USS Lake Erie conducting Aegis intercept test.

U.S. Navy

Missile Defense Attack Operations

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Joint doctrine maintains that theater missile defense (TMD) is a joint mission, but in fact it is just another common mission pursued separately by the services. Joint Pub 3-01.5, *Doctrine for Joint Theater Missile Defense*, often invokes the term *integrate*. Although the services are making progress in vertical integration on all levels, little has been done to harmonize efforts horizontally. Service agencies responsible for TMD illustrate this divergence. Some numbered air forces have cells dedicated to attack, passive defense, and command, control, communications, computers, and intelligence operations, while the Navy contributes to attack operations with its air assets and could conduct active defense with Aegis systems. The Army operational lead for TMD is 32d Army Air and Missile Defense Command (AAMDC), which executes elements: attack operations, active defense, passive defense, and command, control, communications, computers, and intelligence. In sum the services have formidable capabilities, but they usually work in spite of each other rather than

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Patriot missile site in Korea.

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with each other. There is a better alternative. Recent efforts to improve attack operations in Korea reveal the problems and potential for enhancing theater missile defense operations.

Forward Missile Fight

In support of the offensive counterair mission, attack operations prevent launch of theater missiles by destroying every element of the system, including launch platforms; reconnaissance, surveillance, and target acquisition platforms; command and control nodes; and missile stocks and infrastructure. Attack operations strive to deny or disrupt enemy assets. As the Army proponent, 32d AAMDC responds to the Army component or joint force land component commander (JFLCC) and thus is constrained to this architecture in conducting attack operations. Restrictions require any target identified for attack by the AAMDC intelligence and attack operations cell to be nominated to the Army component deep operations coordination cell for prosecution. Targets can be categorized into two broad groups based on their relative mobility and targetability by assets assigned by the air tasking order, as either preplanned or immediate targets.

Preplanned targets are engaged by the assets requested through the normal air tasking order development cycle. They are submitted to the deep operations coordination section and compete with other Army target nominations for air/surface delivered attack resources. Preplanned targets can involve lengthy dwell times, theater missile production and storage facilities, garrisons, stationary forward operating bases or forward support elements, communications nodes, and countermobility targets (such as bridges and chokepoints). If approved and given a high enough priority by deep operations coordination cell fire planners, TMD targets are included in the Army candidate target list. This list is passed to the Army component battlefield coordination detachment (BCD) at the joint air operations center (JAOC) for coordination and deconfliction. The detachment submits lists to the target development section and master air attack planning team within the combat plans division of JAOC, where nominations are combined with those from other components. Requests are prioritized to eventually produce the joint integrated prioritized target list, which is the basis for ultimately assigning aircraft and weapons.

Immediate targets are nominated for use inside the normal air tasking order planning cycle and must follow a similar request and approval process. Examples are mobile or perishable targets such as launch sites. When identified these targets are forwarded to the Army fire support element of the deep operations coordination cell, which will

prioritize and process requests for immediate attack. If a request is approved according to valid guidance, the target is forwarded to BCD for airspace clearance and the attack unit for execution if possible within service capabilities. If Army assets cannot conduct the attack, the request goes to BCD, which passes it to the execution cell in JAOC for tasking to available air assets.

Time sensitive targets are a subset of immediate targets. They are processed using the same procedures and architecture as immediate requests, though they receive the highest priority. A time sensitive target requires immediate response because it poses a clear and present danger to friendly forces or is a highly lucrative but fleeting target of opportunity. This definition is broad and vague. Therefore it falls to the theater commander or joint task force commander to refine and define attack guidance. Further definition usually addresses acceptable risks in terms of loss of attack assets, duplication of attack, fratricide, and collateral damage. Regardless of the criteria, time sensitive targets must be clearly designated. Enemy assets that CINCs or JFCs may pick as time sensitive targets usually include transporter erector launchers and launch sites. The list is best kept short to lend emphasis and facilitate the quickest attack.

Systemic Limitations

There are drawbacks in doctrine. Army forces usually have little regard for theater ballistic missile threats. Because of their inaccuracy and small throw-weight, such missiles are regarded as militarily insignificant or as weapons of terror that cannot hamper ground operations. In addition, the primary focus of the Army component deep operations coordination cell is the ensuing 72–96 hours of the battle. Its concerns are massing fires and effects to shape sound operations. Though theater ballistic missiles may pose a strategic threat to coalition unity or political will, they have little to no direct effect on the battlefield; thus the Army component usually assigns a low targeting priority to attacking them, resulting in a lack of collection asset prioritization and limited collection and attack asset availability, further hindering TMD efforts.

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Another obstacle to successful attack operations is the site of the ballistic missile target set. Launch, hide, and transfer locales, forward operating bases, and garrison, storage, and production facilities are usually found outside the JFLCC/Army component command area of responsibility, highlighting another barrier to AAMDC efforts—component jurisdiction. By requesting an attack against target sets located outside AORs, JFLCCs must request and coordinate through other functional components. This requirement slows the attack and must compete for resourcing against another set of priorities—usually those of JFACCs.

Attack operations cross more than just the physical boundaries of components; they transcend operational doctrines that lead to procedural disparities. Variations in selection standards, targeting criteria, and even sensitive target definitions often result in a fracturing of attack operations.

In addition, this system is unwieldy. For example, an immediate air support request from AAMDC must be forwarded to the fire support element of the deep operations coordination cell. Once the request is approved, the target nomination is sent to BCD for clearance. Once cleared, the target passes to the execution cell in JAOC, where assets are identified, coordination is effected, and final approval is given before the tasking is passed to available aircraft via airborne command and control. By bypassing the deep operations coordination cell and collocating AAMDC with BCD and JAOC, a 35-minute process can be shortened to ten minutes by eliminating middlemen and concurrently seeking airspace clearance and JAOC coordination and approval.

Duplication of effort in developing targets and assigning attack assets is another drawback to the Army method of TMD targeting. This process is simply not a joint, integrated effort. Each component, notably the Army through AAMDC and the Air Force through a numbered air force TMD cell, is pursuing the same targets, collecting and analyzing information and data to identify targets independently—resulting in duplicated efforts and wasted resources. Additionally, each service has its own system for requesting fire support and air missions, leading to multiple attacks. This is less of a problem for preplanned operations since the joint target development/air tasking order development cycle largely prevents duplication. But the challenge is more pronounced when pursuing immediate targets when time is a factor and redundancy of attack is difficult to prevent.

Rethinking the Process

Used for attack operations, standard Army processes are unwieldy and inefficient. A more streamlined method is needed that places TMD responsibility under a single executive agent. Such a method exits and is being refined in Korea. Commander in chief, United Nations Command and Combined Forces Command, has designated a single authority for the conduct of

TMD operations in the Korean theater of operations—in this case, the Commander, Air Component Command, and Commanding General, Seventh Air Force. In a break with Army tradition, the Commanding General, Eighth U.S. Army, gives up operational control of 32d AAMDC when Seventh Air Force is in theater, effectively establishing a single focused authority over theater missile defense on the peninsula

The theater missile defense operations center functions as a staff under the combined forces air component command and is responsible for planning, coordinating, and integrating theater-level missile operations. The center is split-based with Seventh Air Force and Republic of Korea air force elements in theater and 32d AAMDC in the United States. During either an exercise or in wartime, 32d AAMDC collocates in the hardened theater air control center and integrates operations with the Seventh Air Force cell and Korean air force personnel at Osan air base. In addition, it dispatches liaison teams to the deep operations coordination cell of the ground component command, the Eighth U.S. Army rear command post, Combined Unconventional Warfare Task Force Headquarters, and other commands.

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Joint attack operations is an ongoing venture, beginning with intelligence preparation of the battlespace conducted jointly between AAMDC and the Seventh Air Force intelligence cell. Information sharing aids the process. Attack strategy is jointly drafted and approved. Preplanned and immediate attack mission requests are developed. AAMDC brings experience as well as considerable technical capabilities with its intelligence tools such as the generic area limitation environment and all source analysis systems. It also provides a measure of continuity vis-à-vis the one-year tour lengths of the personnel assigned in Korea. The in-country Seventh Air Force analysts bring enormous Korea-specific knowledge and access to quick-response Air Force collection systems. With these resources, joint intelligence identifies the enemy theater missile order of battle, operational patterns and techniques, capabilities and weaknesses, likely operating areas, and other exploitable information.

Theater missile targets were developed and nominated solely by the theater missile defense operations center—no other agencies in-theater develop them—establishing unity of command and freeing the other components from this task. Where possible, targets are serviced by commander, air component command (CACC), apportioned resources which both the ground and maritime components appreciate.

Preplanned and immediate missions in Korea are requested in the same manner as doctrinal targeting, but with a twist. Most notably, immediate missions are requested directly through the air operations center execution cell rather than the Army deep operations coordination cell, resulting in a dramatic decrease in response time. Fewer agencies and approvals are required so the target is processed and attacked more expeditiously.

Preplanned missions are processed directly through the air operations center for inclusion in integrated tasking orders. But as a special CACC staff element, the center has no direct targeting responsibility to the ground component commander. Hence TMD attack nominations are submitted to air component command planners in the combat plans squadron, which bypasses the approval of the Army component command and BCD.

Preplanned missions include both interdiction and air alert interdiction missions scheduled on integrated tasking orders. The former are scheduled to attack fixed facilities and infrastructure supporting both current operations and long-term capabilities while countermobility missions are planned to isolate theater missile operating areas through aerial mining and attack against key sites and their lines of communication. The latter provide assets to be retasked to strike lucrative fleeting targets in missions similar in function to combat air patrols. Procedures for air alert interdiction vary by theater, but missions are generally given a primary target in an associated killbox and a time on target. These missions will usually have a vulnerability or flex time prior to their station time during which they can be diverted to attack other (short-dwell) higher-priority targets in their designated killboxes or others nearby.

Immediate attack mission requests in Korea are also acted on more efficiently. When a time sensitive or immediate target is identified and verified for attack, the request is coordinated with all parties in conjunction with the director of combat operations who has overall responsibility for the mission. The air interdiction officer tracks air mission availability and weaponry and recommends missions for possible divert. After command and control are arranged, the attack order is passed to airborne controllers to relay to the attack aircraft. Special operations and airspace representatives provide target systems analysis and deconfliction. A targeting cell checks targets against priorities and collateral effects and if needed confirms aircraft scheduling and arranges for reattack of original targets by diverted aircraft. The intelligence duty officer and collections

Intelligence analysts from 32d Army Air and Missile Defense Command.

1st Combat Camera Squadron (Jim Varhegyi)

arrange for both real-time confirmation of target status and battle damage assessment while BCD deconflicts airspace and requests surface-to-surface fires when needed.

Future Fixes

Though theater organization and structure definitely improve attack operations, they are not the total solution to theater missile defense or attack operation problems.

Prioritization. If the objective is having attack operations affect the threat prior to launch, this target category must be assigned a sufficiently high priority to provide the attack as well as the intelligence, surveillance, and reconnaissance resources to enable effective identification and robust effort to destroy, disrupt, or delay launch.

Physical dislocation. Perhaps the greatest drawback of the current organization is physical separation. The Seventh Air Force cell conducts its mission in country daily while 32d AAMDC is located in the United States. Both pursue TMD through intelligence preparation of the battlefield and other pre-hostility efforts. And although there is cooperation and as much information sharing as possible with available automated systems, it is a feeble substitute for face-to-face planning and coordination. The best solution is collocating the units. Barring this option, the commands must train together in exercises such as Ulchi Focus-Lens and Foal Eagle to hone interoperability and maintain and improve attack operations planning.

Combined operations. A key feature of operations is inclusion of Korean national forces. Foreign disclosure restrictions limit the ability to coordinate U.S.-Korean theater missile defense. The language barrier, which affects everything from briefing deadlines to the prosecution of time sensitive targets, is another obstacle. Protocol and manning, which affect the numbers and ranks of assigned personnel, also create artificial barriers to effective combined operations.

Information and attack processing. Attack operations are hindered by lack of automation. Capabilities such as those provided by both the advanced field artillery tactical data system and the theater battle management core system assist

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Patriot missile system, Roving Sands '99.

with processing automated targets and both immediate and preplanned mission requests. More and better capabilities are needed to collate and display the enemy operational picture of theater missiles, enhance situational awareness of friendly attack asset availability, and further streamline attack operations requests and command and control processes. Targetable intelligence must be quickly fed from intelligence and collection systems to the targeting system. A capability is needed to pass targeting information to the fire request processing system.

Moreover, situational awareness can be improved to enhance attack operations and should be maintained on both air and surface fire support systems; that is, locations of field artillery units and attack aircraft (close air support, interdiction, strategic attack) should be graphically displayed with unit information. This requires an ability to receive, parse, and display the active air tasking order, but allows attack operations personnel to assess availability of assets for diversion or rerole of air assets or attack by the Army tactical missile system.

In general the capabilities required to conduct attack operations should enable receiving and analyzing targeting intelligence, submitting target nominations to the deep operations coordination cell or air operations center, tracking the status of preplanned and immediate target nominations, receiving targeting guidance and priorities, and maintaining situational awareness for both air and surface fire support systems. Current systems must be improved to both expand capabilities and make them more user friendly.

Attack operations, perhaps more than other aspects of theater missile defense, is a genuine joint endeavor that requires the integration of component efforts to defeat threats prior to launch. Collaboration or coordination is not sufficient to provide the requisite focus of effort. Ideally, the expertise resident in the Army Air and Missile Defense Command is best coupled with the rapid collection and attack capabilities of Air Force theater missile defense cells. Although this synergy of effort is lacking in most theaters, the joint and combined theater missile operations cell under the Combined Forces Air Component Command in Korea is addressing key issues. **JFQ**