

Navy Warfare Development Command's

# **NEXT**

Fall 2016

Volume 4, Number 1

## **HIGH VELOCITY LEARNING**



# MESSAGE FROM THE COMMANDER



**RDML Bret Batchelder**  
**NWDC Commander**

**N**avy Warfare Development Command (NWDC) is uniquely positioned to propel Navy efforts to achieve High Velocity Learning (HVL), a key enabler of *A Design for Maintaining Maritime Superiority* recently approved by the Chief of Naval Operations (CNO). The CNO visited NWDC earlier this year and spoke on the development of an HVL culture as an imperative for the Navy to maintain our superiority against increasing adversary capability development.

In this edition of *NEXT* magazine, we introduce you to NWDC's employment of HVL, illustrated by way of an example related to Navy-wide efforts in electromagnetic maneuver warfare. NWDC continually uses principles of HVL in iterative military problem definition, by "swarming" to solutions, actively sharing what we learn, and feeding our learning engines Navy-wide.

CNO's visit coincided with two of the command's key events in the HVL process for identifying military capability gaps, informing solutions, and sharing what we've learned: NWDC's Warfighting Development Center (WDC) Leadership Huddle and the semiannual Advanced Warfighting Summit (AWS). Other HVL initiatives are the ongoing series of Strike Group 360° war games and regular visits from prospective commanders of carrier strike groups. In addition to our many products and services, we also share capability development topics through the military problem-based classified Advanced Warfighting Journal, and to a broader audience through these pages.

Navy Doctrine is a major vehicle for providing the fleet with information on new capabilities. In these pages you will be introduced to the new NWDC Department Head for Doctrine and see how HVL is improving doctrine and lessons learned programs to enable the Navy to learn faster.

Connecting problem definition to HVL, we feature an article highlighting the Fleet Experimentation (FLEX) program collaboration with stakeholders in planning for fiscal year 2017 FLEX program.

In other articles, you will read about fiber optic upgrades making fleet synthetic training (FST) more accessible for our Japan Maritime Self-Defense Force partners and the growing importance of exercises, FST, and FLEX for health services integration.

Through HVL, all these efforts with the fleet and our capability development partners are realizing solutions that give our warfighters the edge they need today and in the future. ✪

**NWDC—"Forward for the Fleet"**

Navy Warfare Development Command's  
**NEXT**

Commander, Navy Warfare Development Command  
RDML Bret Batchelder

Executive Director, Navy Warfare Development Command  
Joseph Murphy

Chief of Staff, Navy Warfare Development Command  
CAPT Thomas K. Kiss

NWDC POINTS OF CONTACT

Operations/Advanced Cross-Domain Warfighting  
Operational Level of War Development and Integration  
CAPT James Loper Frederick Pawlowski  
Department Head/OLW Lead Director, Operations  
(757) 341-4689 (757) 341-4243

Doctrine, Concepts, Analysis, and Lessons Learned  
CAPT Chuck Minter James Seerden  
Department Head Director, Doctrine  
(757) 341-4211 (757) 341-4183

Michael Lepson  
Director, Lessons Learned  
(757) 341-4158

Modeling and Simulation  
CAPT Greg Dawson Ron Keter  
Department Head Director, M&S Operations  
(757) 341-4109 (757) 341-2341

Darrel Morben  
Program Manager, M&S/NCTE  
(757) 341-4000

Fleet Experimentation  
CAPT Paul Movizzo Steve Faggert  
Department Head/EMW Lead Director, FLEX  
(757) 341-4110 (757) 341-4165

Public Affairs  
Grant Sattler  
(757) 341-4240



## On the Cover

*PERSIAN GULF (June 30, 2007)—An F/A-18F Super Hornet, attached to the "Black Knights" of Strike Fighter Squadron (VFA) 154, goes to afterburner prior to launching from the flight deck of Nimitz-class aircraft carrier USS John C. Stennis (CVN 74). (U.S. Navy photo by Mass Communication Specialist 3rd Class Jon Hyde/Released)*

### Senior Editors

Colin Claus  
Grant Sattler

### Editors

Elizabeth Christopher  
Melissa Miller  
Dave Noble  
Veronica Porfert  
Brian Ramsey  
Robert A. Wood Sr.

### Layout/Design

Simon McCann

### Contributors

CAPT Chuck Minter  
CDR Kathryn Cook  
LCDR William Chard  
Stacy Dale  
Dean Oyler  
Jennifer Werner  
Jennifer Wright

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Constructive comments and contributions are important to us. Please direct editorial comments or requests to Editor, *NEXT*, Navy Warfare Development Command, 1528 Piersey Street, Building O-27, Norfolk, VA 23511. E-mail: [nwdc\\_nrfk\\_pao@navy.mil](mailto:nwdc_nrfk_pao@navy.mil)

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SASEBO, Japan (June 11, 2016)—A U.S. Navy Sailor, right, assigned to Explosive Ordnance Disposal (EOD) Mobile Unit One and a Japan Maritime Self-Defense Force (JMSDF) EOD technician prepare to release a MK18 Mod. 1 unmanned underwater vehicle during exercise Malabar 2016. A trilateral maritime exercise, Malabar is designed to enhance dynamic cooperation between the Indian Navy, JMSDF and U.S. Navy forces in the Indo-Asia-Pacific. (U.S. Navy combat camera photo by Mass Communication Specialist 1st Class Charles E. White/Released)

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**NAVY WARFARE DEVELOPMENT COMMAND**



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# CNO VISITS NAVY WARFARE DEVELOPMENT COMMAND



NORFOLK, VA—Chief of Naval Operations John M. Richardson is greeted by RADM Scott A. Stearney, former commander of Navy Warfare Development Command. (U.S. Navy Photo by Joseph Bara/Released)

By Grant Sattler  
NWDC Public Affairs

In his first visit to Navy Warfare Development Command (NWDC) since becoming the Chief of Naval Operations (CNO), ADM John Richardson was updated on the progress of command initiatives and provided CNO guidance to Navy leaders engaged in developing current and future warfighting capabilities.

Then NWDC Commander RADM Scott Stearney briefed the CNO on alignment of the command's efforts to the CNO's strategic guidance outlined in the Navy's *A Design for Maintaining Maritime Superiority*. As the Navy's nexus for fleet experimentation, doctrine, Navy lessons learned, and modeling and simulation, NWDC supports the *Design* defined lines of effort to "Strengthen Naval Power At and From Sea" and to "Achieve High Velocity Learning at Every Level." NWDC uses high velocity learning (HVL) principles to accelerate improvements in relevant doctrine and tactics, techniques, and procedures.

Among topics covered in discussion with the CNO were fiscal year 2016 initiatives in the Fleet Experimentation (FLEX) executed by NWDC. The FLEX program designs and executes collaborative, synchronized, and relevant experiment campaigns, war games, and at-sea experiments based on near-term fleet priorities and capability gaps. The FLEX program produces tangible products to improve warfighter capabilities, primarily as doctrine, training, and materiel solutions for the fleet.

During his visit to NWDC headquarters, CNO also addressed commanders of the Navy's Warfighting Development Centers (WDCs) assembled for the semiannual WDC leadership meeting hosted by NWDC. Naval Aviation Warfighting Development Center, Navy Expeditionary Warfighting Development Center, Naval Surface and Mine Warfighting Development Center, Navy Undersea

Warfighting Development Center, and Naval Information Forces leadership met to discuss their near-term and future challenges and opportunities. Bringing the WDCs together serves to identify gaps and integrate and prioritize advanced cross-domain capability development efforts. The group worked to refine common understanding of military problems through the framework of the Strike Group 360° tabletop war game in order to explore current and future concepts, warfighting CONOPS, and doctrine against peer/near-peer sea denial adversaries.

The WDC commanders met ahead of the semiannual Advanced Warfighting Summit, making it an opportune time to carry the CNO's guidance forward to the summit that brings together leadership of the type-command WDCs, and the commanders of carrier strike groups and expeditionary strike groups, Naval War College, and fleet Flags/SESs to connect information and knowledge, a key component of HVL.

Within the context of the current fleet operating environment and through the lens of electromagnetic maneuver warfare, summit attendees focused on topics of battlespace awareness, maneuver, and integrated fires for enabling high-end warfighting in a contested, sea-denial environment. The summit endeavor aligned with the *Design* line of effort to "Strengthen Naval Power At and From Sea."

The WDC leadership meeting and the Advanced Warfighting Summit produce recommendations for follow on wargaming, modeling and simulation, experimentation, and doctrine/tactics, techniques, and procedures development that will better link concepts, CONOPS, and doctrine to accelerate learning and development of warfighting solutions.

For more news from Chief of Naval Operations, visit [www.navy.mil/local/cno/](http://www.navy.mil/local/cno/). ☼

MARINETTE, WI (October 5, 2011)—  
(U.S. Navy photo courtesy of Lockheed  
Martin by Michael Rote/Released)

# HIGH VELOCITY LEARNING IN PRACTICE

By LCDR William Chard  
NWDC N5 Doctrine

**“For the first time in 25 years, the United States is facing a return to great power competition.”—ADM John Richardson, Chief of Naval Operations**

## The Design—Lines of Effort for Superiority

Earlier this year, the CNO released *A Design for Maintaining Maritime Superiority*, which describes initial steps toward achieving aims articulated in the revised *Cooperative Strategy for the 21st Century*. The *Design* outlines the actions necessary for the fleet to meet its core missions and functions in an era of “great power competition.” It specifies four distinct lines of effort (LOEs) that focus on warfighting (blue LOE), high velocity learning (green LOE), strengthening our Navy team (gold LOE), and building partnerships (purple LOE). The CNO deliberately chose to assign each of the four LOEs a different color to avoid the appearance of precedence of any individual LOE and stressed that all four LOEs are “inextricably linked and must be considered together.” This article illustrates an example of how NWDC applied the ideas in the “green LOE” (figure 1) to create alignment and synchronization to a specific high-end military problem.

## High Velocity Learning

**“Achieving HVL requires recognition, connection, and alignment of high-end military problems to capability development.”—RADM Scott Stearney, former NWDC Commander**

The *Design* calls for the fleet to achieve high velocity learning (HVL), but—*What is HVL?* It is the process that organizations use, to not only solve problems, but

Achieve High Velocity Learning at Every Level: Apply the best concepts, techniques, and technologies to accelerate learning as individuals, teams, and organizations. Clearly know the objective and the theoretical limits of performance—set aspirational goals. Begin problem definition by studying history—do not relearn old lessons. Start by seeing what you can accomplish without additional resources. During execution, conduct routine and rigorous self-assessment. Adapt processes to be inherently receptive to innovation and creativity.

1. Implement individual, team, and organizational best practices to inculcate high velocity learning as a matter of routine.
2. Expand the use of learning-centered technologies, simulators, online gaming, analytics, and other tools as a means to bring in creativity, operational agility, and insight.
3. Optimize the Navy intellectual enterprise to maximize combat effectiveness and efficiency. Reinvigorate an assessment culture and processes.
4. Understand the lessons of history so as not to relearn them.

Figure 1. The Green Line of Effort From A Design for Maintaining Maritime Superiority

to ensure the process is used and lessons learned are shared. HVL is not only about speed but is all about every organization reaching its full potential to operate by continually improving and solving problems. The CNO drew his vision of HVL from a concept in a book written by Dr. Steven Spear, *The High Velocity Edge*, in which he outlines four characteristics of high velocity organizations that NWDC translated to four distinct steps of HVL (figure 2).



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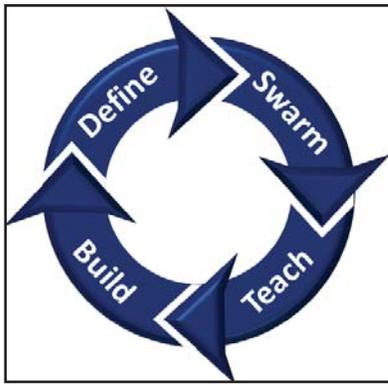


Figure 2. The Four Steps of High Velocity Learning

1. **Define the Problem**—determine the “swarmable” military problem
2. **Swarm to solutions**—get everyone involved
3. **Teach/Share**—actively move what was learned
4. **Build**—create apostles for the HVL process.

The first step is the most critical—identifying and defining the specific military problem to be solved through solution development. Once the military problem is defined, the next step of HVL is to “swarm” all stakeholders to solution development, which requires alignment and synchronization of effort. This step includes constant assessment and adjustment to ensure common alignment to the military problem. The next step is to ensure that knowledge learned during the swarm step is shared throughout the collective of solution development organizations. Finally, HVL requires both a repeatable process of learning, and the building of leaders who understand and can incorporate HVL principles throughout their organizations.

*“If we achieved the vision of high velocity learning, we would see across the Navy, a keen desire to improve each and everything that we do.”—CNO Richardson*

In addition to the four steps Dr. Spear presents, the CNO adds an important element that generates the energy needed to make the first two steps of HVL effective—the use of “learning engines.” A learning engine can be thought of as a process that can be repeated continuously in order to constantly inform the next iteration or repetition of solution development. There are six steps in the learning engine, which are similar to those used in the scientific method:

1. Define the problem
2. Predict the environment
3. Formulate a plan
4. Articulate the expected result (hypothesis)
5. Act (i.e., execute the plan in the operating environment)
6. Assess actual results.

Within each “turn” of a learning engine, the CNO prescribes that these steps are used to create a critical analysis of what was learned in order to inform the next “turn” of the learning engine, in which the problem and the environment can be refined to accelerate the velocity of learning by increasing knowledge over time (depicted in figure 3).

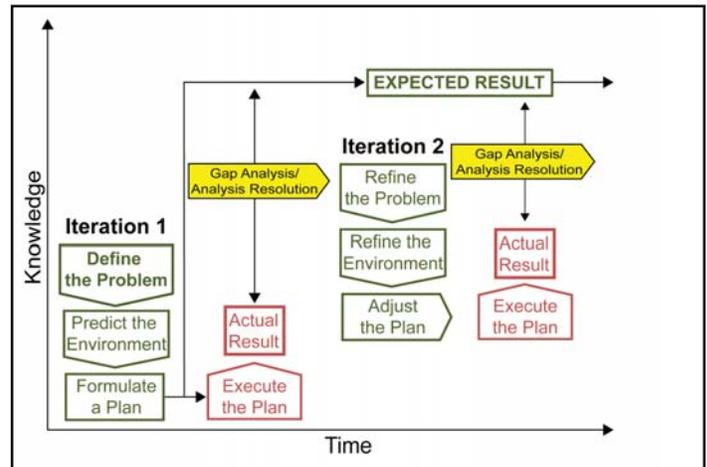


Figure 3. The Learning Engine

## Example of HVL in Practice— Maintaining Control of Electronic Emissions

**The Military Problem:** *enable maneuver by employing fleet deception techniques through the control of electronic emissions.*

### Defining the Problem—from Concept to Campaign

Achieving success with deception and maneuver in a contested maritime environment requires full control of all electronic emissions. Last year, electromagnetic maneuver warfare (EMW) was defined in a CNO concept as “a new warfighting approach” for countering emerging sea denial strategies. The EMW Concept put in context the warfighting challenges and capability required for success in the electromagnetic spectrum (EMS) against a

pace threat, and highlighted objective areas for development with well-defined swarmable military problems to resolve. With tangible objectives outlined in the EMW Concept, an EMW Charter was written to establish governance that assigned leadership and ownership of capability development efforts.

### Swarming to Solutions—All Hands on Deck to Develop Capabilities

With “maintaining control of our electronic emissions” defined as the military problem, organizations were able to swarm activities, and align and synchronize solution development to support capability objectives.

“Because of NWDC’s unique position in the capability development process, we have been aligning stakeholders and sharing information to address the Navy’s most pressing military problems,” said RADM Stearney. “We view our task as connecting the dots across organizations to yield coherent integration and prioritization of cross-domain solution development.”

Across the departments at NWDC, the key was to not only synchronize and align efforts, but also to share critical information that would inform the whole of the other command activities. We use the term “5-Ws” to share information on the who, what, when, where, and why of our development efforts.

Specific to “maintaining control of our electronic emissions” the Concepts Department authored the EMW Concept highlighting EMW maneuver, counter-intelligence, surveillance, and reconnaissance (C-ISR), and deception capability needs. The Experimentation

**Define the Military Problem**  
“...most effective approach...”

**Concept to Campaign**—created an EMW imperative; reshaped the trajectory of warfighting using the learning engine process to resolve complex military problems:

- Formally defined EMW as a warfighting approach
- Codified objectives, effects, tasks
- Established recurring assessment; adjust plan
- Provided leadership and governance
- **Highlighted swarmable military problems**  
- Example: Maneuver and Deception



Department created a deliberate multiyear Fleet Experiment Plan. The plan included deception, own-force monitoring, and C-ISR war games that captured key insights and informed the Doctrine Department. Doctrine Department swarmed to develop emissions control, signature control, and deception doctrine. The Modeling and Simulation Department injected war game findings to further refine the

**Swarm the Military Problem**  
“...detect...contain...diagnose...treat...”

**Retoiled organization; transformed culture and processes; lessened entropy; urgency/focus on military problem linked lines of effort:**

- **Concepts**—highlighted maneuver/C-ISR/deception capabilities
- **Experimentation**—deliberated multiyear plan, included war games informing deception, own-force monitoring, and C-ISR tactics
- **Doctrine**—created EMCON, SIGCON, and deception tactics
- **M&S**—injected war game findings into M&S for greater iteration
- **Lessons Learned**—captured observations from C2X C-ISR training

military problem. And finally, our Lessons Learned Department captured and analyzed observations from fleet C-ISR training. This coordinated effort rapidly matured the understanding of the EMW warfighting approach and aligned command efforts to develop solutions for controlling our electronic emissions.

### Teach and Share Knowledge—Refining the Plan

While NWDC aligned its efforts, it was critical to share the insights and knowledge learned about fleet deception within the EMS. NWDC found new and innovative ways to share what was learned by hosting venues for discussions centered on development activities aligned to specific military problems. With the “maintaining control of our electronic emissions” problem, NWDC used the Advanced Warfighting Summit (AWS) series as the venue. This brought strike group and WDC commanders together to share insights, tactical experiences, and operational lessons to help mature and refine the military problem. A separate WDC Leadership Huddle event helped build understanding and alignment of C-ISR and deception tactics and training development needs. Collaboration and sharing is critical to the success of HVL, especially when high-end military problems affect the mission areas of more than one WDC. Information sharing and learning venues like these also create opportunities for building cross-organizational partnerships that inform and influence seemingly unrelated development efforts. New awareness, brought from discussions at the AWS, helped reprioritize NWDC experimentation and doctrine’s planning to better align development efforts in several otherwise unrelated areas.

### Build—Create Apostles to Foster the HVL Process

The power of HVL comes through alignment, synchronization, and information sharing across and throughout the capability many development organizations. While NWDC alone cannot affect a Navy-wide culture change for HVL, it can serve a critical role in connecting organizations, and building leadership perspective through a common lens focused



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on a specific military problem. Other successful ways in which NWDC shares learning is through engagement with strike group commanders and their staff. Prospective carrier strike group (CSG) commanders have the opportunity to visit NWDC to build awareness on the latest doctrine development and experimentation efforts, and the “Strike Group 360°” war game series provides opportunity for the SG staff to work the critical planning factors necessary for success against near-peer adversaries in a high-end maritime fight. This essential connection to the warfighter allows NWDC to not only share the most current lessons about military problems, but also creates the foundation for future information sharing. NWDC also serves as the Navy lead for integrating cross-domain tactics and training development across the WDCs. Building partnerships and connecting tactics and training efforts are essential for integrated solution development and HVL.

### Teach—Share Learning

“Multiply the power of new knowledge.”

- **Advanced Warfighting Summit**—brought together fleet SG and WDC CDRs, recent focus on C-ISR insights, experiences, and lessons
- **WDC Leadership huddle**—synchronized efforts; created alignment and understanding of C-ISR and deception tactics and training needs
- **Strike Group 360° War Game**—challenges SG staff planning efforts to ensure operations within contested environments
- **Objectives-based Fleet Experimentation Plan**—aligns to fleet commanders’ C-ISR and deception priorities
- **EMW flag officer steering committee and fleet commanders readiness council**—EMW assessment venue for senior leaders

### Bending the Curve for Capability Superiority

Although HVL can be applied at all levels, it is particularly well-suited to be employed in attacking the Navy’s most complex, high-end military problems. NWDC uses HVL principles to focus command functions and services around “swarmable” military problems; create opportunities for iteration in planning and solution development; and connect resultant learning to the fleet to multiply the power of the new knowledge (figure 4).

The way in which NWDC approached EMW and fleet deception illustrates one way HVL could be used to learn and “move the capability needle” with regard to specific military problems. The HVL approach to problem solving must occur throughout the Navy to continue to bend the capability curve and maintain the current competitive advantage enjoyed over peer/near-peer threats.

### Building Leadership Perspective

“Leaders who...self-diagnose...self-improve...”

**Wide cultural commitment to alignment, synchronization, and information sharing:**

- **Strike group Commander I-Stop**—builds partnerships and awareness to processes and solutions applied to complex problems
- **WDC Cross-domain Integration**—ensures alignment of high-end warfighting tactics and training development
- **Doctrine and Lessons Learned**—identifies and shares best practices for operators, trainers, and educators
- **Fleet force development/force generation/force employment**—informs prioritization of capability development and training through the fleet commanders readiness council, fleet training integration panel, and resources and requirements review board processes

The success of the *Design* is incumbent on creating a new culture of high velocity learning that provides alignment and synchronization of effort, and a reflex for sharing what we have learned.

The CNO is calling for the Navy to learn faster. NWDC plays a vital role in this effort and stands at the crossroads of information sharing and faster learning. ✪

[http://www.navy.mil/cno/docs/cno\\_stg.pdf](http://www.navy.mil/cno/docs/cno_stg.pdf)  
<http://www.thehighvelocityedge.com/>

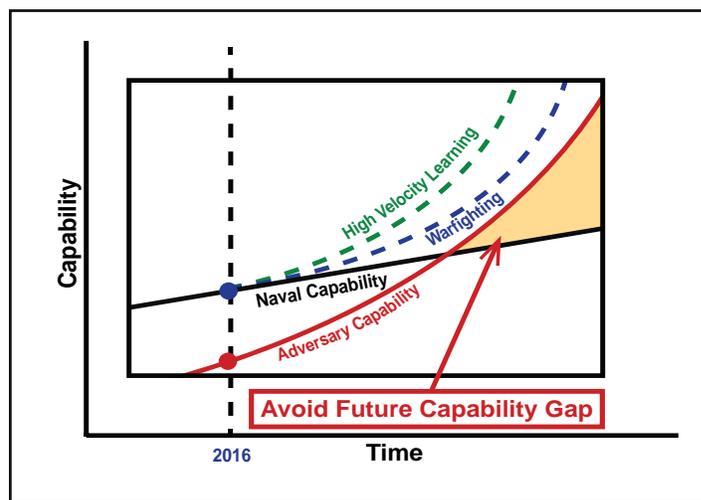


Figure 4. Effects of High Velocity Learning on Warfighting Capability



By Stacy Dale,  
Dean Oyler, and  
Jennifer Wright

## THE EXPERIMENTAL FOCUS: LEARNING FASTER FOR THE FLEET

BALTIC SEA (June 12, 2015)—U.S. Marines load an amphibious assault vehicle aboard the amphibious transport dock ship USS San Antonio (LPD 17). (U.S. Navy photo by Petty Officer 1st Class Adam C. Stapleton/Released)

It's clockwork. Every year the Fleet Experimentation, or FLEX program, kick-starts the fiscal year with the FLEX Execution Plan Development Workshop Execution Plan Development Workshop hosted at NWDC. Representatives from each numbered fleet, WDC, and other stakeholders, including members of the acquisition and Navy science and technology communities, are invited to the FLEX program's annual Execution Plan Development Workshop to share experimentation priorities and begin crafting a focused plan for the upcoming year. The workshop and its resultant FLEX Execution Plan ensure that NWDC and all FLEX stakeholders execute their experimentation efforts as outlined in the focus areas of the Commander's Guidance, approved by Commander, United States Fleet Forces Command and Commander, United States Pacific Fleet.

RADM Scott A. Stearney, former commander NWDC, stressed the importance of alignment across the naval enterprise. "We have every numbered fleet represented

at the Execution Plan Development Workshop, which is vital to developing a synchronized experimentation plan that is designed to address the most pressing military problems facing our Navy," Stearney said. He also spoke about the benefits of experimentation.

"Experimentation is a crucial part of realizing the CNO's top two lines of effort: 'strengthening naval power at and from the sea' and 'achieving high velocity learning,'" Stearney said. "We learn faster through experimentation, which allows us to take that knowledge and quickly turn it around to deliver more robust solutions to the warfighter."

The FLEX program, managed by NWDC on behalf of United States Fleet Forces Command and United States Pacific Fleet, designs and executes collaborative, synchronized, and relevant experiment campaigns based on near-term fleet priorities and capability gaps. NWDC, through the FLEX program, is executing 11 at-sea events and 9 war games in FY16.



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A constant theme in the FLEX program is the need to be linked around large military problems and to (quickly and efficiently) deliver tangible products to the fleet. But how can FLEX continue to learn faster, operate smarter, and meet the demands of an ever-changing naval environment? Well, there is a design for that.

ADM John M. Richardson, CNO, published, *A Design for Maintaining Maritime Superiority*, in which he describes his ideas, vision, and “Four Lines of Effort” that will ultimately guide FLEX into the future. FLEX is directly connected with the green line of effort, in which ADM Richardson writes that one should “clearly know the objective and the theoretical limits of performance... and to begin problem definition by studying history—do not relearn old lessons.” So where does FLEX fit into this design? FLEX utilizes a streamlined experimentation process (begin problem definition by studying history) that aligns approved initiatives (avoiding old lessons) with venues of opportunity.

In order to achieve this fast learning, as designed and outlined by the CNO, FLEX must remain true to the following foundational goals of experimentation:

- ◆ Improve how we fight—experiments can validate and/or inform operational plans, doctrine, Navy Lessons Learned and CONOPS for the Navy.
- ◆ Validate fleet requirements—define/resolve capability gaps and/or other fleet priorities.
- ◆ Explore concepts including technological, doctrinal, and organizational desired operational capabilities for the future.
- ◆ Foster innovation—be an agent for change.

“The FLEX program is focused on fleet commander priorities,” said CAPT Paul Movizzo, NWDC’s lead for the FLEX program. “Through our experimentation program, we’re harvesting, designing, and connecting campaigns that further our Navy’s warfighting capabilities.”

For FLEX final experiment reports and products, visit the FLEX Information Management System (FIMS) on SIPRNET at <https://fims.nwdc.navy.smil.mil>. Once on FIMS, you can also review the FY16 FLEX Execution Plan. ✪

The graphic features a world map in the background. At the top, the title "Navy Lessons Learned" is written in a large, blue, sans-serif font. Below the title, four overlapping circles are arranged in a diamond pattern. The top circle is blue and labeled "OBSERVING". The left circle is yellow and labeled "LEARNING". The right circle is red and labeled "TEACHING". The bottom circle is green and labeled "UNDERSTANDING". In the center of these four circles is the official seal of the Navy Warfare Development Command, which includes a compass rose and the text "NAVY WARFARE DEVELOPMENT COMMAND". At the bottom of the graphic, a white rectangular box contains the following text: "Navy Warfare Development Command, Navy Lessons Learned Directorate, 1528 Piersey St., BLDG O-27, Norfolk, VA 23511", "NIPRNET: <https://www.jllis.mil>", "SIPRNET: <https://www.jllis.smil.mil>", and "CAS: [http://\(your ship\)/nwdc/nll/nll.nsf](http://(your ship)/nwdc/nll/nll.nsf)".

# Q&A with CAPT Minter

We recently sat down with CAPT Chuck Minter, the NWDC Assistant Chief of Staff for Doctrine, Future Concepts and Concepts of Operation (CONOPS), Analysis, and Navy Lessons Learned. He comes to NWDC after 3 years out in the fleet as Chief of Staff for Carrier Strike Group-3 (*John C. Stennis*), a tour which followed a stint as Maritime Operations Center Director at U.S. Fleet Forces Command.

**NEXT:** Welcome Aboard! What do you think about the doctrine mission at NWDC?

**CAPT Minter:** It is a fascinating time to be at NWDC during a key transitional period for our military as we face what the CNO is calling a return to great power competition. I am joining a great team here at NWDC as we collectively grapple with how to best fight the fleet amidst an evolving strategic environment of emerging peer/near-peer competition. Key to success will be understanding our capability and skillset gaps, rapidly implementing solutions, updating our doctrine playbooks accordingly, and tracking our progress—to fight and win.

**NEXT:** The theme of this issue is high velocity learning (HVL). How do HVL and Navy doctrine connect?

**CAPT Minter:** Doctrine is, first and foremost, a learning tool. It represents operational and tactical “wisdom,” believed and taught across the institution. CNO has challenged the Navy to embrace HVL in order to outpace potential adversaries. Keeping pace will continue to challenge us as our competitors field increasingly capable weapons systems and off-the-shelf commercial technologies. Given the challenges, keeping doctrine relevant as a learning tool demands agility or “velocity.” Our traditional, methodical doctrine/tactics, techniques, and procedures (TTP) revision process is itself in need of revision. Beholden to Navy-wide staff capacity, the existing revision process cycles publications through for cover-to-cover review every 3 years or so. While it is arguably essential to periodically conduct thorough fleet-wide review of our core doctrine, we can do a much better job incorporating rapid changes.



The maturing Warfighting Development Center (WDC) construct is central to the solution wherein a core of subject matter experts/weapons tactics instructors are being poised to help “bend the learning curve” through HVL to outpace the threat. Getting there requires operating with cross domain, netted, distributed maneuver and fires. Boils down to being hard to target, bringing fires to bear at the time and place of our choosing, and remaining on the same page despite adversary denial strategies—and our enabling doctrine playbook needs to keep pace.

**NEXT:** How do you see your new assignment as the lead for Doctrine, Concepts, Analysis, and Navy Lessons Learned at NWDC?

**CAPT Minter:** Navy doctrine needs to address increasingly capable sea denial strategies around the globe. Heavily influenced by years of peacetime superpower supremacy on the seas (“Phase 0 ops”), our doctrine requires significant revision—to provide the

blueprints we need to retain the operational initiative.

Over the past several years, it has become patently obvious to all of us in the fleet that we need to relearn how to effectively operate against emerging peer/near-peer competition in the maritime and all other domains. Reduced risk during the post-cold war decades drove efficiencies that eroded our advanced readiness: we lost some of our enabling sea control skillsets and associated capabilities. For example, night emission control jet aircraft carrier recoveries are an essential skillset against a peer competitor, but it’s risky business and something we discarded back in the early nineties. When I was a young JO, we effectively managed that risk through training and regular practice—and we are mastering it again. Along the way, we also lost some important capabilities that helped make us hard to target. We are endeavoring to help get these and new capabilities online and to develop the TTP and references (i.e., the tactical-level doctrine) to make them effective and central to how we operate.

To get there, we are working hard in the near term in four areas. First, we are modernizing the way we create and update doctrine to speed writing, review, and promulgation—aligned with CNO’s vision to “Achieve High Velocity Learning.” We are thoroughly incorporating electromagnetic maneuver warfare (EMW) objectives into our doctrine—to enable CNO’s objective to fully integrate these fighting principles into how we operate by 2020. We are producing Navy Concepts for littoral operations and operational logistics in contested environments. And finally, we

*(Continued on page 19)*

HEALTH SERVICES INTEGRATION IN A FLEET

SYNTHETIC TRAINING ENVIRONMENT

By CDR Kathryn Cook, Nurse Corps, USN  
NWDC Health Services Integration

The torpedo hits the ship's starboard side; the sound is deafening, and the spaces quickly fill with smoke. General Quarters is called, and the fire teams jump into action. The commanding officer asks for a casualty report. The oft response? "Let's say it's one and move on to the next event; it's just training."

The four lines of effort outlined by CNO ADM John Richardson in his 2016 *A Design for Maintaining Maritime Superiority* serve as navigational beacons for development of future capabilities. As we examine the CNO's design from a health service support (HSS) perspective, it becomes evident the time has arrived for HSS to embrace fleet synthetic training and be a full partner in planning for the next when, not if, conflict.

ARABIAN GULF (December 31, 2015)—  
LT Kathleen Kostka (left), from Virginia Beach, Virginia, a critical care nurse embarked aboard USS Kearsarge attached to Fleet Surgical Team (FST) 4, simulates sedating a patient during a medical evacuation drill in an MV-22 Osprey. (U.S. Navy photo by Mass Communication Specialist 3rd Class Tyler Preston/Released)

## AND FLEET EXPERIMENTATION



NORFOLK, VA (February 25, 2016)—Sailors move an injured mass casualty actor from a stretcher to the operating table aboard the amphibious assault ship USS Wasp (LHD 1) during a mass casualty drill. The drill, consisted of Sailors from Wasp, FST 8, FST 6, FST 2, and actors from Naval Medical Center Portsmouth, was done for the amphibious ready group and evaluated by Surface Force Atlantic to test the ship's ability to do surgery. (U.S. Navy photo by Mass Communication Seaman Michael J. Molina/Released)

The Navy has developed warfighting modeling systems designed to “simulate the combat, maneuvering, and movements of units and supplies.”<sup>1</sup> Mixed training scenarios are key to assisting the military’s ability to train in joint environments in a fiscally constrained environment. When the training is missing critical aspects, it becomes less effective and inhibits the commander’s ability to make comprehensive decisions.

Making training more complete, NWDC provides state-of-the-art, high-fidelity modeling and simulation that complement real-life exercises, and provides subject matter expertise, analytical support, and a collaborative environment that stretches across the Department of Defense and coalition partner spectrums.

Mixed training can consist of tabletop wargame experiments and synthetic and real-life exercises designed to examine CONOPS and warfighting strategies intended to enhance capabilities and identify gaps within rapidly changing warfighting

environments. These events examine the six primary functions of warfighting: command and control, intelligence, fires, movement and maneuver, protection, and sustainment.<sup>2</sup> HSS falls within sustainment.

Historically, HSS participation within these events has been limited by the event’s master scenario events list training priorities or by fabricated casualty and injury rates provided to the operational commander and staff in support of their risk evaluation and response. This presents two problems. First, inaccurate morbidity and mortality data does not allow the commander to fully appreciate the potential impact that HSS can have on the mission. For instance, patient movement activities and the diversion of personnel and assets to rescue casualties can impact the commander’s operational requirements prioritization. Secondly, the minimal play by medical personnel during these events does not prepare the fleet surgeon to appropriately advise the commander on medical capabilities and requirements.

Over the last 15 years, United States naval forces have fought alongside the Army and Air Force in a mature, land-based theater with well-established HSS and dedicated patient movement capabilities, resulting in a 98 percent survivability rate and trauma care availability within the “golden hour.” This has created an unrealistic expectation that HSS will continue to provide this level of care in all environments. Maritime operations, however, are very different from land and air warfare. Medical treatment facilities may be onboard the same or relative to other platforms that may require them.<sup>3</sup>

As the importance of the Indo-Asia-Pacific region increases, plans are for 60 percent of the Navy’s ships and aircraft to be based there by 2020. This expanded forward presence demands increasingly complex multinational exercises and training.<sup>4</sup> It is imperative HSS be an active participant in these events, providing realistic data. The combatant commander’s senior medical representative and numbered fleet surgeons are responsible for advising the commander of medical capabilities, limitations, and constraints, so he or she has all the information

needed to prioritize the operational requirements. The authors of *Train Like They Fight* summarized it well: “Current practices alone do not adequately prepare combat units for modern warfare or military support operations, nor do they allow Navy to objectively measure readiness prior to commitment to war fighting or military support operations.”<sup>5</sup>

NWDC, United States Fleet Forces Command, United States Pacific Fleet (USPACFLT) Command, Office of the Chief of Naval Operations, and the Bureau of Medicine and Surgery (BUMED) have joined forces to address the challenges facing HSS in the maritime domain, specifically in USPACFLT’s area of responsibility. Through participation in exercises and experiments, HSS capabilities such as en route care and patient movement will be employed and evaluated using fleet-validated scenarios while at the same time being incorporated in existing fleet exercises such as Rim of the Pacific, and fleet experiments such as the Logistics Forces Assured C2 War Game. These joint and multinational events support the CNO’s desire to enhance integration and prioritize key international partnerships.



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ATLANTIC OCEAN (April 8, 2006)—Fuel Handlers simulate carrying a wounded shipmate during a mass casualty drill aboard the Nimitz-class aircraft carrier USS George Washington (CVN 73). (U.S. Navy photo by Photographer’s Mate 3rd Class Christopher Stephens/Released)



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Additionally, this fall NWDC and USPACFLT will host the Health Services Support Logistics War Game. This is the first time medical capabilities will be the entire focus of an experiment in which the scenario is the same as that being drilled in other fleet exercises. In other words, HSS capabilities will be tested in as-close-to-real combat conditions as possible. The Pacific maritime domain is a complex operational environment because of the difficulties of time and distance, and current capability sets. With the exception of the hospital ships, the U.S. military has no dedicated medical sea-based platforms. According to the Maritime Medical Planning Guide, "This may create a tension between medical and military roles for the platform commander and requires careful prioritization and reevaluation during the various stages of the operation."<sup>6</sup> The CNO has charged the Navy with using the "blue-water" scenarios that take place far from land in contested environments. This upcoming war game will evaluate the effectiveness of current medical capabilities, examine the newly signed Navy Expeditionary Health Service Support CONOPS for Medical Force Packages, and identify areas for improvement while providing more options to national leaders.

While the Health Services Support Logistics War Game will be "played" in Hawaii, other synthetic exercises, such as BOLD ALLIGATOR 2016, will be held in Norfolk, Virginia. At NWDC, the Navy Center for Advanced Modeling and Simulation provides a synthetic battlespace with real-time integrated environmental effects to model realistic conditions. It has connectivity with Navy, joint, and coalition forces involved in the exercise to ensure all partners are simultaneously and immediately informed of changes in the operational environment. This is accomplished through the Navy continuous training environment (NCTE). The NCTE simulates the battlespace and stimulates onboard combat, and command, control, communications, computers, and intelligence systems so that console operators can report information to officers making warfighting decisions.

One element of information provided is casualty rates and casualty streams based on validated quantitative data from the Medical Planners' Toolkit (MPTk). The MPTk consists of databases which provide empirical data on patient conditions and associated medical treatment tasks, times, consumable supplies, medical staffing requirements, and equipment necessary to accomplish patient care. The information generated with each simulated

injection enables the fleet surgeon to more accurately assess and relay the medical requirements to the operational commander, thus assisting a more comprehensive combat environment perspective.

Not only will these events appraise expeditionary health services and improve risk communication with the operational commander, they will inform BUMED's training pipelines for Navy medicine's fleet leadership. The Navy's Surgeon General Jointness Initiatives identifies Navy medicine's joint interoperability as a priority. A study completed by the Surgeon General Jointness Working Group in 2015 indicated operational synthetic training is a gap in current senior leadership development. In efforts to meet the CNO's priority of expanding the use of learning-centered technologies, simulators, and other available tools, and the implementation of organizational best practices to make high velocity learning the norm, these training opportunities were identified and developed in multinational, large-scale exercises in 2016. Having medical personnel embedded with fleet surgeons' staffs and having plans, operations, and medical intelligence officers in a white cell and the surgeon cell during exercises will provide instruction in the planning and execution of operations. Additionally, they will be exposed to how exercises and experiments inform and challenge doctrine and the status quo. These efforts will meet the CNO's guidance to strengthen and broaden leadership development programs designed to buttress the naval profession.

Collaboration of these key stakeholders positively impacts the readiness of the force, improves communication between partners, and prepares the future leaders of fleet medicine. The decreased operational tempo in the Middle East, the requirement for improved joint interoperability, and the pivot to the Pacific all illuminate the necessity for the intersection of fleet and BUMED training. The benefits from parallel development and the leveraging of existing systems will enhance all facets of naval, joint, and coalition operational mission planning and execution. ✪

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2. Joint Publication 3-0, Joint Operations, 2011. Retrieved from [http://www.dtic.mil/doctrine/new\\_pubs/jp3\\_02.pdf](http://www.dtic.mil/doctrine/new_pubs/jp3_02.pdf)
3. North Atlantic Treaty Organization (2014). Maritime Medical Planning Guidance.
4. A Cooperative Strategy for 21st Century Seapower. Retrieved from [www.navy.mil/local/maritime/150227-CS21R-Final.pdf](http://www.navy.mil/local/maritime/150227-CS21R-Final.pdf)
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6. Maritime Medical Planning Guidance. (2014).

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*Q&A with CAPT Minter*

are working with our partner WDCs and others to develop concepts, CONOPS, Navy warfare publications (NWP) and TTP that facilitate effective all-domain, netted, distributed maritime maneuver.

In support of doctrine/TTP development and associated validation, NWDC is also a nexus for activities in Fleet Experimentation (FLEX) and wargaming. NWDC's FLEX program and the robust modeling and simulation capability here facilitate the validation of TACMEMOs (fledgling future TTP) and inform revisions to more mature doctrine. Results of these efforts make their way through a deliberate process vetting conceptual reports and white papers (hypotheses) through exercises, experimentation, and wargaming to develop our fleet-wide TTP and grander operational doctrine.

It is also a great time to be a part of Navy Doctrine development as NWDC begins to fulfill its important cross-domain integrating role, partnering with the rapidly maturing WDCs as they each develop, validate, standardize,

publish, and revise their respective community doctrine spanning operational maneuver, multiunit tactics, platform employment, and system-level operations. NWDC works within this increasingly collaborative partnership to help identify doctrine, organization, training, materiel, leadership and education, personnel, facilities and policy (DOTMLPF-P) gaps and seams across domains, echelons, and levels of war. We collaborate to develop advanced, cross-domain solutions and guidance. We continually seek to identify ways and means to ensure the right information gets to the right people at the right time.

There are some truly great Americans hard at work here helping to increase our warfighting aptitude, including long-time NWDC alumni, Jim Seerden, who really runs Doctrine, along with CDR Russ Sanchez, Chuck Shaver, and Pete Lorenz; CAPT Roy Henderson, who runs Health Services Integration; Mark Henning, who runs Lessons Learned (LL) and Analysis, along with Frank Steinbach; CDR Mark Coffman and Howard Link, who help run Concepts and CONOPS—along with numerous other hard-working, dedicated folks that I am privileged to serve with here.



*ATLANTIC OCEAN (July 10, 2016)—Aircraft carrier  
USS Harry S. Truman (CVN 75).  
(U.S. Navy photo by Mass Communication  
Specialist 3rd Class Adelola Tinubu/Released)*



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**NEXT:** Your responsibilities also include Concepts and CONOPS development, Analysis, and Navy Lessons Learned. What are their functions?

**CAPT Minter:** NWDC manages the Navy lessons learned (NLL) program and maintains the associated Navy Lessons Learned Information System. The NLL program collects, validates, and disseminates reliable information based on actual fleet experience. The NLL is the first stop for planning insight from people who've "been there, done that," including exercises, deployments, joint and combined operations, transits, port visits, fleet weeks, etc.



*MEDITERRANEAN SEA (June 26, 2016)—An F/A-18C Hornet, assigned to the "Rampagers" of Strike Fighter Squadron (VFA) 83. (U.S. Navy photo by Mass Communication Specialist 3rd Class Bobby J Siens/Released)*

While already a valuable source of collected fleet wisdom, our LL program is ripe for improvement as we strive to facilitate HVL for our fleet customers. To that end, we are actively looking at ways to improve access to and usefulness of our LL collection by incorporating better push-pull processes and commercial off-the-shelf technologies, geared at providing a highly accurate contextual search capability and a significantly improved user experience. We need to continue investing in a highly transparent, readily accessible, cross-domain collaborative network environment (leveraging off-the-shelf technology) to make cross-community idea sharing simple and easy—balancing streamlined access with essential cybersecurity measures. Relatively small

investments here can produce big cross-organizational dividends.

Our modest but highly talented analysis team examines lessons learned and other fleet feedback to help identify pressing Navy problems. They seek out trends, correlations and causations that help inform concept and doctrine development.

Our Concepts and CONOPS division conceives DOTMLPF-P solutions to exploit opportunities and overcome operational challenges. Looking proactively into the future, we develop Navy concepts that propose approaches or methods for employing existing or emerging naval warfighting capabilities

to solve looming military problems. Also focusing on the nearer term, we develop Navy warfighting and platform wholeness CONOPS, providing necessary operational context to guide successful development and employment of existing or emerging capabilities—which must then be supported and guided by fleet-vetted doctrine. All this is helping shape future all-domain access, sea control, and power projection doctrine.

**NEXT:** Why in your view is doctrine important to the Navy today?

**CAPT Minter:** I'll get to that by first clearing up some common misperceptions regarding doctrine.

Doctrine assembles the intellectual capital of those who have gone into harm's way before us, providing us the benefit of their experience that we can apply to our problems today. Put another way, doctrine contains

the Navy's warfighting DNA; it represents the collective operational and institutional wisdom of our Navy.

Doctrine facilitates command by negation and associated mission orders by helping to provide a common framework to guide support for, and conduct of, maneuver and fires. Doctrine is not comprehensive, and contrary to a common perception, it is not dogma. While doctrine provides authoritative guidance—procedures that should normally be followed—it requires sound judgment in application. Doctrine/TTP does not replace or alter a commander's authority and obligation to determine the proper course of action under the circumstances prevailing at the time and place of application. Just as we adjust fires from a known

point, doctrine represents the point of departure; it must be digested, commonly understood, and trained to in advance of the fog and friction of combat.

Doctrine (i.e., joint, Allied, multi-Service and Navy strategy, warfare publications, TTP, and references...there are a lot of them) is based on extant capabilities, proven processes, current force structure, and fielded capabilities. As these change, we rely heavily on feedback from our operating forces to drive improvements to our (read your) doctrine. Doctrine is never complete. While it is enduring, Navy doctrine must be constantly reviewed and revised to adapt to changing missions, threats, and capabilities.

Now, to facilitate operating in contested environments (effectively countering sea denial strategies), we need to fully incorporate EMW objectives into how we operate. The CNO signed the Navy Concept for Electromagnetic Maneuver Warfare in January 2016, challenging us to fully integrate this collection of warfighting objectives into how we train and operate by 2020. Doctrine guides our training and baselines how we operate. We need to update our outdated doctrine/TTP to fully incorporate the highly interrelated EMW objectives: battlespace awareness (BA), assured command and control (AC2), maneuver, and integrated fires (IF). We are working closely with hard working folks at COMTENTHFLT, implementation force (IFOR), Navy Information Operations Command Norfolk, Naval Network Warfare Command (Information Warfare Development Center when it comes online in 2017) and other important doctrine stakeholders to move out on getting this doctrine/TTP up to date and in place to support training and operating the fleet, well before 2020. Part of our strategy is to develop capstone publications for BA, AC2, maneuver, and IF, intended as focal points to collate and operationalize respective functional area guidance. We are well on the way with AC2, having just added it our doctrine library.

Other EMW objective area publications are under consideration or in work. For example, we are working on a carrier strike group maneuver in a contested environment CONOPS intended to highlight existing operational level of war and higher DOTMLPF-P gaps hindering support for tactical level of war maneuver and fires. We also intend to develop a fleet-wide maneuver TTP (which will extrapolate Commander Task Force 70's impressive CONOPS for Carrier Strike Group Maneuver in a Contested Environment). Getting EMW objectives into our doctrine represents a significant challenge involving the creation or revision of over 100 doctrinal publications spanning numerous commands. To achieve CNO's goal, we need to have this doctrine in place to support training the fleet well prior to 2020. It's going to be close.

**NEXT:** Can you explain NWDC's role in doctrine development?

**CAPT Minter:** We perform three major doctrine tasks. First, we support our commander in his role as overall process owner and coordinator of Navy Service-level doctrine and TTP. Second, we author select Navy, joint, and NATO publications in-house. Third, we edit, format, and distribute doctrine publications.

NWDC manages the Navy doctrine development process and maintains the Navy Doctrine Library System (NDLS)/Navy Warfare Library.

Navy doctrine is reviewed on a recurring basis. We track 369 total publications of 4 major types with particular foci. Systems-level guidance is found in Navy tactical reference publications (NTRPs), tactical-level guidance provided by Navy tactics, techniques, and procedures (NTTP). NWPs contain operational-level guidance and basic warfighting philosophy is found in naval doctrine publications.

We work hand in hand with 52 primary review authority commands, endeavoring to keep this body of doctrine current. We coordinate the overall fleet-wide revision plan. We provide increasingly efficient collaborative development tools (such as PleaseReview). We maintain consistency through a standardized publishing and terminology review process. For example, the Navy's terminologist resides here at NWDC. NWDC represents Navy equities in multi-Service, joint, Allied, and multinational doctrine/TTP development and helps align and inform concepts and doctrine development, lessons collection, and analysis initiatives across the fleet.

**NEXT:** Where can people find the latest doctrine and TTP?

**CAPT Minter:** We make certain that Navy doctrine is readily available to the warfighter and as up to date as possible.

Doctrine can be easily accessed from the NDLS at <https://ndls.nwdc.navy.mil/Default.aspx> and <https://nlds.nwdc.navy.smil.mil/Default.aspx>. Doctrine also resides on SIPRNET as a library within Collaboration at Sea. Doctrine can also be accessed as a toolset from NWDC's Navy Warfighting Development collaborative portal at <https://portal.nwdc.navy.smil.mil/awd/>.

Hyperlinks on the introductory pages of every NDLS publication are provided to connect the reader with the responsible doctrine action officer or to input change recommendations. Additionally, change recommendations can be sent to NWDC at [NWDC\\_NRFK\\_FLEETPUBS@navy.mil](mailto:NWDC_NRFK_FLEETPUBS@navy.mil).

This is your doctrine. If you have any suggestions to make it better or more accurate, please take the time to let us know. ✪

# NAVY DOCTRINE UPDATE

Navy Warfare Development Command (NWDC) publishes the Navy Doctrine Update to communicate changes to Navy doctrine and provide other useful doctrine information. The update provides a synopsis of recently published or updated publications, lists of any new joint and Allied publications, and Navy publications that are in development. Doctrine expresses operational institutional wisdom. The Navy produces doctrine to guide the employment of forces during operations and serve as the basis for training and professional military education.

NWDC functions as the overall approval authority of Navy doctrine publications, with designated primary review authorities functioning as the leads in the development and maintenance of each specific publication. The validity and usefulness of NWP, NTP, and NTRP depend fundamentally on the quality of the processes for:

1. Developing new publications
2. Reviewing and updating existing ones
3. Recommending cancellation of outdated publications.

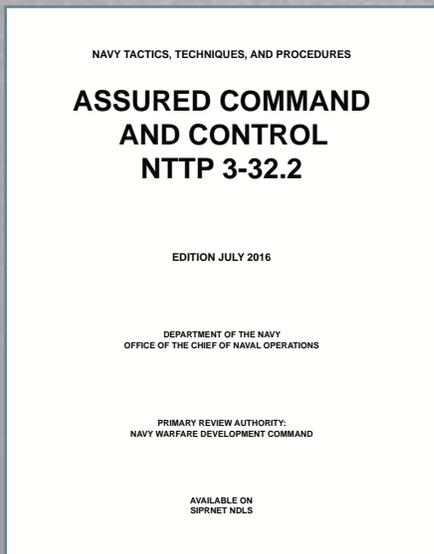
Doctrine requires frequent input from those who use it, and all Sailors play a role in developing doctrine and keeping it current. Official and unofficial recommendations and comments may also be submitted via the publication-commenting feature of the Navy Doctrine Library System:

NIPRNET: <https://ndls.nwdc.navy.mil/Default.aspx>

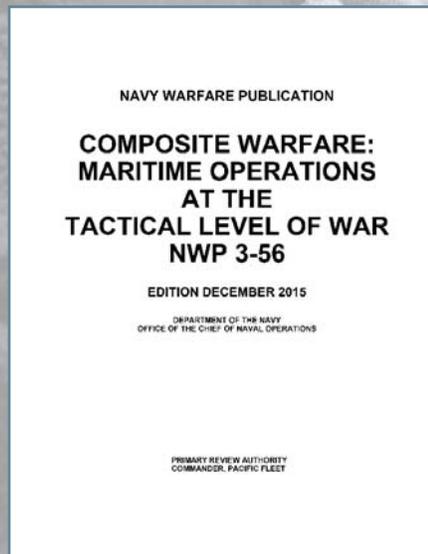
SIPRNET: <https://ndls.nwdc.navy.smil.mil/Default.aspx>

Comments and recommendations may also be e-mailed to [NWDC\\_NRFK\\_DOCTRINE@navy.mil](mailto:NWDC_NRFK_DOCTRINE@navy.mil) or mailed to Commander, Navy Warfare Development Command, ATTN: Doctrine, 1528 Piersey Street, BLDG O-27, Norfolk, VA 23511-2723.

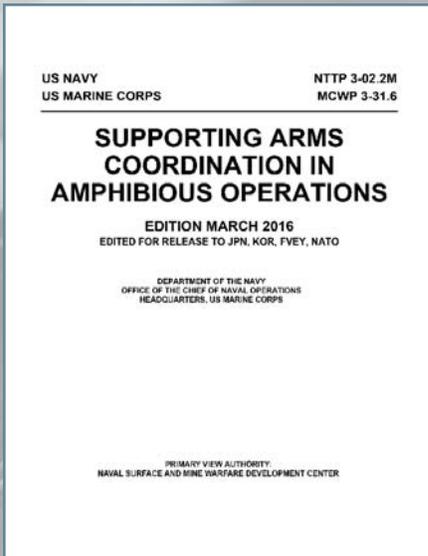
Points of contact for this update are CDR Russel Sanchez at [russel.b.sanchez@navy.mil](mailto:russel.b.sanchez@navy.mil) for general questions and for queries regarding electromagnetic maneuver warfare, please contact CDR Ray Dumont at [raymond.n.dumont@navy.mil](mailto:raymond.n.dumont@navy.mil).



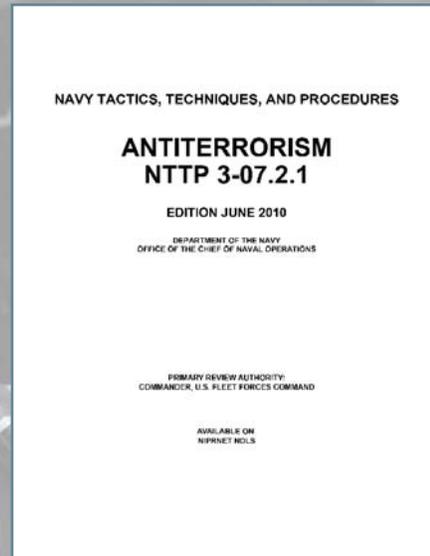
This Navy's reliance and unrecognized dependence on space-based communications systems is vulnerable to denial, degradation, and exploitation. This TTP highlights real-world threats, examines vulnerabilities and potential impacts, and provides guidance for maritime forces to facilitate resilient communications and assured command and control (AC2) in support of fleet operations. By understanding the threat and synchronizing a collective approach to command and control, AC2 can be achieved.



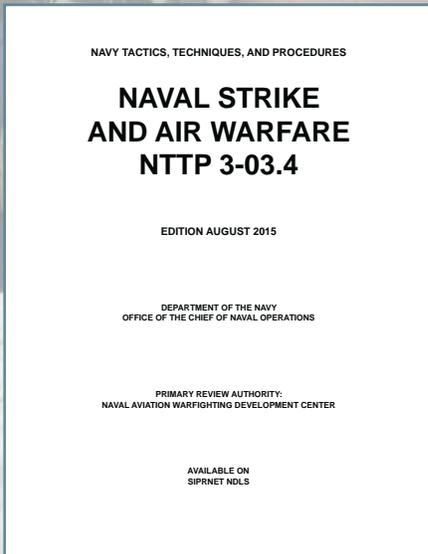
This publication provides guidance on organization of U.S. Navy tactical forces and a framework to decentralize execution at the tactical level of war. It provides options for commanders to consider in organizing and employing forces to conduct operations in any domain, either independently or as part of a joint force. The primary audience is numbered fleet commanders/joint force maritime component commanders and personnel assigned as composite warfare commanders, warfare commanders, functional group commanders, and coordinators and their respective staffs.



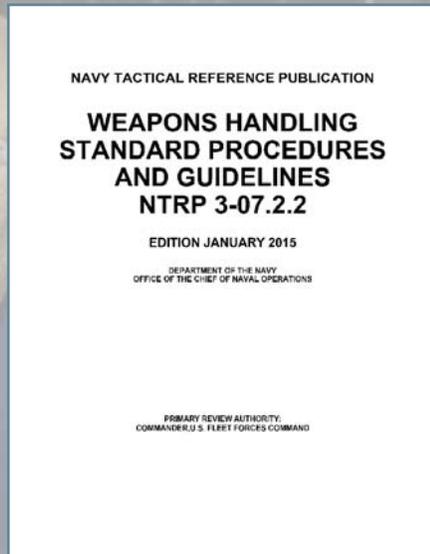
This publication provides a guide for commanders, staffs, and fire support personnel involved in supporting arms coordination. Fire support coordination, which is used interchangeably with supporting arms coordination in this publication, is the planning and executing of fires so targets are adequately covered by a suitable weapon or group of weapons. It addresses the objective of fire support coordination is to produce and execute a fully integrated fire support plan that employs each asset with maximum effectiveness to support the projected scheme of maneuver.



This publication provides ashore and afloat commanding officers, antiterrorism (AT) officers, security officers, and antiterrorism training team personnel with the tactics, techniques, and procedures to deter, detect, defend against, mitigate, and recover from terrorist actions. It applies to all naval security force elements to include military, civilian, and contract security. The core functional skills detailed in this publication can be adapted across a range of AT requirements. These skills serve as a tactical handbook for operations and training, and as an evaluative tool for the commander to assess unit AT readiness, specifically in the area of preplanned responses.



This publication promulgates standardized, Navy-wide employment doctrine for power projection ashore and at sea by naval tactical aircraft (TACAIR). Naval TACAIR is an enabling force to support both contingency and campaign operations. It is imperative that air wing commanders and their staffs understand how to employ the full air wing capacity while acknowledging both limitations and employment options. This publication provides that baseline knowledge.

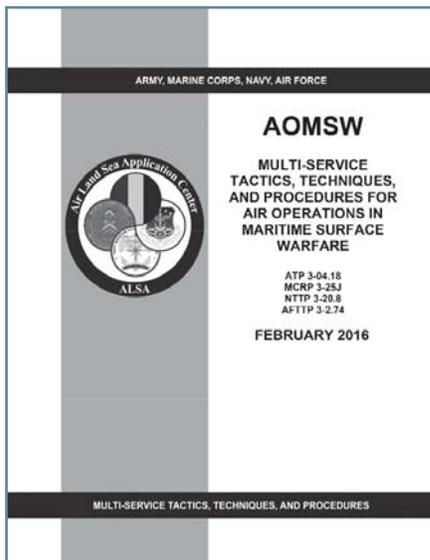


This publication is a reference for operational commanders and antiterrorism planners. It contains safety information, authorized procedures, and proper control guidance for United States Navy small arms, grenade launchers, crew-served weapons, nonlethal weapons, and training munitions. Detailing weapons systems supporting, but not unique to antiterrorism operations, the publication may be applied in any operational or training circumstance where these weapons systems are employed.

(Background image) U.S. 5TH FLEET AREA OF RESPONSIBILITY (October 24, 2013)—Sonar Technician (Surface) Seaman Alejandro Sanchez, left, and Sonar Technician 3rd Class Charles Granger reference proper damage control procedures aboard the guided-missile destroyer USS Mason (DDG 87). (U.S. Navy photo by Mass Communication Specialist 2nd Class Rob Aylward/Released)



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This multi-Service tactics, techniques, and procedures (MTTP) publication consolidates the Services' best tactics, techniques, and procedures for missions involving air assets conducting maritime surface warfare (SUW). The objective is to enable seamless integration of joint air assets conducting maritime SUW. This MTTP publication lays the foundation for integrating forces in either preplanned or dynamic scenarios and strives to simplify "plug and play" interoperability.

**THE FOLLOWING DOCTRINE HAS BEEN PROMULGATED SINCE THE LAST EDITION:**

**NAVY/MULTI-SERVICE**

- NWP 3-02.14M, Defense of the Amphibious Task Force
- NWP 3-56, Composite Warfare: Maritime Operations at the Tactical Level of War
- NTTP 1-05.1M, Religious Lay Leader
- NTTP 3-01.42, Multi-Service Tactics, Techniques, and Procedures for Joint Suppression of Enemy Air Defenses
- NTTP 3-02.2M, Supporting Arms Coordination in Amphibious Operations
- NTTP 3-02.14, Naval Beach Operations
- NTTP 3-03.4, Naval Strike and Air Warfare
- NTTP 3-07.2.1, Antiterrorism
- NTTP 3-07.16, Multi-Service Tactics, Techniques, and Procedures for Tactical Employment of Biometrics in Support of Operations
- NTTP 3-11.37, Multi-Service Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Passive Defense
- NTTP 3-20.8, Multi-Service Tactics, Techniques, and Procedures for Air Operations in Maritime Surface Warfare
- NTTP 3-32.2, Assured Command and Control
- NTTP 3-55.13, Multi-Service Tactics, Techniques, and Procedures for Air-To-Surface Radar System Employment

- NTTP 4-02.7, Multi-Service Tactics, Techniques, and Procedures for Health Service Support in Chemical, Biological, Radiological, and Nuclear Environment
- NTTP 4-09.1, Multi-Service Tactics, Techniques, and Procedures for Operational Contract Support
- NTRP 1-03.5, Defense Readiness Reporting System-Navy Reporting Manual
- NTRP 3-20.6.28M, Sentinel Class (WPC 154) Class Tactical Publication

**JOINT**

- JP 1-0, Joint Personnel Support
- JP 1-06, Financial Management Support to Joint Operations
- JP 3-13.3, Operations Security
- JP 3-34, Joint Engineer Operations
- JP 4-03, Joint Bulk Petroleum and Water Doctrine

**RECENTLY PROMULGATED ALLIED DOCTRINE**

- Allied publications are distributed to the fleet via the Allied Publications Electronic Library (APEL) DVD-ROM series and on SIPRNET NDLS under the library tab. The current APEL release is dated Summer 2016. If you have not already done so, to see all Allied publications you must request NATO access on both NDLS NIPRNET and SIPRNET sites via the "Request NATO Access" icon on their respective home pages.
- AAP\_15(2015), NATO Glossary of Abbreviations used in NATO Documents and Publications
  - AAP\_6(2015), NATO Glossary of Terms and Definitions (English and French)
  - AAR\_SRD\_1(A)(1), Guide to Obtaining Air-to-Air Refuelling Clearances and Compatibility Certification
  - AAR\_SRD\_2(A)(1), Recommended Air-to-Air Refuelling (AAR) Aircrew Certification and Currency
  - AAR\_SRD\_3(A)(1), Tanker Capabilities
  - AAR\_SRD\_4(A)(1), Tanker/Receiver Clearance - Technical Compatibility Matrix
  - ADivP\_06(A)(1), Diving Systems - Oxygen Cleaning Procedures and Standards
  - AECP\_03(A)(1), NATO RADHAZ Warning Signs
  - AECP\_04\_MECP\_04(A)(1), RADHAZ Classification of Munitions and Weapon Systems Embodying Electro-Explosive Devices
  - AFLP\_1110(A)(1), Allowable Deterioration Limits for NATO Armed Forces Fuels, Lubricants and Associated Products
  - AHP\_01(E)(1), The Allied Worldwide Navigational Information System (AWNIS)
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AJP\_3-10(A)(1), Allied Joint Doctrine for Information Operations

AJP\_3-2(A)(1), Allied Joint Doctrine for Land Operations

AJP\_3-3(B)(1), Allied Joint Doctrine for Air and Space Operations

AJP\_3-4-3(A)(1), Allied Joint Doctrine for the Military Contribution to Humanitarian Assistance

ATP\_MTP\_16-1(E)(2), Replenishment at Sea: National Information

ATP\_24(D)(1)\_Vol\_II, Naval Mining: Planning, Evaluation, Tactics, and Execution

ATP\_3-3-5-1(A)(1), Joint Airspace Control Tactics, Techniques and Procedures

ATP\_49(G)(1), Use of Helicopters in Land Operations

ATP\_MTP\_57(C)(2), The Submarine Search and Rescue Manual

ATP\_MTP\_57-1(A)(2), The Submarine Search and Rescue Manual—Background Supplement



*PACIFIC OCEAN (December 18, 2010)—Aviation Electronics Technician Airman Stouweed Innocent refers to a technical manual aboard the aircraft carrier USS Carl Vinson (CVN 70). (U.S. Navy photo by Mass Communication Specialist 2nd Class James R. Evans/Released)*

AJP\_3-9(A)(1), Allied Joint Doctrine for Joint Targeting

ALP\_4-2(B)(1), Land Forces Logistic Doctrine

AMETOCP\_2(A)(1), NATO Meteorological Support Manual

AMETOCP\_2-1(A)(1), NATO Catalogue of Meteorological and Oceanographic Tactical Decision Aids

AMETOCP\_3(A)(1), NATO Meteorological and Oceanographic (METOC) Communications Manual

AMP\_14-1 AMP\_15-1(A)(2), Underwater Signature Range Information for NATO Mine Countermeasure Vessels

AMP\_07(D)(2), Helicopter Naval Mine Countermeasures Manual

ATP\_01(G)(1)\_Vol\_II, Allied Maritime Tactical Signal and Maneuvering Book

ATP\_MTP\_16(F)(1), Replenishment at Sea

ATP\_MTP\_57-2(A)(2), The Submarine Search and Rescue Manual—National Data

ATP\_06(D)(1)\_Vol\_I, Naval Mine Warfare Principles

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ATP\_74(A)(1), Allied Maritime Force Protection

ATP\_78(A)(2), NATO Qualifications for Helicopter Controllers at Sea

AXP\_05(C)(15), Experimental Tactics and Amplifying Tactical Instructions

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MPP\_02-1-1(A)(1), Ship/Aircraft Interoperability Matrix and Advance National Information

# Navy Training Connects with Japan Maritime Self-Defense Forces

By Jennifer Werner,  
NWDC N7

Maintaining freedom of navigation in the South China Sea and countering potential threats in the Western Pacific are United States' goals in which strategic partners play a tremendous role. Key components of a successful maritime strategy are bilateral operations with partner navies like the Japan Maritime Self-Defense Force (JMSDF). Operations involving maritime forces of multiple nations require meticulous planning and regular exercises to ensure all participants can conduct maneuvers seamlessly. However, underway operations are expensive and unrestricted blue water training space in a congested maritime environment

is often not available for peacetime training. To the rescue comes fleet synthetic training (FST) provided via the Navy continuous training environment (NCTE) network which is managed by Navy Warfare Development Command (NWDC) headquartered in Norfolk, VA. Operationally, NCTE and FST allow for the integration of architecture for bilateral joint training that is both multiwarfare and ballistic missile defense (BMD)-centric.

"NCTE provides the infrastructure that connects and enables operational and tactical training for U.S. and Japanese



SASEBO, Japan (January 27, 2016)—The Commander Fleet Activities Sasebo color guard renders honors before a ribbon-cutting ceremony, at CFA Sasebo's Tategami Pier. The ceremony was held for the completion of a fiber-optic cable extension that allow Japan Maritime Self-Defense Force vessels to participate in U.S. Fleet Synthetic Training simulating scenarios at sea while pierside. JMSDF Akizuki-class destroyer JS Akizuki (DD 115) is pierside. (U.S. Navy photo by Mass Communication Specialist 1st Class David R. Krigbaum/Released)

*SASEBO, Japan—A technician connects fiber optic cable in a utility tunnel linking the Commander Fleet Activities Sasebo NCTE network with Japan Maritime Self-Defense Force ships berthed at Tategami Pier. (Image from video by AFN Sasebo/Released).*



crews aboard their ships and in command centers ashore. This technology, coupled with the talent of experienced wargamers and the system operators who make it all work, allows the military to train in highly complex and challenging environments. The flexibility, broad scope, and fidelity of synthetic training enables military crews to operate together while they learn and practice standard operating procedures, communication, and decisionmaking,” explained Mike Waterman, the FST modeling and simulation operations contractor lead. “As the NCTE brings the virtual battlespace to the ships and command centers, the training engages all levels of the crew as they operate their sensors, command and control tools, and combat systems. Since the FST events often challenge the crews and ship systems to operate at the leading limits of their capability, both training and ship system issues are often identified and corrected during events. This FST process results in a crew that is more knowledgeable and confident in the ship’s systems and their ability to fight their ships.”

In turn, the NCTE network and FST enhance bilateral operations by providing the environment for various dispersed training events. This would include, but not be limited to, the “FST-J” series events, comprised of both joint

and bilateral participants, and geared toward U.S. forward-deployed naval forces in Japan and emphasizing BMD capabilities.

Earlier this year the United States and Japan worked in unison to cross a new threshold of bilateral fleet synthetic training by installing more than 1,000 feet of underground fiber optic cables connecting the U.S. Navy and JMSDF piers at Commander Fleet Activities Sasebo, Japan.

More than a year of planning went into providing the connection to the NCTE node with the support of several commands. NWDC joined forces with Tactical Training Group Pacific, Detachment Yokosuka, and Naval Engineering Facilities Command to implement the use of NWDC’s NCTE at Japanese piers in Sasebo. The NCTE enables ships at Navy bases around the world to remain pierside while training in a constructive simulation state as if they were underway. Various training scenarios can be executed allowing the ship to partake in a more cost-effective preparation for maritime operations. As a result of the connection in Sasebo, JMSDF ships can more easily train with U.S. counterparts. ❁

*It's more than a game*



*...it's the art of war!*

