clear that the status quo, using existing Air Force management and doctrine, simply will not work in an age of an increasingly contested space domain. Support of a non-existent “aerospace” regime not only prevents space from thriving, it equally undermines Air Force leadership of the vital air superiority mission.

We've reached a point where we can no longer live with this faltering national security space mission. The rest of the world is fast approaching in space capabilities, and not all necessarily have US best interests in mind—including and especially Russia and China—while the US is at best treading water. The Allard Commission spends a significant portion at the opening of their report explaining the vital importance of space to the future of the US economy, technology base, and national security, and the deep crisis we face as a nation. I hope this commission stays intact until next year to convey their strong message to the next administration. I also fervently hope we don't have a space tragedy before action is taken.



James B. Armor, Jr., retired as a major general from the US Air Force in January 2008, where his last position was as Director of the National Security Space Office (NSSO) in the Office of the Under Secretary of the Air Force, Washington, DC. His 34-year Air Force space career included assignments as Director, Signals Intelligence (SIGINT) Systems Acquisition and Operations at the National Reconnaissance Office (NRO); Vice Commander of the Warner Robins Air Logistics Center at Robins AFB, Georgia; and Program Director of the NAVSTAR Global Positioning System (GPS) at Los Angeles Air Force Base, California. He was qualified as a DoD Space Shuttle payload specialist. He is currently Owner and CEO of the Armor Group, LLC of Virginia, an aerospace consultancy specializing in space systems, and serves on several boards including Integral

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