



VOLUME XVI • ISSUE 7 • APRIL 21, 2016

IN THIS ISSUE:

In a Fortnight: Chinese Signaling in the South China Sea

Pushback Against Xi Jinping's One-Upmanship Strengthens

By Willy Lam

Chinese Hypersonic Weapons Development

By Karen Montague and Erika Solem

Taiwanese Navy Plans to Enhance Fleet Air Defense

By Michal Thim & Liao (Kitsch) Yen-Fan

**The PLA's Forthcoming Fifth-Generation Operational Regulations—The Latest
“Revolution in Doctrinal Affairs”?**

By Elsa B. Kania

In a Fortnight: Chinese Signaling in the South China Sea

The recent landing of a Y-8X maritime surveillance aircraft on Fiery Cross Reef (永暑礁) in the South China Sea in response to an emergency is further evidence that China has made its presence in this contentious region routine (People's Daily, April 17).

Earlier in the same week, People's Liberation Army (PLA) Central Military Commission (CMC) Vice-Chairman Fan Changlong (范长龙) visited Fiery Cross Reef as part of a review of the island and infrastructure-building progress in the southern reaches of the South China Sea (Reference News Online, April 16; Global Times Online, April 18). The fact that the landing was publicized is meant as a message, likely for Washington policymakers, including U.S. Secretary of Defense Ash Carter who recently visited the region. Carter's visit was part of a tour that included meetings with U.S. allies and partners to which the

U.S. is looking to help balance China's growing power. China's actions form an important addendum to the endless repetition of China's position: due to historical reasons, it has absolute claim and sovereignty over a vast portion of the South China Sea. When articulated by Chinese diplomats, the historical record of what China has done in the area and how its current moves fit into the pattern of previous military deployments and modernization is blurred.

Recent moves such the deployment of surface-to-air missiles and combat aircraft to the Paracel Islands have been a continuous focus of media attention. However, it is important to note that China has been making such deployments (though at much lower frequency) for over 30 years, and these form an important part of China's signaling strategy.

Declassified U.S. intelligence assessments from as early as 1984 predicted that China could oust Vietnamese forces from islands closer to the Chinese mainland (such as Bach Long Vi, see map) via amphibious assault. The year 1983 also saw the introduction of tanks and armored vehicles into China's then-nascent Marine force. That force now regularly

practices joint landings (*China Brief*, August 4, 2015). China is rapidly addressing another deficiency noted 30 years ago by the intelligence assessment—a lack of ship-borne air defenses. [1] As noted in a recent article in *China Brief*, China is building and commissioning destroyers with advanced anti-air capabilities into the South Sea Fleet, as well as upgrading land-based mobile air defense systems on Hainan and Woody Island (*China Brief*, March 28).

According to the assessments, on November 8, 1980, Chinese bombers flew from over Northeast Cay (北子島), part of the Spratlys, while Chinese fighters patrolled the Paracel Islands (see map). Similar demonstrations followed in October 1983 over Malaysian-occupied Swallow Reef, this latter exercised paired with a navy frigate and supply vessel. [2] At that time, such an operation would have been a “one-off” to demonstrate political will to Vietnam. China had no real ability to sustain combat operations at such a distance.

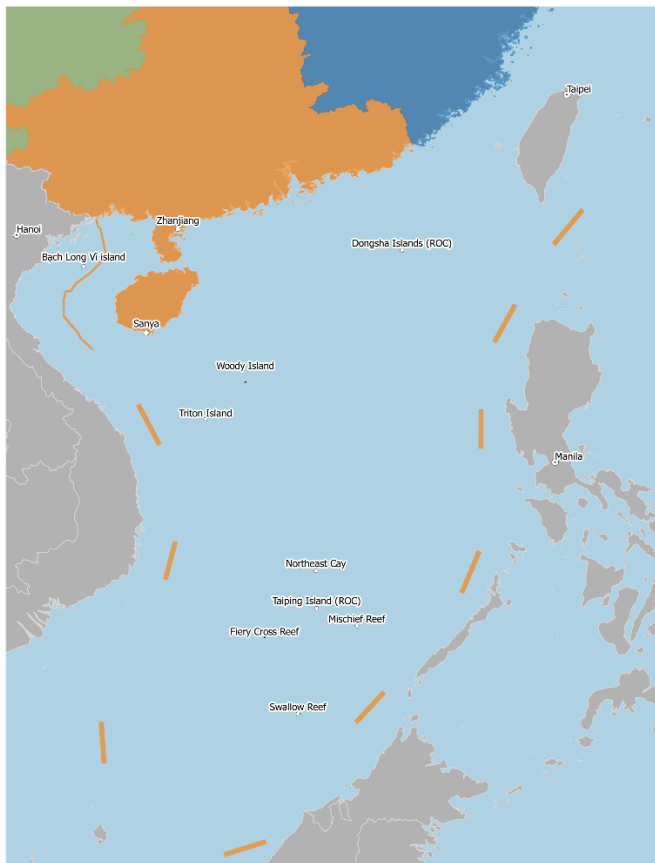


Figure 1 China conducted flights over Northeast Cay in 1980, and Malaysia’s Swallow Reef in 1983. Map by Peter Wood. Full size image available at: www.jamestown.org/uploads/media/South_China_Sea_Map.png

China’s capabilities have improved enormously in the intervening three decades. Long-range bomber patrols through the Miyako Strait and into the Western Pacific are now routine (China.gov, November 27, 2015). The Chinese Air Force and Naval Aviation branch now possess advanced, long-range fighters (and even better Sukhoi jets are on the way). This means they are not limited—as they were in 1983—to patrolling closer to shore. When challenging U.S. surveillance aircraft in the South China Sea, they are fully armed with PL-7 and PL-12 air-to-air missiles, a statement in itself. [3] The recent appearance of Su-27 variants better suited to anti-shipping, air-to-ground, and electronic roles at Ledong/Folou airbase on Hainan Island further suggests that the days of the PLA Naval Aviation Force being limited to interception and air superiority roles may be at an end. [4] Indeed, in the beginning of April, eight fighters of the South Sea Fleet’s 9th Air Division participated in a drill practicing hitting “enemy” targets at sea (Chinese Navy Online, April 18).

Moreover the “K” variant bombers it uses, while based on the same work-horse H-6 platform, are now capable of carrying up to six CJ-10 (长剑) anti-ship or ground-attack cruise missiles (QQ.com, January 7). Heavy-lift capability, a major deficit in China’s ability to deploy internally and abroad, also appears to be on its way to being resolved. China’s indigenous Y-20 aircraft—China’s answer to the U.S.’s C-17 and a vast improvement over its legacy Y-8 transport—is set to begin active production and reach operational capability in late 2016 (People’s Daily Online, February 27).

On the sea, 1983 was also an important year. The preceding year had seen China’s abandonment of Soviet Naval doctrine that emphasized coastal defense over more traditional ideas of sea control. This was then demonstrated when, for the first time, China dispatched two naval ships on a training mission to the Spratlys in May 1983. Fast forward to November of last year and China has abandoned another long-held precept, that it would never establish military bases overseas, when it set in motion agreements to operate a naval base in Djibouti (*China Brief*, January 25; MOD website, November 26, 2015).

Moreover, China's ability to project naval power over long distances has increased dramatically. In the context of the South China Sea, this includes a series of newly commissioned amphibious transports, including four Type 071 Landing Port Docks (LPDs) ([Global Times Online](#), December 28, 2015). These new capabilities represent a dramatic improvement over the PLA Navy of 30 years ago.

Diplomatically, China has left itself no room for negotiation, and made it abundantly clear that, as far as it is concerned, there is no need for negotiation or consultation about its territorial claims as there is no real dispute. This makes signaling by means other than official spokespeople (with narrowly defined scripts) even more important.

At the same time, China is still mastering the capabilities it would need to operate effectively should conflict break out. It can feel assured in its ability to defeat local neighbors in a conflict one-on-one, but the addition of the United States—or even a combination of neighbors—would dramatically alter the apparent military balance.

Notes

1. [Declassified] CIA-RDP84S00928R0003000050006-0, National Archive CIA Records Search Tool (CREST), *China: Military Options Against Vietnam* pp. 10–11.
2. CREST, p.11.
3. Photographs of Chinese fighters intercepted by Japanese Air Defense Force fighters, by contrast show them with a single PL-7 air-to-air missile.
4. This airbase is noteworthy for the presence of a super-hardened hanger/underground facility on the southeastern side. (For reference: 18.678°, 109.184°).

Pushback against Xi Jinping's One-Upmanship Strengthens

By Willy Lam

“Every bush and tree is an enemy” is a Chinese proverb that describes how the timid Emperor Fu Jian of the Eastern Jin Dynasty (317–420 AD) was once so overawed by the superior troops of his opponent that he mistook nearby rows of neatly planted saplings to be soldiers. Chinese President Xi Jinping is no Emperor Fu Jian—he seems to be in full control of China's military forces, the paramilitary police, the police and the spies—in addition to the labyrinthine Party-state apparatus. However, the Xi administration's reaction to an anonymous letter calling for his resignation suggests that Xi, who is also Communist Party General Secretary and commander-in-chief, is far from secure about his powers.

On the eve of the National People's Congress (NPC), which opened on March 5, *Wujie News*, an official website based in the Xinjiang Uighur Autonomous Region (XUAR), carried “An Open Letter Demanding That Comrade Xi Jinping Resign From His Party and State Leadership Positions.” The article, which was signed by “a group of loyal party members,” was pulled from the site within an hour. The relatively obscure news site, which is controlled by the XUAR Propaganda Bureau, later said it was the victim of hacking by an unspecified party. However, the fact that the anti-Xi missive had first appeared on Caiyu.org, a New York-based pro-democracy media group, seems to suggest that the letter was the work of overseas-based critics of the Communist Party and particularly of Xi ([VOA Chinese](#), March 28; [United Daily News \[Taipei\]](#), March 6; [Canyu.org](#), March 4). [1]

Backlash

If Xi and his advisers had kept investigations low-key, the matter might not have dominated social media during the annual sessions of the NPC and Chinese People's Political Consultative Conference (CPPCC)—and long afterwards. Under orders from security cadres including Politburo member in

charge of the Central Political-Legal Commission Meng Jianzhu, police detained *Wujie*'s CEO Ouyang Hongliang, President Li Wanhui and about 15 other staff. It is likely that the website, which started operations only a year ago, will be closed down (Ming Pao [Hong Kong], March 24; RFI Chinese, March 24). More intriguing, however, was the arrest of popular columnist Jia Jia on March 15. Jia's only involvement in the petition was that as one of the first readers of the *Wujie* article, he called up his good friend Ouyang to warn him of the consequences of the piece. Jia, who was released after being detained for ten days, is still under police surveillance (RFI Chinese, March 26; BBC Chinese, March 25; Apple Daily [Hong Kong], March 21).

Even more chilling, however, are Beijing's efforts to harass and intimidate the relatives of foreign-based critics of the Xi administration. Take, for example, prominent blogger Wen Yunchao, who moved to the United States in 2012. Wen, who has 220,000 Twitter followers, is a frequent commentator on Xi's ultra-conservative policies as well as opposition to Xi's rule as manifested by the *Wujie News* letter. On March 22, Wen's parents and brother, who live in Guangdong Province, were taken away by police. Several days earlier, the three were forced to make telephone calls to Wen asking him to reveal who the author of the anti-Xi petition was. Wen, who demanded that Guangdong police release his relatives immediately, said he had nothing to do with the incident (Amnesty International, March 25; Radio Free Asia, March 25). A similar fate befell Chang Ping, a famous journalist and regime critic who moved to Germany in 2012. After the publication of an article that blasted Beijing's arrest of Jia Jia, two of Chang's siblings were arrested late last month by police in his home province of Sichuan. Chang's relatives were told they would be in trouble if Chang were to continue badmouthing the Xi administration in the Chinese language edition of *Deutsche Welle* and other foreign media (South China Morning Post [Hong Kong], March 28; HK01.com [Hong Kong], March 28).

Given that Xi and his publicists are feverishly constructing a Maoist-style personality cult around the supreme leader, it is easy to understand why the *Wujie News* event should have been taken seriously.

Equally significant, however, is the fact that the Xi leadership's supercharged reaction could betray lack of confidence. This feeling of insecurity could be prompted by strong signs of a pushback against Xi's one-upmanship coming from power blocs in the Communist Party which have been marginalized or which are unhappy about the Fifth-Generation leader's large-scale restitution of discredited Maoist norms.

One unmistakable signal that President Xi might no longer be having his way is that his status as "core of the leadership" is under challenge. In December of 2015, the official media began calling Xi the "core of the leadership." And the leaders of at least 20 provinces and directly administered cities have professed allegiance to "the central party leadership with comrade Xi Jinping as the core" (See *China Brief*, March 7). However, during speeches in March given by NPC Chairman Zhang Dejiang, CPPCC chairman Yu Zhengsheng and Premier Li Keqiang—all of whom are members of the Politburo Standing Committee (PBSC)—the word "core" did not appear. In his Government Work Report delivered on March 5, Li referred to Xi five times. For example, he praised the guidance provided by the "central party leadership with comrade Xi Jinping as General Secretary." This wording was similar to the protocol accorded former president Hu Jintao, who never attained the status of "leadership core." [By contrast, former president Jiang Zemin was called the "core of the Third-Generation leadership."] This development shows there is still substantial resistance in the party to elevating Xi to the lofty status of "leadership core" (Hong Kong Economic Journal, March 10; Wen Wei Po [Hong Kong], March 6).

Tensions at the Top

At the same time, conflict between Xi and Premier Li—the representative of the rival Communist Youth League (CYL) faction headed by former president Hu Jintao—seems to have broken into the open. When Li finished reading the Government Work Report the morning of March 5, practically all the delegates present followed custom by giving him an enthusiastic applause. In the old days, former president Hu would shake hands with former premier Wen Jiabao. This time, however, Xi did not bother to clap his

hands. There was zero communication that morning between Xi and Li, who were seated next to each other (Chinadigitaltimes.net, March 20; Ming Pao, March 15). It is hardly a secret in Beijing that Li resents the fact that despite the strong tradition of the premier being the final arbiter of economic policy, he has to subject himself to Xi's guidance. Incongruities between Xi and Li on economic policy-making is said to be one reason behind faulty moves that have exacerbated crises associated with the stock market meltdown and the depreciation of the renminbi (South China Morning Post Chinese Edition, February 17; VOA Chinese, September 21, 2015).

Equally telling was Premier Li's absence during a regular meeting of the Central Leading Group on Comprehensively Deepening Reforms (CLGCDR), which was a high-level decision-making body created by Xi in December 2013. It is chaired by Xi; and its three Vice-Chairmen are Li, PBSC member in charge of propaganda (and therefore most of Chinese state media) Liu Yunshan and Executive Vice-Premier and PBSC member Zhang Gaoli. Li did not show up during the CLGCDR's 21st meeting held on March 22. The premier's only previous absence from a CLGCDR conclave was on July 1, 2015, when he was on a European visit. This seems to confirm speculation that due to the friction between Xi and Li, the latter would probably only serve one term as premier. The possibility has increased that Li would move over to head the NPC after the 19th Party Congress in late 2017 ([Ming Pao \[Hong Kong\]](http://Ming Pao [Hong Kong]), March 23; Xinhua, March 22).

Anti-Xi Faction Emerges

Moreover, the rivalry between PBSC members Liu Yunshan and Wang Qishan has also broken into the open. Liu, a protégé of former president Jiang Zemin, is in charge of the propaganda apparatus. Wang, a princeling (a reference to the offspring of party elders) and crony of Xi, heads the country's Central Commission on Disciplinary Inspection (CCDI), the much-feared anti-corruption superagency. On the eve of the NPC, media controlled by Liu started attacking Ren Zhiqiang, a real-estate tycoon who is a popular commentator in the social media. Ren, a party member, was criticized for not following discipline by "making groundless criticism of the party

leadership." However, the website of the CCDI soon published a piece supporting party members who are sincere and forthright enough to offer constructive views about the party. It is well known that Ren is a close friend of Wang's—and the propaganda machinery under Liu seemed to be targeting Ren so as to embarrass Wang (Theinitium.com [Hong Kong], March 2; Radio Free Asia, March 2; CCDI.gov.cn, March 1).

Apart from failing to nurture consensus and camaraderie within the PBSC, Xi's hold over the so-called Gang of Princelings—which is considered a key power base of the president's—seems to be less solid than before. Notable princelings have made both direct and indirect criticisms of Xi's policies. According to Luo Yu, son of General Luo Ruiqing (1906–1978), who is a former Chief of the General Staff and vice-premier, an "anti-Xi faction" has emerged among cadres who thought the supreme leader "has not fully observed the Constitution and who are making no progress in reforms" (VOA Chinese, March 22). Zhong Shi, a columnist for Hong Kong's *Ming Pao*, noted that while some princelings felt threatened by Xi's anti-corruption moves, others who were businesspeople blamed their losses in the financial markets on the perceived failings of Xi's economic policies. "Those princelings who still openly support Xi are those who have little influence and puny financial heft," wrote Zhong (Ming Pao, March 22).

Conclusion

Zhang Lifan, an independent historian who is also the son of a minister, said Xi's enemies were growing in numbers and ferocity because "he has moved everybody's cheese." Xi's reinstatement of Maoist norms, including the reappearance of a cult of personality, said the historian, "has raised fears among people that Mao's evil spirit has not dissipated and could make a comeback" (Canyu.org, March 22; VOA Chinese, March 21). Zhang, a well-known commentator, however, does not think that Xi is in imminent danger of losing power. "He is still the captain of a ship," Zhang said. "While there are disgruntled interest groups on board, people are not yet ready to fire the captain for fear that sudden changes could result in a shipwreck." What is certain, however, is that Xi is more feared than loved. And if his empire-building

continues to make a dent on the welfare of disparate sectors in the polity, his enemies could coalesce and make his paranoia become reality.

Dr. Willy Wo-Lap Lam is a Senior Fellow at The Jamestown Foundation. He is an Adjunct Professor at the Center for China Studies, the History Department and the Program of Master’s in Global Political Economy at the Chinese University of Hong Kong. He is the author of five books on China, including “Chinese Politics in the Era of Xi Jinping: Renaissance, Reform, or Retrogression?,” which is available for purchase now.

Note:

1. Another “dump Xi” letter, allegedly signed by “171 Chinese Communist Party members,” appeared in the bloggers’ section of the New-York based Mingjingnews.com site on March 29. He Pin, the owner of Mingjingnews.com, said he could not verify the identity of the letter writers, who called upon Xi to resign from all his positions. Since this letter did not appear in any media within China, however, Beijing has yet to make any reactions to this second anti-Xi petition ([Apple Daily](#), March 30; [Radio Free Asia](#), March 29).

Chinese Hypersonic Weapons Development

By Karen Montague and Erika Solem

China’s military is reorganizing itself to be a more modern, effective force. On January 1, 2016, the Second Artillery Force (第二炮兵部队) (responsible for China’s nuclear and conventional ballistic missile arsenals) was reorganized into the People’s Liberation Army Rocket Force (PLARF; 火箭部队), elevating it to a service (军种) fully on-par with the Navy, Army and Air Force ([Sina](#), January 1). As China streamlines its military and works to improve the quality of its personnel, several cutting edge projects are in the works to provide the People’s Liberation Army with advanced weapons. One of these is the

PRC’s hypersonic glide vehicle (HGV), called the DF-ZF in China and designated by U.S. defense officials as the Wu-14. The development and testing of this new class of hypersonic weaponry in China has been extremely secretive. However, its eventual operational deployment will represent a significant improvement in the PLARF’s conventional and nuclear arsenals, as it has the potential to penetrate even the strongest layered anti-missile defenses of the United States and its allies.

Hypersonic Arms Race

In addition to China, the United States and Russia are pursuing various iterations of HGVs and all three have developed prototypes of this high-tech weapon. The X-51A, Yu-71, and DF-ZF are the current HGV prototypes for the U.S., Russia and China, respectively. This new class of weapons has prompted each nation to adopt different approaches, with each model using a different engine, fuel type, and delivery method, but all HGV weapons’ core characteristic is sustained and controlled Mach 5 (3,836 mph) flight (See Table 1). [1]

Table 1: China, Russia, and U.S. HGV Names and Launch Platforms

Country	HGV Name	Launch Platform	Engine
China (PRC)	Wu-14 / DFZF	DF-11,15,16,21, 26 Variants	Single-or Two-Stage Solid-Propellant Rocket
Russia	Yu-71	SS-19 / Yu-100N	Two-Stage Liquid Fuel
United States	X-51A Waverider	B-52 bomber	Scramjet

Karen Montague & Erika Solem

The Potomac Foundation, April 2016

The variation in each country’s testing of their respective HGVs provides a glimpse into their motives for pursuing this costly technology. It is speculated that the United States hopes to improve the speed of its Prompt Global Strike capability (which would enable to hit a target anywhere in the world with a conventional warhead in less than an hour), while both

Russia and the PRC want the ability to pierce U.S. missile defenses. The competition between the three countries is resulting in both a new arms race fueled by ambiguous goals and a lack of transparency on all sides.

U.S. Hypersonic Glide Vehicle Developments

To understand China’s progress toward an operational HGV, an examination of the U.S. military’s hypersonic projects is important. The United States has been researching and developing hypersonic technology since the early 2000s under the Defense Advanced Research Projects Agency’s (DARPA) Force Application and Launch from Continental United States (FALCON) Project. Since then, the U.S. Air Force, DARPA, Boeing, and many others have collaborated on the X-51A Waverider HGV. The Waverider uses a B-52 bomber as a launch platform, is intended to be capable of Mach 5+ speeds, and is equipped with a scramjet engine that uses high speed to pressurize the air-to-fuel mixture, allowing more efficient combustion and greater speeds. The first Waverider test took place on May 26, 2010, and set a record with a 200-second burn, beating out the 12-second burn of NASA’s X-43 in 2004 ([Edwards Air Force Base News](#), May 26, 2010). In contrast, Chinese media reports that its military has the capability to launch its HGV from a variety of types of ballistic missile models. Among these are the DF-11B, DF-15B, DF-15C, DF-16, DF-21C, DF-21D, DF-26 (rumored), and the M-20/DF-12 ([Sina Military](#), June 18, 2015). When comparing HGV technology, the U.S.’s delivery method and intended range appear to be more ambitious. However, the U.S. program has had a much lower test launch success rate (25 percent), compared to China’s 83 percent. Despite its recent advances with its HGV program, the United States has not conducted a Waverider test in the past two years, which makes the Chinese program appear more advanced. (See Table 2)

China and its Goals for the DF-ZF

China has conducted six DF-ZF tests in the past year and a half. Although frequency does not determine test quality, it does demonstrate that China is dedicated to the successful development of this technology.

Table 2: China, Russia, U.S. HGV Testing Records

Country	Test 1	Test 2	Test 3	Test 4	Test 5	Test 6
China	9-Jan-14	7-Aug-14	2-Dec-15	7-Jun-15	21-Aug-15	23-Nov-15
DF-ZF	☑	☒	☑	☑	☑	☑
Duration	N/A	N/A	N/A	N/A	N/A	N/A
Speed	Mach 10	N/A	N/A	N/A	Mach 10	> Mach 5
Russia	27-Dec-11	13-Sep-13	Sep-14	26-Feb-15	---	---
Yu-71	☒ (Yu-70)	☒	☒	☒	---	---
Duration	N/A	N/A	N/A	N/A	---	---
Speed	N/A	N/A	N/A	N/A	---	---
U.S.	26-May-10	13-Jun-11	14-Aug-12	1-May-13	---	---
X-51A	☑	☒	☒	☑	---	---
Duration	3.5 Mins	9 Mins (3 Controlled)	Crash After Separation	> 3.5 Mins	---	---
Speed	Mach 4.88	Mach 5	---	Mach 5.1	---	---

Karen Montague & Erika Solem
The Potomac Foundation, April 2016

China’s 10th Research Institute (also known as the “Near Space Flight Vehicle Research Institute”), which is under the China Aerospace Science Industry Corporation (CASIC) 1st Academy, is the sole entity responsible for the development of HGVs. [2] This unique concentration of the entirety of the program into the 10th Research Institute seems to have facilitated a remarkably quick development of China’s DF-ZF. Unlike the United States, China is assumed to be using a medium-range ballistic missile (MRBM) transporter erector launcher (TEL) as the delivery method for all of its HGV tests. This design launches the boost-glide vehicle into the atmosphere along a trajectory similar to a traditional ballistic missile. After the vehicle reenters the earth’s atmosphere, it boosts itself back into the upper atmosphere. It then performs a pull up maneuver to control speed and altitude before gliding into its target ([Next Big Future](#), August 1, 2015). The up-and-down trajectory of the HGV is believed to be able to confuse current ballistic missile defense (BMD) systems as the pro-

jectile's erratic course prevents the system from locking onto its target. Countries in East Asia with BMD available to intercept a Chinese HGV include Japan, South Korea and Taiwan, each with U.S.-supplied PATRIOT-3 (PAC-3) batteries, along with India, Pakistan and Russia, each of whom has its own indigenous BMD, as well as BMD purchased from other countries. The DF-ZF's unpredictable flight path and ability to be launched from a variety of missiles, each with different range capabilities, shows that China's goals for its HGV is to evade ballistic missile defense systems that threaten its ability to launch a successful offensive or defensive strike.

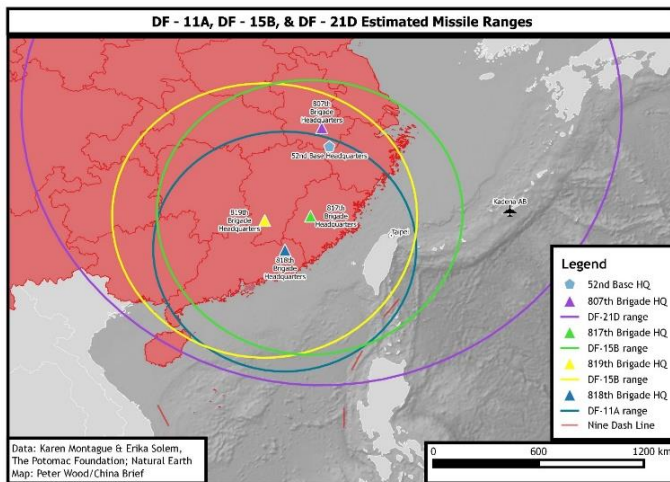
A major concern about China's HGV program is that the technology could be applied to both conventional and nuclear weapons. [3] The wreckage of China's second (and failed) HGV test indicates that it was conducted using a liquid-fueled launch platform. This test contradicts the many reports that China is using the DF-21 solid-fueled rocket as a launch platform. However, it warrants special attention because it is the only one that has public images of its components (Arms Control Wonk, September 3, 2014). This is important because liquid-fueled launchers are associated with China's nuclear program. The use of a liquid-fueled launch platform such as the Long March-4C (speculated to be used in the second test) indicates that China may be developing the DF-ZF for both conventional and nuclear use. An alternative explanation for the use of liquid fuel could be to compensate for the weight of the glider during acceleration to hypersonic speed. However, this explanation likely complements—rather than displaces—the theory behind intended nuclear use (Carnegie Endowment, November 21, 2014). [4]

China's primary goal for the HGV is to have it travel fast enough while making use of the HGV's unique flight characteristics to evade BMD systems. China has expressed its frustration with deployed U.S. BMD in the Western Pacific for over a decade due to the perception that such a system would degrade China's limited nuclear deterrent (MOD, May 26, 2015; MOD, December 9, 2011). Further adding to China's unease, other regional powers such as Japan and South Korea have also invested heavily in ballistic missile defense, making any sort of larger-scale engagement in the region quite challenging for

China's missile forces (CRS, April 3, 2015). Most of China's HGV tests have attempted to travel distances up to 1,750 kilometers (1,087 miles) and have been launched from Taiyuan Satellite Launch Center, located in Shanxi province (China Military Online, December 12, 2014). The intended distance of these tests is a strong indicator that China is either less advanced in its HGV development than the United States or is focused on addressing regional threats. If China successfully designs an operational short-range HGV, it will have a better chance of delivering successful missile strikes against its regional adversaries. Given China's strategic focus on regional security issues—particularly on developing the ability to defeat Taiwan militarily—a shorter-range HGV addresses China's more immediate needs.

Since the Taiyuan launch center is used primarily for testing new missiles, once development of the DF-ZF is complete, it likely will be relocated to PLARF bases that house compatible launchers. Because China's DF-ZF appears to be regionally focused, there is a strong possibility that it would be placed under the jurisdiction of the 52nd Base command. The 52nd Base command covers a majority of the Eastern coast of China and it is likely that the DF-ZF will be placed directly in the 807th brigade headquarters, the 817th brigade headquarters, the 818th brigade headquarters, the 819th brigade headquarters, and/or any PLARF bases that house the HGV compatible DF-11A, DF-15B, and DF-21D. There are also specific locations under Base 53's command on the southeast coast of China, which could also be strategic for the use of a DF-ZF in a regional strike (AusAirpower.net, January 27, 2014). The DF-11A and DF-15B are able to reach Taiwan, while the DF-21 is able to reach Taiwan, the Philippines, southern Japan, South Korea and North Korea. (See Image 1) Furthermore, it is reported that a glide vehicle extends the weapon's range by 500–1,000 kilometers, but it is unclear if this distance is accounted for in the Chinese tests or choices of launch vehicles (Tencent News, November 27, 2015). If the additional distance was not accounted for in published distances, the HGV could have the ability to cover even the farthest parts of the South China Sea and potentially the Second Island Chain, which includes Guam.

Image 1:



Full size image available at:
www.jamestown.org/uploads/media/Missile_Ranges.jpg

Hypersonic Glide Vehicle Applications

One major application of a hypersonic glide vehicle could be to deliver a “decapitating strike,” which is an attack on an adversary’s command-and-control centers. An example would be to strike the U.S.’s military bases in Asia, hoping to render American forces vulnerable and incapable of an immediate retaliatory response. If conducted successfully, this approach causes an opponent to be unable to retaliate with its own weapons. Some aspects of Chinese strategy already emphasize these tactics, for example, network attacks to paralyze an opponent’s communications at the outset of a conflict. The DF-ZF could provide “hard” kill capability against hardened infrastructure or leadership facilities to complement cyber-attack “soft kills” against infrastructure. As China’s research into HGV technology progresses, a number of other strategic roles could be developed. Extended range, possibly through the use of scramjet engines (which take advantage of high speeds to compress air for combustion and greater propulsion), could give Chinese missile units the ability to destroy the assets of countries in range.

The DF-ZF does not currently use a scramjet engine like Boeing’s X-51A. However, the PRC recently announced that it is now the second country to possess this technology. Since the announcement, there have not been reports of scramjet engines being tested in the DF-ZF (*Sina Military*, October 9, 2015). Since scramjet engines, when successful, have the potential

to travel very long distances, they are optimal for obtaining rapid global strike capability with HGVs. The majority of U.S. tests using scramjets, for example, have attempted to travel around 3,800 km, supporting the idea that the U.S. is aiming for a very long-range strike with their weapons. [5] China’s own interest in scramjets was demonstrated in 2015 when the Chinese government gave the developer of its scramjet, Wang Zhengou, an award at the 2nd China Aeronautical Science and Technology Conference, which indicates that China highly values the development of this technology (*Tencent News*, October 8, 2015). Although up to this point China has been testing to obtain hypersonic speeds over short distances (a function that a scramjet engine is not optimal for), their recent attainment of scramjet technology will allow them to expand the goals of their HGV development.

Yet, with or without a scramjet engine, if the PRC expands its targets to include countries outside of the East Asian region, attaching a HGV to one of its SRBMs would extend the reach of this weapon to MRBM and ICBM ranges. When conducting a conventional prompt global strike, there is the potential for other nations to associate that ICBM with a nuclear strike, which could escalate the conflict (*Congressional Research Service*, February 24). Because SRBMs give off a different radar return than ICBMs, using one to reach the same striking distance would not seem as threatening and would ameliorate this perception problem. The PRC’s use of a DF-21 as an HGV launch vehicle requires the use of specific locations and firing circles, many of which are well known and monitored by the United States. Since missile launch preparations are very rare, it might be possible to detect HGV-equipped DF-21s before launch.

Conclusion

Based on an analysis of China’s HGV development, the authors speculate that the PRC’s main priority for the DF-ZF is to bypass regional BMD. Of all the launchers currently deployed by the PRC, based on the assumed intent and estimated range capabilities, the DF-21 seems to be the most likely launch platform for the HGV. Unlike the DF-31, which is a liquid-fueled intercontinental ballistic missile (ICBM),

the DF-21 is a solid-fueled medium-range ballistic missile, which means quick preparation times compared to liquid-fueled. It also has a reported range of at least 1,500 km (932 miles), meaning it can reach all of the countries in the East Asian region. In 2001, it was reported that the solid fueled DF-21 takes anywhere between 10 to 15 minutes to prepare. [6] Since technology has advanced immensely over the last 15 years, it is very possible that it now takes even less time to prepare. The newly released DF-26 is the next generation of the DF-21 and has a longer range. It is speculated that China will use the DF-26 as a launch platform for the DF-ZF in the future (IHS Jane's 360, November 26, 2015). No matter the type of launch platform, an HGV can extend the reach of any missile by at least 1,000 km. If the DF-ZF truly does have the capability to bypass ballistic missile defense, it has the potential to deliver a devastating conventional or nuclear strike to any country. Even the threat of its use could be sufficient to make an adversary consider Chinese demands.

There are clear symbolic and military benefits for the nation that successfully develops a hypersonic weapon. The DF-ZF, though impressive, still has a long way to go before it can truly threaten the security of the United States and its allies. Therefore, China will continue frequent testing of the DF-ZF as a display of its military's power and advancement. Although in its current form the applications of the DF-ZF are constrained to East Asia, it is likely that China will continue to expand the range and capabilities of this weapon. Given the recent increase in investments in BMD by nations such as Japan, South Korea and Taiwan, the DF-ZF is a potentially destabilizing capability. If China is able to complete development of the system and operationalize it over the coming years, the DF-ZF system could further erode the U.S. military's deterrent in Asia. In the future, it will play an important role in calculating the relative balance of power in the region.

Erika Solem is a Ph. D. Fellow at the Potomac Foundation where she supports the research efforts on the "China's 21st Century Strategic Arsenal" project. She is a first year Ph. D. student at George Washington University with a focus on Chinese Space Policy and Defense. She has extensive experience both living and studying in China.

Karen Montague is a Research Fellow at the Potomac Foundation, where she assists in war gaming and simulation development efforts and supports the research efforts on the "China's 21st Century Strategic Arsenal" project. She earned her B.A. in International Studies from Texas A&M University in 2011 and M.S. in Defense and Strategic Studies from Missouri State University in 2013.

Notes

1. The U.S. and Russia are also developing a new class of ballistic missiles. This class would have the same high-speed, low altitude and weaving characteristics of an HGV, allowing it to travel above Mach 5 speeds and evade BMD. Most recently, Russia has developed a hypersonic missile that can be launched from a nuclear-powered submarine (RT, March 17). Currently, China has not announced or demonstrated research into this class of missiles; all three countries seem to be prioritizing development of the glide vehicle.
2. Mark Stokes with Dean Cheng, "China's Evolving Space Capabilities: Implications for U.S. Interests" Project 2049, April 26, 2012. <https://project2049.net/documents/uscc_china-space-program-report_april-2012.pdf>.
3. Paul J. Waltrup, Michael E. White, Frederick Zarlingo, and Edward S. Gravlin, "History of Ramjet and Scramjet Propulsion Development for U.S. Navy Missiles," Johns Hopkins APL Technical Digest, Volume 18, Number 2 (1997).
4. Although China has been shifting to the use of more solid-fuel boosters for its missiles, all of the observed Chinese HGV tests are speculated to have been launched from boosters using liquid fuel. The main use of liquid fuel in China's missile program is associated with the delivery of nuclear weapons on ICBMs. It is also possible that China is using liquid fuel in tests to obtain higher speeds, as liquid-fueled missiles have a speed advantage over solid fueled missiles.

5. James M. Acton, “China’s Offensive Missile Forces”: Testimony before the U.S.-China Economic and Security Review Commission April 1, 2015. <<http://www.uscc.gov/sites/default/files/Acton%20USCC%20Testimony%201%20Apr%202015.pdf>>.
6. Wendy Frieman, “The Arms Control and Ballistic Missile Defense Costs of a Chinese Conflict,” in *The Cost of a Future Conflict*, Andrew Scobell, ed. 2001. p. 166.

Taiwanese Navy Plans to Enhance Fleet Air Defense

By Michal Thim & Liao (Kitsch) Yen-Fan

Despite the pivotal position Taiwan plays in the military planning of the People’s Republic of China and the United States, defense issues played a mostly negligible role in Taiwan’s January 16 presidential and legislative elections. However, the desire for a stronger indigenous arms industry has been a recurring topic in President-elect Tsai Ing-wen’s campaign, one that she continues to emphasize ahead of taking office in May ([Apple Daily](#), October 29, 2015; [United Daily News](#), March 11). [1] Advocacy for an indigenous arms industry is not confined to within Tsai’s Democratic Progressive Party. The Ministry of National Defense has stressed the need for self-reliance in terms of both industrial capability and ability to sustain defensive operations without external assistance for some time ([China Times](#), March 30). [2] The prominent role indigenous defense production will play in the future is also prompting Taiwan to seriously debate just how to formulate its defense strategy.

Taiwan’s best chance to stop a forceful takeover by China is to prevent the People’s Liberation Army (PLA) coming ashore. That makes the Republic of China Navy (ROCN) a crucial area of investment in terms of financial resources, research and development, and industrial capability. Fortunately, Taiwan does not need to start from scratch in the two latter areas. Taiwan’s domestic shipbuilding industry has

already produced some tangible results in the form of new *Panshih* (磐石) combat support ship (AOE-532), 31 *Kuang Hua VI* (光華六號) fast missile boats, 12 *Kuang Hua III* (光華三號) patrol boats, and the first of 12 ordered *Tuo Jiang*-class (沱江級) stealth missile corvettes.

In September 2014, the ROCN revealed its 20-year plan for force structure modernization. [3] A prominent feature of the plan is that advocates of larger ships within ROCN apparently won out against those who proposed that smaller, stealthier ships be adopted with the goal of maximizing their survivability. However, the plan drew criticism for its apparent effort to rebuild the navy piece by piece without due regard to survivability of large surface ships under wartime conditions of contested control of sea and air. [4] Pursuing both strategies while attempting to produce as many ships as possible domestically is untenable, and a constrained budget also means that there is little space for failed projects.

ROCN’s modernization effort is not just about specific types of warships. A plan is progressing to equip new ships with interchangeable Aegis-like integrated combat systems (ACS) that pair powerful radars with advanced anti-air and anti-ship weapons. This addresses a long-desired domestically-produced enhancement of ROCN’s fleet air defense, the Hsun Lien (迅連) ACS.

Part of the Hsun Lien Project is the intended acquisition of the Mk. 41 Vertical Launch System (VLS), capable of accommodating variable configuration of surface-to-air and anti-ship missiles. The recent breakdown in negotiation between Lockheed Martin and Taiwan’s National Chung-Shan Institute of Science and Technology (NCSIST) over the acquisition and technology transfer of the Mk.41 offers a glimpse into the convoluted history of such developments, as well as inherent limits of Taiwan’s arms indigenization drive ([Storm](#) [風傳媒], April 1). Taipei may be able to research, design, and build its own advanced weapons, but it will still need U.S. assistance in regards to sales or technology transfer of key components.

Taiwan's ACS efforts

Taiwan's first serious attempt at acquiring ACS capability can be traced to the ROCN's last major replacement cycle with the Kuang Hua 1 (光華一號) project, which resulted in the production of eight *Cheng Kung*-class (成功級) frigates based on the U.S. *Oliver Hazard Perry*-class (OHP) as the intended platform. The Request for Proposal (RFP) for independently developing the ACS was issued in August 1991. However, even with the use of commercial off-the-shelf (COTS) parts, the estimated development and production costs of the first vessel, a modified *Cheng Kung*-class hull designated *Tien Dan*, were to be a staggering \$1.3 billion (1994 dollars), almost a third of the price of the *Nimitz*-class *John C. Stennis* aircraft carrier (launched in November, 1993). Ultimately, the proposed ACS modification was abandoned and *Tien Dan* was completed as the last ship of the *Cheng Kung*-class.

The failure of the ACS project revived Taiwan's interest to acquire the *Arleigh Burke*-class destroyers. However, both the financial prospect and the likelihood of receiving approval from the Legislative Yuan (Taiwan's national congress) deterred such steps. The ROCN first received four pre-ACS *Kidd*-class destroyers as an interim solution, and was unable to accommodate the 2004 offer of four retired first generation *Ticonderoga*-class cruisers due to budgetary constraints, and a follow-up plan to purchase eight retired USN *Oliver Hazard Perry*-class and equip them with a smaller version of Aegis in 2010 also failed to materialize ([Apple Daily](#) [Taiwan], October 12, 2004; [Xinhua](#), January 11, 2010). Hence, the Hsun Lien project has emerged as another domestic attempt to address ROCN's struggle for advanced fleet air defense. The Navy can still utilize the blueprint developed for the original ACS project—all that is required is to integrate the 3D phased-array radar developed by the NCSIST, a VLS acquired via technology transfer or supplied by U.S. manufacturers, and a close-in weapon systems (CIWS) to form the core of the ACS.

Taiwan's Fleet Air Defense Problems

It is not too difficult to understand the ROCN's obsession with acquiring an Aegis-like capability. A system with faster response time, integrating multiple weapon systems, and able to track and engage a large number of targets appears to be a perfect fit for a navy like the ROCN that is faces an adversary with superior numbers, and that is able to engage Taiwanese warships from land, sea, and air with a variety of anti-ship cruise-missiles (ASCM).

Nevertheless, the unique dilemma facing Taiwan's military may tax even the advanced capability of the Aegis. Even the best-equipped ACS vessel would quickly lose combat effectiveness after exhausting its complement of defensive missiles. Potential adversaries could stay within ship radar's shadow zone, and only appear briefly to acquire targeting data and launch an anti-ship missile.

This is not a new situation. In 1987, FFG-31 USS *Stark* was hit by the Exocet anti-ship missile launched from Iraqi Mirage F1, which mistook the U.S. frigate for an Iranian warship. During the engagement, the crew of the USS *Stark* did not have enough time to fire at the incoming Mirage, which appeared on the *Stark*'s radars only briefly once it locked on. Modern ACS vessels are much more capable than the USS *Stark* was in late 1980s but the tactics employed by attacking jets would not differ significantly from the way they were employed then. The timeframe is still too short for the ship to engage the launch platform, especially if the launch platform is directed by stand-off surveillance assets, and requires only brief exposure to acquire targeting data.

The result is that the fleet is bound to spend valuable missile loads with little to no chance to resupply as opposed to the enemy air-launched ASMs, which could be easily resupplied once the plane returned to base. The instinctive way out would be to avoid confrontation with superior land-based airpower, and passively engage what little that got through. However, in the Taiwan Scenario, such course of action would cede initiative to the adversary, and effectively render the fleet irrelevant for the majority of the conflict.

Taiwan's Naval War Plan

ROCN's woes do not end with problems inherent to conditions of modern fleet air defense. The Navy also plans to engage the enemy by employing problematic doctrine. The ROCN's wartime plan can be divided into two major stages. [5] The first stage of the plan aims at preserving the combat potential of the capital ships. Hence higher-tonnage vessels, i.e. destroyers and frigates, divided into Surface Action Groups (SAGs) centered around the *Kidd*-class destroyers would attempt to retreat beyond the reach of Chinese land-based airpower. Smaller combatants would then bear the bulk of operations against People's Liberation Army Navy (PLAN) movement across the Strait.

The second stage of the plan consists of rapidly introducing these capital ships to intercept the enemy in a decisive battle once the timeframe and strategic intent of the enemy becomes clear. During this stage, surviving smaller combatants would integrate with the SAGs.

Moreover, the ROCN is also expected to perform the secondary mission of fire support to ground troops during an amphibious invasion scenario, and the tertiary mission of keeping the sea line of communication (SLOC) open, should the conflict persist and exhaust Taiwan's strategic reserves.

However, the crucial issue of rapidly introducing the bulk of the fleet into a decisive battle has never been fully addressed. In a modern conflict, the side that is able to achieve critical concentration of forces at crucial time and location is able to not only seize the initiative, but exploit it for tactical and/or strategic gains. Possessing an advantage in intelligence and exceptional mobility to maneuver superior forces into position is of paramount importance in such endeavor. Under the scenario listed above, it is not apparent what steps the ROCN has taken to ensure these conditions.

Taiwan's Navy does plan to employ various advanced concepts such as over-the-horizon targeting (OTH-T) through integrated C4ISR network with aerial assets, including the S-70C helicopters, or new generation of UAVs. [6] The completion of Po-sheng

Project (博勝案) allowed cross-branch communication and coordination without the need to go through the Heng-sheng Tri-Service Command Center (衡山指揮所) (*Liberty Times*, August 30, 2011). However, it remains unclear how the Navy, or the armed forces in general, plan to ensure the survival of these nodes in the C4ISR network long enough for them to have an effect.

Conclusion

Waiting for a decisive engagement cedes the initiative to the enemy forces, which would do their utmost to deprive the ROCN the chance to implement their plan. A smaller, faster and stealthier fleet—while not possessing the endurance of an SAG—would be able to counter and harass the PLAN more effectively, perhaps preventing the culmination of a decisive battle.

Despite the plethora of issues facing the ROCN, the Hsun Lien project—especially its Distributed Architecture Combat System is still a desirable step forward. Taiwan's Navy needs a scalable integrated combat system that could be deployed on ships of various displacement for various roles. But the force that the ROCN envisions, basically a modernized remake of a current fleet (and with more submarines), is a questionable direction to take. ROCNs Surface Action Groups rely to a great extent on the survival of its largest ships: current *Kidd*-class destroyers and their potential replacement. A turn to a small ship doctrine, supported by indigenous systems such as Hsun Lien ACS coupled with Mk. 41 VLS, could give the ROCN greater operational flexibility not unlike the U.S. Navy's effort to achieve "distributed lethality."

Perhaps the most problematic element of the current battle plan is the embedded assumption that the surface navy would still enjoy air support during a second-stage assault on the assembled amphibious fleet. However, it is extremely unlikely that Chinese leadership would agree with invasion plans without achieving air-superiority, if not outright air-supremacy, before proceeding with amphibious landing, operation demanding enough even with secured control of the air.

While the debate on the future role of the ROCN in defense of Taiwan should not be reduced to a “big ship versus small ship” debate, the logic ditching large surface platforms in exchange for more survivable smaller ships is hard to deny. Challenges facing ROCN would not end with a desirable turn to sea denial small-ship based fleet with a doctrine more befitting of Taiwan’s conditions. Even a sea denial fleet would face problems with over-the-horizon targeting and survivability under the conditions of PLA Air Force’s near air-supremacy. The fact of the matter is that in order to counter the threat represented by the PLAAF, a more closely integrated fire-control regime akin to the U.S. Navy’s Naval Integrated Control - Counter Air (NIFC-CA) with its distributed and loosely-coupled kill chain is the only viable option. The system possesses the potential to effectively integrate the resources from surface-based, ground-based, and aerial air defense assets to achieve a flexible yet robust cover around the vicinity of the island.

Michal Thim is a Research Fellow at the Prague-based think-tank Association for International Affairs, a member of CIMSEC, and an Asia-Pacific Desk Contributing Analyst for Wikistrat. He has been published in The Diplomat, The National Interest and The Strategist, among others.

Liao (Kitsch) Yen-Fan is a Taipei-based analyst for the Cyber Security firm Team T5, specializing in cyber security, air power and the Taiwanese military. He has previously written for The Diplomat and Strategic Vision for Taiwan Security.

Notes:

1. See the DPP’s Defense Policy Blue Paper No. 7 < <http://english.dpp.org.tw/wp-content/uploads/DPP-Defence-Blue-Book-Issue-7.pdf>>.
2. See for example the 2013 Quadrennial Defense Review, Chapter 4 <<https://michalthim.files.wordpress.com/2015/08/2013-quadrennial-defense-review.pdf>>.
3. Some reports refer to 15-year plan, the two figures are possible result of later revision of the plan, although it is difficult to track it back

as the MND website does provide archive for its press releases.

4. Even before the current plan, the ROCN has been criticized for insisting on large surface vessels organized in Surface Combat Groups (SCG) instead of opting for smaller vessels with stealth capability armed with anti-ship missiles. Two of the most prominent critics of current ROCN naval doctrine are Professors James R. Holmes and Toshi Yoshihara from U.S. Naval War College. Their two-part series in *China Brief* on the difficulties facing the ROCN’s quest for sea-control, and possible solution in turning toward sea denial instead, is one of the first publications to tackle this problem. See part 1 “Taiwan’s Navy: Still in Command of the Sea?” <http://www.jamestown.org/programs/chinabrief/single/?tx_ttnews_percent5Btt_news_percent5D=36167&#.Vw5jDzB96hc>; and part 2 “Taiwan’s Navy: Able to Deny Command of the Sea?” <http://www.jamestown.org/programs/chinabrief/single/?tx_ttnews_percent5Btt_news_percent5D=36266&cHash=64801c799d#.Vw5jETB96hc>.
5. Information on the ROCN’s battle plan is sourced from a study by ROCN Lt. Cmdr. Tsai Jun-hsun published the ROCN’s official journal. See Tsai, Jun-hsun. (2015). *The Role of Kuang Hua VI-Class in Sea Control Warfare* [海軍學術雙月刊], pp. 30–43. <<https://www.mnd.gov.tw/Upload/201504/3-percentE5-percent85-percent89-percentE5-percent85-percentAD-percentE5-percent9E-percent8B-percentE8-percent89-percent87-percentE6-percent96-percentBC-percentE5-percent88-percentB6-percentE6-percentB5-percentB7-percentE4-percentBD-percent9C-percentE6-percent88-percentB0.pdf>>.
6. Ibid, p. 42.

The PLA's Forthcoming Fifth-Generation Operational Regulations—The Latest “Revolution in Doctrinal Affairs”?

By Elsa B. Kania

Based on reports in official media, the People's Liberation Army (PLA) appears to be preparing for the official release of its fifth-generation of operational regulations (第五代作战条令). The PLA's operational regulations, which are approximately equivalent to doctrine, provide guidance for the PLA at the campaign (战役) and tactical (战术) levels of warfare, based on two components: campaign guidance (战役纲要) and combat regulations (战斗条令). [1] Since the prior announcement of the PLA's “new-generation operational regulations” (新一代作战条令) in January 1999, which were the fourth generation of operational regulations issued during the PLA's history, there has not been a fifth generation officially released, despite the references to a revision process that dates back to 2004 (*PLA Daily*, January 25, 1999). [2] Although the fifth-generation operational regulations were reportedly finished and had been submitted to the Central Military Commission (CMC) for approval as of March 2008, their release was never announced (*Xinhua*, March 13, 2008). Indeed, according to the PLA's official newspaper, the PLA has only “*formally issued* four generations of operational regulations” [emphasis added] (*PLA Daily*, February 16). Given references to the process, the revision (编修) of operational regulations has apparently been either continued through or perhaps restarted in recent years without an officially announced conclusion, despite the release of a revised Joint Campaign Guidance (中国人民解放军联合战役纲要) and other regulations in 2008 (e.g., *PLA Daily*, July 6, 2014; *PLA Daily*, March 18, 2009; *PLA Daily*, October 31, 2012). [3]

In July 2014, the PLA's General Staff Department organized an “all-military research and discussion activity” that was intended as “preparation for the revision of operational regulations” (*PLA Daily*, July 6,

2014). As of February 2016, official PLA media reported that a new book, *Introduction to Operational Regulations* (作战条令概论), written by the Academy of Military Science (AMS) Operational Theories and Regulations Research Department (军事科学院作战理论和条令研究部), had recently been evaluated and approved by military experts and would serve as a “cornerstone” for the PLA's revision of its operational regulations (*PLA Daily*, February 16). In April 2016, there was further commentary in official PLA media expressing concern that the PLA's construction of operational regulations was “rather lagging behind” (稍显滞后), relative to the revolution in military affairs and evolution of warfare towards informationization, and calling for innovation in the “joint operational regulations content system” (创新联合作战条令内容体系) (*PLA Daily*, April 12, 2016). Despite the limitations of available information, such references to the continuing revision allow for an initial examination of this protracted process, as well as potential doctrinal changes about which additional details could be revealed in the coming months.

Certainly, the timing of this latest “revolution in doctrinal affairs” is not unexpected, given the PLA's recent strategic shift and ongoing organizational reforms. [4] The focus of the revised operational regulations is likely consistent with the new military strategic guideline on “winning informationized local wars” (打赢信息化局部战争), as outlined by “China's Military Strategy,” the PRC's latest national defense white paper (SCIO, May 26, 2015; *China Brief*, June 23, 2015). They will likely also mirror the PLA's prioritization of advancing its capability to engage in joint operations. Looking forward, the PLA's forthcoming fifth-generation operational regulations will probably reflect its longstanding attempts to advance its capability to engage in joint operations and could deeply influence its approach to future warfare.

Prior Generations of Operational Regulations

A review of prior generations of the PLA's operational regulations is necessary to contextualize this latest revision appropriately. It seems somewhat unusual that the PLA has not formally issued a new generation of operational regulations in over seventeen years, since successive generations of doctrine had

previously been issued approximately every decade throughout the PLA's history, typically after three to four years of revision. The PLA's first-generation operational regulations were issued around 1963, and the second and third generations were issued in the early or mid- 1970s and 1980s respectively (*Xinhua*, March 13, 2008). In January 1999, the PLA officially announced "new-generation operational regulations" (新一代作战条令), which were the fourth generation of operational regulations since the PLA's founding (*PLA Daily*, January 25, 1999). At the time, there was an inaugural campaign guidance (战役纲要) published for each service, as well as for joint operations and logistics (*PLA Daily*, January 25, 1999). This revision was the result of about four years of intensive work by the PLA Operational Regulations Compilation Committee and probably driven by the need to develop new operational concepts in response to the 1993 military strategic guideline of "winning local wars under modern, high-technology conditions." [5]

Figure 1: Components of the PLA's Strategy and Doctrine



After the adoption of the updated military strategic guideline of "winning local wars under conditions of informationization," the PLA started working on the revision of its fourth-generation operational regulations around 2004, based on a process of "rolling development," such that new regulations could be issued individually as needed. [6] Although the fifth-generation operational regulations were reportedly complete and only pending CMC approval as of March 2008, their official release was never announced and evidently did not occur (*Xinhua*, March 13, 2008). However, certain components of the PLA's operational regulations were issued in 2008, including a "newly revised" Joint Campaign Guidance (联合战役纲要) (*Xinhua*, April 16, 2008; *PLA Daily*, March 18, 2009). [7] The fifth-generation operational regulations have not been approved or released to this day, and their revision was apparently resumed again in subsequent years.

The Future of the PLA's Fifth-Generation Operational Regulations?

Although the reasons for the PLA's failure to issue fifth-generation operational regulations cannot be determined based on the available information—it is clear that the PLA has remained dilatory in actualizing ongoing strategic changes and theoretical frameworks into doctrinal guidance. While it is unclear whether this continued revision should be considered an extension of the process that dates back to 2004 or a distinct revision that was (re)started, there have been multiple references in official PLA media, especially since 2012, to the need to advance and accelerate the revision of operational regulations. Perhaps, the initial alterations to the fourth-generation operational regulations were deemed inadequate in achieving sufficient progress toward true "jointness," given allusions in official PLA media to continued challenges in joint training and achieving "joint culture" (e.g., *PLA Daily*, August 23, 2012; *PLA Daily*, December 23, 2015). For instance, an article published in *PLA Daily* in the summer of 2012 urged that the PLA "should strengthen joint operational regulations" and also "revise and issue joint operational regulations and joint campaign guidance..." (*PLA Daily*, August 23, 2012). As of the summer of 2013, according to articles at the time, "new operational regulations hadn't yet been issued," and there was a need to "accelerate the transformation of theoretical outcomes toward operational regulations" (*PLA Daily*, July 18, 2013; *PLA Daily*, July 4, 2013). By the spring of 2014, another article urged, "the revision of regulations should be conducive to guidance for warfare" (*PLA Daily*, April 29, 2014).

At that point, there was apparently extensive study and consultation occurring across the PLA in support of that revision process. Notably, in July 2014, the PLA's General Staff Department organized an "all-military research and discussion activity" that was intended as "preparation for the revision of operational regulations" (*PLA Daily*, July 6, 2014). The event focused on "the innovation and development of operational theories," as well as the "resolution of important operational difficulties [and] problems," in order to provide "theoretical support" for the revision of operational regulations. [8] In particular, the con-

tent covered had three areas of focus: “the mechanism for victory in informationized warfare, basic problems of joint operations, and models for operational tactics” (信息化战争制胜机理、联合作战基本问题、典型作战战法). This joint evaluation of the results of studies undertaken for the revision process was reportedly intended to “avoid tactical innovation ‘behind closed doors’” (*PLA Daily*, July 6, 2014). Perhaps, this consultative process and discussion might have been intended to make the revision more inclusive of stakeholders throughout the PLA and to build a broader consensus on certain issues that might have proved contentious in the previous attempt at revision.

Currently, it seems that the PLA might finally be progressing toward the official issuance of fifth-generation operational regulations. The drafting of the AMS text, *Introduction to Operational Regulations* (作战条令概论), started in January 2015, and the book has “guided the all-military revision of operational regulations” and also “provided strong academic support and methodological guidance” to the revision process (*PLA Daily*, February 16). Similarly, an April 2016 article in official PLA media also alluded to progression towards a new generation of operational regulations, characterizing the current operational regulations as insufficient and requiring expansion in accordance with the PLA’s new duties and missions (*PLA Daily*, April 12, 2016). In particular, the author alluded to the need to improve certain aspects of the operational regulations, including regulations for the coordination of joint operations and management of airspace in joint operations, as well as potential new areas of focus, such as maritime rights defense operations regulations (海上维权行动条令) and border area rights defense operations regulations (边境地区维权行动条令), seemingly a reflection of the PLA intensified focus on potential maritime and border contingencies (*PLA Daily*, April 12, 2016). In addition, given the complexities associated with the revision process, the PLA should learn from the experiences of other militaries in editing doctrine, including the establishment of a professional editing contingent and further systematization of the process (*PLA Daily*, April 12, 2016). Although the approval of this text by military experts as of February 2016 does not necessarily offer a clear indication of the status of the

revision process itself, this recent development does offer an indication of its continued progression.

To Win Informationized Wars?

Despite the ambiguities associated with the evolution of the PLA’s operational regulations, among the primary impulses for this ongoing doctrinal revision would appear to be the PLA’s strategic imperatives of winning future informationized wars and successfully engaging in joint operations. This latest revision likely corresponds with the PLA’s recent adjustment of its military strategic guideline, from “winning local wars under informationized conditions” to “winning informationized local wars” (*China Brief*, June 23, 2015). The revision has also corresponded with a high-level directive emphasis on the need for “military innovation.” In particular, in an August 2014 speech, Chinese President and CMC Chairman Xi Jinping urged the PLA to advance innovation, including of military strategy, military technology, operational thinking, and operational forces (*People’s Daily*, August 31, 2015). In particular, Xi called for changes in “single services’ operational mindsets” (单一军种作战的思维定势) and the establishment of the “ideological concept of integrated joint operations.” In this context, his phrasing implies the need to overcome narrower, service-oriented mentalities and instead develop a shared approach to joint operations.

Looking forward, it seems reasonable to expect that the revised operational regulations will inform the PLA’s approach to future campaigns and training at the service level and for joint operations. This revision might be accompanied by the editing of the campaign outlines of each of the PLA’s services and could include the formulation of the inaugural campaign guidance for the Strategic Support Force (SSF), the PLA’s new information warfare service (*China Brief*, February 8). Despite the limited information on the official documents, analysis of available PLA literature—especially that associated with scholars from the AMS Operational Theories and Regulations Research Department, given their extensive involvement in the revision process—might provide further insights into the operational thinking associated with these pending, non-public doctrinal documents. For instance, it is possible that the SSF’s

operational regulations could reflect key aspects of the strategic guidance (战略指导) articulated by AMS information warfare theorist, Ye Zheng, who was involved in the original 2004–2008 revision process, in his authoritative 2013 text, *Lectures on the Science of Information Operations*: “[engage in] integrated operations; emphasize offense, take defense seriously; seize and preserve the battlefield information advantage” (一体作战, 重攻严防, 夺取和保持战场信息优势) (*Xinhua*, March 13, 2008). [9] Perhaps, the operational regulations might also draw upon precedents and lessons learned from the U.S. approach to joint operations, as one article implies (*PLA Daily*, April 29, 2014).

Conclusion

Despite the PLA’s lack of transparency about its operational regulations, it appears that a new “revolution in doctrinal affairs” has been gradually occurring. Although the apparent lengthiness of the revision process—and the unexpected and unprecedented delay in the issuance of fifth-generation operational regulations—presents a puzzle that merits further consideration, the above analysis constitutes an initial attempt to assess this continuing doctrinal evolution. Despite multiple indications of recent progress, it is difficult to predict when the official release of the PLA’s new operational regulations might be announced.

Perhaps, the revision process was continued or resumed in response to the planning for and now implementation of a historic agenda of organizational reforms that includes measures to advance “jointness” (*China Brief*, February 4). It is logical that such significant changes, first to the PLA’s military strategy in 2014–2015 and recently to its organizational structure, would be accompanied by concurrent alterations to its doctrine, especially with regard to joint operations. Regardless of the unknowns, the ongoing revisions to the PLA’s doctrine merit additional analysis, since the eventual issuance of fifth-generation operational regulations certainly will deeply impact the PLA’s approach to winning future informationized local wars.

Elsa Kania will be a 2016 graduate of Harvard College, where she has majored in Government and wrote her thesis on the PLA’s strategic thinking on information warfare. Elsa was a 2014–2015 Boren Scholar in Beijing, China and is a 2015–2016 undergraduate associate of Harvard’s Weatherhead Center for International Affairs. She has worked at the Belfer Center, the Carnegie-Tsinghua Center, the Department of Defense, and FireEye, Inc.

Notes:

1. For analysis of the PLA’s operational regulations, see also: David Finkelstein, “Thinking About the PLA’s ‘Revolution in Doctrinal Affairs,’” James Mulvenon and David Finkelstein, *The Revolution in Chinese Military Doctrinal Affairs*, Santa Monica, Calif.: RAND Corporation, (2005); or Roger Cliff, *China’s Military Power*, Cambridge University Press, 2015. “作战条令” might also be translated as “operations regulations” or simply as “doctrine.” 战役纲要 could also be translated as “campaign outline.”
2. A special thank you to Dr. Cliff both for sharing his insightful perspectives on the topic and for his comments on this article.
3. There are not active links available for certain of the *PLA Daily* articles cited in this article, which I accessed through the East View database.
4. My use of this term is in reference to Dr. Finkelstein’s examination of the PLA’s prior revision of its operational regulations. See: David Finkelstein, “Thinking About the PLA’s ‘Revolution in Doctrinal Affairs.’”
5. David Finkelstein, “Thinking About the PLA’s ‘Revolution in Doctrinal Affairs.’” For more information about the military strategic guidelines, see: David M. Finkelstein, “China’s National Military Strategy: An Overview of the” *Military Strategic Guidelines*, *Asia Policy* 4, no. 1 (2007): pp. 67–72.
6. Roger Cliff, *China’s Military Power*, Cambridge University Press, 2015.
7. There was also a “new generation” of Guidelines/Outlines of Military Training and Evaluation (OMTE, 军事训练与考核大纲) issued at that time. OMTE appear to be influenced by higher-level doctrinal guidance.

8. The event took place at the AMS, and a total 130 experts on operations and training from GSD Departments, military educational institutions, and scientific research organizations participated in the evaluation of the outcomes of sixty different studies. In attendance were Chen Yong, the assistant head of the General Staff Department, and Chen Rongdi, the deputy head of the AMS Operational Theories and Regulations Research Department.
9. Ye Zheng [叶征]. *Lectures on the Science of Information Operations* [信息作战学习教程]. Military Science Press [军事科学出版社]. 2013.

*** **

China Brief is a bi-weekly journal of information and analysis covering Greater China in Eurasia.

China Brief is a publication of The Jamestown Foundation, a private non-profit organization based in Washington D.C. and is edited by Peter Wood.

The opinions expressed in China Brief are solely those of the authors, and do not necessarily reflect the views of The Jamestown Foundation.

For comments and questions about China Brief, please contact us at wood@jamestown.org