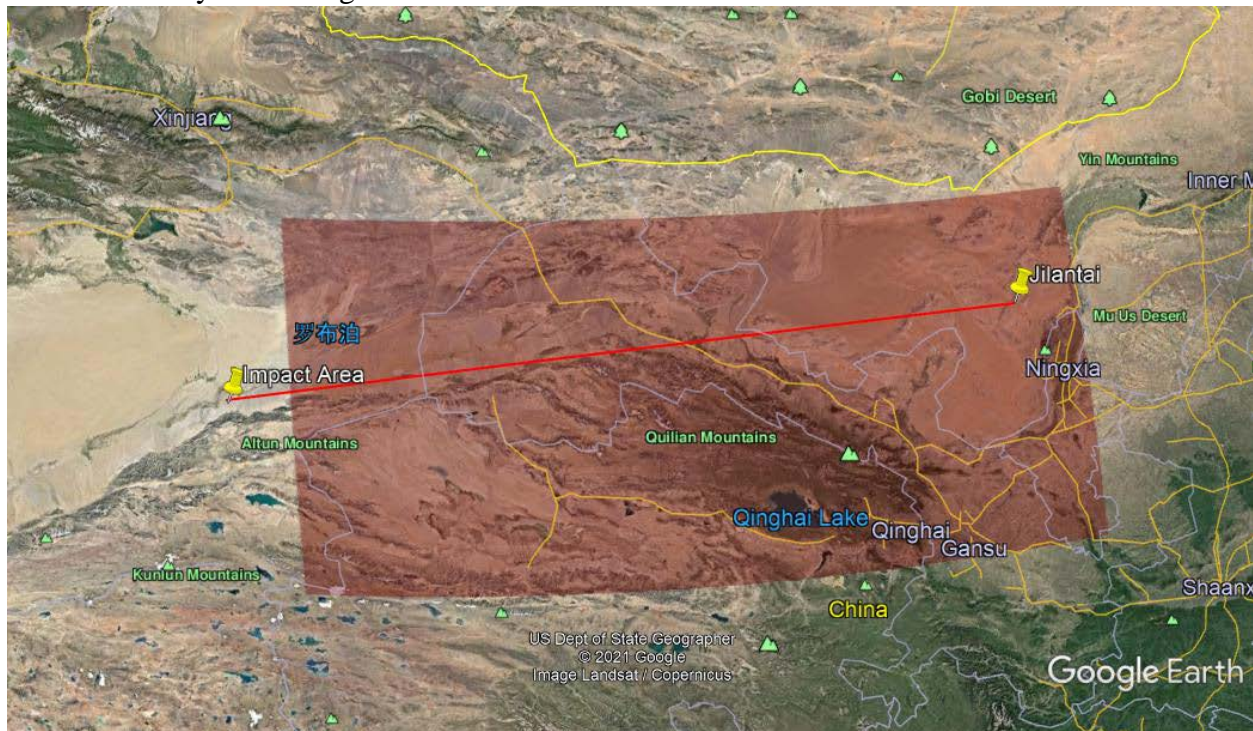




Uncovering the Truth Behind the PLA Rocket Force's August 2021 Missile Launch

On 13 August, the People's Liberation Army Rocket Force (PLARF) conducted a live fire missile launch, likely from the 1st Test and Training District in Jilantai. The missiles impacted at least two targets parked on the apron of the runway at the PLARF's Ruqiang Target Impact Area which is roughly 1400km west of Jilantai. The lack of observed cratering beyond two target impacts suggests the PLARF used unitary warheads for both missiles. The two targets were almost certainly simulating unsheltered aircraft at an airbase.



A graphical depiction of the 13 August 2021 missile launch event. The red area reflects the approximate flight closure areas.

Roughly a week later, on 20 August, numerous People’s Republic of China (PRC) media outlets began publishing a story highlighting that the PLARF recently launched two “new type missiles” at targets “several hundred kilometers away”. Given the similarity between PRC media reports and the 13 August launch event, these are likely the same event.



This event received enormous media coverage and even reached the number one trending story position on at least one PRC social media platform. However, the limited information provided by PRC media about the event left more questions than answers. This piece attempts to unveil what occurred during the 13 August missile launch and discusses how the PLA likely intended to use this event predominantly for deterrence purposes.

Range Discrepancies

Although PRC media did not specify the total flight distance of the two missiles beyond stating “hundreds of kilometers”, they do show PLARF personnel launching DF-15 short-range ballistic missiles and identified the launching unit as the PLARF’s “First Conventional Missile Unit”, a

moniker for the PLARF's DF-15 equipped 613 Brigade. However, the U.S. Department of Defense's "China Military Power Report" lists the DF-15's maximum range at about 800km.

This maximum range, as well as the roughly 1000km maximum range of the DF-16, are shorter than the assessed 1400km flight path observed on 13 August. As such, the missiles launched are unlikely to be standard short-range ballistic missiles currently in the PLARF's inventory.



Footage aired by CCTV-13 on 20 August 2021 showing a DF-15 being launched.

This leaves several possibilities. The first is that the PLARF has reequipped 613 Brigade with the longer-range DF-21 medium-range ballistic missile, DF-26 intermediate-range ballistic missile, or CJ-10 cruise missile. However, these systems have been in PLARF service for years, and the PLARF's introduction of an upgraded DF-21 variant at the end of 2020 saw little public attention.

The second possibility is that the PLARF re-equipped 613 Brigade with the DF-17 hypersonic missile or CJ-100 supersonic cruise missile, both of which have unknown maximum ranges. Previous assessed DF-17 test launches have demonstrated a range of at least 1400km, which is commensurate with assessed flight path of the 13 August 2021 launch event. These systems are also relatively new to the PLARF and would fit the definition of a "new type missile".

The third possibility is that missiles fired are a new unobserved missile type. Although it is possible that this launch event featured an entirely new system, deploying an entirely new and observed system to an operational unit does not match how the PLARF typically introduces new systems into the force.

The final possibility is that the PLARF has improved the range of the DF-15 such that it can now reach ranges of at least 1400km. However, without using a glide vehicle, the DF-15's single stage design has severe limitations in terms of achieving greater ranges.

Without additional data, it remains difficult to determine what new system the PLARF featured during the 13 August launch event. The implication remains that 613 Brigade may now field a missile system that has a substantially longer range than the DF-15s with which it is currently equipped.

A New Warhead?

PRC media emphasized that the event featured new warhead types that enhanced the missile's ability to overcome jamming and destroy well defended information nodes. Given the PLA's wide definition of jamming, the warheads could be fitted with electro-optical, infrared, or a radar-based guidance system that is jam-resistant. Individuals associated with 613 Brigade have published articles discussing radar signal processing, suggesting that some of the warheads used by 613 Brigade have a radar guidance system, although there is no way to determine if such research efforts are tied to the warheads used on 13 August.

The impact area also reveals no substantive improvements to warhead accuracy or destructive power. The PLARF has already demonstrated that it can target and destroy aircraft parked in the open using unitary warheads. Furthermore, PLARF live fire events now also feature the use of warheads with submunitions, which are far more efficient than unitary warheads when it comes to destroying unsheltered aircraft.



A Deterrence Effort

This missile launch event almost certainly featured a new system of some kind and indicates that the PLARF has modernized yet another missile brigade with a Taiwan-centric mission set. However, this new system does not appear to represent a dramatic improvement in PLARF capabilities. Rather, the PLA likely intends to create a deterrent effect by highlighting what is a relatively limited improvement in capability.

The PLA openly talks about revealing advanced weapons and conducting military exercises as ways of deterring or coercing its adversaries. With each deterrent activity, the PLA emphasizes the need for there to be some real capability behind the activity, demonstrated resolve, and for the information on the activity to be transmitted to the adversary's population. In this instance, there is some limited capability behind the activity, in that the weapon system in question is real and marginally improves the PLARF's overall capabilities. There is certainly extensive information transmission given the prevalence of the story in both English and Chinese language press. When considering the PRC's broader recent narrative regarding Taiwan independence,

there is also demonstrated resolve. Ultimately though, this event is likely nothing more than an overblown show put on by the PLA.

Opinions, conclusions, and recommendations expressed or implied within are solely those of the author(s) and do not necessarily represent the views of the Air University, the Department of the Air Force, the Department of Defense, or any other U.S. government agency. Cleared for public release: distribution unlimited.