



INFORMATION DOMINANCE CORPS NEWSLETTER



A Publication from the
Deputy Chief of Naval Operations for Information Dominance

October 2012

This month's focus:
SPACE CAPABILITIES

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Information Dominance Corps –

I have elected to focus on space for this edition of the Newsletter. Most space capabilities are designed, acquired, and operated by other organizations—primarily the Air Force and the National Reconnaissance Office (NRO)—but the Navy and Naval warfighting are arguably the most dependent on space of all the Services. The significance of space capabilities to fleet operations has increased over the last two decades—and the evolving threats to our ability to maneuver in the electromagnetic spectrum, assure command and control, attain battlespace awareness and execute integrated fires is leading to a more comprehensive understanding of space and counter-space capabilities, just as we have seen in cyber. Space is a key part of our Information Dominance mission and the Navy Space Cadre plays a crucial role in its execution.



RADM Jon White and his staff in OPNAV N2N6E lead Navy's efforts in Space policy definition, development of requirements, and programming of capabilities. This past April, I asked RADM Sandy Daniels to join the N2/N6 staff as Senior Advisor for Space and head of the Navy Space Cadre. In that capacity, she leads the Navy Space Plan Task Force (NSPTF), which was established to assess the Navy's space workforce requirements, capabilities and capacity, and our role in space. In this edition, she will bring you up to speed on the Navy space team's activities, to include operations, training, acquisition, science and technology, and requirements development.

I had the privilege of meeting part of our space team while presiding over SPAWAR's IDWO pinning ceremony in January at NRO. More than 60 active duty and reserve officers from the SPAWAR Space Field Activity (SSFA)—Navy's presence at the National Reconnaissance Office—were recognized and I was greatly impressed by the range of technical and acquisition talent represented on that team. Leading that team is CAPT Christian "Boris" Becker, the acting CO of SSFA and Director of a major NRO program; he was also selected Department of the Navy Acquisition Professional of the Year in April. BZ to CAPT Becker! I am looking forward to the first Navy-NRO Summit in October—a great opportunity to have a direct dialogue with NRO leadership about our important partnership.

I would also like to recognize CAPT Sunita "Suni" Williams, who is currently serving as Expedition 32 Flight Engineer aboard the International Space Station (ISS). She has been on orbit since July 14th. CAPT Williams will take over as ISS Expedition 33 Commander in September, remaining in that position until her scheduled return to earth in November. Although all of the astronauts wearing the IDWO pin have previously flown in space, CAPT Williams is the first to fly in space since earning the IDWO qualification.

Back here on earth, summer's end brings the next budget season and we are gearing up for a very challenging POM cycle. Our goal here at OPNAV is simple: provide Navy, joint and coalition commanders with the Information Dominance capabilities they need to operate and win. In spite of the doom and gloom you may see in the media, rest assured that N2/N6 remains bore-sited on the POM process, working continuously to meet the fleet's needs. Moreover, the Navy's leadership, specifically the CNO, greatly values your contributions to the global Navy mission, and that confidence will help us through the heavy fiscal weather ahead. Thanks again for your individual contributions and your service to the Navy and our Nation. As always...keep smiling!

Kendall Card

Vice Admiral, U.S. Navy
Deputy Chief of Naval Operations for Information Dominance

"Modern armed forces cannot conduct high-tempo, effective operations without reliable information and communication networks and assured access to space and cyberspace."

– Secretary of Defense Leon E. Panetta



Information Dominance and the Navy Space Plan

RADM Sandy Daniels
Senior Advisor for Space

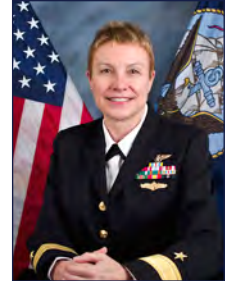
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It's a privilege to be onboard the Information Dominance team and have the opportunity to work with a broad array of Navy organizations that either depend on space capabilities or are elements of the Navy space team that helps ensure those capabilities are relevant to maritime operations. The Navy has a long history of developing space systems that support maritime operational users. Most of these systems have been out-of-sight out-of-mind as their capabilities were delivered, some because of classification.



As VADM Card mentioned, one of my responsibilities is to work with the OPNAV Space Director, RADM Jonathan White (N2/N6E), as he develops the new Navy Space Strategy. He and his team are laying out Navy's direction over the next 5 years to maximize the use of space-based capabilities for maritime operations, while concurrently preparing Navy to operate in a degraded space environment, i.e. mitigating the impacts of reduced capabilities. My role centers on creating a Navy Space Plan to codify those actions that Navy personnel must be ready and able to fulfill to ensure we have what is necessary to operate effectively in any environment. The Navy Space Plan Task Force, simply put, is charged with developing a plan that positions the Navy to optimize current capabilities, drive future systems, and operate through a contested space environment. It will include how we address space in our operations, processes for requirements development and documentation, science and technology (S&T) investment considerations, and acquisition relative to where we participate and where we lead (e.g., we are currently responsible for narrowband satellite communications). A critical aspect of the plan is that it is developed as an integral part of Navy's overall Information Dominance strategy and leverages CNO's first principles of warfighting first, operate forward, and be ready.

Clearly this task touches other organizations. Within Navy, we have identified principal advisors from around the community to represent their organization's equities and areas of responsibilities. CAPT Warren Vaneman is the Fleet Cyber Command/US TENTH Fleet (FCC/C10F) lead for the operations working group. The requirements working group is co- led by CAPT Burin from OPNAV N2/N6 and Mr. Michael Larios from FCC/C10F. CAPT Bruce Dickey represents SPAWAR and the Program Executive Office (PEO) for Space Systems in the acquisition/research & development area. Working closely with him are Mr. Bob Newton and Mr. Fred Hellrich of the Office of Naval Research (ONR). Both of these gentlemen ensure we are keeping longer range S&T interests in our sites.

A critical contributor to the Task Force is the ongoing, first-of-its-kind, Zero-Based Review (ZBR) of the Space Cadre Workforce. Led by the Navy Space Type Commander, Navy Cyber Forces (NCF), the ZBR will identify the work roles and functions required to support Navy Space Operations. This study will not merely validate current billets, but identify new personnel requirements to ensure mission success. The ZBR will look at the total force—including Officers and Enlisted (both Active Duty and Reserves) and Navy Civilians—from every command whose mission demands Space expertise. The result will be a comprehensive "snapshot" of the Navy's Space manpower requirements, as well as recommendations for how to train and manage this unique workforce. Ms. Kate Petrillo is the NCF lead.

We expect the ZBR to be completed by the end of this calendar year; the Task Force will disestablish at the end of March 2013. However, as we discover key areas ready for decision, we will tee up and vet recommendations or options to leadership. After all, it's not about the document, it's about an actionable plan.





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When I reached out to the Navy space team for updates to share, I got more great input than can fit into the IDC newsletter. There is much going on, so here's the latest.

Fleet Cyber Command/U.S. TENTH Fleet (FCC/C10F)

Exercising planning and operations at the Operational Level of War (OLW), FCC/C10F executed its role as central operational authority for Navy Space in TERMINAL FURY 2012. This effort supported the Cyber Support Element for USPACOM and it was led by then-FCC Deputy Commander, RDML Matt Kohler. A Reserve Component Team from NR C10F and SSFA units formed a headquarters Space cell to ensure fusion between space operations and other mission areas, which included Intelligence, Information Operations (IO), Electronic Warfare (EW), Cryptology, SIGINT and the defensive and offensive cyber operations associated with Defense GIG Operations. Particular focus was placed on the interdependencies of Space Operations and Cyber capabilities.

The FCC/C10F staff capitalized on the exercise's observations in order to fully operationalize Navy Space across the varied echelons of command, including the OPNAV staff, FCC/C10F, the Naval Network Warfare Command (CTF 1010) and Navy Cyber Forces. Intersection points across the material and non-material spectrum will be addressed in the coming months in concert with the OPNAV-led Space Task Force and Space Cadre ZBR, as well as Naval War College's (NWC) Global '12 War Game. These efforts will include interactions between Maritime Operations Centers (MOC), Space Cadre requirements, and assured freedom of action/maneuver for the Fleet. With continuing trends in how potential adversaries use space and cyber to confound operations, interesting challenges lie ahead for the Navy Space team.

As the central operational authority for Navy networks, cryptology, SIGINT, IO, cyber, EW and Space, FCC/C10F is working with the U.S. Fleet Forces (USFF)/NWC MOC Training Team to increase lateral effectiveness for MOC-to-MOC support by ensuring (1) operations are synchronized to the Commander's Decision Cycle and (2) OLW processes are integrated with core IDC competencies.

Navy Cyber Forces (NCF)

NCF Colorado continues to serve as the Space Training Division (N76) of Navy Cyber Forces and operates the Navy Liaison Office at the Space Education and Training Center on Peterson AFB. NCF Colorado acts as the Navy's representative to the Advanced Space Operations School and the National Security Space Institute, as well as other Joint and sister Service space organizations in the Colorado Springs area.

NCF has led the development of the USFF/PACFLT Fleet Space Effects Warfighting Concept of Operations (CONOP), providing a framework for integrating space capabilities at the tactical and operational levels of maritime operations. The Navy relies on joint partners to ensure space-based systems are applied to maritime requirements. Key actions identified in the CONOP included:

- Assignment of officers at Fleet headquarters and Carrier Strike Group (CSG)/ Amphibious Ready Group (ARG) staffs who are trained and experienced in space operations and planning;
- Improved tactical training on space capabilities and degraded space environment; and
- Sustainment of the Naval Network Warfare Command Space Cell as the Navy's primary reachback node.

Naval Network Warfare Command (NNWC)/CTF 1010

NNWC has improved the Space Effects Packages delivered to the CSG/ARG staffs and worked to ensure a direct working relationship between the Fleet and the Joint Functional Component Command for Space, as well as the Combatant Commander's designated Space Coordinating Authority. Continued MILSATCOM and dynamic Commercial Broadband Satellite Program efforts have improved the Fleet's connectivity and freedom of maneuver. The new satellite vulnerability tool set is web-hosted, optimized for customers with limited bandwidth (primarily, afloat users). When used in conjunction with tools from Air Force Space Command's Space Innovation & Development Center, the set provides the Fleet with enormous planning capability (on SIPRNET, <https://www.dmoocs.afspc.af.smil.mil/ISSAWeb/>).





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Finally, in partnership with the Fleet, NCF and multiple stakeholders, NNWC is leading the integration of Navy's Space requirements via the Space Operations Cross Functional Team. This effort will use the formal requirements process to build a Navy Space Integrated Prioritized Capabilities List for inclusion in the larger Planning, Programming, Budgeting and Execution process.

Mobile User Objective System (MUOS)

The U.S. Navy and PEO Space Systems continued its proud heritage of space missions with the launch of the first MUOS Satellite on February 24, 2012 from Cape Canaveral, Florida. MUOS is the next generation narrowband tactical communications system designed to improve communications for Naval, Joint, Allied and Civil users on the move. MUOS will provide users with simultaneous voice, video and data capability by leveraging 3G mobile communications technology. Top requirements for MUOS include capacity, coverage, and link availability, providing 24 hour a day, seven day a week global coverage.

At full operational capability (four satellites; plus one on-orbit spare), MUOS will provide a communications capability over 10 times the capacity of current systems. It also includes a ground infrastructure located around the globe, which will provide worldwide coverage and the ability to connect users wherever they are. The ground infrastructure transports data, manages the world-wide network, and controls the satellites.

SPAWAR

SPAWAR 5.0 is developing an Executable Architecture Requirements Model (ExARM) that will support resource and program decision making for Navy leadership. ExARM is being enhanced to represent space capabilities in terms of visualizing what space systems bring to the maritime mission. The ExARM uses mission threads derived from the Navy's Required Operational Capability/Projected Operational Environment to determine fleet information exchange requirements. The components being added to ExARM will ensure the communications assumptions now modeled in space systems are more realistic, which will be critical for important resource decisions in each budget cycle.

SSFA & Navy-NRO Coordination Group (NNCG)

The officer, enlisted, and civilian IDC members attached to SSFA at NRO are critical in ensuring the Navy's needs and operations receive maximum support, and remain on the cutting edge of joint intelligence capabilities in space. The NRO is a Joint/Multi-Agency Organization engaged in the R&D, acquisition, launch, and operation of overhead reconnaissance systems to meet the needs of DoD and the Intelligence Community. With six launches in 2011 and three already in 2012, the NRO is experiencing unprecedented success. The Navy IDC has been an integral part of these accomplishments. Most recent highlights include:

- Working with ONR to develop new detection capabilities against maritime targets.
- Supporting Navy and COCOM priorities in critical geographic areas of responsibility through NRO, Navy TENCAP, ONR, NRL, and the Naval Mine and Anti-Submarine Warfare Command. This effort is aimed at rapidly reducing/enhancing the effectiveness of these kill chains.
- Enhancing Maritime Domain Awareness through a Joint Concept Technology Demonstration sponsored by OPNAV (N2/N6); this effort enhances the discovery of vessels not previously detectable.
- Improving CSG situational awareness by fusing multiple sources of intelligence data for an improved tactical and strategic picture.

Chartered to support the partnership between the Navy and the NRO, the NNCG, has been key to supporting these efforts. The first Navy-NRO Summit is currently being planned for October.

NRL and Tactical Satellite (TACSAT)-4

NRL's TACSAT-4 successfully completed three weeks of intense testing in June as part of the Navy's annual Trident Warrior Experiment 2012. TacSat-4 is a Navy-led Joint mission that provides UHF satellite communications. Kicking off the three-week experiment, NRL conducted TacSat-4 testing and training aboard USS ESSEX (LHD 2) and at the Marine Corps Tactical Systems Support Activity, Camp Pendleton, California. Aboard ESSEX, TACSAT-4 continued with the 3rd Battalion, 3rd Marine Regiment of Kaneohe Bay as the ship approached Oahu. NRL also conducted TACSAT-4 operations between USS OLYMPIA (SSN 717) and the submarine Broadcast Control Authority-Pacific.

