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# Plan for Operationally Responsive Space

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A Report to Congressional Defense  
Committees

**April 17, 2007**

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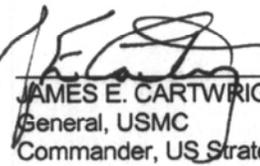
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(U) Forward



The DoD Executive Agent for Space and the Commander USSTRATCOM have engaged key stakeholders in the National Security Space community to respond to Congress by setting forth a plan for the acquisition of capabilities for Operationally Responsive Space (ORS). The Department of Defense is committed to improving the Nation's means to develop, acquire, field and employ space capabilities in shortened timeframes and more affordable ways. We recognize the need for innovation and responsiveness in delivering space capabilities to all users. This plan outlines our way ahead to establish the essential infrastructure to focus ORS efforts to evolve space capabilities across the National Security Space Enterprise.

	<u>3/20/07</u>		<u>3/21/07</u>
RONALD M. SEGA	Date	JAMES E. CARTWRIGHT	Date
DoD Executive Agent for Space		General, USMC	
		Commander, US Strategic Command	

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## Tasking

This report was developed pursuant to Section 913(c) of the John Warner National Defense Authorization Act for Fiscal Year 2007 (P.L. 109-364), which provides as follows:

*(c) PLAN FOR OPERATIONALLY RESPONSIVE SPACE. --*

*(1) PLAN REQUIRED. – Not later than 120 days after the date of the enactment of this Act, the Secretary of Defense shall submit to the congressional defense committees a report setting forth a plan for the acquisition by the Department of Defense of capabilities for operationally responsive space to support military users and military operations.*

*(2) ELEMENTS. – The plan required by paragraph (1) shall include the following:*

*(A) An identification of the roles and missions of each military department, Defense Agency, and other component or element of the Department of Defense for the fulfillment of the mission of the Department with respect to operationally responsive space.*

*(B) An identification of the capabilities required by the Department to fulfill such mission during the period covered by the current future years defense program submitted to Congress pursuant to section 221 of title 10, United States Code, and an additional 10-year period.*

*(C) A description of the chain of command and reporting structure of the Operationally Responsive Space Program Office established under section 2273a, of title 10, United States Code, as amended by subsection (b).*

*(D) A description of the classification of information required for the Operationally Responsive Space Program Office in order to ensure that the Office carries out its responsibilities under such section 2273a in a proper and efficient manner.*

*(E) A description of the acquisition policies and procedures applicable to the Operationally Responsive Space Program Office, including a description of any legislative or administrative action necessary to provide the Office additional acquisition authority to carry out its responsibilities.*

*(F) A schedule for the implementation of the plan and the establishment of the Operationally Responsive Space Program Office.*

*(G) The funding and personnel required to implement the plan over the course of the current future-years defense program.*

*(H) A description of any additional authorities and programmatic, organizational, or other changes necessary to ensure that the Operationally Responsive Space Program Office can successfully carry out its responsibilities.*

# Plan for Operationally Responsive Space

## Background

Challenges in global political affairs have placed increasing demands on the way the United States uses space capabilities to achieve national security objectives. The recent National Security Presidential Directive-49 (NSPD-49) on National Space Policy, dated August 31, 2006, reaffirms the United States' commitment to certain key principles in the areas of space law and policy for guiding the conduct of space activities. Implementing courses of action to achieve the goals and objectives associated with these principles will require increasing situational awareness and adaptability to the threat, as well as an ability to evolve the total suite of space capabilities to address emerging threats in new ways.

Section 913 (c) of the John Warner National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2007 requires the Secretary of Defense to submit to the congressional defense committees a report setting forth a plan, including eight required elements, for the acquisition by the Department of Defense (DoD) of capabilities for operationally responsive space to support military users and military operations. This report complies with the requirement for the ORS plan set forth in section 913 (c).

Definition: Operationally Responsive Space (ORS) has been defined broadly in DoD as assured space power focused on timely satisfaction of Joint Force Commanders' needs. This definition considers ORS as a subset of space activities designed to satisfy Joint Force Commanders' (JFCs') needs, while also maintaining the ability to address other users' needs, for improving the responsiveness of space capabilities to meet national security requirements. The ORS initiative will create opportunities for integration and operational efficiencies needed to ensure affordable access to the space-based capabilities that are critical to fulfilling the full range of U.S. diplomatic, information, military, and economic needs - a specific goal of NSPD-49. New approaches to methods, development, and acquisition are necessary to attain ORS capabilities and the broader space operations efficiency.

## Approach

Given the broad U.S. Government interest in enhancing the responsiveness of space systems, the DoD Executive Agent for Space (DoD EA for Space) and the Commander, United States Strategic Command (USSTRATCOM) co-chaired a Working Group with broad community participation from civil, defense, and intelligence agency stakeholders in the development of the Plan. The ORS Working Group included sub-groups led by key stakeholders throughout the National Security Space (NSS) community. The organization and functions of this group are presented in Appendix A.

The Working Group collaborated to establish a framework to develop and present an approach to ORS consistent with Congressional direction. Prominent among the stakeholders from the standpoint of providing space capabilities to the warfighter and other users are

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USSTRATCOM and the Intelligence Community (IC). This team recognizes that the successful integration of space-based capabilities into the core of United States national security operations has resulted in an increased reliance on and demand for those capabilities. The overall approach is to expedite development and fielding of select responsive space systems by leveraging NSS-wide technology development activities and operational capabilities; provide integration and technical support to other Service and other Government Agency activities that leverage select NSS-developed technologies and/or operational space capabilities; and conduct independent operational and technical assessments of space system capabilities and vulnerabilities as necessary for ORS solutions.

As a result, the Commander, United States Strategic Command (CDRUSSTRATCOM) has expressed three desires: first, to rapidly exploit and infuse space technological or operational innovations; second, to rapidly adapt or augment existing space capabilities when needed to expand operational capability; and third, to rapidly reconstitute or replenish critical space capabilities to preserve operational capability. These desires have led to a multi-dimensional concept to implement ORS to improve the responsiveness of existing space capabilities (e.g., space segment, launch segment, ground segment) and to develop complementary, more affordable, small satellite/launch vehicle combinations and associated ground systems that can be deployed in operationally relevant timeframes.

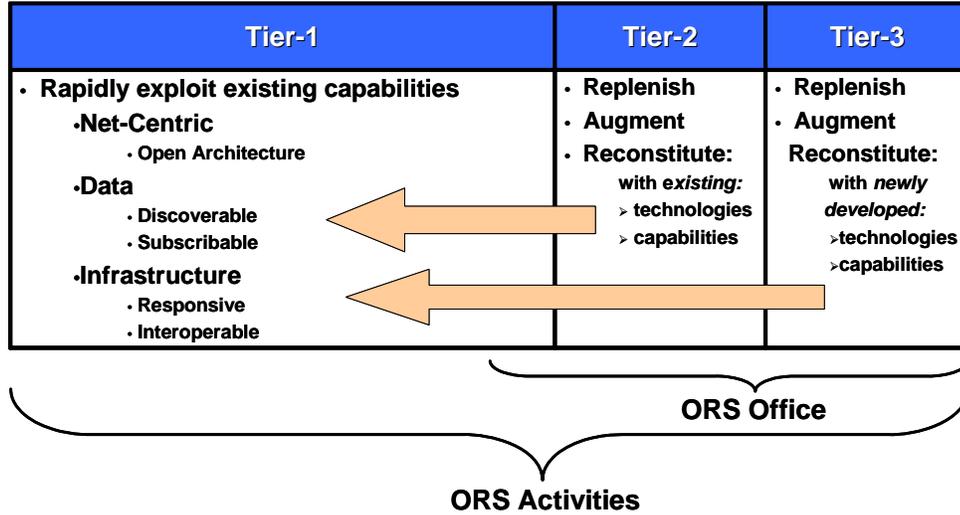
ORS activities will include both preparing the elements needed for responsively providing space capabilities, and executing the delivery of such capabilities in response to an expressed need. As a result, ORS will have both anticipatory and reactive elements. In daily operations, ORS will identify the most likely emergent space needs, make plans/preparations to meet those needs, conduct operational experimentation, and prepare plans and procedures for operational deployment/employment. These foundational, anticipatory activities will improve our ability to execute rapid responses to time-critical needs.

ORS is focused on the timely satisfaction of the urgent needs of the JFCs and other users. Strategic or long-term needs are not its primary focus. In execution, ORS will use the most expeditious requirements, resource allocation and acquisition processes available as appropriate to the urgency of each need. ORS requirements will be based on existing validated capability needs (e.g., Joint Capabilities Integration & Development System (JCIDS)) or urgent JFC needs (e.g., Joint Urgent Operational Needs Statement (JUONS)) or other means. ORS resource allocation will be as flexible as possible to facilitate the ability to rapidly change course to meet identified needs and to promote execution speed and flexibility. Acquisition will be different than current space acquisition by using a small core office to conceptualize and execute ORS solutions. ORS acquisition will utilize the broader space community and transfer its authorities for ORS acquisitions to the executing organization. Additionally, the ORS acquisition will accept increased risk tolerance for operational gain and will use streamlined processes to field key capabilities soonest – not waiting for 100 percent solutions and emphasis on integration of off-the-shelf components, where possible.

ORS partners will include the Services, as well as other agencies, such as those in the Intelligence Community, Reserve Component, and National Aeronautics and Space Administration (NASA), as well as our Allies.

Responsiveness is a desired attribute across the space enterprise. The ORS Office is a focal point for activities that seek to rapidly respond to the JFCs' and other users immediate needs. The approach adopted is based on three tiers, shown in Figure 1, to ensure a range of possibilities are available for consideration when responsive space capabilities are required. It is acknowledged that there are ongoing efforts in the Intelligence Community and DoD with NSS mission partners to leverage existing systems and provide responsive and actionable information to users in near real-time. As depicted in the figure, not all efforts to enhance the

responsiveness of our space capabilities fall within the scope of the ORS Office's responsibilities.



**Figure 1: Tiered Approach to Enhance Responsiveness of Space Capabilities**

Tier-1 uses existing or on-station capabilities to provide highly responsive space effects through the employment/modification/revised application of existing, fielded space capabilities. The targeted time period for application of Tier-1 solutions is immediately-to-days from the time at which the need is established. These solutions focus on existing ground and space systems, operations, and processes. Although mission or system utilization analyses may be needed, Tier-1 solutions will not typically involve the design, engineering, or fabrication of new materiel items.

If all possible Tier-1 options are considered and no Tier-1 solution can respond to the need, a Tier-2 solution would be considered. Tier-2 solutions would utilize field-ready capabilities or deploy new or additional capabilities that are field-ready. The targeted timeframe for delivering usable Tier-2 solutions is days-to-weeks from the time at which the JFC need is established. The focus of activities in Tier-2 solutions is on achieving responsive exploitation, augmentation, or reconstitution of space force enhancement or space control capabilities through rapid assembly, integration, testing, and deployment of a small, low cost satellite.

Tier-3 involves development of capabilities. In some cases, an expressed need may not be addressable through existing capabilities (Tier-1) or through the rapid deployment of field-ready capabilities (Tier-2). In such events, ORS efforts must focus on the rapid development and deployment of a new capability. Once developed, Tier-3 capabilities will be responsively deployed and employed in the same way as Tier-2 assets. The goal for execution of Tier-3 approaches is months-to-one year from established need to presentation of operational capability. Achieving such a timeline will be very challenging, and cannot be accomplished unless the amount of new development involved is very limited. Consequently, much of the ORS work will be anticipatory in nature – identifying the most probable emergent space needs and preparing the elements required (via S&T and development/acquisition) to ensure highly responsive delivery of needed capabilities. This anticipatory foundation is critical for realizing the one year goal for providing space capabilities in response to urgent needs.

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The ORS tiered approach relies on the seamless integration of Tier-1, Tier-2, and Tier-3 activities. ORS implementation and CONOPS will ensure current activities related to Tier-1 are fully investigated before moving to Tier-2 and Tier-3 ORS activities.

In developing requirements and capability, ORS will make every effort to leverage and maximize benefits of existing technology and capability. This includes exploring investments on the ground and various other material or non-material solutions in Tier-1. All operations will be conducted in such a way so as to comply with established national authorities and programs.

## Elements of the Plan

This section explains the Plan and focuses on the ORS Office.

### **Required Capabilities**

ORS missions fall within the Unified Command Plan (UCP) - assigned USSTRATCOM space mission areas of Space Force Enhancement, Space Control, and Space Support. ORS does not include the mission area of Space Force Application (e.g., Prompt Global Strike, Conventional Ballistic Missile, etc.) or operations in the upper regions of the atmosphere. While the initial ORS requirements focus will be on the following, most immediate and known needs, future ORS requirements will capture needs across the full range of space missions as identified through existing processes.

Within the area of Space Force Enhancement, ORS will initially focus on the development and deployment of selected responsive Intelligence, Surveillance and Reconnaissance (ISR) and communication capabilities to augment, surge and/or reconstitute existing assets. In the Space Control mission area, ORS will focus on enhancing space situational awareness (SSA) to characterize and enable better protection of on-orbit assets. Responsive execution of Space Support mission area functions (spacelift and satellite operations) is one of the foundations of the ORS concept. Initial ORS efforts will focus on providing rapid launch capabilities (launch vehicles, launch infrastructure, and associated launch support) along with the command and control (C2) capabilities; responsive ground elements; and tactics, techniques, and procedures (TTPs) to ensure responsive space operations.

Finally, ORS capabilities, both materiel and non-materiel, must be integrated vertically and horizontally to provide decision makers with access to the information they need to execute their missions.

### **Roles and Missions**

The joint ORS Office will develop a process to leverage Tier-1 activities and coordinate with DoD and IC organizations on ORS Tier-1 activities; will expedite development and fielding of select responsive space systems by leveraging NSS-wide technology development activities and operational capabilities; will provide integration and technical support to other Service and other Government Agency activities that leverage select NSS-developed technologies and/or operational space capabilities; and will conduct independent operational and technical assessments of space system capabilities and vulnerabilities. The ORS Office performs five functions as shown in Figure 2 and explained further below:

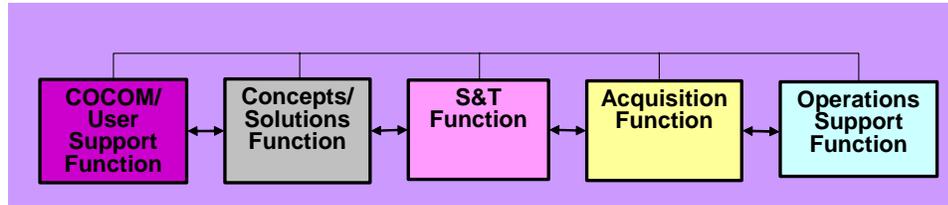


Figure 2: ORS Office Functions

### Combatant Commander (COCOM)/User Support Function

This function will identify, advocate and plan for desired ORS capabilities by working to (1) support USSTRATCOM's collection, prioritization and management of all users' ORS needs, (2) coordinate with NSS organizations conducting Tier-1 activities in order to leverage current capabilities, and (3) provide an interface between the warfighter/user and the ORS service providers to support augmentation/surge, reconstitution, and crisis response activities to match the user's priorities and timelines, across all three ORS tiers:

- Tier-1: On-orbit (current assets leveraged and prioritized for warfighter)
- Tier-2: ORS assets in ready reserve; ready for launch or deployment
- Tier-3: New assets rapidly acquired to meet specific COCOM/User need

### Concepts/Solutions Function

This function will link established ORS needs and Science & Technology (S&T) to develop capabilities, with acquisition support, to fill operational needs and gaps by working to (1) identify and present options for concepts/solutions and experimentation, (2) conduct concepts development, solutions assessment, rapid evaluation of alternatives, experimentation, and modeling and simulation (M&S) support, (3) plan for operational experimentation and Military Utility Analyses (MUAs), and (4) develop budgetary recommendations for ORS solutions.

### S&T Function

This function will pursue innovative and affordable approaches to the development of operationally responsive space capabilities through basic research applied research and advanced development focused on (but not limited to) payloads, buses, ground infrastructure and launch systems by working to (1) plan and coordinate ORS S&T efforts, funded internally and externally, (2) develop, maintain, and execute an S&T Roadmap through the National Labs, Services, and Agencies that integrates ORS projects across the National Security Space S&T community, (3) innovatively match technologies with concepts to address user needs, (4) conduct, with the Warfighter, operational experimentation to drive technology maturation, TTPs, and innovation to support transition into new operational capabilities, and (5) assist the Acquisition Function in transitioning and incorporating ORS technology in the development and acquisition of operational ORS systems. Collaboration with the NSS community of interest on advanced science and technology efforts and ongoing research and development will contribute to innovative solutions for ORS.

In recognition of DARPA's flexibility to pursue innovative technology and to explore non-validated threats and rapidly evolving needs, DARPA may conduct basic and applied research and advanced technology development on operationally responsive space technologies and systems outside of the ORS framework. In conducting such, DARPA shall seek to avoid unnecessary duplication of the activities of the military department and defense agencies.

**Acquisition Function**

This function will lead timely acquisition of ORS capabilities, taking maximum advantage of existing organizations and authorities, to rapidly meet identified needs by working to (1) provide leadership and integration of ORS acquisition efforts, (2) develop and delegate expedited acquisition authorities to executing organizations, (3) employ a “market-based” approach, and (4) account for lifecycle sustainment of ORS capabilities.

**Operations Support Function**

This function will provide operational capabilities as necessary to support delivery of space effects to the users by working to (1) coordinate operational experimentation and military utility assessment, (2) identify the Services/Agencies to conduct operations of ORS capabilities, and (3) coordinate transition of ORS capabilities into operations.

In reviewing the five functions, clearly the ORS Office must affect more than acquisition. Prominent and early warfighter involvement, user focus, and ORS Office agility will require close coordination across the functions and between many participants to ensure an optimized and timely solution. Because the talent to execute the aforementioned functions is found throughout the National Security Space Enterprise, the organization must be inclusive and representative of this diversity. Therefore, the Office must be DoD joint and include or partner with interagency partners, such as those in the Intelligence Community and NASA, as well as Reserve Components and Allies. The Office must also be able to partner effectively with industry and academia. This leads to the need for an organization with a specific span of control but also an effective span of influence, enabling an ongoing collaboration between key participants at any given time. ORS also requires an organization that can evolve, as needed, to adapt to changes in the operational and organizational environments. This includes adjusting some of the organizational positions or areas of emphasis according to external factors. This concept is depicted in Figure 3.

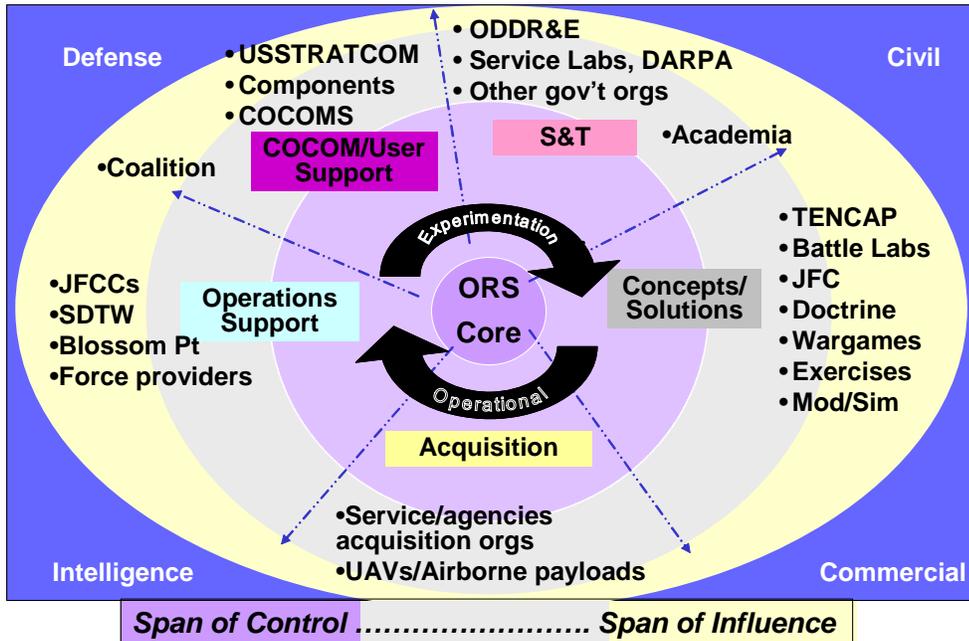


Figure 3: Conceptual Depiction of ORS Community Roles and Missions

In the detailed implementation planning the DoD will investigate the establishment of a lead service for ORS.

## **Chain-of-Command / Organizational Structure**

The organizational structure, shown in Figure 4, will enable the type of innovative operational and acquisition strategies required to rapidly respond to warfighter needs and will include the following:

**Executive Committee:** The ORS Executive Committee (EXCOM) will provide senior-level recommendations for the ORS Director concerning personnel and resources from across the National Security Space agencies, while providing strategic guidance and the senior level commitment required for success. The Commander USSTRATCOM and the DoD EA for Space will convene the ORS Executive Committee (ORS EXCOM) consisting of the following core members: USSTRATCOM, DoD EA for Space, DNI, ASD(NII), USD(I), USD(P), AT&L, PA&E, AF Space Command, DDR&E, Joint Staff, each Service, and key stakeholder agencies (including NGA, NSA, DIA, DISA, NRO, DARPA, NASA, ...(see Appendix A, Figure A-1)). Others will be invited as required by the agenda. The ORS EXCOM will be a key means for stakeholder involvement and guidance. The EXCOM will establish ORS priorities for DoD efforts in collaboration with other agencies. The EXCOM's charter will define the appropriate roles and responsibilities to provide oversight of the ORS authorities and practices. The ORS organizational structure and chain of command does not override existing policy, strategy, programs, oversight and guidance responsibilities of any OSD office or agency (for example, USD(I) has oversight responsibility of space-borne ISR initiatives).

**DoD Executive Agent for Space:** The DoD EA for Space will provide direct oversight of the ORS Office and serve as the Service Acquisition Executive for the Office's efforts. The DoD EA for Space will also convene the ORS EXCOM in coordination with CDRUSSTRATCOM.

**Commander USSTRATCOM:** The CDRUSSTRATCOM will provide operational oversight for all ORS activities consistent with the UCP and other applicable authorities. This includes collecting, prioritizing and managing identified warfighter needs and operating ORS systems to meet those needs. CDRUSSTRATCOM will coordinate with the DoD EA for Space in establishing the agenda and convening the ORS EXCOM.

**ORS Core Office:** The ORS Office will be a joint organization with 10-20 government (military and civilian) positions (provided by the various Services and Agencies) and will execute the functions described in the previous section. To obtain the depth and breadth of expertise in both space systems and joint warfighting, with reach-back to the entire NSS community, the positions will be staffed with trained personnel from all services, agencies, and the Intelligence Community and the Reserve Components. Joint Duty Assignments (JDA) status will be requested for Army, Navy, Air Force and Marine Corps billets in the ORS Office. Small integrated teams of experienced and diverse backgrounds consisting of warfighters, operators, scientists, engineers, and acquisition specialists are needed for ORS. To enable a quick stand up and to maximize synergy with on-going Air Force efforts in small satellites, launches, and ranges, the ORS Office will be located at Kirtland AFB, New Mexico.

**Director:** The responsibility of the ORS Director will be to serve as the head of the Office and provide authority, direction and control over the personnel and resources in the ORS Office. The ORS Director is envisioned to be a joint nominative position. The first Director will be the Space Development and Test Wing Commander (SD&TW/CC) as a dual-hatted director. The ORS Director will report to the DoD EA for Space.

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**Deputy Director(s):** There will be a minimum of one deputy director when the organization initially stands up. The selection of a Principal Deputy Director will also be based upon nomination from the military departments and agencies with a review and selection by the ORS EXCOM and the DoD Executive Agent for Space. As the ORS effort matures, however, there may be multiple deputy directors selected to balance the Office's community representation and to capture the breadth of expertise across the ORS community.

**ORS Chief Scientist/Engineer:** To provide continuity and depth of expertise, a senior executive chief scientist/engineer will be assigned to the ORS Office. The selection of the Chief Scientist/Engineer will also be based upon nomination from the military departments and agencies with a review and selection by the ORS EXCOM and the DoD Executive Agent for Space.

Balancing backgrounds and expertise of the three senior positions (Director, Deputy Director(s) and Chief Scientist/Engineer) across operations, S&T, and acquisition will be key to success of the ORS Office.

**Budget Line:** The ORS Director will control resources in the ORS budget Program Element (PE) 0604857F (Operationally Responsive Space) and 0602001D8Z (Joint Operational Small Satellites). Because these PEs fund multiple ORS projects and enabling efforts, not a single ORS program, therefore, ORS will not be considered a Major Defense Acquisition Program (MDAP). Cost objectives will be established for each ORS initiative upon individual project direction and subject to trade-offs based on schedule and performance requirements.

**Acquisition Authority:** The ORS Office derives its acquisition authority from the Under Secretary of the Air Force (USECAF). The ORS Office will distribute resources and authorities for a specific ORS project to existing organizations.

**Establishing Needs:** USSTRATCOM is DoD's lead for identifying desired characteristics, advocating, planning and conducting space operations. USSTRATCOM will collect COCOM needs and prioritize and advocate responses through established processes.

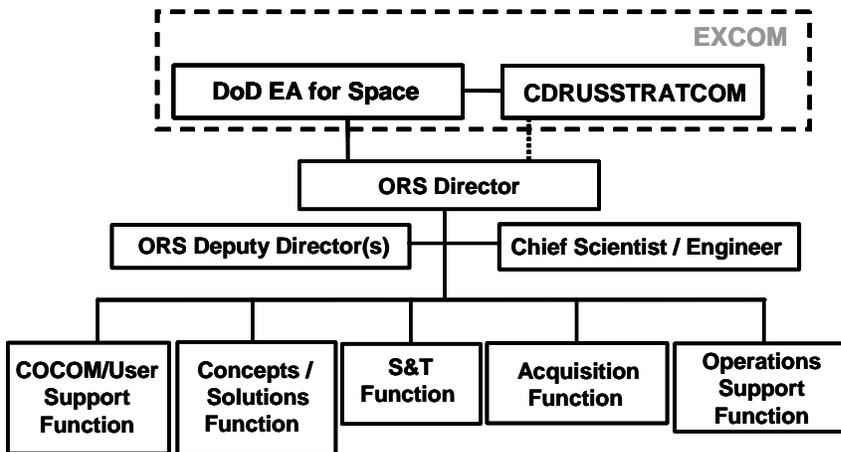


Figure 4: ORS Core Office

## **Classification of Information**

Classification of ORS-related information will depend on a number of factors, including the sensitivity of the information being protected. There may be value for our allies to have access to ORS-related information and, thus, disclosure of such information shall occur consistent with applicable authorities. ORS programs and capabilities are and will be classified/protected at the appropriate level of classification and in accordance with applicable, laws, regulations and policies.

## **Applicable Acquisition Policies and Procedures**

The ORS Office's objectives are to optimize development/acquisition by streamlining development/deployment time and cost; to bring desired capabilities to bear quickly and effectively; and to incorporate solutions that focus on responsiveness and address current-day National Security Space architecture and Doctrine, Organization, Training, Materiel, Leadership, Personnel, and Facilities (DOTMLPF) challenges. The desired attributes for the acquisition system are:

- timely — fast, agile, and flexible
- processes that are tailored and disciplined in execution
- networked, integrated, and comprehensive across the ORS community
- authority that is clear, delegated, and direct
- flexible and agile with resources responsive to the need
- funding/resource stability with a personnel and industrial base foundation
- oversight that is appropriate and risk tolerant
- competitive with a market-based selection

To ensure success, improve upon resource allocation in terms of cost and schedule, and minimize duplication of efforts; the ORS implementation plan will include consultation and/or collaboration with the IC and NSS organizations (e.g., NGA, NSA, NRO, et. al.) to make sure Tier-1 options have been carefully investigated prior to moving to Tier-2 and Tier-3 alternatives.

The DoD already has many authorities applicable to the ORS construct. In order to facilitate a rapid stand-up of the ORS Office, the DoD might exploit existing authorities, request waivers, and obtain delegated authority within existing DoD regulations as well as other applicable authorities. Representative policies and procedures that will be initially reviewed for potential implementation are sole source authority under Federal Acquisition Regulation (FAR) 6.302-6 National Security (Justification & Approval process), development of a broad System Acquisition Management Plan that captures the basis for ORS, manage ORS as multiple projects/contracts and not as an MDAP, and appropriate waivers for small business considerations. Specific implementation actions might also include establishing a single point of authority for acquisition and obtaining priority contracting. The Developmental Test and Evaluation (DT&E) and the independent test agency Operational Test and Evaluation (OT&E) will be executed in the framework of an integrated Test Team as identified in AFI 99-103. Existing Indefinite Delivery Indefinite Quantity (IDIQ), Multiple Award and other full and openly competed contracts will be considered whenever possible and practical.

## **Additional Authorities**

In parallel, the DoD will consider pursuing legislative actions to greatly enhance the flexibility and responsiveness of the ORS program. Representative policies and procedures that will be reviewed for potential requests include, for example: a) no color money or Research, Development, Test & Evaluation (RDT&E) in a broader definition, b) no-/multi-year money, and c) other, as needed.

## Initial Implementation Schedule

The DoD's plan is to establish and stand-up an initial ORS Office by May 2007 with full implementation by October 2007. ORS implementation is envisioned to integrate all Tier-1, 2, and 3 activities. The initial ORS plan is reflected in PE 0604857F and depicted in Figure 5 below. It shows an initial depiction of Tier-1 iteration activities to address specific JFC needs with CONOPS, non-material or material modifications, the build timeline for the Tactical Satellite (TacSat) Demonstration Program, which is a supporting activity to ORS, and an anticipated Tier-2/3 block-build cycle for longer term acquisitions. ORS program funds are planned to aid in the leadership, coordination, and integration, along with the services and agencies, of Tier-1, 2, and 3 activities, fund TacSat launches and operational transition of TacSat demos to operational capabilities, as well as acquisition of operational ORS blocks.

The Tactical Satellite (TacSat) Demonstration Program, with participation from the Air Force Research Lab, Naval Research Lab, the Army's Space and Missile Defense Command, and Air Force Space Command is the principal test-bed for proving out the technologies required to develop and field future ORS space capabilities. Through a series of TacSat demonstrations, the NSS community is demonstrating affordable and responsive launch, checkout, and theater integration of space systems to support the tactical need of the Combatant Commanders. TacSat demonstrations will validate common interfaces, subsystems, new payloads, and new concepts of operations. Funding contained in the ORS PE 0604857F supports the TacSat demonstration launch costs, including booster, ground support, and other related activities, while funding for the TacSat demonstration spacecraft, integration, and operations is handled through other service and agency S&T budgets.

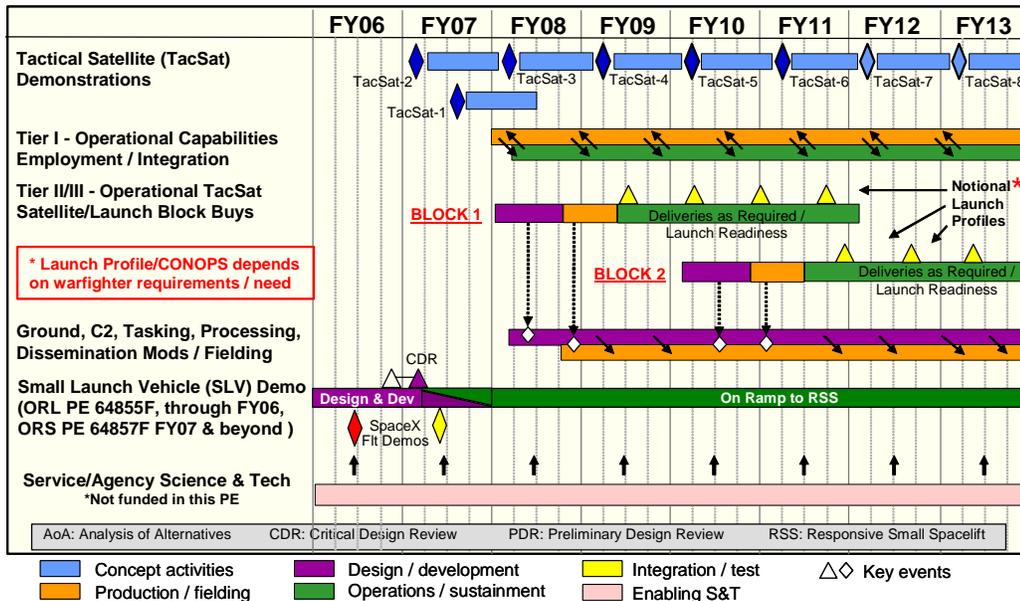


Figure 5: Initial ORS Implementation Schedule

Planned efforts in the initial ORS program (PE 0604857F) provide the foundational elements necessary for the transition and follow-on development of operational satellites in a block-approach leveraging the successes of the TacSat demonstrations and other space

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demonstrations and plan for and procure responsive small launch vehicles to support (1) the TacSat demonstrations and (2) deployment of operational satellites in a time-phased block approach. Additionally, ORS will support on-going analyses, employment and integration of new concepts and methods for enhancing the responsiveness of the existing capabilities (Tier-1) and will support ground system enhancements including C2 systems and tasking, processing, and data dissemination capabilities. The ORS Implementation Schedule will mature to reflect the variety of Tier-level activities as the ORS Office works with the user community to define future capability blocks.

### **Resources Required**

Funding allocations are reflected in the FY08 President's Budget (PB). The Air Force already has established a single PE for ORS which is being funded in the defense budget review process—currently projected as \$409M across FY08-13. This funding approach provides for timely and up-front investment of responsive space projects to meet emerging warfighter and other user needs. The ORS Office will collaborate with other partners to optimize DoD-wide resources (and others as appropriate) for similar ORS-related activities to execute a coordinated community-wide effort. The ORS Office will have 10-20 government personnel (military and civilian).

## Recommended Actions / Way Ahead

Under this initial construct, the DoD will establish a joint ORS Office by Summer of 2007 to serve as the core of the ORS activities under the authority, direction and control of the DoD EA for Space. The DoD will develop a legislative package to request additional authorities as appropriate and continue executing the ORS efforts within current legislative guidelines and authorities. The DoD will conduct a range of planning and requirements development activities to lay the foundation for future ORS Office activities, in terms of the development, deployment and employment of ORS capabilities, as defined in this report. The DoD will continue to execute the TacSat operational experiments and incorporate lessons learned and new capabilities into the operational satellite blocks, ORS launchers, and ground components.

## Summary

The Department will create a joint ORS Office to provide assured space power focused on timely satisfaction of Joint Force Commanders' needs and the needs of other users.

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Appendix A: ORS Plan Working Group

A Working Group, co-chaired by the DoD EA for Space and CDRUSSTRATCOM, was established to develop alternative approaches to respond to the Congressional direction for an ORS Plan. This Working Group quickly developed a study approach and organized the National Security Space community to support the effort. This team, shown in Figure A-1, included sub-groups led by and supported with representatives of the key stakeholders throughout the National Security Space community. Given the broad community interest in enhancing the responsiveness of our space systems, the DoD EA for Space strongly pushed for an all-inclusive approach and maximum community participation, including key leadership roles in the development of the plan.

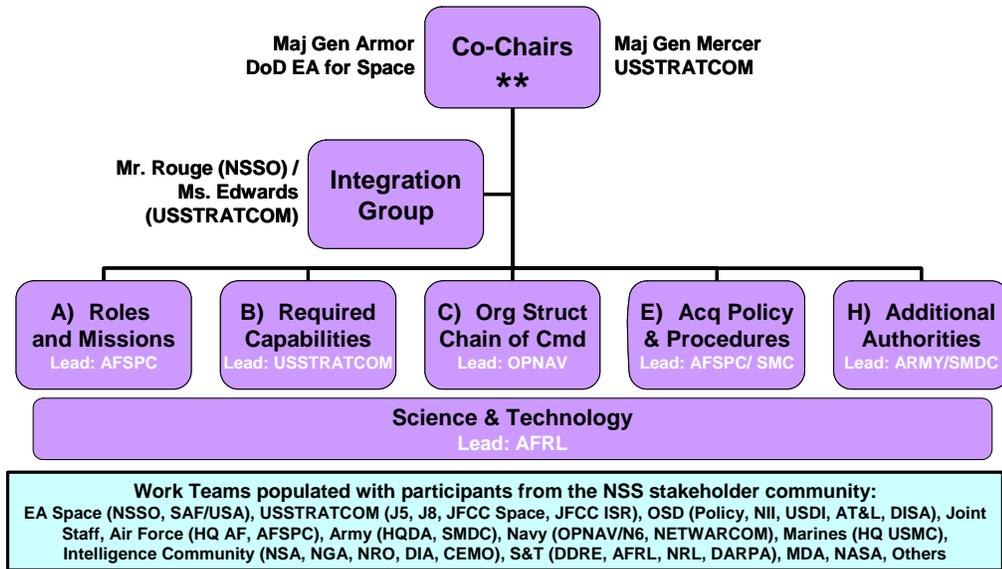


Figure A-1: ORS Plan Working Group Team

The co-chairs agreed on a governing set of assumptions or tenets to be used as guidance by the plan integration team and sub-teams as they carried forward alternatives and recommendations. This co-chair guidance included the following:

- Leverage existing expertise within the community – do not replicate it
- ORS Office will be a joint organization
- ORS Office reports directly to the DoD EA for Space
- Primary emphasis is on unity of effort, with a focus on coordination, analysis, integration, planning, and programming
- Use existing organization to execute, to the maximum extent possible
- Liaison with key stakeholder organizations
- Build on existing body of work that has already been done— ORS Definition, Strategic Framework, High-Level Concept of Operations (CONOPS), etc.
- Must address all ORS Tiers (1, 2, and 3) not just exclusively focus on small satellites and rapid launch— although these may receive an emphasis in the near term

Plan review and key issue resolution and decisions were handled by two levels of senior decision-makers. First, the already-existing ORS Senior Level Review Group (or ORS

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Senior Summit), chaired by the Deputy USECAF and USSTRATCOM Deputy Commander, kicked off the plan in mid-October and conducted progress reviews along the way. Midway in the development of this plan, it became apparent to the team, that a senior four-star level body would be necessary to make key decisions and commitments for the standup, manning, and support of this new ORS Office. Therefore, an ORS EXCOM, chaired by the DoD EA for Space and the CDRUSSTRATCOM, was established and met twice in December 2006 and February 2007.

Throughout the execution of the working group activities and the plan review and coordination, significant effort was made to be inclusive of the entire National Security Space community; to reach consensus, to the maximum extent practical; and to carry forward to the next level the dissenting opinions of those wishing to do so. The effort to develop this plan has already paid dividends by increasing the interactions of the stakeholders. This has broadened the awareness of many of the team members to the positions of other organizations, and especially highlighted the various perspectives of the acquisition, operations, and S&T communities.

The Plan is the product of the National Security Space community, approved by the DoD EA for Space and the CDRUSSTRATCOM, and submitted to Congress by the Secretary of Defense.

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**Appendix B: Correlation of Congressional Language to the Plan for ORS**

<b>Public Law 109-364, Section 913(c)(2)</b>		<b>Plan for Operationally Responsive Space</b>	
<b>Element</b>	<b>Language</b>	<b>Primary Section (Pages)</b>	<b>Supporting Information (Pages)</b>
(A)	<i>An identification of the roles and missions of each military department, Defense Agency, and other component or element of the Department of Defense for the fulfillment of the mission of the Department with respect to operationally responsive space</i>	Roles and Missions (pages 5-8)	Approach (Pages 2-5) Figure 3 (Page 7) Appendix A / Figure A-1 (Page 14)
(B)	<i>An identification of the capabilities required by the Department to fulfill such mission during the period covered by the current future years defense program submitted to Congress pursuant to section 221 of title 10, United States Code, and an additional</i>	Required Capabilities (page 5)	Background / Definition (Page 2) Establishing Needs (page 9)
(C)	<i>A description of the chain of command and reporting structure of the Operationally Responsive Space Program Office established under section 2273a, of title 10, United States Code, as amended by subsection (b)</i>	Chain of Command / Organizational Structure (pages 8-9)	Appendix A / ORS EXCOM (Page 15)
(D)	<i>A description of the classification of information required for the Operationally Responsive Space Program Office in order to ensure that the Office carries out its responsibilities under such section 2273a in a proper and efficient manner</i>	Classification of Information (page 10)	
(E)	<i>A description of the acquisition policies and procedures applicable to the Operationally Responsive Space Program Office, including a description of any legislative or administrative action necessary to provide the Office additional acquisition authority</i>	Applicable Acquisition Policies and Procedures (page 10)	Approach (page 3) Acquisition Authority (page 9) Additional Authorities (pages 10-11)
(F)	<i>A schedule for the implementation of the plan and the establishment of the Operationally Responsive Space Program Office</i>	Implementation Schedule (pages 11-12)	
(G)	<i>The funding and personnel required to implement the plan over the course of the current future-years defense program</i>	Resources Required (page 12)	ORS Core Office (page 8) Director (page 8) Deputy Directors (page 9) Chief Scientist/Engineer (page 9) Budget Line (page 9)
(H)	<i>A description of any additional authorities and programmatic, organizational, or other changes necessary to ensure that the Operationally Responsive Space Program Office can successfully carry out its responsibilities</i>	Additional Authorities (page 10)	

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## Appendix C: Acronyms

AFB	Air Force Base
AFI	Air Force Instruction
AFRL	Air Force Research Lab
AFSPC	Air Force Space Command
ASD(NII)	Assistant Secretary of Defense (Networks and Information Integration)
C2	Command & Control
CDRUSSTRATCOM	Commander, United States Strategic Command
CEMO	Central ELINT Management Office
COCOM	Combatant Commander
CONOPS	Concept of Operations
DARPA	Defense Advanced Research Projects Agency
DDR&E	Director, Defense Research and Engineering
DIA	Defense Intelligence Agency
DISA	Defense Information Systems Agency
DNI	Director of National Intelligence
DoD	Department of Defense
DoD EA for Space	DoD Executive Agent for Space
DOTMLPF	Doctrine, Organization, Training, Materiel, Leadership, Personnel, and Facilities
DT&E	Developmental Test and Evaluation
EXCOM	Executive Committee
FAR	Federal Acquisition Regulation
FY	Fiscal Year
HQ AF	Headquarters Air Force
HQDA	Headquarters, Department of the Army
IC	Intelligence Community
IDIQ	Indefinite Delivery, Indefinite Quantity
ISR	Intelligence, Surveillance and Reconnaissance
JCIDS	Joint Capabilities Integration & Development System
JDA	Joint Duty Assignments
JFC	Joint Force Commander
JFCC	Joint Functional Component Command
JUONS	Joint Urgent Operational Needs Statement
LV	Launch Vehicle
M&S	Modeling & Simulation
MDAP	Major Defense Acquisition Program
MDAP	Missile Defense Agency
MUA	Military Utility Analysis
NASA	National Aeronautics and Space Administration
NDAA	National Defense Authorization Act
NETWARCOM	Naval Network Warfare Command
NGA	National Geospatial-Intelligence Agency
NRL	Naval Research Laboratory
NRO	National Reconnaissance Office
NSA	National Security Agency

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NSPD	National Security Presidential Directive
NSS	National Security Space
NSSO	National Security Space Office
OPNAV	Office of the Chief of Naval Operations
ORS	Operationally Responsive Space
OSD	Office of the Secretary of Defense
OT&E	Operational Test and Evaluation
P.L.	Public Law
PB	President Budget
PE	Program Element
RDT&E	Research, Development, Test and Evaluation
S&T	Science and Technology
SAF/USA	Directorate of Space Acquisition, Office of the Undersecretary of the Air Force
SDTW/CC	Space Development and Test Wing Commander
SMC	Air Force Space and Missile Systems Center
SMDC	Army Space and Missile Defense Command
SSA	Space Situational Awareness
TACSAT	Tactical Satellite
TTPs	Tactics, Techniques, and Procedures
UCP	Unified Command Plan
USD(I)	Under Secretary of Defense for Intelligence
USD(P)	Under Secretary of Defense for Policy
USD/AT&L	Under Secretary of Defense for Acquisition, Technology, and Logistics
USECAF	Under Secretary of the Air Force
USMC	United States Marine Corps
USSTRATCOM	United States Strategic Command



**DEPUTY SECRETARY OF DEFENSE**  
1010 DEFENSE PENTAGON  
WASHINGTON, DC 20301-1010

APR 20 2007

The Honorable Carl Levin  
Chairman  
Committee on Armed Services  
United States Senate  
Washington, DC 20510

Dear Mr. Chairman:

This letter transmits the report required by Section 913 of the John Warner National Defense Authorization Act for Fiscal Year 2007 (P.L. 109-364). The report, "Plan for Operationally Responsive Space," reflects the Department's commitment to ensuring that actions in space are responsive to the warfighter. A similar letter has been sent to the Chairmen and Ranking Members of the other Congressional Defense Committees.

A handwritten signature in black ink that reads "Andrew England".

Enclosure:  
As stated

cc:  
The Honorable John McCain  
Ranking Member



**DEPUTY SECRETARY OF DEFENSE**  
1010 DEFENSE PENTAGON  
WASHINGTON, DC 20301-1010

APR 20 2007

The Honorable Robert C. Byrd  
Chairman  
Committee on Appropriations  
United States Senate  
Washington, DC 20510

Dear Mr. Chairman:

This letter transmits the report required by Section 913 of the John Warner National Defense Authorization Act for Fiscal Year 2007 (P.L. 109-364). The report, "Plan for Operationally Responsive Space," reflects the Department's commitment to ensuring that actions in space are responsive to the warfighter. A similar letter has been sent to the Chairmen and Ranking Members of the other Congressional Defense Committees.

A handwritten signature in black ink that reads "Andrew England".

Enclosure:  
As stated

cc:  
The Honorable Thad Cochran  
Ranking Member



**DEPUTY SECRETARY OF DEFENSE**  
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WASHINGTON, DC 20301-1010

APR 20 2007

The Honorable Ike Skelton  
Chairman  
Committee on Armed Services  
U.S. House of Representatives  
Washington, DC 20515

Dear Mr. Chairman:

This letter transmits the report required by Section 913 of the John Warner National Defense Authorization Act for Fiscal Year 2007 (P.L. 109-364). The report, "Plan for Operationally Responsive Space," reflects the Department's commitment to ensuring that actions in space are responsive to the warfighter. A similar letter has been sent to the Chairmen and Ranking Members of the other Congressional Defense Committees.

A handwritten signature in cursive script that reads "Andrew England".

Enclosure:  
As stated

cc:  
The Honorable Duncan Hunter  
Ranking Member



DEPUTY SECRETARY OF DEFENSE  
1010 DEFENSE PENTAGON  
WASHINGTON, DC 20301-1010

APR 20 2007

The Honorable David R. Obey  
Chairman  
Committee on Appropriations  
U.S. House of Representatives  
Washington, DC 20515

Dear Mr. Chairman:

This letter transmits the report required by Section 913 of the John Warner National Defense Authorization Act for Fiscal Year 2007 (P.L. 109-364). The report, "Plan for Operationally Responsive Space," reflects the Department's commitment to ensuring that actions in space are responsive to the warfighter. A similar letter has been sent to the Chairmen and Ranking Members of the other Congressional Defense Committees.

A handwritten signature in black ink that reads "Arthur England".

Enclosure:  
As stated

cc:  
The Honorable Jerry Lewis  
Ranking Member