



Navy Warfare Development Center Quarterly NEWSLETTER

FROM INNOVATION, A STRONGER FLEET

July / August / September 2023

N2

The NWDC Red Cell supported LSE by providing subject matter expertise during both the design and execution phases.

more on page 3...

NWDC played an important role in the success of LSE 2023!



N3

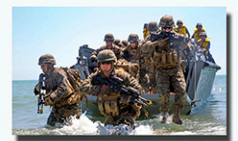
N3 Operations Directorate analyzes Fleet Battle Problem results in order to provide recommendations for Large Scale Exercise 2023 lines of effort

more on page 3...

N5A

Collection, validation and dissemination of lessons learned will serve invaluable to the improvement of further maritime exercises

more on page 3...



The Large Scale Exercise (LSE) was a joint Navy and Marine Corps effort designed to assess and advance the Fleet's ability to synchronize global naval forces against strategic competitors using innovative warfighting approaches

more on page 2...

N5D

Doctrine directorate continued their revision of several tactical publications

more on page 4...

N5HSI

NWDC conducted a focused collection and analysis effort to determine USNS Comfort's effectiveness in meeting theater hospitalization capability

more on page 4...

N7

NWDC highlights the Navy's training capability development ecosystem

more on page 5...

N8

Analyzing data and accurately reporting results highlight lessons learned from experimentation

more on page 6...

While the primary focus of LSE was to further develop the concept of *Distributed Maritime Operations* (DMO), the exercise also incorporated aspects of DMO-supporting concepts such as *Littoral Operations in a Contested Environment* (LOCE) and *Expeditionary Advanced Base Operations* (EABO).

The exercise ran from 9-18 August, and NWDC was involved with every step of the design process that began soon after LSE 21 concluded two years ago. At the most fundamental level, the guiding concepts of DMO, LOCE, and EABO were authored at NWDC. During the exercise itself, NWDC's most notable support was to host the primary Exercise Control Group (EXCON). This was comprised of 13 retired flag officers and 150 role players coordinating the efforts of 14 other exercise control and simulation sites. This combined team worked 'behind the curtain' to stimulate the exercise participants with a complex and challenging operational environment across the warfighting domains of sea, air, land, undersea, cyber, and space.

NWDC also served as the hub for a key LSE training enabler, the Navy Continuous Training Environment (NCTE). This computer network supported the creation of a blended training environment consisting of entities that were **Live** (real people in real ships and aircraft), **Virtual** (real people in simulators), and **Constructive** (purely digital forces controlled by a console operator). This 'LVC' construct enabled a much more realistic experience for exercise participants and facilitated the inclusion of 25,000 Sailors and

Marines serving in 9 Maritime Operations Centers, 6 Carrier Strike Groups (4 live / 2 virtual), 4 Amphibious Readiness Groups (2 live / 2 virtual), 25 live vessels, and 50 virtual / constructive ships.

NWDC contributed to the integration of 6 Navy and Marine Corps component commands and seven U.S. numbered Fleets within a realistic training scenario that required leaders to think with global perspectives. "*Our maritime operations have never been more global,*" said Adm. Daryl Caudle, Commander, U.S. Fleet Forces Command. "*We have to maintain the nation's ability to project power globally for our country, and to command and control that effectively requires us to do exercises like LSE 2023.*"

As you'll clearly see in the following pages, enabling the success of LSE 2023 was certainly an all-hands effort at NWDC.

"I am proud of our collective efforts in support of LSE, but none of the accomplishments listed in these pages would have been possible without the contributions of our fantastic colleagues working in Admin, Finance, Security, Logistics, and Information Technology. Thank you for all you do to help NWDC achieve our mission! BZ!", said Mr. Michael R. Durkin, Director, NWDC.



N2: Information Warfare

During the extensive development period, the NWDC team helped with the overall exercise design as well as the scripting of specific scenario vignettes and storylines. During execution, NWDC personnel assisted with the movement and employment of adversary forces as well as the adjudication of tactical interactions within the LVC framework. Throughout the entire process, the Red Cell's efforts helped to provide a 'thinking adversary' and improved the realism of the exercise for all participants.

N2 also flexed to support 24/7 operations within the Sensitive Compartmented Information Facility (SCIF) for the duration of the exercise without outside assistance. This was noted as an area of improvement from LSE 2021, as it allowed greater speed and integration of higher security information into game-play. Administratively, the NWDC SCIF security personnel processed over 100 additional Sensitive Compartmented Information (SCI) security clearance requests to ensure exercise participants had access to the right information at the right time.

N3: Operations

Determining and properly scoping the 'training objectives' is an essential step of designing any exercise. In doing so, choices must be made about what the exercise hopes to achieve, then the scenario is crafted to set the conditions for those goals to be attained by the exercise participants. While NWDC as a whole had a very high-visibility impact during execution of LSE, the main contribution of the Operations Department occurred much earlier, during the design process, and stemmed from NWDC's role as the Competent Authority for the Fleet Battle Problem (FBP) series.

For background, NWDC authored the Fleet Battle Problem (FBP) Campaign Plan in 2019 to enable the at-sea development of the capabilities required by concepts such as DMO, EABO, etc. FBPs are iterative warfighting rehearsals designed to test the tenets of distributed maritime operations (DMO) and other concepts, with the end state being to improve our ability to effectively employ a lethal warfighting force. Individual FBP events are driven and led by the fleet commanders, with NWDC performing a coordination and standardization role across the enterprise. In this function, NWDC Ops analyzes FBP results and provides recommendations for LSE lines of effort along on two lines of thought: (1) capabilities the Fleet examined or will examine that could easily transition to an LSE, and (2) capabilities that require the size and scope of an LSE to more appropriately execute and assess Navy's proficiency in DMO. For LSE 2023, the team made 11 capability development recommendations and all were scripted for inclusion in the exercise.

N5A: Navy Lessons Learned

N5A Lessons Learned, Analysis, and Modeling and Simulation actively supported LSE 2023 both at home and abroad. Our on-site Lessons Learned representatives had deep involvement in both 2nd and 6th Fleet staffs' preparation for the exercise, and during execution they managed the collection, validation, and dissemination of lessons learned. From Naples, Italy, the Analysis Branch supported data collection at the request of Commander, Naval Forces Europe (CNE) on the effectiveness of splitting his staff into two separate Maritime Operations Centers (MOC) in order better focus on

different tasking, as well as the deployment of a MOC aboard the command ship Mount Whitney (MTW). This data will be used by CNE/C6F to inform further development of their MOCs.

N5D: Doctrine

The Doctrine Division of N5 has remained productive on several fronts. Joint doctrine branch produced the harmonization draft for AJP-3.1, Allied Joint Doctrine for Maritime Operations, and the revision final coordination for JP 3-32, Joint Maritime Operations. Under the leadership of the recently-retired joint analyst Dave MacEslin, our Navy has developed meaningful revisions of these important doctrine publications using an innovative process while achieving substantial consensus across Services and nations. Allied branch is representing our Navy at the North Atlantic Treaty Organization (NATO) Amphibious Operations Working Group. Our Navy doctrine teams continue revising several tactical publications on maritime fires and dynamic targeting. Look out for NWDC Navy publications (NAVPUBs) announcing each doctrine posting or change.

N5HSI: Health Services Integration

High-intensity maritime conflict with a strategic competitor (such as that simulated during LSE) could very well produce a large number of widely-distributed casualties requiring medical attention. Along with rapidly-deployed shore-based expeditionary medical facilities, the Navy's Hospital Ships would help answer the call.

The Navy has two hospital ships, the USNS Comfort (T-AH 20) and USNS Mercy (T-AH 19), which are designed to deliver theater hospitalization capability during major combat operations. The hospital ship are also used to provide for non-combat humanitarian assistance and Defense Support of Civil Authorities (DSCA) during natural disasters. When not in active use, a reduced operating status (ROS) crew provides daily upkeep of the ship's systems and medical treatment facilities' (MTF) medical equipment, supporting activation to a full operating status (FOS) within 5 days. This activation process is periodically tested, and the recent USNS Comfort Exercise (COMFEX) 23-2 involved an activation of FOS personnel who are assigned to USNS Comfort but perform their daily activities at shore-based regional medical facilities such as Portsmouth and Sewell's Point.



At the request of Military Sealift Command Force Medical, NWDC conducted a focused collection and analysis effort to determine if COMFEX 23-2 was effective in meeting theater hospitalization requirements. During the COMFEX, NWDC's team collected lessons learned and conducted interviews with the ROS crews, FOS crews, and Comfort MTF senior leadership with an emphasis placed upon the manning levels and the training of Navy medical augmentation personnel from Navy Bureau of Medicine and Surgery.

N7: Training, Exercises, and Wargaming

To better appreciate how NWDC fits into the Navy's training and capability development ecosystem, it is helpful to have an understanding of the three different levels of warfare:

- At the top, the Strategic level of warfare pertains to policy goals and overarching direction from the national command level. *Will we fight? Who will our allies be? What are we fighting for?* At this highest level, the military is just one instrument of national power alongside diplomacy, economic actions, and activity in the information space.
- At the bottom, the Tactical level of warfare involves the maneuvers and weapons employment of individual units such as ships, aircraft, and submarines. To prepare combat forces for environments where they may simultaneously be both the hunter and the hunted, each warfighting community (submarines, aviation, etc.) has their own Warfighting Development Center (WDC) charged with developing, standardizing, and training to the tactics needed for lethality and survivability.
- In terms of complexity, the Operational level of warfare lies between the Strategic and Tactical Levels. At the Operational level, *groups* of forces are synchronized in pursuit of larger goals that, in aggregate, could ultimately produce desired national strategic outcomes. This is the level of fleet warfare where success can require the coordination of multi-domain forces in time, space, and purpose.

Although it isn't part of NWDC's name in the manner of, say, the Naval Aviation Warfighting Development Center or the Undersea Warfare Warfighting Development Center, NWDC has been uniquely tasked by U.S. Fleet Forces and U.S. Pacific Fleet to 'serve as the WDC for the Operational Level of War (OLW)'. While our efforts towards improving the Navy's ability to fight at the OLW span across our core mission areas such as Concepts, Doctrine, Lessons Learned, and Experimentation, it is NWDC's Training, Exercises, and War Gaming Department (N7) that certainly plays an outsized role.

Key to enabling the Navy to 'fight as a fleet' are the Maritime Operation Centers (MOC). Each fleet has a MOC, and they help the fleet commanders execute their 'warfighting decision cycle'.



Navy Reserve personnel from Commander, U.S. Fifth Fleet and Commander, U.S. Third Fleet during Exercise MAKO STORM, held July 13-16, 2023 at NWDC. The MAKO series is part of the training continuum which enables Reservists to rapidly augment fleet Maritime Operations Centers. (U.S. Navy photo by Ian Delossantos)



This consists of maintaining awareness of the battlespace, deciding the best courses of action to take, commanding their forces appropriately, and assessing the effectiveness of the assigned actions. To assist the fleet, NWDC's MOC Training Team (MOC TT) is charged with ensuring the standardization and certification of all fleet MOCs, and this saw the team widely dispersed during LSE 2023 to observe MOC-to-MOC coordination and support the overall data collection plan.

Also within N7, the MOC Exercise Support Team (MOC EST) is a key training enabler. The role of the EST was discussed in the opening article, but they are worthy of another mention here because LSE simply would not have been possible without the massive exercise design and execution role played by the MOC EST.

N8: Fleet Experimentation

In the run-up to LSE, the Fleet Experimentation (FLEX) program wrapped up a busy execution cycle aligned to major fleet exercises, including Resolute Hunter, Formidable Shield, and Northern Edge. FLEX leveraged these events to collect fleet-operator feedback on emerging tactics or potential technology solutions analyzing data and accurately reporting results. These results, characterized as findings, highlight what we learned through the process of experimentation and are supported by data to ensure validity. Findings then serve as the basis for actionable recommendations categorized by doctrine, organization, training, materiel, leadership and education, personnel, facilities, and policy (DOTMLPF-P) that inform decision makers and solution providers in the development of future warfighting capabilities.



As part of the multiyear campaign, NWDC works collaboratively with U.S. Fleet Forces, U.S. Pacific Fleet, and Naval Forces Europe-Africa to track select recommendations to completion. Recent successful outcomes include 100+ CONOPS/TTP improvements identified as a result of experimentation, results-fed input to several top level requirements documents, and systems delivered to the fleet for extended user evaluation. Upcoming FLEX events include LSE, Talisman Saber, and standalone limited objective experiments.

During LSE 2023, NWDC N8 served as Experimentation Working Group co-lead with the Marine Corps Warfighting Lab (MCWL), working collaboratively to facilitate planning, execution, and reporting for all LSE 2023 experiments. In that hat, we coordinated with other LSE working groups to integrate 14 classified experiment initiatives sponsored by various U.S. Navy and Marine Corps commands. In our role as executive agent of the FLEX program, NWDC embedded 11 experiment planners and analysts with fleet units across multiple areas of responsibilities (8 separate locations) to examine 4 potential solutions to critical warfighting capability gaps. Results of FLEX initiatives will include data-driven findings and actionable recommendations to support materiel and non-materiel capability development, investment, and transition decisions.