

# Joint Theater Missile Defense Strategy

By ROBERT M. SOOFER



U.S. Army (Moses M. Maslo)

Patriot in Kuwaiti.

**T**heater ballistic missile (TBM) defense was first used operationally during Desert Storm in response to Iraqi Scud attacks against Saudi Arabia and Israel. Since there was no joint doctrine or concept of operations for theater missile defense (TMD), the commander in chief (CINC) decided what to protect with limited assets. It was readily apparent, though, that TMD was a joint mission. Not only were Army Patriot missiles deployed on land, but the Air Force flew thousands of sorties in operations against mobile Scuds as satellites provided warning and cueing information, and Navy Aegis-equipped ships tracked enemy ballistic missiles.

This treatment of the role of TBM defense in theater strategy and operational art highlights Joint Pub 3-01.5, *Doctrine for Joint Theater Missile Defense*.<sup>1</sup> However it goes beyond doctrine by exploring operational considerations

for employing TMD in various phases of combat. Finally, some background is provided on TMD in national military strategy.<sup>2</sup>

## ballistic missile threats are of foremost concern

As defined in Joint Pub 3-01.5, joint theater missile defense (JTMD) is composed of four integrated operations:

- *passive missile defense*—individual and collective measures taken to posture the force to minimize the effects of a theater missile (TM) attack
- *active missile defense*—measures to intercept, destroy, and/or negate the effects of TMs after launch
- *attack operations*—actions to neutralize or destroy an adversary's ability to produce, deploy, and employ TMs
- *command, control, communications, computers, and intelligence*—capabilities to coordinate and integrate the joint force component capabilities to conduct passive defense, active defense, and attack operations.

Within the same publication the term *theater missile* is used for ballistic, air-to-surface, and cruise missiles with targets in a given theater (though short-range, non-nuclear, direct fire missiles, bombs, and rockets are not included). For purposes of analysis, and not to minimize other threats, this article deals exclusively with ballistic missile threats which, according to Joint Pub 3-01.5, are of foremost concern. Moreover, the focus is primarily on the active defense component of joint TMD operations.

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## National Military Strategy

The end of the Cold War turned defense planning from the global Soviet threat to regional challenges. In a statement delivered to the House Armed Services Committee on March 30, 1993, Secretary of Defense Les Aspin indicated that, "With the demise of the Soviet Union, threats to stability in key regions throughout the world have become America's principal military concern and a major determinant of our defense budget priorities."

Accordingly, the administration advanced a national military strategy with complementary objectives: first, promoting stability through regional cooperation and constructive interaction, and second, thwarting aggression by credible deterrence and robust warfighting capabilities. They will be achieved through *peacetime engagement, deterrence and conflict prevention*, and the *ability to fight and win*. More specifically, the Armed Forces must be able to:

- deter and defeat aggression in two nearly simultaneous major regional contingencies
- maintain overseas presence of permanently stationed forces by exercises, port calls, et al.
- deter and prevent use of weapons of mass destruction (WMD) and their delivery systems
- support peace enforcement and missions such as counterterrorism and disaster relief.

Theater missile defenses will play a key role in implementing this new strategy. Our forces increasingly will be stationed in regions where potential adversaries have theater ballistic missiles. In support of overseas ground presence, TMD systems operating with early warning systems can provide limited- and wide-area defense against theater ballistic missiles for forward-deployed and expeditionary forces. They can defend U.S. and local forces, bases, harbors, airfields, and cities. Similar protection can be afforded to military units supporting peace enforcement and humanitarian missions. Finally, TMD can contribute to the deterrent mission of forward deployed U.S. forces by reducing their vulnerability to ballistic missile attack and countering the threat or use of WMD.

The Gulf War illustrated the political and military value of protection against threatened or actual use of ballistic missiles and WMD. Deploying TBM defenses against this threat will allow U.S. leaders to execute campaign plans and maintain coalition solidarity.<sup>3</sup>

## Theater Strategy

The growing ballistic missile threat is well documented. In the administration's judgment, as contained in the *Bottom-Up Review*, regional aggressors could soon field 100–1,000 Scud-class ballistic missiles, some armed with nuclear, chemical, or biological (NBC) warheads.<sup>4</sup> There are reports that today at least 15 nations have ballistic missiles, a number that could rise to 20 by the year 2000.<sup>5</sup> According to Joint Pub 3-01.5, there is a tendency toward increasing range, lethality, accuracy, and sophistication.

Theater ballistic missiles may often have greater political than military significance. They can pose a political threat by weakening the will of defenders when targeted at civilian areas. With longer-range missiles, aggressors could strike the territory of our allies, endangering the coalition. A CINC may have to consider TBM operations outside his immediate theater in this instance.

Joint doctrine also indicates that TBMs could be used throughout a conflict against tactical, operational, and strategic targets to disrupt offenses, defenses, and support, and to reduce friendly capabilities. These targets are political (for example, cities, cultural sites, non-coalition states, and vulnerabilities with propaganda value) and military (for example, lines of communication, logistical facilities, counter-TMD activity, countervalue attacks on population centers, and choke points).

It should be noted that regional TBM powers for the most part operate under targeting and employment constraints. This can restrict the variables that CINCs must consider in determining the need for TMD protection. For example, TBMs can be limited by range, suitable deployment areas, accuracy, daily sortie rates, and reconnaissance and battle damage assessment. Estimates of enemy TBM capabilities would affect TMD deployment decisions. For instance, poor accuracy may mean that hardened targets can forgo defenses, range limitations can put targets out of reach, and lack of reconnaissance may reduce the risk from TBM attack against mobile assets. Specific targets for theater ballistic missiles might include air defense artillery sites, command and control elements, communication nodes, aircraft facilities, seaports and harbors, logistic centers, power and water plants, nuclear delivery systems and storage sites, naval ships and fleet operating areas, ground maneuver forces, amphibious objective areas, cities, industrial complexes, merchant shipping, and terrain choke points.

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**Robert M. Soofer is a member of the Ballistic Missile Defense Organization. He wrote this article based on research conducted while attending the National War College.**

## Operational Considerations

During pre-hostilities, TMD deployment is intended to deter aggression by demonstrating U.S. resolve and coalition solidarity. Such deployments can dampen incentives for preemption by denying an enemy ballistic missile force quick and undefended access to key targets. If conflict is unavoidable joint doctrine states that TMD can protect deployed coalition forces, critical assets, and vital interests; detect and target TBM platforms; detect, warn, and report TBM launches; coordinate multifaceted responses to attack with other combat operations; and reduce or minimize the effects of TBM damage.

One factor that theater TBM planners must take into account in developing JTMD strategy is that the assets to be protected almost always outnumber active defense assets. Offensive attack operations for TMD are similarly limited and will be further strained by added theater requirements. The following is not an attempt to define a concept of operations for JTMD. Rather, it hopefully reveals the operational considerations that dictate JTMD use during the various phases of combat operations.<sup>6</sup> The discussion under each phase describes the situation during the phase, illustrates the potential TBM threat, and analyses TMD priorities and available capabilities.

*Pre-hostilities.* In a crisis U.S. forces may be required to deter aggression while reassuring friends and allies. This may require a demonstration of force such as joint exercises; moving land, sea, or air forces into the area; or deploying theater ballistic missile defenses as recently seen in South Korea. In some instances,

TMD deployments would be welcome and proceed in the context of alliance or coalition agreements. Ground-based systems could be moved into place as a visible sign of U.S. commitment. But land force deployments may not be welcome in other instances or when the United States does not wish to make its deployment obtrusive for fear of exacerbating the crisis, which makes offshore TMD preferable. In any event, in crises where ballistic missile use is possible, TMD gives commanders greater flexibility in deploying and employing forces—whether in theater or poised to react to imminent hostilities. The Patriot battalion sent to South Korea last year is an example: half of the missiles were positioned to protect deployed U.S. forces (although the bulk remained unprotected) and others protected a major reinforcement area, the port of Pusan.

*Phase I—Halt the Invasion.* Where feasible the highest defense priority is to minimize the territory and strategic facilities that can be captured. The responsibility for initial defense rests with in-

digenous forces. In some instances, U.S. forces may be stationed in or near the theater and may move to assist defenders. The bulk of forces, however, is likely to come from the United States. Depending on the type, range, and accuracy of enemy ballistic missiles, targets can be political to demoralize the public and disrupt a coalition or military to support an offensive. The latter include air defenses, air bases, aircraft on the ground, C<sup>3</sup> nodes, marshalling areas, and logistics facilities. Chemical warheads may be used against troop concentrations or airfields. Ballistic missile attacks can be particularly effective in degrading anti-aircraft capability and gaining command of the skies. An enemy may have a limited number of ballistic missiles which are held in reserve. Additionally, ballistic missile attacks may occur outside the theater as a deterrent against external involvement.

During this phase U.S. and coalition assets, whose TBM capability may be outnumbered or nonexistent, are the most vulnerable. If our forces are not forward deployed in theater, their only TMD assets will be offshore or ground-based in nearby theaters. Assuming that naval assets are in range protection can be afforded to allied population centers and forces under ballistic missile attack. Depending on the scenario, a priority can be civilian targets, national command authorities, political nodes, or ports where reinforcements arrive. TBM launchers can be attacked by sea-based air or land-based fighters from nearby theaters. If U.S. forces are already in theater, defending them is an essential priority.

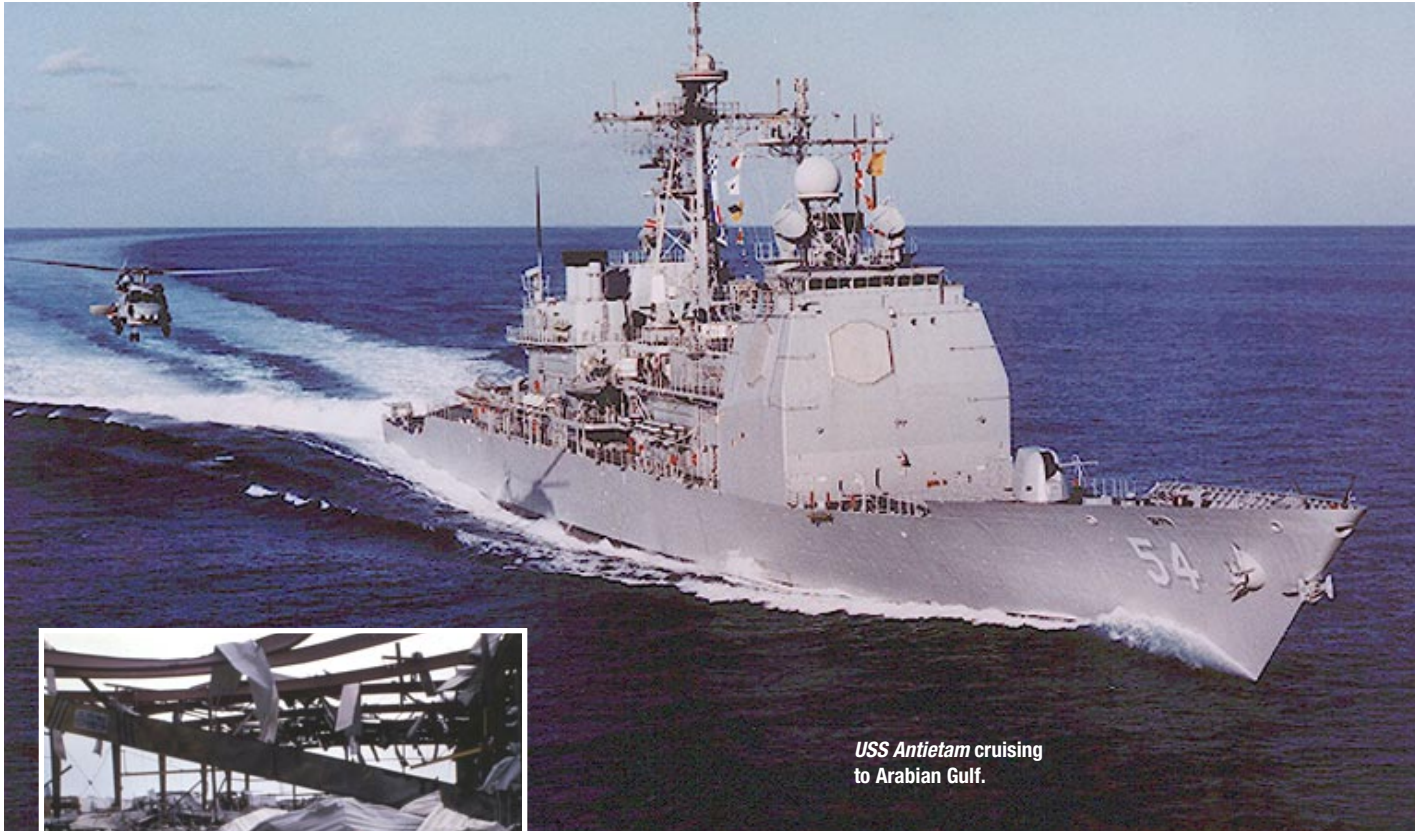
Commanders with limited TMD will have difficulty prioritizing their assets, often having to choose between local populations and their own forces. Inaccurate TBMs, however, are far more likely to be used against civilian targets since they are not as effective against military targets. TMD attack operations must be weighed against other uses of joint capabilities such as direct attacks on advancing enemy forces, C<sup>3</sup>I nodes, and air defenses. Finally, passive measures can be taken to reduce the vulnerability of in-place U.S. forces to TBM attack.

*Phase 2—Build Combat Power.* Once an attack is halted, a coalition focuses on building combat power and logistics while reducing the enemy's capability and will to fight. As more land, sea, and air forces arrive from the United States and allied nations, the emphasis shifts to isolating enemy ground forces and destroying them, neutralizing air and naval forces and their logistics, and attacking targets in the rear. Meanwhile, U.S. or coalition forces prepare for a counteroffensive.

Enemy TBMs can be employed against air bases and ports to thwart reinforcements. TBM

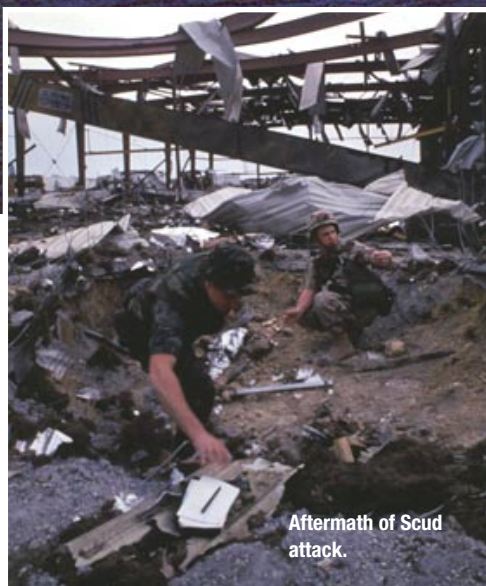
## TMD gives commanders flexibility in deploying forces





USS Antietam cruising to Arabian Gulf.

U.S. Navy (David Lloyd)



Aftermath of Scud attack.

U.S. Air Force (Lee Conkran)

most effective use of TBMs, however, may be striking at the political cohesion of a coalition. Depending on the range of enemy TBMs, they can also be used against targets outside the theater to widen a conflict or fragment coalition partners, as when Iraq launched Scuds against Israel. If Saddam had possessed Chinese CSS-2s (now deployed in Saudi Arabia), he could have attacked targets in Europe.

If it takes months for a build-up, protecting the cohesion of a coalition or alliance is a high priority. This can require TMD deployments to other theaters vulnerable to TBM attack. Civilians and infrastructure must be protected as a coalition buys time to mount a counteroffensive. The next priority is protecting theater reinforcement areas and lines of communication. With the build-up of air forces in theater, attacks on TBMs can increase with active TMD assets protecting high-priority resources. Mobile ground-based assets such as Patriots and, in the future theater high-altitude area defenses, can protect inland areas previously out of sea-based TMD range. Sea-

strikes can be expected against troop marshalling areas as well as rear areas. They can also be used to break the will of defenders by inflicting casualties that would otherwise be impossible because of U.S. land and airpower in theater. The

based TMD can be released to other theaters. Highly integrated communications between surveillance and warning assets, active defenses, and attack operations (that is, cooperative engagement) should be available to contribute to the TMD mission in this phase if not earlier. Special operations forces can also be made available to target and destroy enemy TBM launchers behind enemy lines.

*Phase 3—Defeat the Enemy.* In this phase U.S. and allied forces mount a large-scale land, sea, air counteroffensive to destroy enemy war-making capability, retake territory, and achieve other strategic or operational objectives including amphibious assault landings in an enemy's rear. By this time allied TMD operations should succeed in degrading the TBM threat. Most likely, the few remaining TBM assets are used against strategic targets to disrupt a coalition through attacks on populations or political, economic, or religious targets. Again, depending on circumstances, an enemy can withhold TBM fires in anticipation of a counteroffensive and use them to halt ground advances, channel attacks into more defensive positions, repel amphibious assaults, or disrupt the ability of a coalition to sustain the counteroffensive. Facing imminent defeat, an enemy can also employ NBC on TBMs. With a shift to offensive operations, available aircraft for TMD attack can decline, putting a greater burden on active defense. TBM must support the advance of front lines. With the vulnerability of amphibious operations, the objective and supporting fleet opera-

tions areas as well as air bases must be priorities for sea-based TMD.

*Phase 4—Provide Post-War Stability.* Forces remain in theater following an allied victory to ensure compliance with peace accords or cease-fire agreements and to help reestablish friendly governments. As with Iraq, this can require a sustained presence with the prospect of small-scale hostilities. With an enemy's will broken and its armies destroyed, there is little likelihood of TBM action against military targets. A terrorist threat or possibility of retribution against political targets, however, must not be ruled out unless allied forces maintain complete control over enemy territory. Protecting populations and vital assets within TBM range is prudent until the threat is nil. Ground-based active TMD units can be redeployed for this purpose as needed. Surveillance and warning systems also must be kept in place.

Assets to be defended both inside and outside a theater will exceed active TMD capabilities projected for the next 10–15 years (and for only one major regional conflict). Given the uncertainty of the TBM threat and its context, the mission will have to rely on joint capabilities and the synergy of integrated active and passive defenses, attack operations, and C<sup>4</sup>I, all of which must be rapidly deployable or employable from the United States, forward bases, or ships.

Serious choices will have to be made to maintain alliance solidarity between the protection of cities and infrastructure and the defense of U.S. and allied forces. The choice may vary with the operational phase, but active TMD capabilities must defend centers of gravity, despite the risk of an attack to lower priority assets which are not directly defended according to joint doctrine.

One way to maximize limited active defense assets is to develop and deploy land, sea, and air-based TMD systems with the ability to detect, track, and control missiles. An example used by the Vice Chairman, Admiral William Owens, in an article published last year in *JFQ*, is to deploy land-based acquisition and fire control radar in theater to control missile interceptors fired offshore by sea-based platforms. Not only would this extend the range of sea-based defenses, which are limited by the line-of-sight radar on Aegis ships, but also ease demands on airlift by obviating the early need for land-based launchers and missiles. Likewise, sea-based radars can pass acquisition and tracking information to land-based systems already in place.

Another way to compensate for limited TMD is to encourage our allies to deploy their own systems. This calls for a joint and coalition TMD

doctrine and a concept of operations, applicable to other combined operations such as NATO air defense. At very least, the United States should look at ways to connect TMD with extant regional battle management/C<sup>3</sup> systems to take advantage of indigenous capabilities.

In the final analysis, for as long as national military strategy calls for forward deployed U.S. forces and the ability to respond to regional crises, there will be an important role for theater missile defenses. The ballistic missile threat will only intensify as various states develop longer-range missiles with greater accuracy and ability to deliver WMD. As the Gulf War demonstrated, an effective defense must integrate land, sea, and air assets operating under joint doctrine. Despite the necessities of joint doctrine, however, strategies for using TMD in contingencies will rest with theater commanders who must wrestle with considerations that are only touched on here. **JFQ**

#### NOTES

<sup>1</sup> Joint Pub 3-01.5, *Doctrine for Joint Theater Missile Defense* (Washington: Government Printing Office, March 30, 1994).

<sup>2</sup> Secretary of Defense, *Annual Report to the President and the Congress* (Washington: Government Printing Office, January 1994), pp. 51–56; Ballistic Missile Defense Organization, *1993 Report to Congress on the Theater Missile Defense Initiative* (Washington: Government Printing Office, 1993); and Dennis McDowell, "Theater Missile Defense: A Joint Enterprise," *Joint Force Quarterly*, no. 6 (Autumn/Winter 1994–95), pp. 80–87.

<sup>3</sup> Department of Defense, *National Military Strategy of the United States: A Strategy of Flexible Response and Selective Engagement* (Washington: Government Printing Office, February 1995), pp. 4–6.

<sup>4</sup> According to Les Aspin, "The United States cannot accept a situation in which the threat or use of ballistic missiles armed with WMD constrain its ability to project military forces to meet commitments abroad and achieve national security objectives. Once deployed, U.S. forces must have TMD defense capabilities to deal with ballistic missile threats." See, *Annual Report*, p. 53.

<sup>5</sup> By decade's end, active defense assets could include nine advanced capability Patriot battalions (six per battalion with eight launchers per battery), two THAAD batteries (operational prototypes), and one sea-based TMD system on an Aegis-equipped cruiser. By comparison, the advanced-capability Patriots can defend four times the area of Patriots employed during the Gulf War, while THAAD increases the defensive area ten-fold. The sea-based system will be slightly better than the advanced Patriot.

<sup>6</sup> See *Annual Report*, pp. 13–15. Joint Pub 3-0, *Doctrine for Joint Operations*, identifies these phases as pre-hostilities, lodgement, decisive combat, follow-through, and post-hostilities and redeployment.

## assets to be defended will exceed active TMD capabilities