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Annual Conference Transcript

First Strike: China's Missile Threat to U.S. Bases in Asia

CDR Tom Shugart, USN, Senior Military Fellow
Center for a New American Security

CDR Javier Gonzalez, USN, Navy Fellow
Johns Hopkins University APL

Begin Transcript

CDR. THOMAS SHUGART: (Audio break) – fellow here at the Center for a New American Security.

CDR. JAVIER GONZALEZ: And I'm Javier Gonzalez, this year's Navy fellow at Johns Hopkins University Applied Physics Lab.

CDR. SHUGART: So we're here today to talk to you about some research we've done this year into what we think may be one of the gravest, but perhaps less talked about, threats to the military power in the West India, Asia-Pacific, and that is the growing capability of China's People's Liberation Army Rocket Force to threaten U.S. bases in Asia.

We believe that U.S. policymakers and leaders should understand that in the event of a crisis that potentially threatens China's core strategic interests, or perhaps legitimacy of the Chinese Communist Party, that a preemptive strike against the basis that underpin U.S. military power in the Western Pacific could be a real possibility.

Such a preemptive strike would be consistent with China's military force doctrine as well as China's overall military strategy. And imagery that we're going to show you indicates – shows real-world imagery of them potentially practicing these strikes at an impact range in Western China. But does China have the forces necessary to pull out such a military strike? We did open source modeling simulation which results in what we think to be areas of grave concern that call for action now.

CDR. GONZALEZ: So at its beginning, the Chinese ballistic missile force was focused primarily on nuclear deterrence, but after observing the tremendous success of our U.S. forces during the First Gulf Force the forced transformed into one with both conventional and nuclear

Bold.

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capabilities. Using what we've described as a projectile-centric strategy, China was able to minimize some of the disadvantages associated with platform capability and took advantage of platform capabilities and factors such as local geography in greater bang for the buck against ships and aircraft and gaps in international law because China does not participate in the Intermediate Nuclear Forces Treaty.

The Chinese missile force now consists of about 100,000 personnel and it was recently elevated to a status co-equal to that of China's other military services. As described in open source documents, Chinese missile doctrine calls for a range of deterrence, compellence, and coercive operations. In the event deterrence fails, a missile campaign would target locations such as command centers, communications hubs, air missile defenses, air and naval bases, fuel depots, electrical power facilities and aircraft carrier strike groups.

The ballistic missile strikes will be followed by slower cruise missiles and aircraft which will be destroying targets such as aircraft that are in place due to runway cratering. Notably, Chinese tests of missile campaigns centers on the importance of surprise and indicate a preference for preemptive strikes. And utilizing missile strikes to indicate the shortcomings may be still valid to China's overall military strategy of active defense in that China may believe that a preemptive kinetic strike is a defensive counterattack to a rival's mere threatening of its sovereignty or core interests even if only in the strategic realm.

CDR. SHUGART: So if you're having trouble imagining what a preemptive strike like this from the Chinese PLA Rocket Force might look like, worry no more. Chinese state-owned television has produced a program describing what they call an island reclamation campaign which involves U.S. counter-intervention, and you'll see what these strikes look like. This is as visualized by them.

(Video segment playing.)

CDR. SHUGART: It appears that in the real world, the PLA Rocket Force appears to be making quite real the capabilities that you saw in that video, and that, as we mentioned before, in their doctrine. Specifically, at a ballistic missile impact range located in Western China at the edge of the Gobi Desert, we see exactly the sort of targets talked about in PLA Rocket Force doctrine and also shown in that video.

Targets such as groups of vehicles, perhaps representing mobile air and missile defense batteries, kind of like you saw in the video; parked aircraft targets out in the open, as you saw the submunitions deployed that struck those targets. Fuel depots as discussed in their doctrine, as shown in the video; runway cratering via submunitions, again, as you saw in the video and as discussed in the doctrine. Electrical facilities – this is a mock electrical substation that doesn't appear to have any power lines going to or from it. And the accurate delivery of penetrating warheads to hardened aircraft shelters and targets, as well as to multi-story commander centers. Of note, the ability to strike command centers such as these with penetrating warheads in the first few minutes of a conflict could give the Chinese the ability to destroy those command centers with their command staffs in them in the first few crucial minutes of the conflict.

Now, in 2010, Dr. Toshi Yoshihara, who's with us here today, wrote that authoritative PLA publications indicated discussions by the Chinese of their intentions to attempt to preemptively strike U.S. ships in port at the start of conflict. Attention was focused most especially on the U.S. naval base in Yokosuka, right outside of Tokyo, home to the U.S. Seventh Fleet, the U.S. Seventh Fleet command ship, and the United States sole forward deployed nuclear aircraft carrier.

Evidence that China had been practicing to strike ships like these in port would lend credence to Dr. Yoshihara's concerns and such evidence exists. Again, out in the Gobi Desert, we see ship-shaped targets that appear to be almost exactly the same size as U.S. Arleigh Burke class destroyers. Of note, these targets are positioned within a mock harbor, the outline of which is an almost identical match, mirror image for the actual harbor of the U.S. naval base in Yokosuka. It bears considering that the only way that China could expect to catch multiple ships in port would be through a surprise attack, otherwise, in the case of a brewing crisis, the United States likely would have sent its fleet to sea.

Now, skeptics might say that it's unlikely that the United States would be caught flat-footed like that, history tells us not to discount the possibility of successful surprise attacks. We'd also point out that there are plenty of reports of the PLA Rocket Force extensively practicing denial/deception techniques.

CDR. GONZALEZ: So China missile forces appears to have developed the capability to precisely target U.S. fixed bases. They also seem to be have been practicing doing so preemptively. But does China have the capacity to conduct an effective and wide range missile strike against U.S. bases? We tried to answer that question and we used a few basic steps to accomplish that.

First, we look at the categories mentioned on the PLA Rocket Force doctrine and then through an open source red-team analysis that included commercially available imagery, social media, base maps and directories, press releases, et cetera, we were able to compile a list of possible targets. In the end, we came up with approximately 500 targets. And this is a good example of the potential targets that we identify and that can (deny ?) our base in Okinawa.

CDR. SHUGART: So as the next step of our analysis, we wanted to determine whether China actually has the inventory to be able to conduct a wide range preemptive strike as we discussed. And to do that, we being professional ship drivers, decided to build upon the work of previous professional defense analysts, in particular RAND Corporation's 2015 U.S. military China scorecard report. We used very similar assumptions that they did and tried to use similar methods of analysis to determine those numbers.

The results we found were that the required number of missiles that we estimated they would require to conduct such a strike would likely be well within the bounds of most analysts' estimates of the PLA Rocket Force inventory for those targets. You can see here the ranges that are estimated for that. These most recent and updated ranges are from the recently-released 2017

DOD China military power report, which you can see here are about 1,200 short-range ballistic missiles that can reach Kadena Air Base, Sasebo Naval Base and Misawa Air Base, including the DF11, 15 and 16. And then 200 to 300 conventional medium-range ballistic missiles or anti-ship ballistic missiles that can cover all the Japanese home island and 200 to 300 ground-launched cruise missiles.

We point out that based on a recent simultaneous test launch the PLA Rocket Force conducted, where they launch 10 DF-21C medium-range ballistic missiles, perhaps as a demonstration – this was right after the most recent presidential election – we believe that most estimates are probably – we think it’s probably on the high end, otherwise they have a hard time imagining them shooting off a large percentage of their inventory just in one test shot. Of course, the PLA Rocket Force is not shy about displaying its capabilities. And, in fact, here is a video courtesy of the PLA Rocket Force on China television of that test.

(Video segment playing.)

CDR. SHUGART: In this video, we happen to freeze-frame one time, you can see a human head of a mannequin popping through there. Anywhere. So where was I? One thing we’d point out here was that as far as we can tell through our open source research, the largest number of ballistic missiles that have ever been intercepted in a U.S. ballistic missile defense test is two.

CDR. GONZALEZ: So to assess the likely effect of this, of a missile strike against U.S. and allied missile defenses, we tried to determine through two different methods how many missiles might make it to the targets and what their effects could be.

First, we used a spreadsheet method very similar to – (inaudible) – looked at the problem in the past to estimate how many missiles might be intercepted by our defenses and how many missiles might leak through. The assumptions that we make for this analysis can be read in our detailed report.

CDR. SHUGART: So the next way that we analyzed how a potential Chinese missile strike might fair is using commercially available war gaming simulations, in this case one called Command: Modern Air and Naval Operation, or CMANO for short. This commercially available simulation is used by other military defense analysts as well as defense contractors. Using the built-in scenario editor and weapon systems database, we put Patriot batteries at all the locations where we could ascertain their existence and open source discussions, as well as a terminal high-altitude area defense or THAD battery in a location where it’s apparently in South Korea.

You can see here, the Chinese missiles are on their way to their targets. These are short-range ballistic missile, DF15Bs, similar to the ones you saw in the video, the white one that was launched. They are somewhat longer range DF16s, here and here, that are headed towards Sasebo Naval Base and Misawa Air Base in Northern Japan as well as longer range DF-21Cs headed towards targets in the Tokyo area such as Yokosuka and Yokota Air Base.

The simulation is running at real time. The clock, the time of launch was at 12:00 p.m. even. I think you can barely make that out. We brought this on screen at about the two-minute point. We think that's about where command center personnel would be alerted of the incoming strike based on a couple of minutes for space-based sensors to pick it up and to determine the trajectory of the inbound weapons.

We ran and recorded the simulation multiple times, recording numbers such as – the numbers of defensive weapons expended, ballistic missile defenses, numbers of aircraft destroyed on the ground, runways cratered, stripped ships struck in port pier-side, and command centers struck.

Some key takeaways that we had are that the Patriot batteries that defend – and there's multiple Patriot batteries as far as I can tell – that defend Okinawa are likely to be overwhelmed by the sheer number of short-range ballistic missiles available in China's inventory. Additionally, we found that the overall ballistic missile defense architecture of Japan seems mainly oriented towards stopping smaller numbers of North Korean ballistic missiles. And while we think this is a worthy goal, certainly and perhaps a more immediate threat, we think that – it seems to us that the BMD laydown in Japan around our bases is most likely inadequate to stop the mass rate from the PLA Rocket Force.

We would also point out that flight times to the bases in Japan for these ballistic missiles were on the order of six to nine minutes, which is a bit shorter than we thought they would be. In order to validate that, because that seemed short to us, we simulated a known test launch. We simulated a Minuteman-III ICBM launch, which went from Vandenberg Air Force Base in California to a target in Kwajalein Atoll in the Pacific published as having taken 27 minutes. We ran it in the simulation, it took 25 and a half minutes so a less than 10 percent difference.

Now, these simulations which model damage to specific facilities and their hosted units gave us some overall takeaways which are discussed in more detail in our report.

First, in most cases, we saw cratering of every runway and every runway-length length taxiway at every major U.S. airbase in Japan. Additionally, we saw almost every major fixed headquarters and logistical facility destroyed by either the initial ballistic missile strike or follow-on cruise missile strikes, with especially the key command centers destroyed in the first few minutes by ballistic missiles.

In most cases, we saw almost every U.S. ship in port in Japan struck pier-side by ballistic missiles. And, finally, due to runway cratering, degradation of missile defenses and destruction of headquarters, over 200 U.S. aircraft destroyed on the ground in the first few hours of the conflict.

Now, our efforts are underway to improve defensive areas such as base hardening, force dispersal and effects on the Chinese targeting – excuse me – as well as advanced research into ballistic missile defenses such as high-velocity projectiles, rail guns and lasers, you know, we see

that there's more immediate action required now. You can see here as an example, these are DF-21Cs about to strike Iwakuni Air Base on the Island of Kyushu. It was able to overfly these Patriot batteries because they're not equipped to shoot high enough to shoot down medium-range missiles that are outside of the atmosphere.

So we saw through both of our methods of simulation, both using this simulation and spreadsheets, that similar numbers of ballistic missiles are likely to make it to their targets. Here, you can see five Patriot batteries defending Okinawa, trying to stop 170 inbound short-range ballistic missiles. Ultimately, what you'll see is white puffs as those ballistic missiles reach their targets. They'd be causing effects on the ground I guess similar to what we saw in the Chinese video, both of them.

CDR. GONZALEZ: So to see if a layered missile defense might help against a missile strike by the Chinese, we reran models and simulations with some fundamental changes. First, we added two ballistic missile defense ships, one in the Sea of Japan, the other one in the East China Sea. We added five THAAD batteries in Japan, with dedicated two Patriot batteries to protect Iwakuni and Sasebo. We proposed some doctrinal changes, especially for a scenario like we just discussed – a mass rate scenario versus something more traditional of less ballistic missiles like in the North Korean scenario.

Some of our findings, specifically in Okinawa, we still found that the Okinawa defenses will still be overwhelmed by the sheer number of ballistic missiles incoming to Okinawa, but at least the damage was mitigated.

More importantly, what we found was that most of the ballistic missiles heading to main Japan – to the mainland in Japan were mostly intercepted. This allowed – provided enough time to accomplish a couple of things. One, it provided time for the aircraft to be able to take off and mount some sort of defense against the incoming cruise missiles. It also allowed for critical facilities to be evacuated and provided time for the ships in port to bring their missile defenses and get away from the pier positions.

CDR. SHUGART: Some other specific recommendations we make for policymakers and leaders are also detailed in our report, which is available outside. Now, while some may have argued that ballistic missile defense is a hopeless proposition with interceptors that cost more than the missiles that they are attempting to stop, our modeling and simulation and tallies indicate that perhaps the only thing more expensive than ballistic missile defense may be not having it against a threat of this size.

In this case, based on our revised simulations, what seems like a few billion dollars, admittedly a large amount, of ballistic missile defense architecture, we point out at this point that since we started this project, Japan is now apparently considering buying THAAD batteries of their own. That kind of investment could save what we tallied up as tens of billions of dollars of ships, aircraft, facilities destroyed on the ground, at the pier, as well as the lives of numerous service personnel in those facilities. Most importantly, robust missile defense like this could potentially allow for firmer U.S. action in the case of a crisis and sow doubt into the minds of

Chinese leaders that a strike like this would succeed against our defenses. I doubt they have that doubt right now, and thereby avoid in the first place a shooting war through that temptation.

Thank you for your time and attention. The opinions we have expressed in our analysis today are, of course, those of us alone and do not represent those of the United States Navy, the DOD, or the U.S. government. We're not going to take a short break. We're down to four minutes. Sorry. We're going to move straight on to our next panel, 11:00 p.m. We have a great panel coming up on Iran with Senators Chris Murphy and Kelly Ayotte. We don't want to be late for that along with some other heavy hitters to be on, too. Thank you. (Applause.)

End Transcript