Congressional Hearing Testimony
for the
Under Secretary of the Air Force
The Honorable Peter B. Teets

INTRODUCTION

Mr Chairman and members of the Committee, I am honored to appear before you today to address what we are doing to improve the National Security Space acquisition process. I am also pleased to be joined today by Lieutenant General Brian Arnold, Commander, Space and Missile Systems Center, Mr Tom Young, who led the Defense Science Board (DSB) and Air Force Scientific Advisory Board (AF SAB) Joint Task Force on the Acquisition of National Security Space Programs, and Ms Katherine Schinasi, who led the GAO team.

Operation IRAQI FREEDOM confirmed how important American dominance of space is to the successful conduct of military operations. A major pillar of this dominance has been our unparalleled ability to exploit data gathered from space, allowing our servicemen and women to fight and win through a wide range of weather conditions. In my testimony today, I will highlight the steps we in the DoD are taking to ensure this high quality data remains available to the warfighter – as well as civilian users – in the future.

NATIONAL SECURITY SPACE MANAGEMENT

The DoD and the Air Force have implemented recommendations from the congressionally-directed Commission to Assess National Security Space Management and Organization. The Secretary of Defense, in October 2001, directed OSD and the Air Force to take certain actions to consolidate authorities across the national security space community. In response to that direction, in early 2002, I was delegated authority as the Air Force Acquisition Executive for Space for Air Force space programs and as the DoD Milestone Decision Authority

for all DoD space Major Defense Acquisition Programs. Additionally, in July of this year, I was also officially delegated authority as the DoD Executive Agent for Space. All of these roles, as well as my role as Director of the National Reconnaissance Office (NRO), are complementary; I now oversee the planning, programming, and acquisition of all National Security Space programs, with broad insight into acquisition issues and best practices from multiple perspectives.

I have spent much of my tenure emphasizing the importance of getting our space acquisition programs on track. Space programs – and specifically, military space programs – are complex systems with numerous unique characteristics, and as such, bring extraordinary acquisition challenges. As both the DoD Executive Agent for Space and the Director of the NRO, I am in a position to reach across traditional organizational lines, and work with all interested parties, the DoD, the Intelligence Community (IC), and civil agencies, to improve the way we do business, ensuring that we do not repeat past mistakes in our future acquisitions. And, with OSD's Director, Defense Research and Engineering, I am also responsible for the space science and technology (S&T) portfolio, and so am able to link our S&T programs with the on-going and planned space acquisitions, and to directly influence our space technology investments.

We've seen a great deal of change in National Security Space over the last two years, all of it for the better. We have a new organization, a new acquisition policy, and a new mindset. We've consolidated our chain of command, bringing all the players, Air Force, Army, Navy, Marine Corps, and the Intelligence Community, together in alliance. Through forums such as the Partnership Council, we are working even more closely with external agencies such as NASA.

A few weeks ago, I formally approved the new National Security Space (NSS) Acquisition Policy 03-01. After identifying the NRO's Acquisition Management Directive 7 – a policy that establishes direction for all NRO acquisition activities – as a best practice, we used it as a foundation for crafting this policy. In doing so, we now have, for the first time, linkages between "black" and "white" space acquisition policies.

At the same time we were writing our policy, a joint task force and the GAO were researching National Security Space acquisition. I think most of you have seen the results of these studies, so I'd like to use my time today to tell you how we are responding to the recommendations of each.

DSB / AF SAB JOINT TASK FORCE (The Young Panel)

When I first took this job almost 2 years ago, I recognized we had problems with National Security Space acquisitions. I wanted an independent and expert review of NSS acquisition, and recommendations on how to fix any issues the review found. So, with support from the SECDEF and the SECAF, I requested the DSB and the AF SAB sponsor a joint study on National Security Space acquisition. This study, chaired by Mr Tom Young, did a superb job of highlighting the important issues, and I have taken their recommendations to heart. One of the things I most appreciate about the Panel's recommendations is that they provide both near-term solutions and long-term ideas. We are implementing the near-term solutions; Gen Arnold and I each will you give you some examples today of actions directly influenced by the Young Panel. For example, while the final report was not released until a short time ago, we were fortunate to have the opportunity to use the interim results, briefed last fall, to guide the creation of NSS 03-01. I look forward to incorporating the Panel's insights into future changes in the space acquisition community as well.

According to the study, mission success should be the guiding principle in all space systems acquisition. I wholeheartedly agree. I believe in any space system acquisition program, mission success must be the first consideration when assessing the risks and trades among cost, schedule, and performance, and we are putting that ideal into practice with the 03-01 policy. NSS 03-01 specifically states that mission success is the overarching principle behind all National Security Space programs, and that all program activities must be driven by this objective.

Several of the Panel's recommendations deal in some manner with cost estimation and program budgeting practices. Our long-term objective is to build and maintain a world-class capability within the government for space and space-related weapon system cost estimating. The goal is to foster synergy and efficiency for DoD cost estimating resources and research activities by encouraging cooperation and joint use of resources. NSS 03-01 requires an Independent Cost Analysis to be conducted prior to each Key Decision Point (KDP). For each KDP, an Independent Cost Assessment Team, or ICAT, will be assembled and led by the OSD CAIG. Team members will be drawn from the entire National Security Space cost community. For example, both the Space Based Radar and Transformational Communications MILSATCOM ICATs had representation from the OSD CAIG, the Intelligence Community CAIG, the NRO, and the Air Force Cost Analysis Agency. Both of the program estimates generated by these teams served as good sanity checks for the program office estimates. We worked closely with OSD and the IC in developing these ICATs, and look forward to our continued partnership with them in this area.

NSS 03-01 also requires an Independent Program Assessment (IPA) prior to each KDP. The purpose of the IPA is to identify and quantify program risk areas and to advise the DoD

Space MDA – either myself, or the PEO, depending on the program type – on a program's readiness to proceed to the next acquisition phase. At each KDP, the IPA conducts an independent evaluation for the MDA and presents the findings to the Defense Space Acquisition Board (DSAB). The DSAB provides input to the MDA on whether or not a program should proceed. After consideration of inputs from the program office, IPA, ICA, and DSAB, I have enough information to make a milestone decision while providing specific guidance through the Acquisition Decision Memorandum.

Under this acquisition approach, we've already held two DSAB reviews, for NPOESS and SBR. We received positive feedback on the DSAB process from all the parties involved – OSD, the Services, and the Program Office. I welcome the attendance of all these stakeholders at the DSAB reviews, along with their participation on the IPAs. They are valued for communicating the key issues of their parent organizations, and keeping abreast of the IPA evaluation process.

It is not enough to change the process of space acquisition; we must also ensure that the right resources are available to keep a program stable and on track. We build the foundation for the right resources with realistic cost estimates and achievable program management baselines. But program managers require adequate resources to maintain program stability throughout the life of the program. One of the recommendations in the Young Panel report called for budgeting to the 80/20 level and for a 20-25 percent management reserve. I agree with both these practices in theory, but given fiscal realities, realize that this may not be attainable.

We do, however, need to give our program managers the flexibility to meet the technical challenges that arise in virtually every program – one way to do that is through the judicious use of management reserve. As I mentioned when I testified before you in March, we often pull

money from a stable program to solve problems in an unstable program, and then find that we need more money to fix the initially stable program. In other words, we often must break one program just to fix another.

NSS 03-01 states, as a guiding principle, that all members of the NSS acquisition execution chain must insist on and protect a realistic management reserve. But it is not enough for us to say we will insist on a management reserve or budgeting to an 80/20 level – it is necessary and critical to gain the buy-in from our leadership at all levels: Air Force, OSD, OMB, and Congress. Budgeting is program dependent, so we may need a combination of options to ensure adequate resources for any given program. I also want to emphasize here that I agree with the Panel – management reserve should not be used for new requirements. It is a management tool that provides our program office with a way of meeting unknown challenges, not a pool from which to grow a program.

The ability to manage requirements figures into several of the Young Panel recommendations, as well as the recent GAO report. NSS 03-01 states that the requirements community and operators as stakeholders get a voice in the process, including the IPAT/DSAB process and reviewing documentation. We want to understand exactly what it is the user/operator/customer expects from the end product before we start a program.

Chairman of the Joint Chiefs of Staff Manual 3170.01 lays down a clear process for establishing and approving requirements. The Initial Capabilities Document (ICD) supports initiation of programs, while the Capabilities Development Document (CDD) supports the development phase of programs, and the Capabilities Production Document (CPD) supports the production phase. Both CJCSI 3170 and NSS 03-01 include guidance that the requirements community and the acquisition community must work closely together. In fact, the timing of the

Joint Requirements Oversight Council approval for ICDs, CDDs and CPDs was designed to specifically feed into Key Decision Points for NSS 03-01 (and Milestones for DoD 5000.2). In addition, the program manager will use Cost as an Independent Variable (CAIV) to continuously weigh requirements against cost and schedule and ultimately meet the Key Performance Parameters (KPPs) laid out in the Acquisition Program Baseline (APB).

One of the Panel's recommendations focused on earlier reporting of problems. In our research behind NSS 03-01, we found that space programs have a different funding curve than most typical DoD weapons systems. A space-based system spends most of its budget up front, well before deployment, and spends a great deal less on the sustainment phase of the life cycle. Therefore, we need to make the big decisions earlier in the life cycle of the program, before the majority of the money is spent. NSS 03-01 moves the key decision points up for this very reason – we are trying to identify risks and potential problems earlier in the program. Early identification allows us to take timely corrective action.

NSS 03-01 also implements a new policy in which program managers will meet with me, or my designee, twice a year to conduct MDAP reviews. I expect program managers to use these reviews to convey any problems with the program. I also expect them to keep me apprised of any potential program deviations through Monthly Activity Reports (MARs), Selected Acquisition Report (SARs), and Defense Acquisition Executive Summary (DAES) reports. In addition to reporting requirements, I hold weekly meetings with the AF Program Executive Officer (PEO) for Space – these meetings are another way to monitor how our programs are doing. Of course, OSD will continue to provide oversight of this process. I have welcomed their attendance at the DSAB reviews, along with their participation on the IPAs.

In addition to increased programmatic reviews, we are also working to strengthen the systems engineering knowledge of our program managers. As the Young Panel identified, the erosion of our systems engineering expertise through the 1990s led to decreased capabilities to lead and manage space acquisitions. To address this, we have started focused efforts on professional development, including additional training and the identification of best practices, at both the Space and Missile Systems Center and the NRO to rebuild this critical core competency.

GAO REPORT (Improvements Needed In Space Systems Acquisition Mgmt Policy)

In addition to the Young Panel, the GAO recently conducted a study on National Security Space acquisition. Not surprisingly, they found problems with our acquisition process, specifically, that in the past, space programs have suffered from gaps between resources and requirements. In fact, the GAO's findings in this report in many ways mirror the Young Panel's findings. Both highlight the need to solidly define requirements at the beginning of the program, the need to increase the accuracy of cost estimates, and the need to carefully manage the risks associated with the use of leading edge technology.

The GAO study also focused on what we are doing to fix the problems. I was very encouraged to see the GAO's conclusion that the new policy "may help provide more consistent and robust information on technologies, requirements and costs." Increasing the Milestone Decision Authority's understanding of any gaps between resources and requirements is a critical first step towards program success. I also appreciated that they highlighted the Independent Cost Estimating Process and the Independent Program Reviews. I feel both of these processes will bring a tremendous benefit to space programs.

We wholeheartedly concur with the GAO's recommendation that we should "ensure decisions to start programs are based on sound criteria." I believe, and I have made it clear to my

staff, that a program should not proceed unless we are confident that it has met all the relevant milestones and that it has developed a clear way forward. If I am not convinced through the IPA and DSAB process that a program is ready to move into the next acquisition phase, I will not hesitate in denying the request to move forward until I am satisfied that it is the appropriate step. Just such a situation occurred on GPS III when, based on an initial review, the program was not allowed to proceed into the next phase, and instead directed to continue with concept/architecture development.

The GAO recommendations are focused on helping us reduce cost and schedule overruns by reducing the risk inherent in space program acquisition. I believe we have done that in NSS 03-01. The policy was developed with the specific goal of enhancing space program success. Using independent technology assessments and an exhaustive peer review process, the policy is designed to ensure that senior leadership has a solid foundation of knowledge on which to make sound milestone decisions. Another way we are working to achieve mission success is to set our decision points early in a program, allowing us to judge whether a program is ready to move on or not before we have spent the majority of the program's budget.

The GAO report made two specific recommendations: to separate technology development from product development, and to set a minimum threshold of maturity for allowing technologies into a program. The recommendations stem from a desire to reduce program risk. Obviously, we share this desire, however, often product development is the impetus that drives technology development. If we only pursued "off-the-shelf" technology for our programs, we would never increase the state-of-the-art. A balance has to be found and managed within a program that doesn't put a technological miracle in the critical path to success while at the same time allowing us to pursue the new capabilities we need. In the first two

phases of a program under our new acquisition policy, risk reduction is a major activity, and the IPA/DSAB requires a technology maturation assessment at each KDP. If the technology is not mature, or if there is not an adequate plan to deal with program risk, I will not direct the program to continue into the next phase. I do not believe mandating particular Technology Readiness Levels (TRLs) is necessary. To do so takes away the flexibility we have deliberately built into NSS 03-01, along with our ability to meet the users needs in a timely manner.

The NSS 03-01 policy has program initiation at the beginning of the risk reduction and design development phase due to the high cost of maturing space technologies and the high cost of the initial system design and component and sub-system development. By putting the program initiation here, we ensure both early MDA insight and oversight, and an appropriate level of reporting to Congress during this costly phase of space programs. Delaying program initiation until the necessary component and subsystems had been demonstrated in a relevant environment could mean that we would have spent billions of dollars – a large portion of the budget – without a baseline or reports on progress, and very little official oversight.

CONCLUSION

This is an exciting time for the space programs in the Department of Defense. In spite of the challenges we face, we have the most capable space force in the world as proven by recent actions in Afghanistan and Iraq. Our accomplishments in the past two years include successful launches of 12 military satellites and the successful inaugural launches of both the Atlas V and Delta IV EELV rockets. In addition, we have made great progress in modernizing our current family of systems, working toward the next generation of intelligence, communications, remote sensing, missile warning and weather satellites.

The Young Panel and the GAO report have helped us identify systemic issues; issues that we are addressing in order to improve our ability to deliver these vital capabilities. However, space programs are hard – by virtue of the difficult technologies, small quantities, and the inability to repair on-orbit. This requires up-front investment and attention to practices that are greater than in most other acquisitions. As long as we continue to want our space systems to provide extremely asymmetric advantages, even after years on-orbit, then we will be building systems that are on the leading edge of technology. We are working to minimize problems, and especially surprises, but they are part of working at the edge. I appreciate the continued support the Congress and this Committee have given to help deliver these vital capabilities, and I look forward to working with you as we continue to push the envelope developing new technologies that can be exploited to deliver even greater effects.