

15 June 2016

SUBJECT: Distributed Lethality Wargame Executive Summary (EXSUM)

1. Purpose: Conduct a wargame to provide an assessment of Distributed Lethality's capabilities and limitations during phase 0 (shaping operations) and phase 1 (deterrence operations). N96 requested that the wargame include allied nation integration with distributed surface forces in a joint and combined maritime conflict and to explore how unmanned systems impact Red Team decision calculus.

2. Background:

a. Distributed Lethality is an operational employment concept that combines increased surface warfare striking power with increased targeting capabilities in a geographically dispersed force. Using technologically advanced offensive and defensive weaponry and increased networking capabilities Distributed Lethality harnesses the complete joint sea, air, and land force to provide increased combat power and force projection globally.

b. The scenario, situated in the Eastern Mediterranean (EMED), was played twice with different force compositions. The basis of the scenario was that Blue launched TLAMs into country Orange. Country Red, ally of Orange, threatened to start shooting down TLAMs and made aggressive threats. The first run of the wargame explored the effectiveness of combining a Distributed Lethality Adaptive Force Package (AFP) with a small contingent of a NATO TF compared to a full contingent of a NATO TF. The second run of the game combined a separate AFP with a smaller contingent of a NATO TF. Each scenario made use of a different unmanned system: TERN and MDUSV.

c. The results of the wargame are scenario and player specific. Insights provided from this wargame are not globally applicable since each area of the world comes with a unique set of challenges and sensitivities. It is our recommendation that multiple wargames and simulations are needed to provide a set of generalized recommendations for the employment of Distributed Lethality.

3. Study Methods:

a. The Data Collection and Management Plan (DCMP) focused data collection on four phases of the wargame:

1) Planning phase. Upon initial receipt of the scenario brief, players were allotted 45 minutes to complete an operational plan. Required products at the completion of the planning phase included a scorecard and a graphical overlay of the team's course of action. The scorecard provided initial objectives, individual unit movements, a perceived threat index, as well as, the top enemy actions that would increase the perceived threat. The graphical overlay produced by each time depicted their unit's movements. Players utilized simple map graphics to show areas of movement, feints,

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blocking positions, and recon/attack positions. Additionally, players were asked to provide a proposed ISR structure, rules of engagement, command and control construct, communications architecture, and a brief logistical overview. The map graphics were vital to adjudicate the success of the sub-objectives and helped spur discussions regarding points of contention (i.e. enemy blocking position along an axis of advance).

2) White Cell Adjudication. The second phase of the data collection occurred during the adjudication portion of the wargame. During this phase, subject matter experts discussed both plans via the graphical overlays and determined which objectives the game did not address.

3) Seminar wargame. The seminar wargame represents the most significant event for data collection. Each team member had the opportunity to discuss the advantages and disadvantages of their plan and how Distributed Lethality helped or hindered their planning process.

4) Final Survey. Upon completion of the seminar, the analysis team used a survey to answer any remaining questions from the DCMP not answered during the seminar. The survey was the final portion of the data collection and completed the wargame data collection requirements.

4. Key Findings:

a. Distributed Lethality increased Red's perceived threat level. The CTF without the AFP integration did not provide the same amount of deterrence and decreased Red's perceived threat level. The threat of dispersion by Blue forces caused Red to anticipate a larger threat area. In response, Red over extended their forces to find Blue assets. Red players accepted gaps in coverage to find Blue assets. The choice of the AFPs caused different perceived threat levels with and AFP including and LHA with a squadron of F-35s was seen as an overwhelming force from the Red perspective even though the AFP had the least amount of surface AFP assets.

b. The employment of the Distributed Lethality concept by Blue altered Red's decision-making process by forcing Red to exchange persistence for coverage. DL forced Red to prioritize the surface picture at the expense of ASW. The search for DDG TLAM shooters took priority and left Red susceptible to NATO surface ships if scenario escalated to Phase 2 or 3. All Red MPRA and TACAIR air assets forced into ISR roles searching for surface vessels leaving gaps in ASW and AAW.

c. The Distributed Lethality concept allowed for creative employment of forces. Blue NATO forces in the CTF can better take advantage of geography in EMED and position forces for escalation to phase 2 or 3 by staying in territorial waters of NATO Allies for extended periods of time and by conducting constant transits to and from home ports.

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Blue players took advantage of expectation from Red that Blue would align forces around HVU. When LHA present in scenario, Red devoted over 50% of assets into finding LHA; Blue dispersed forces by allowing non-AFP surface assets from the CTF to provide support to the LHA

d. Challenges to traditional command and control architecture under DL. The command ship determination in the scenarios was based on location and capability of platform. Individual ships need detailed command authorities for escalation. The distributed forces caused increased risk for loss communications; flexibility of DL concept lost if individual commanders are constrained by restrictive ROE.

e. Distributed Lethality created greater logistics challenges in phase 0 and 1 for Red forces in the EMED. The AFPs integrated with CTF can leverage allied ports for resupply in the EMED. There are significantly fewer options for Red force resupply in the EMED. Blue forces can employ DL to stress Red logistic channels by forcing Red to push out further leading to less time on station for air and surface assets. However, a prolonged Distributed Lethality operation could face increased logistical requirements where Red will shift focus from disrupting blue offensive capabilities to disrupting Blue logistic chains with conventional and non-conventional means.

f. The use of unmanned systems in Distributed Lethality provided Blue with options not feasible with manned systems. Red forces were more inclined to engage unmanned systems during Phase 0 and 1. Blue recommended saving TERN for use in phase 2 and use manned systems for surveillance during phase 0 and 1 to force Red decisions. Blue forces can use MDUSVs in pickets with a lot less guilt by Blue. It is advantageous for Blue to saturate the battle space with MDUSVs to create noise. Blue also showed the utility of using MDUSVs as a tattle-tail and/or shadow of Red assets. The national policy for loss of large unmanned systems was brought up as a point of contention from both sides. There was uncertainty what the response is for the loss of large unmanned systems.

g. Allies believed AFP is a good concept that allows for easier integration. A continued messaging campaign to showcase the abilities of the Distributed Lethality concept is necessary to facilitate the understanding of the usefulness of Distributed Lethality. Allied forces saw Distributed Lethality as a combat multiplier.

5. Areas for Further Analysis:

a. Explore the scalability of Distributed Lethality and in what space of water or geography is DL no longer a viable option (Baltic scenario?).

b. What is the proper employment and use of unmanned systems with regards to ROE, the degree of autonomy, and as a relay communication platform?

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- c. Anticipated Red responses to unmanned systems.
- d. The use of gray forces for Blue and Red to disrupt unmanned systems or use as ISR early warning platform? Is there utility in this?
- e. The need for C2 architecture to facilitate “mission command.”
- f. DL interoperability with allied and partner nations.
- g. Study different Red force compositions in response to Blue AFPs.

6. Conclusion: Without question, we believe this wargame showed the predicament that Distributed Lethality places on opposition forces. The perceived threat area caused by the threat of Distributed Lethality caused an over-extension of forces and numerous gaps in coverage in both scenarios with an AFP integrated with the CTF. The use of unmanned systems with Distributed Lethality can provide creative employment options for future AFP TF commanders. In the EMED, allied and partner nation support is key to the sustainment of a prolonged Distributed Lethality operation. Allied and partner nations integrated with Distributed Lethality also provide a difficult decision for opposition forces in the EMED due to the availability of territorial water and home ports to set forces up for escalation to phase 2 and 3. We believe this wargame provided some great insights for the Navy to use in future wargames and combat modeling. It was an honor to be asked to conduct this wargame and contribute to this new and exciting concept. We hope our efforts help Naval leaders bring Distributed Lethality to fruition.

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