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U.S Navy's Distributed Lethality Concept and Its Implications for East Asian Security

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I . Introduction

The Distributed Lethality (DL) concept is the U.S. Navy's future operation concept that is being developed to enhance the viability and offensive capabilities of the U.S. fleet in an Anti-Access and Anti-Denial (A2/AD) environment.¹⁾ As Vice Admiral Thomas Rowden, former Commander of U.S. Naval Surface Forces, expressed "If it is afloat, it fights." Therefore, DL intends to improve the offensive power of each unit individually, including non-combat ships such as supply ships.²⁾ Additionally, DL plans to geographically distribute forces called a Hunter-Killer Surface Action Group (SAG), making it challenging for the enemy to target U.S. forces.³⁾ The U.S. Navy expects the DL concept to provide more attack options to Joint Force Commanders (JFC), seize the initiative, and increase complexity for the enemy.⁴⁾ However, despite the importance of the DL concept, it is being discussed only in the United States, and there is a lack of discussion on how to utilize allied nations.

This paper intends to explain why the United States should use its allies to strengthen the DL concept and how to utilize allies' advantages. The United States should develop a new operational concept that adds allied nations to the present DL concept. This new idea of including partners in the current DL concept will be defined as DL+A (Distributed Lethality with Allies). The DL+A concept will first analyze areas allies can contribute to the DL concept. Second, the DL+A concept will explain the operational concept consisting of three

1) Thomas Rowden, "Distributed Lethality," *Proceeding Magazine*, U.S. Naval Institute, Vol.141/1/1,343, January 2015.

2) U.S. Navy, "Surface Force Strategy: Return to Sea Control," www.public.navy.mil.

3) David B. Larter, "Navy to Deploy Hunter-Killer Pack of Ships to Asia-Pacific," *Navy Times*, January 13, 2016.

4) Dmitry Filipoff, "Distributed Lethality and Concepts of Future War," Center for International Maritime Security, January 4, 2016.

phases: shaping, deployment and deterrence, and engagement. Lastly, it will address the counterarguments to the DL+A concept and present recommendations in advancing the application of this proposal.

This paper is based on three assumptions. First, the DL+A concept is applied only to China. The DL+A concept is expected to be applicable anywhere in the future for A2/AD threats, but for the purpose of this paper, it is limited to China's threats. The second assumption is that the allied countries included in the DL+A concept are limited to the Republic of Korea (ROK) and Japan because these two allied nations are likely to support the United States under their Mutual Defense Treaties.⁵⁾ Additionally, the entrapment dilemma theoretically supports that the ROK and Japan will automatically be involved even if they do not want to participate in any conflict between the U.S. and China.⁶⁾ The third assumption is that the theater is limited to the Yellow and East China Seas, considering geographical factors from the ROK and Japan.

II. U.S. Policy - Strategic Partnerships

U.S. policy contained in A Cooperative Strategy for 21st Century Seapower and in the recently published National Defense Strategy, points to the need to include partners in maintaining global security. In the case of Distributed Lethality, the U.S., ROK, and Japan will

5) The United States signed a Mutual Defense Treaty with Korea in 1953 and Japan in 1960.

6) Glenn H. Snyder's alliance-security dilemma states that an ally can be entrapped in an allied problem regardless of his will. Some points out that it is unrealistic for allies to accept the DL+A concept because it is difficult for allies to accept this idea as it is difficult to participate in the "freedom of Navigation." In fact, this paper lacks a detailed explanation of U.S.-Allies political agreement. However, this paper is meaningful in explaining how to apply the new U.S. operational concept to its allies at the military level and the benefits that can be gained from it. Glenn H. Snyder, "The Security Dilemma in Alliance Politics," *World Politics*, Vol.36, No.4, July 1984, pp.461-495.

mutually benefit from providing support for distributed operations in the Asia-Pacific Theater. As A Cooperative Strategy for 21st Century Seapower indicates, by expanding the U.S. network of allies and partners, “naval forces: foster the secure environment essential to an open economic system based on the free flow of goods, protect U.S. natural resources, promote stability, deter conflict, and respond to aggression.”⁷⁾ Additionally, National Defense Strategy explains that through working with allies and partners, the U.S. can maintain its capacity to deter aggression, ensure the stability for sustainable economic growth, and reduce the burden of security by sharing responsibility for collective defense.⁸⁾ Therefore, the ROK and Japan’s maritime forces and national support can provide an enhanced distributed and lethal capability.

III. Why Does the U.S. Need the DL+A Concept?

DL+A is a new attempt to overcome the limitations of existing DL concepts through allies. The current DL concept has the following limitations. First, unexpected Chinese attacks in the space, cyber, and other domains could make it challenging to control geographically dispersed U.S. forces. Once the engagement occurs, China will try to neutralize the U.S. ISR assets and the C2 system, which are the critical vulnerabilities of U.S. forces.⁹⁾ Therefore, the U.S. needs to prepare for the worst-case scenario in which it might be difficult to take advantage of its capabilities. Second, the DL concept did not provide a

7) U.S. Navy, “A Cooperative Strategy for 21st Century Sea Power,” March 2015.

8) U.S. Department of Defense, “Summary of the 2018 National Defense Strategy of the United States of America: Sharpening the American Military’s Competitive Edge,” 2018.

9) Harry J. Kazianis, “Exposed: China’s Super Strategy to Crush America in a War,” *The National Interest*, February 18, 2015.

clear solution to certain logistics and supply. Geographically dispersed U.S. forces need more supports to meet supply demands at different times and places, and allied nations can serve as an effective alternative to provide materials such as oil and ammunition.¹⁰⁾ Third, the DL concept needs an outpost to maintain the fast operational tempo. Relations between the U.S. and China may slowly grow tense, but tension could also rise sharply and unexpectedly. To quickly implement the DL concept, the U.S. needs a geographically close location to China. Allied nations could provide geographic advantages for future U.S. warfare. Fourth, the DL should consider battle damages. Since the U.S. developed the hunter-killer SAGs concept, the role of each naval unit is even more important than the U.S.'s keeping the fleet together.¹¹⁾ However, many hunter-killer SAGs are likely to be damaged early in the engagement and may have difficulty maintaining the DL concept.¹²⁾ Therefore, to keep the sustainability of the DL concept, the U.S. can use allied platforms as a backup plan to compensate for damage to the U.S. fleet.

Given the potential risks of the DL, the DL+A concept can offer the JFC many advantages by utilizing allied resources such as naval ships, ports, and islands. Of course, some critics may argue that South Korea and Japan, fearing China's political and economic retaliation, would not participate in the DL+A. However, if there is U.S. political support, South Korea and Japan are also likely to join in DL+A because this concept can improve allies' offensive power as well. Furthermore, even if allied nations do not want to participate in the DL+A concept, the United States will have nothing to lose in seeking their engagement because the U.S. could simply maintain its existing DL concept. However, if the allies join the U.S. with the DL+A concept, this effort

10) Elee Wakim, "Beans, Bullets, and Benzene: A Proposal for Distributing Logistics, Center for International Maritime Security, August 29, 2016.

11) Christopher Cedros, "Distributed Lethality and the Importance of Ship Repair," February 14, 2017.

12) Ibid.

will give the U.S. an advantage over the DL concept in the following areas: scouting, logistical hubs, locations, and platforms.

IV. Areas in Which Allies Can Contribute to the DL+A Concept

1. Scouting

As Sun Tzu stated, collecting enemy information through reconnaissance assets is one of the essential operations in war.¹³⁾ No matter how superior America's weapons system are, if there is not enough information about the enemy, it would be difficult to maintain the DL concept under the A2/AD environment. China is currently working to improve its ability to attack U.S. critical capabilities by neutralizing the superior ISR and C2 abilities of the United States. For example, China created the People's Liberation Army (PLA) Strategic Support Force (SSF) in 2015, which aims to maintain the military superiority of the space, cyber, and electronic domains.¹⁴⁾ In other words, if war breaks out, the PLA's SSF will attack the U.S. in all three of these domains, and ISR assets and C2 systems of the United States are likely to be neutralized. Therefore, the U.S. should prepare alternative ways to maintain the DL concept in the situation where ISR and C2 capabilities are disabled under A2/AD threats.

The U.S. can utilize the ISR assets of allies for scouting when the U.S. faces a blackout situation due to a Chinese attack. For example, the ROK and Japan are currently setting up Korea Air Defense

13) Samuel B. Griffith, *Sun Tzu: The Art of War* (New York: Oxford University Press, 1963).

14) Kevin L. Pollpeter and Micheal S. Chase, "The Creation of the PLA Strategic Support Force and Its Implications for Chinese Military Space Operations," RAND, 2017.

Identification Zone (KADIZ) and Japan Air Defence Identification Zone (JADIZ). Each country identifies all of the airborne targets that pass through the area. In particular, the ROK and Japanese Aegis ships are capable of detecting airborne targets that are about 1,000km away, and these ships can share the target information with the U.S. Navy fleet via LINK-11/16.¹⁵⁾ Additionally, Maritime Patrol Aircraft (MPA) in Korea and Japan regularly scout the vast ocean. The information gathered by allies can be useful to the United States. Of course, some critics may argue that Chinese attacks such as jamming also affect the allied scouting assets, which means that allies could not contribute to DL+A.¹⁶⁾ However, allied countries could regard China's behaviors that hinder normal operations as hostile intent, and Chinese interference will give the allies more justification to join the DL+A concept.

By using allies as a scouting force, the U.S. can achieve the following desired effects. First, the U.S. can reduce efforts to detect enemies. By utilizing the allies' ISR assets, the U.S. can save the time and resources required to identify enemies. Second, sharing of information between partners can increase the credibility of target information. Information obtained from multiple detection sources will improve situational awareness of the battlefield. Third, in situations where the U.S. C2 system is unavailable, the U.S. can maintain the DL concept through the information support of the allies.

2. Logistical Hubs

One of the most significant problems in implementing the DL concept is that this concept lacks adequate logistical support for U.S. forces.¹⁷⁾ In other words, with the existing supply system, it would not

15) U.S. 7th Fleet Affairs, "U.S., Japan and Republic of Korea Navies Conduct Trilateral Missile Defense Informational Link Exercise", March 14, 2017.

16) Brendan Thomas-Noone, "Electronic Warfare Comes to the South China Sea," *The National Interest*, August 24, 2016.

be able to efficiently cope with the demand for supplies at different times and locations. Therefore, in order to maintain sustainability of the DL concept and winning the A2/AD environment, it is necessary to develop a new logistics concept.

Using allies as a logistics hub will ensure the sustainability of the DL+A concept by providing stable logistical support to the U.S. fleet forces. The logistics hub refers to the use of allies to supply the distributed operational area. The logistics ships, military or local ports, and the islands that allied countries have can serve as the logistics hubs. For example, the allied logistics ships including AOE's can support the U.S. fleets. Since an increase in shuttle buses reduces waiting time for customers, the U.S. Navy will be able to receive rapid distribution by additional use of allies' logistics vessels.¹⁸⁾ Next, the military and civilian ports of allies can supply oil and ammunition, and these facilities can also provide a certain level of repair. Also, the islands of allies can become outposts for distributed logistics. By placing temporary docks, tugboats, and other ships with special features like the USS Frank Cable (AS-40) near the outposts, the U.S. can establish temporary refueling and refitting locations.¹⁹⁾

This new logistics concept that uses allies' ships, ports, and islands can give fleet commanders the following advantages. First, this logistics concept provides an opportunity for U.S. Navy assets geographically dispersed in vast areas to return to the battlefield quickly. In other words, the logistics hub concept can enhance operational tempo under the A2/AD environment. Second, this concept enables sustainable support under enemy threats by providing

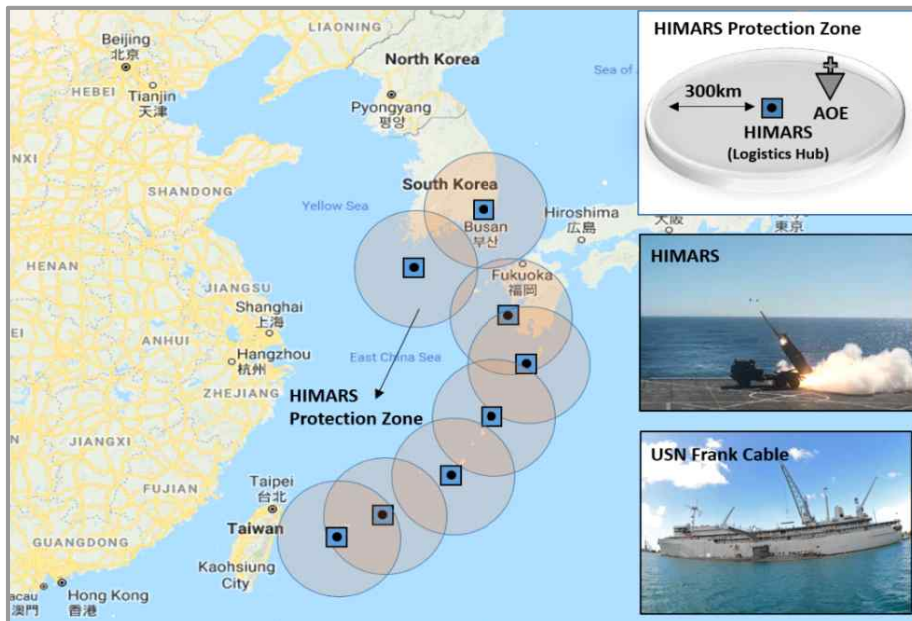
17) Chris O'Connor, "Distributed Endurance: Logistics and Distributed Lethality," Center for International Maritime Security, July 7, 2015.

18) M Atkinson, "Logistic Model for Distributed Lethality," Naval Postgraduate School, 2016.

19) USS *Franks Cable* (AS-40) is the Emory S. Land class submarine tender. This ship has a crane capable of loading VLS cells and has the ability to repair combat damage. This ship can be used as a logistics hub; Elee Wakim, "Beans, Bullets, And Benzene: A Proposal for Distributing Logistics," Center for International Maritime Security, August 29, 2016.

alternative logistics options for U.S. fleets. Critics may argue that creating a temporary logistic hub under A2/AD environment is dangerous regarding defense. However, there is no supply support without risk in war, and the U.S. can protect the logistic hubs through the creative ways the U.S. is currently developing.

〈Figure 1〉 Distributed Logistics Concept



As shown in Figure 1, deploying the M142 High Mobility Artillery Rocket System (HIMARS) would be a good way to complement the lack of logistic hub protection.²⁰⁾ Currently, the U.S. has been widely using HIMARS in disputed areas because of its excellent mobility and firepower. Also, many studies and experiments support the idea of using HIMARS for sea control.²¹⁾ It implies that HIMARS can support

20) The M142 HIMARS (High Mobility Artillery Rocket System) is a lighter version of the M270 MLRS multiple launch rocket system. The HIMARS has the advantage that they can be placed on the transport aircraft such as C-130, C-17, or C-5.

21) Steven Huckleberry, "Cross-Domain Synergy: Using Artillery in the Fight for Sea Control," Joint Military Operation Department, Naval War College, April 28, 2017.

the DL+A concept in the future. Third, this logistics concept can provide solid support even in situations when the U.S. forces' C2 systems are ineffective. If the enemy attacks the U.S. C2 systems, it will be difficult for the U.S. fleet to confirm the location of the supply ships and move to the supply location. Thus, providing a fixed supply location to fleet forces will offer a variety of options for the sustainability of the DL concept.

3. Location Hubs

The United States is at a disadvantage compared to China regarding operating factors such as time, space, and force. Regarding time, it takes a long time to move U.S. forces to the operation area because of the distance from the U.S. mainland. Additionally, the geographical separation makes it difficult to perform sustainable operations by preventing repair and supply from being done quickly. On the space side, long-range missiles and RADARs that China has already installed in its front yard also put the U.S. at a geographical disadvantage. Regarding force, China could mobilize almost all means possessed by the state, because Chinese military bases are geographically close to the operation area. However, the U.S. must fight only with the forces that have moved from the U.S. mainland to the theater. These facts imply that the U.S. should consider how to overcome geographic disadvantages when developing the DL concept in the future. Using the ports, airfields and islands of allies as location hubs can be a realistic alternative to solve the above problems, and this concept has the following advantages. ²²⁾

First, utilizing allies' geographical advantages will significantly

22) As geographical hubs, it is realistic for allies to provide supports rather than offensive roles.

reduce America's response time to conflict. Due to the increased power and accuracy of modern weapons, it is important to take over the dominance of war in the early stages of the war. For this reason, if conflicts arise, it is crucial to move U.S. forces quickly to the operational area. Thus, the DL+A will enable the U.S. to take advantage of time on the battlefield based on the geographical benefits of its allies.

〈Figure 2〉 Establishing a Network for Sea Control



Second, the U.S. could use its allies as outposts to overcome the disadvantage of space in the A2/AD environment. The DL concept will be applied geographically close to China, and the use of combat space is likely to be advantageous for China. In other words, the U.S. is inevitably at a disadvantage because the U.S. has to fight within the space where China has already built protection systems. However, as shown in Figure 2, applying the DL+A concept to reinforce protection facilities in allies and establishing a network surrounding China will be able to change the space utilization advantageously in the future.

Third, the geographical advantage of an ally can contribute to strengthening the U.S. forces. For example, as shown in Figure 3, placing a Container Missile System (CMS) equipped with missiles and unmanned systems can be a creative way to support the DL+A concept and concentrate U.S. forces.²³⁾ When war breaks out between the U.S. and China, the missile consumption of the fleet forces will increase dramatically in the early stages of the war. As a result, many warships will have to return to port for re-supply. In this situation, the U.S. can use forward-deployed CMS as a replacement for the U.S. fleet. Missiles and UAVs launched from the container ship will be able to perform functions such as surveillance and attack for the DL+A concept. This approach will disperse the combat power, making enemy targeting challenging, and help the U.S. fleet overcome re-supply issues.

〈Figure 3〉 Club-K Container Missile System



4. Platforms

Allies can provide a platform to support the DL+A concept in the event of loss of U.S. forces. The U.S. forces that operate within the

23) Russia is currently known to develop a container missile system called “Club-K.” This system can destroy enemy core facilities by launching missiles that are hidden on container ships at unexpected times and places. “Deadly New Russian Weapon Hides in Shipping Container,” April 26, 2010, <https://www.reuters.com>.

A2/AD threats are expected to suffer significant losses due to massive attacks by the enemy. As a result, to maintain the DL+A concept, sufficient platforms are required to replace damaged warships. If the DL+A concept works, the U.S. could use allies' diverse platforms as a contingency plan.

First, using an allied warship as a temporary base for the F-35B or drones is an example of platform support reflecting the DL+A concept. Recently, the U.S. Navy is developing an up-gunned Expeditionary Strike Group (ESG) concept as part of its DL concept. The up-gunned ESG concept is an idea to improve the offensive power by loading F-35Bs or drones into an amphibious warfare ship rather than an aircraft carrier.²⁴⁾ Since the F-35Bs have a vertical takeoff and landing function, this stealth fighter can be loaded on amphibious ships, not just on aircraft carriers.²⁵⁾ Indeed, this concept was validated in the context of the Talisman Saber training in 2017.²⁶⁾ As these training results show, allied platforms can further strengthen the up-gunned ESG concept. For example, when an enemy attack destroys a U.S.'s sea-base that is loaded with F-35Bs, the F-35B could land on allied platforms such as Dokdo class in Korea and Izumo class in Japan.²⁷⁾

Second, the allied warships with their helicopter decks can be a means of loading land-based artillery rockets, which could significantly improve the offensive power of the non-combat vessels

24) Franz-Stefan Gady, "F-35B Stealth Fighter Deploys For 1st Time Aboard U.S. Navy Ship in Indo-Pacific," *The Diplomat*, March 6, 2018.

25) Franz-Stefan Gady, "Distributed Lethality at Work: Combining the F-35 and Aegis Missile Defense," *The Diplomat*, September 15, 2016.

26) Megan Eckstein, "Bonhomme Richard ESG Combines with Australian Frigates For 'Up-gunned ESG' Rehearsal in Talisman Saber 2017," *USNI News*, July 24, 2017.

27) In the case of the Korean Navy's *Dokdo* class, the F-35B is theoretically capable of landing, but there is an opinion that the deck is vulnerable to high heat, so further improvement is needed. Also, a study commissioned by Japan's Ministry of Defense asserts that "These ships with certain modifications can operate the F-35B without requiring a catapult launcher from the warship's flight deck.;" Franz-Stefan Gady, "Study: Japan's Largest Warship Can Support F-35B," *The Diplomat*, May 2, 2018.; Jeff Daniel, "South Korea, Japan may put the F-35B Stealth Fighter on Combat-Capable Ship," CNBC, December 28, 2017.

that the existing DL concept emphasized. For example, as shown in Figure 4, the U.S. Navy and Marine Corps conducted the HIMARS launch test on the flight deck of the USS Anchorage (LPD-23) during the Down Blitz exercise in October 2017.²⁸⁾ The land-based rockets launched from the sea accurately hit a maritime target located 70 km away and proved to be capable of improving offensive power with HIMARS.²⁹⁾ If the U.S. deploys this mobile artillery in allied warships, it becomes a mobile firepower base on the sea, and if the U.S. put HIMARS on an allied island, the U.S. will be able to create an A2/AD zone near China's mainland. This approach can offset China's advantages by enabling the U.S. to establish an A2/AD strategy to respond to China's A2/AD strategy.

〈Figure 4〉 Using HIMARS for Sea Control



28) Daniel Wasserbly and Michael Fabey, "HIMARS test advances USN surface-ship lethality potential," October 24, 2017.

29) Gidget Fuentes, "Marines Fire HIMARS from Ship in Sea Control Experiment with Navy," USNI News, October 24, 2017.

V. Operational Concept

Understanding the limitations of the DL concept and the areas where allies can contribute to the DL+A concept will be the basis to develop the future U.S. Navy strategy. As mentioned earlier, partners will provide the United States with a variety of advantages that complement the limitations of the existing DL concept such as scouting, logistics, locations, and platforms. Now it is essential to consider how to implement the DL+A concept. The DL+A concept, which takes full advantage of allies, will consist of the following three stages: shaping, employment and deterrence, and engagement.

1. Phase 1: Shaping

The purpose of the shaping phase is to be ready to implement the DL+A concept at any time. During the shaping phase, the U.S. must strive to strengthen the four areas of tactics, talent, tools, and training. These four factors are the critical areas for the preparation of phase 1.

First, the U.S. needs to develop appropriate tactics of the DL+A concept with allies. The U.S. Navy has implemented various war games to establish the DL concept at the Naval Surface and Mine Warfare Development Center (SMWDC) and Naval War College.³⁰⁾ These organizations are currently developing tactics to realize the DL concept based on war game results. However, it is true that there is still a lack of discussion on how to use allies in this process. For applying the DL+A concept in the future, it is necessary to discuss this concept with partners and broaden the consensus. Therefore, the U.S. needs to

30) Megan Eckstein, "A Year into Distributed Lethality, Navy Nears Fielding Improved Weapons, Deploying Surface Action Group," *USNI News*, January 13, 2016.

develop combined tactics with allied nations in order to fully utilize allies' resources to counter China's A2/AD strategy.

Second, the U.S. needs to develop a talent for warfighters that implement the DL+A concept. Captain Hughes especially emphasized "Men matter most," and he highlighted the qualities of the warfighter.³¹⁾ The United States now needs experts who fully understand the limitations of the DL concept and the strengths of its allies. These experts will integrate all available allied resources to support the DL+A concept.³²⁾ However, it is true that allied nations currently lack understanding of the DL concept, and their warfighters are not yet ready to run DL+A. Therefore, the United States should introduce a new operation concept to the allies' warfighters and help them prepare for future warfare.

Third, the United States must have the right tools to implement the DL+A concept. For the application of the DL+A concept, it may be necessary for the United States to adjust the priority of the U.S. shipbuilding plan and budget use. On the other hand, it is not easy to change the infrastructure of allies. If the partners have forces and structures that are not appropriate to implement DL+A, then the intended effect of DL+A will inevitably fail. Therefore, the United States should motivate its allies to develop or maintain forces, facilities, and structures that fit the DL+A concept. The U.S. can complete this process by emphasizing that participating in DL+A can improve the alliance's military capabilities as well.

Fourth, the United States should strengthen its training for DL+A and improve its ability to perform integrated operations with its allies. Historically, the United States has fought in many wars alongside partners. However, allied different languages and cultures may lead to

31) Wayne P. Hughes Jr., *Fleet Tactics and Coastal Combat* (Maryland: Naval Institute Press, 2000), pp.27-29.

32) Andrew Beeler, "Distributed Lethality Requires Distributing Authority," *Proceeding Magazine*, Vol.143, January 2017.

unpredictable friction in a fight and make it difficult to work cooperatively with partners. The most reliable way to overcome the difficulties of coalition operations would be training together. Therefore, the U.S. should prepare to respond to future threats through the application of practice based on the DL+A concept. For example, sharing target information with allies or deploying U.S. assets to allies' geographic hubs will contribute to implementing DL+A.

2. Phase 2: Deployment and Deterrence

If the crisis continues to escalate, the U.S. should switch the shaping phase to the deployment and deterrence phase. As the operational concept moves, the U.S. must quickly deploy available forces into a theater to implement the DL+A concept, thereby demonstrating deterrence. Taking HIMARS as an example, the U.S. can promptly transport HIMARS to allies via C-130, C-17, or C-5. The HIMARS implemented in partner assets may be distributed at various locations through aircraft or ships depending on the intention of the JFC. This phase also begins to build temporary facilities that will provide logistical supports to dispersed hunter-killer SAGs. These processes of force deployment can exercise deterrence by demonstrating a strong will to the enemy.

3. Phase 3: Engagement

If deterrence fails, the U.S. must quickly switch to offensive operations to seize the initiative. Scenarios that apply the DL+A concept against China's A2/AD strategy are expected to be as follows.

First, if China attacks U.S. ISR assets and C2 systems in space,

cyber, and electronic domain, the U.S. is likely to face a blackout situation where it cannot obtain enemy information, though this effect could be minimized through allied participation and a DL+A framework. In this situation, the United States would be able to attack enemy's targets using information from allies. The target information detected by the Aegis ships from Korea and Japan can be shared with the U.S. Navy fleet by LINK-11/16.³³⁾ Of course, there is a lack of credibility to attack with only the information from allies, and allies may also be limited in information collection due to China's jamming. However, the allies' information will be useful enough in the situation where the majority of U.S. military assets become unavailable. Also, the partners can perceive China's attacks such as jamming as a hostile action, which would enhance the legitimacy of the allied operation.

Second, the DL+A concept will provide rapid logistical and repair support for geographically dispersed hunter-killer SAGs. The use of guided missiles will increase sharply during the massive engagement in the early days of the war. Also, the enemy would damage some U.S. naval warships. Temporary facilities located in the ports and islands of allies will provide many options for supplies and repairs to the U.S. Fleet, allowing the U.S. forces to return to the battlefield quickly. Of course, some critics may argue that the facilities of partners used as logistics hubs are vulnerable. However, HIMARS, which is rapidly deployed through aircraft and warships, will be able to add 300km radius protection.³⁴⁾ Such a distributed logistics concept will contribute to sustaining the DL+A concept in the A2/AD environment.

Third, the United States will be able to shorten the reaction time to realize the DL concept by utilizing the allied geographical hubs. For example, U.S. forces previously deployed to partners' territory will be

33) Franz-Stefan Gady, "US, Japan, ROK Hold Joint Missile Drill," *The Diplomat*, March 15, 2017.

34) Diniel Wasserbly and Michael Fabey, "HIMARS Test Advances USN Surface-Ship Lethality Potential," *Jane's 360*, October 24, 2017.

able to move rapidly to the mission area, rather than from the U.S. mainland. Also, HIMARS, a mobile artillery rocket deployed at the central choke point in Phase 2, will be able to prevent the enemy from using Sea Line Of Communications (SLOCs). In addition to HIMARS, multipurpose container ships equipped with long-range missiles, helicopters, and UAVs would be deployed at battle areas to supplement U.S. naval vessels that have used missiles. Rockets, launched from container ships at unexpected times and places, will further increase the complexity of the battlefield to the enemy. This location hub of the alliance will help overcome the disadvantages of the United States regarding time, space, and force.

Finally, the allied platforms could serve as a complement to the loss of hunter-killer SAGs. Many U.S. forces are likely to be damaged by enemy attacks. Therefore, the allied warships can be a suitable means to maintain the sustainability of DL+A. For example, the LHDs that the ROK and Japan have could serve as a launch platform for F-35Bs.

VI. Counter Argument

Some critics may think the DL+A concept is not feasible because the ROK and Japan are economically dependent on China and fear economic retaliation. If allied nations officially adopt the DL+A concept as their military strategy, then China may implement financial reprisals against U.S. partners, such as China when limited its trade with South Korea when the ROK government decided to deploy Terminal High Altitude Area Defense (THAAD).³⁵⁾

However, the U.S. low-key strategy can mitigate China's resistance to the DL+A concept. This strategy means not to stimulate China by

35) Adriana Diaz and Shuai Zhang, "Angered by U.S. anti-missile system, China takes economic revenge," *CBS News*, April 7, 2017.

highlighting the DL+A concept. In other words, it is a way to keep the existing DL concept, but slowly incorporate allies into the DL concept. Instead of releasing the DL+A concept publicly and provoking the resistance of neighboring countries, the United States must prepare for an inconspicuous moment. By enhancing interoperability in the four areas where allies can contribute to the DL concept, the United States will be able to realize the idea of DL+A at a crucial moment.

Also, the ROK and Japan are already under the threat of China's A2/AD, so allies will prefer to adopt the DL+A concept in preparation for China's future actions. If the U.S. introduces the DL+A concept leveraging its alliance's efforts to overcome China's threats, allies can be expected to participate in the DL+A concept.

VII. Conclusion

Since the end of the Cold War, the United States has dominated almost every battlefield with its overwhelming military power. However, the increased A2/AD abilities of the enemy, including development of long-range missiles, threaten the freedom of action of the United States. To overcome the enemy's threat, the U.S. has recently developed the DL concept. However, there are many limitations in realizing this concept. It is practically difficult to cover the vast A2/AD area by the United States alone, and there is a high probability that logistical support problems will also occur in dispersed domains.

The DL+A concept will be an alternative way to overcome many problems that the current DL concept has, and this idea will bring many advantages to the United States regarding time, space, and force. The geographical positions provided by allies will reduce U.S. response times and make space utilization easier. Also, the infrastructure owned by the partners will make it easier for U.S. forces to concentrate on

the operational area. Despite the fact that allied nations can support the DL concept, allies have been underestimated in the DL concept development process so far, and allied countries still lack understanding of the DL concept. Therefore, the U.S. should seriously consider the need for the DL+A concept in the process of developing the current DL concept.

Of course, China's resistance is expected in the process of implementing the DL+A concept. However, if the U.S. minimizes the friction with China through the low-key strategy, it will be possible to complete the idea of DL+A, making full use of advantages of allies.³⁶⁾

36) Hi-key strategy and low-key strategy are policy promotion strategies. Hi-key strategy means actively delivering messages to other countries through direct means. However, while this strategy can deliver a strong message, it can stimulate the other country and cause a negative result, unlike the original intention. Therefore, the low-key strategy is effective in the situation where the United States and allies do not have sufficient consensus on the DL + A concept.

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요 약

미 해군의 전력분산의 치명성이 동아시아 안보에 주는 함의

문 창 환*

2015년 미 해군에서 발간한 미 수상함대전략(Surface Force Strategy)에 따르면, 미 해군은 반접근-지역거부(Anti-Acess and Anti-Denial, A2/AD) 전략에 대한 대응책으로 ‘분산된 치명성(Distributed Lethality, DL)’이라는 신 작전 개념을 개발 중에 있다. 이 개념은 각 유닛(unit)의 공격력(offensive power)을 향상시키고 지리적으로 분산 시킴으로써(geographical dispersion) 생존성을 향상시키는데 목적을 두고 있다. 하지만 동맹국(한국/일본 등)이 ‘분산된 치명성(DL)’ 개념에 기여할 수 있는 영역이 다양함에도 불구하고, 지금까지 미 해군 내에서는 동맹국과 어떻게 공조해야 할 것인가에 대한 논의가 부족한 것이 사실이다. 따라서, 미 해군은 향후 ‘분산된 치명성(DL)’이라는 작전개념에 동맹국이 줄 수 있는 이점을 추가적으로 적용하는 ‘동맹국을 활용한 분산된 치명성(Distributed Lethality with Allies, DL+A)’ 개념을 발전시켜야 할 것이다.

‘동맹국을 활용한 분산된 치명성(DL+A)’ 개념이란 동맹국이 가지고 있는 전력, 시설, 플랫폼 등 가용자산을 최대한 활용하여 기존의 ‘분산된 치명성(DL)’ 개념을 강화시키는 신 작전개념이다. 미 해군은 본 논문에서 제시하는 신 작전개념(DL+A)을 적용함으로써 다양한 영역(정찰, 군수, 지리적 요충지, 플랫폼)에서 동맹국으로부터 지원을 받을 수 있을 것이다. 또한, 동맹국은 미 해군의 신 작전개념을 적용함으로써 A2/AD 전략에 대비한 안보능력을 향상시킬 수 있을 것이다.

핵심어 : 미 해군, 분산된 치명성(Distributed Lethality), A2/AD

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