

Debates on US Long-Range Weapon Deployments in Indo-Pacific Region

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In response to the anti-access/area-denial (A2/AD) threats posed by China and Russia, all US military services are developing weapons with long-range strike capability. However, in April 2021, a US Air Force general criticized the development of the Army's long-range strike weapons¹, prompting a debate on the deployment of such weapons.

US military reasserts long-range strike superiority

As the US shifts its national strategy toward Great Power Competition, the Indo-Pacific Command has warned of a possible China invasion into Taiwan.

NATO is also concerned about Russian incursions into Poland or the eastern front of NATO in the Baltic Sea. To address this, the US military must be able to engage the enemy quickly and deter the hostile forces with adequate long-range firepower.²

All US military services are investing in the development of long-range strike capabilities. For instance, the Air Force is developing the B-21 bomber and next-generation cruise missiles, along with air-launched hypersonic missiles. The Navy and Marine Corps are deploying ship- and shore-based weapons, hypersonic boost-glide weapons, and truck-mounted anti-shiping missiles for engaging surface

1. "Service Chiefs Confer After Air Force General Calls Army Hypersonic Missile Plan 'Stupid'," *Military.com*, April 6, 2021, <https://bit.ly/3rTcXhA>.

2. "Cost-Effective Long-Range Strike," *Air Force Magazine*, June 30, 2021, <https://bit.ly/3Ab6odh>.

targets in coastal areas, and also enhanced Kill Chain to detect, track and hit targets at longer distances.

The US Army is also planning on the deployment of long-range weapons. The *2018 Army Modernization Strategy* (AMS) set six priorities, and promoted the Multi-Domain Operation (MDO) concept; the six priorities are long-range precision firepower, next-generation combat vehicles, future vertical lift aircraft, Army network modernization, anti-air and missile defense as well as soldier lethality,³ in which long-range precision firepower is the first priority. The long-range weapons include the next-generation artillery and missiles with a range of over 1,000 miles, and the development budget of the items between 2020 and 2024 is expected to reach US\$5.7 billion.⁴

Problems faced by US Army long-range weapons

While the US Army has an urgent need for the deployment of land-based long-range weapons, a number of problems emerged:

1. Cost-effectiveness

Long-range precision weapons currently planned for development by the US Army include:

(1) Precision Strike Missile (PrSM): developed to replace the current Army Tactical Missile System (ATACMS). With a range of over 500 km and a 200-pound warhead, the PrSM is suitable for attacking stationary targets through inertial and GPS navigation. Each PrSM costs about US\$1.2 million and can be carried by the M142 High Mobility Artillery Rocket System (HIMARS) vehicles in pairs.

(2) Mid-Range Capability (MRC) that covers the range between 500 and 1,500 km: the Army first procured Standard 6

3. "2019 Army Modernization Strategy: Investing in the Future," *US Army*, 2019, <https://bit.ly/37kxSAC>.

4. "Army 'Big Six' Ramp Up in 2021: Learning From FCS," *Breakingdefense*, March 14, 2019, <https://bit.ly/2WWEeV8>.

Block 1/1A missiles with dual air-to-air and air-to-ground modes;⁵ this missile has a range of 420 km and costs about US\$4.3 million each. The Tomahawk missile has a range of 1,600 km and costs US\$1.5 million for a combo of a launch vehicle and missiles. In addition, the US Army is planning to double the range of PrSM, while the Defense Advanced Research Projects Agency (DARPA) develops a medium-range hypersonic gliding weapon at a higher cost.

(3) Long-Range Hypersonic Weapon (LRHW): a rocket-propelled Common Hypersonic Glide Body (C-HGB) jointly developed by the US Navy and the Army with a range of 2,775 km. Dubbed “Conventional Prompt Strike”, the Navy version of LRHW can be launched from both submarines and surface ships and shares launch containers with the Army version.⁶ However, the cost of the LRHW is extremely high — at over US\$40 million apiece.

Short-range weapons cost less but must be forward deployed; long-range weapons are safer from enemy attacks and have fewer political concerns, but they are too expensive for volume procurement and the effectiveness is limited against mobile or reinforced targets. In contrast, air-launched weapons used by Navy and Air Force aircrafts can be quickly reloaded for multiple engagements. These air-launched weapons are more affordable.

2. Evaluation of effective ranges

Since long-range weapons require larger boost rockets and more fuel to reach the designated altitude and range, the weight and power of their warheads are limited as a trade-off; longer effective ranges also call for more complex navigation systems, and hence the higher cost. As the front line bases are located in Japan, the Philippines or other countries on the “first island chain” are at least 800 km from the Chinese coastline, their ground forces need weapons with even

5. “The U.S. Navy’s Standard Missile 6 Is Coming to the U.S. Army,” *The National Interest*, November 11, 2020, <https://bit.ly/3yu6MTC>.

6. “Army Discloses Hypersonic LRHW Range Of 1,725 Miles; Watch Out China,” *Breaking Defense*, May 12, 2021, <https://bit.ly/3lzlq8C>.

longer ranges to attack targets such as anti-aircraft missiles in China's coastal areas. Hypersonic weapons deployed in Guam or the continental US may be able to reach inland targets in China, but they are still prohibitively expensive.

On the other hand, the US Navy is facing a similar dilemma: the Chinese A2/AD threat has forced its aircraft carriers to stay behind the first island chain, which limits their strike range. However, bombers from the continental US, Guam, Diego Garcia or northern Australia with the help of air refueling can still launch long-range precision weapons, such as the 1,000 km-range AGM-158B JASSM-ER (Joint Air-to-Surface Standoff Missile-Extended Range) missiles, from outside the Chinese air defense circle. Strategic missile submarines (SSGN) can also launch submarine-launched Tomahawk cruise missiles from underwater with better stealth than surface ships or land bases.

3. Command and guidance

For long-range weapons, target acquisition is another challenge. The longer the range and the flight time, the less accurate it is to hit moving targets.⁷ Strike aircraft can engage targets at shorter distances with their own sensors for shorter delays; and aircraft with advanced sensing systems can relay target information for long-range weapons to hit moving targets with better accuracy.

In order to improve target intelligence acquisition capability, the US Army has undertaken efforts such as the Airborne Reconnaissance Target Exploitation Multirole Intelligence System (ARTEMIS), which uses a modified commercial jet as a platform capable of detecting targets from hundreds of miles away at 40,000 feet altitude,⁸ the vehicle-mounted Terrestrial Layer System-Large (TLSL-Large) electronic intelligence and warfare system, the MQ-1 Gray Eagle drone, and the Future Tactical Unmanned

7. "Cost-Effective Long-Range Strike," *Air Force Magazine*, Ibid.

8. "A New Spy Plane Could Spot Targets for The U.S. Army's Thousand-Mile Weapons," *Forbes*, August 13, 2020, <https://bit.ly/3Ab3SUd>.

Aerial System (FTUAS) that replaces RQ-7 to support brigade- or higher-level intelligence units. In addition, space reconnaissance systems utilizing low-orbit commercial and military satellites as well as the Project Convergence system integrated into the Joint All-Domain Command and Control (JADC2) infrastructure are also developed for all military services to share intelligence collected by the cross-unit joint network.⁹

4. Political limitations

From the political perspective, it would be difficult to convince the countries on the first island chain to deploy weapons aiming at China. In March 2017, the US deployed the Terminal High Altitude Area Defense (THAAD) system in South Korea and caused a domestic backlash in South

Korea as well as protests from China. As a result, South Korea's Moon Jae-in administration has become cautious about the deployment. In November 2020, the US Army delivered THAAD systems to South Korea's Seongju County several times and has again provoked civilian protests.¹⁰

In 2018, the US withdrew from the Elimination of Their Intermediate-range and Shorter-range Missiles (INF), the treaty it signed with the former Soviet Union in 1987. In 2019, the treaty expired and Russia announced its suspension of the treaty obligations.¹¹ Mark Esper, then-US Secretary of Defense, said the US would deploy intermediate-range missiles in the Asia-Pacific region and consult with allies about designating Japan and South Korea as possible deployment sites.¹²

9. "U.S. Army, Air Force Sign Collaboration Agreement for CJADC2 Development," *DefPost*, October 2, 2020, <https://bit.ly/2VEsGoO>.

10. "From Korean media: South Korea's Defense Ministry sent supplies to the THAAD base today and drew protest from the opposition" , *Hong Kong Commercial Daily*, November 27, 2020. <https://bit.ly/3imNSso>. "The US military in Korea delivered supplies to the THAAD base five times in a month, the demonstrating opposition expelled from the gate" , *NewTalk*, May 25, 2021. <https://bit.ly/3fy9e41>.

11. "US withdraws from missile treaty, Russia announces suspension today" , *Apple Daily News*, Feb. 2, 2019. <https://bit.ly/2VqL0lp>.

12. "US Considers Midrange Missile Deployment in Asia to Counter China," *Nikkei Asia*, August 15, 2020, <https://s.nikkei.com/3CkDIR2>.

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The Center for Strategic and Budgetary Assessments (CSBA), a US think tank, reported in May 2019 that Japan's Kyushu and Okinawa, as well as the Philippines' Luzon Island, Mindanao and Palawan are also suitable locations.¹³

In 2019, China warned Asia-Pacific countries of possible sanctions if they allowed the US to deploy land-based missiles.¹⁴ Wang Yi, China's Foreign Minister, warned Japan and South Korea at the August 2019 meeting of Chinese, Japanese and South Korean foreign ministers that the deployment of US intermediate-range weapons in the respective countries would seriously affect their relations with China. In response, the Japanese Foreign Minister Kono Taro countered that since the Chinese missile range also covers Japanese soil,

China should first restrain its military deployments.¹⁵ In a related statement, Russia also warned that the countries allowing US missile deployments were potential nuclear strike targets for Russia as well.¹⁶

In contrast, the deployments of Air Force units are more flexible. In addition to the bases in South Korea and Japan, facilities in Hawaii, Alaska, Guam, Diego Garcia, and bases scattered under the Pacific Deterrence Initiative (PDI), such as Tinian Island, Saipan and Wake Island, can be utilized as well. In several Dynamic Force Employment evaluations, the US Air Force has conducted bombers sorties that took off from Guam or the continental US for Western Pacific or the South China Sea through aerial refueling to demonstrate its "strategically

13. "Tightening the Chain: Implementing a Strategy of Maritime Pressure in the Western Pacific," *Center for Strategic and Budgetary Assessments*, May 23, 2019, p.88, <https://bit.ly/2WYXdj>.

14. "China Warns of Countermeasures if U.S. Puts Missiles on its 'Doorstep'," *Reuters*, August 6, 2019, <https://reut.rs/2TWbXNj>.

15. "China Warned Japan and South Korea not to Deploy US Intermediate-range Missiles, Rebutted by Both Countries on the Spot," *DW News*. November 19, 2019. <https://bit.ly/3ipfDAr>.

16. "U.S. Deploys Intermediate-Range Missiles to Stir Chinese and Russian Nerves. Russian Senior Official: Who Deploys are Subject to Attacks," *DW News*, July 21, 2019 <https://bit.ly/3johaWS>.

predictable but tactically unpredictable” capability,¹⁷ which involves precision strikes on land targets and air-to-ship attacks on surface vessels.¹⁸

US urgently needs to counter China's A2/AD warfare

In April 2021, General Timothy M. Rey of the US Air Force Global Strike Command criticized the Army’s plans to develop land-based hypersonic weapons as “foolish,” arguing that Air Force bombers are adequate for the same task and have in fact proven their deployment flexibility.

However, Eric Sayers, an expert at the American Enterprise Institute (AEI), said long-range strikes should be a coordinated mission, and redundant deployments of strike forces across the services is a strategy to improve flexibility

and to make it more difficult for the PLA to counter effectively. Tom Karako, director of the missile defense program at the Center for Strategic and International Studies (CSIS), also contends that the services should explore ways to coordinate combat actions.¹⁹ Army Chief of Staff Gen. James C. McConville also argued that the US needs long-range strike capabilities to provide combat commanders with multiple options, if they need to use them.²⁰ As Chinese A2/AD capabilities threaten first island chain countries and US Navy/Air Force bases, the Army’s long-range weapons will allow for effective countermeasures, while other short- and medium-range weapons could be deployed in Europe to counter the Russian threats.

Given the high cost of long-range weapons, command and guidance systems, and supporting facilities, the US must conduct a comprehensive effectiveness

17. “U.S. Air Force sends B-1 Bombers Back to Guam on Temporary Deployment,” *CNN*, May 3, 2020, <https://cnn.it/2TWGfQ3>.

18. David A. Deptula, “Maritime Strike,” *Air Force Magazine*, September 1, 2019, <https://bit.ly/3fyQXno>.

19. “Service Chiefs Confer After Air Force General Calls Army Hypersonic Missile Plan 'Stupid',” *Military.com*, April 6, 2021, <https://bit.ly/3rTcXhA>.

20. “Army Chief Defends Long-Range Missile Effort After Air Force General's Public Attack,” *Military.com*, April 13, 2021, <https://bit.ly/2WYijNI>.



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assessment of each service's long-range strike capabilities to integrate the sea-control capabilities of the Army and Marine Corps, to develop collaborative combat doctrines as well as to support Navy and Air Force actions. Finally, land-based weapons must secure reliable deployment sites and take possible political issues of forward deployments in Asia-Pacific countries into consideration.