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In a Fortnight

GENERAL'S SPY COMMENTS REVEAL MORE THAN JUST ESPIONAGE
By Peter Mattis

Remarks made by Major General Jin Yi'nan of China's National Defense University at a conference earlier this year provide new insights into Beijing's reaction to foreign espionage, which Jin believes showed moral degeneracy within China. Jin's lengthy speech originally appeared on and was later removed from the video-streaming site Tudou, but can still be accessed in segments on YouTube (for the spy remarks in Chinese, see, <http://www.youtube.com/watch?v=loQFL8z9-zk&feature=related>) Most of the espionage cases already had filtered back into the mainland blogosphere, bulletin boards and news analysis through Hong Kong and Taiwanese media—a point leading Chinese media to pan Western coverage as “stale” (*Global Times*, September 1). Of the eight cases mentioned, only China National Nuclear Corporation Party Secretary Kang Rixin, defense attaché Wang Qingjian and Air Force Magazine Vice President Jia Shiqing were new. Despite the lack of novelty in the specifics, Jin's commentary about espionage in China offers new insights into evaluating this under-examined topic from open sources and suggests Beijing has good reason to be paranoid about security.

Three points stand out in Jin's remarks. Most importantly, Jin's frank discussion of espionage in the context of China's rise indicates a sea change has occurred in Chinese vulnerability to foreign intelligence efforts. Prior to reform and opening, a number of sources, including the so-called “Mitrokhin Archive” and

intelligence officers' memoirs, indicate China was an almost impregnable target, which explains why the United States encouraged Taiwan to fly U-2 flights over China long after the Soviets proved the SA-2 could bring down the spy plane [1]. The creation of the Ministry of State Security and its publicized early successes in counterespionage demonstrate the heady days of post-Maoist reforms and political expression in the 1980s offered new opportunities for foreign intelligence services to collect information on China (Central News Agency [Taiwan], June 10, 1983; Xinhua, August 23, 1986; Xinhua, January 10, 1987; *Ming Pao*, September 18, 1989). The 1990s however showed a decline in coverage, if not in reality, of Chinese spies as the Chinese economy boomed and nationalism replaced ideology as a pillar of communist rule. In the last decade, Jin's short list fails to include a number of other potentially serious espionage cases in the Chinese military, political and research establishments. To name but a few, a more substantial list would include Wei Pingyuan, Wo Weihuan, Guo Wanjun, Tong Taiping, Fu Hongzhang and Li Suolin (*Global Times*, February 14; *China Post*, April 7, 2004; *Guangzhou Daily*, January 15, 2004).

Second, Jin described the damage from some of these spies as severe, but it is not clear how Jin can judge some of the damage. Jin claimed Ambassador Li Bin, who served in South Korea as ambassador, compromised Chinese negotiating positions to South Korea during the Six Party Talks. If Li's imprisonment and interrogation in China offers a clear way for Jin to know what happened, Senior Colonel Xu Junping's alleged leaks of "personalities of [Chinese] leaders and their decision-making habits and processes" requires a different kind of knowledge, given Xu's absence from China. Western equivalents of the Hong Kong rumor mills have suggested Xu cooperated with U.S. officialdom; however, the only official statement or reliable reporting was that Xu was in the United States and in good health (*New York Times*, March 24, 2001). If Jin's comments can be taken at face value—which depends on how we judge the deliberateness of the publicity of Jin's remarks—they suggest inappropriate leaks from the China-focused U.S. intelligence or policy communities.

Finally, Beijing has shielded espionage cases from public view by charging spies with corruption and other economic crimes. Although there is no way independently confirm

the general's charges against Kang and Ambassador Li apart from the premature ending of their careers, other Chinese spy cases have shown a similar pattern of revelation. General Liu Guangzhi, President of the PLA Air Force Command Academy, was relieved of his position in December 2004 for unspecified "economic crimes" and Chinese officials specifically denied he sold secrets to Taiwan (*China Post*, February 4, 2005; Xinhua, December 29, 2004). Only later, possibly this year, did Chinese official media acknowledge Liu's treachery along with others at the Command Academy (*Global Times*, February 14). However, like the other cases, Liu's spying entered Chinese discourse through the Hong Kong and Taiwanese press (*Wen Wei Po*, April 15, 2004; *United Morning News*, May 28, 2004). Jin complained this practice is to avoid embarrassment and found an odd supporter in the state-controlled press, which suggested espionage should not be treated so sensitively and convictions should be publicized (*Global Times*, September 1).

The specifics of Jin's presentation are less interesting than how the general's remarks provide insight into developments in the last year. In his presentation, Jin noted the discovery of Kang's espionage startled the civilian leadership in Beijing, leading Hu Jintao to launch a round of security investigations. Although Jin claims no one was spared, the information available does not suggest counter-espionage officials uncovered any additional spies. This information however fills in the gaps behind heightened concerns earlier this year and why Hu issued new security regulations in March, paralleling China's last spy scare in 2006 ("Hu Signs New Regulations Safeguarding Military Secrets," *China Brief*, April 8, 2011; *New Century Weekly*, August 21, 2006). The case of Chinese military attaché, Wang Qingjian, who reportedly planted remote surveillance equipment in the Chinese embassy in Tokyo, explains the concern with communications intelligence collection that PLA bulletins accompanying Hu's security directive ("Growth Imperative Challenges Even Chinese Security Regulations," *China Brief*, July 29). Lastly, Jin's description of espionage signifying "moral degeneracy" and rhetorical question about what country has its ambassadors commit treason offers another clue into evaluating speeches by senior Chinese officials. Spiritual or moral problems, depending on the context, also could be a sign of leadership concern with security and major espionage cases, especially in a military or political-legal system context.

A final point of interest is that this appears to mark the first time a Chinese official specifically has acknowledged non-Taiwan-related espionage against China. Searching for these cases in official media outlets reveals little if any information. In addition to Senior Colonel Xu and Ambassador Li who allegedly provided classified information to the United States and South Korea, respectively, Jin also stated Beijing's senior liaison official in Hong Kong, Cai Xiaohong, dismissed in 2003 and well-reported in Hong Kong at the time, spied for the British. Chinese Academy of Social Sciences scholar Lu Jianhua, in Jin's words, sold information to whoever had money—reportedly including four other countries apart from his previously stated espionage for Taiwan. Although it is not clear that Jin or the Chinese government intended these remarks to be public, they do end all doubt that Beijing knows who is spying on China.

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Notes:

1. See, for example, Christopher Andrew and Vasili Mitrokhin, *The World Was Going Our Way: The KGB and the Battle for the Third World*, New York: Basic Books, 2005, pp. 270–294, and James Lilley with Jeffrey Lilley, *China Hands: Nine Decades of Adventure, Espionage, and Diplomacy in Asia*, New York: Public Affairs, 2004. For the U-2 flights, see Kenneth Allen and Jana Allen's contribution to this issue.

Taiwan's Defense White Paper Shows New Candor on Challenges Ahead

By Fu S. Mei

In mid-July, Taiwan published the 2011 edition of its defense white paper (“National Defense Report”). This was actually the third such document released in the last 38 months—the Ministry of National Defense (MND) having published a white paper in the final days of the

Chen Shui-Bian Administration in May 2008, followed by a revised edition under the Ma Administration in October 2009 and the current report. The effort still appears largely intended for the domestic (or, at least, a Chinese-reading) audience, since the English version of the white paper continues to be an inadequately edited (and, at times, sub-par) translation of the original Chinese-language document.

Compared to the previous edition, this National Defense Report appears somewhat more candid, both in terms of threat assessment and in its articulation of Taiwan's defense policy, posture and even some of the limitations.

The chapter on the Chinese military, for the first time, credited the People's Liberation Army (PLA) with the ability to blockade Taiwan or capture (Taiwan-held) offshore islands, even while the MND continues to reject a direct invasion of Taiwan as a viable military option on the grounds that China lacks sufficient conventional amphibious lift capacity [1]. Through the document, MND also confirmed that China has begun operational deployment of the DF-21D anti-ship ballistic missile system, following a low-rate, initial production in 2010 [2]. This suggests a further significant addition to Beijing's anti-access capability aimed at denying intervention by foreign (namely U.S.) forces into the western Pacific region. This position is in line with the December 2010 testimony by Commander, U.S. Pacific Command, Admiral Robert Willard that China's DF-21D anti-ship ballistic missile had achieved initial operational capability (IOC) (*Washington Times*, December 27, 2010).

On the other hand, MND seemed to have held back in other areas, even though sensitive intelligence about specific new PLA capabilities had already been disclosed by other Taiwan intelligence agencies. The prime example was the conspicuous absence in the new defense white paper of China's alleged deployment of the new DF-16 tactical ballistic missile, which was first broached publicly by the Director of Taiwan's National Security Bureau (CIA-equivalent) back in March 2011 (*United Evening News*, March 16).

In addition to the traditional Chinese military threat, MND enumerated a list of non-traditional factors as potential threats to Taiwan's security. These include natural catastrophes; compound disasters; cross-border

communicable diseases; food and energy shortages. In response to these challenges, Taiwan's armed forces would engage "proactively" in disaster prevention with advance deployment of troops and assets in order to take timely action in response to major natural disasters. The military also would work in conjunction with other government agencies to respond to the threats of cross-border epidemic outbreaks [3].

Of particular interest was the concern expressed in the white paper about Taiwan's aging demographic trends and rapid talent drain. The steady decrease in the number of male citizens of military service age constitutes a new challenge to Taiwan's security that urgently needs to be redressed. The MND report indicated that the number of young men eligible for military service has been declining in recent years. There are now only some 117,702 males of military service age available for conscription each year, down from over 120,000 a few years ago. By 2025, this number is projected to decline to just 75,338, and the military would have to compete for this dwindling pool of manpower with demands from the police and other law enforcement or paramilitary agencies [4]. This would make Taiwan's current force size unsustainable, if only based on manpower resources limitations alone, and, in time, could force further force rationalizations.

A major policy topic of attention discussed in the new defense report was the plan to transform the military to a voluntary service system. Even though the white paper still clings to the government's declaratory position of completing the transition of all regular forces to volunteer personnel, the MND quietly included three pre-conditions for a successful achievement of the stated plan [5]:

- 1) Passage and implementation of the proposed amendment to Taiwan's Military Service Law by the Legislative Yuan (Taiwan's parliamentary body);
- 2) Steady growth in the number of high-quality volunteer personnel in the coming years;
- 3) Defense budget could satisfy the transformation and the long-term operating needs of a voluntary military service system.

MND has drafted the amendment to the Military Service Law in coordination with the Ministry of the Interior, and

the law is slated for review by the parliament in this Fall's session of the Legislative Yuan. After legislative approval, the Executive Yuan will need to provide MND with the budget necessary to fund the move to an all-volunteer standing military (male citizens would still be required to undergo 4-month basic military training and serve in the reserve forces after discharge). Once this has been secured and a cut-off date agreed on with the Ministry of the Interior and signed off by the Executive Yuan, the program can be implemented. Because the amended Military Service Law however needs to be posted (publicly announced) at least one year prior to its actual implementation, this means the absolute earliest Taiwan can begin to wind down conscription (at least for service in the regular, standing forces) would be sometime after the spring of 2013 (*Liberty Times*, July 20).

The 2011 National Defense Report subtly reiterated the shift in Taiwan's key operational objective, amending the definition of "victory" in a war with China from complete defeat of enemy forces to one centered on preventing enemy landing forces from establishing a secure foothold on the island [6]. The significance of this change is to allow Taiwan to more narrowly and realistically focus its operational requirements, which directly translate into much more affordable and attainable force size, capabilities and budget resources. The revised "victory condition" conveniently affords the Army a *raison d'être* in the new joint operational war plan, which traditionally had evolved around layered (sequential) interdiction by air, naval, and ground-based air/missile defense forces. Nevertheless, under the new operational concept, it is still theoretically possible for Taiwan to "win" without major contribution by the ground forces. Indeed, Taiwan may eventually adopt an operational strategy that could call for certain force structure characteristics that are conceptually similar to some of China's "anti-access/area denial" (A2AD) capabilities. Given Taiwan's geography, economic lifeline and operational environment; however, the development of such access-denial capabilities would most likely have to be balanced by retention of a critical mass of sea-control and counter-air assets.

The report was also slightly more articulate with respect to the types of new capabilities and systems that Taiwan is acquiring to meet the evolving Chinese threat. In this respect, the MND document could not resist uttering such heavily U.S.-championed buzz words as "innovative

and asymmetric” capabilities [7]. While few, if any, of Taipei’s major recent arms purchases from the United States (totaling about \$13 billion over the past 3 years) appear to fit this bill, Taiwan does seem to be making a serious effort toward this direction in its indigenous weapon development efforts.

Taiwan apparently has adopted a spiral or capabilities-based approach to weapons development, where a new system is rolled out in stages, with each stage producing a new version that is an improvement on those from previous spirals. Among the new weapons and technologies being developed are long-range guided missiles, electromagnetic pulse (EMP) bombs, and “strategic” (long-endurance) unmanned aerial vehicles (UAVs). According to the white paper, in 2010, MND completed 15 research and development (R&D) programs in critical technologies and is continuing to work on 25 weapon systems R&D projects [8]. These include a wide range of technology demonstration and validation programs in which Taiwan’s military has invested significant resources over the past few years.

The following is a partial listing of some of the major defense R&D projects, together with the total program budget [9]: (exchange rate \$1=NT\$29)

- Anti-radiation UAV systems (\$33.96 million);
- Graphite bomb (\$12.96 million);
- High-energy EMP weapons and EMP protection (\$29.96 million);
- Hypersonic vehicle testing capability (\$31.72 million);
- Long-Range Unmanned Aerial Vehicle (\$99.27 million);
- Next-generation secure, broadband communications satellite (\$16.37 million);
- Open-architecture shipboard combat system (\$15.51 million);
- Posheng/Syun An follow-on C4ISR system study (\$15.2 million);
- Surface ship stealth technology (\$30.89 million);
- Torpedo decoy system (\$33.17 million);
- Twin/catamaran-hulled surface combatant (\$96.55 million)

The increased frankness exhibited by the 2011 white paper probably stems from a number of factors. It is

partly attributable to the style and (now more politically established) confidence of the current MND leadership, which appears to enjoy the trust of President Ma and perhaps even somewhat improved civil-military relations than had been the case two years ago. Taiwan’s military establishment as a whole however continues to struggle with the low overall priority and limited agenda visibility given to defense policy. Given the cross-Strait-centric agenda of the Ma Administration, MND effectively has become the only voice in Taiwan government that still regularly warns of the persistent and growing military threat posed by China. It, therefore, felt compelled to utilize the 2011 National Defense Report as an opportunity to more clearly and more convincingly present its case, so as to improve the public’s awareness of Taiwan’s military challenges and, hopefully, raise the visibility of defense policy in the current presidential campaign.

To the extent that one of the MND’s most important immediate objectives was to justify a halt to and perhaps even a reversal of the decline in direct defense spending that has taken place since the Ma Administration came to office, the new defense white paper was probably released just in time to claim a small but practical victory. Thanks in part to the \$875 million court-ordered punitive damages Thales S.A. and the French government paid to Taiwan in July 2011 as a result of the Lafayette frigate contract litigation, the MND’s call for more resources is being heeded. As announced by the Executive Yuan’s Director-General of Budget, Accounting and Statistics in mid-August, the FY2012 defense budget will grow by NT\$23.3 billion (\$803.4 million), though apparently not all of the increase in funding will be applied towards direct defense spending (Broadcasting Corporation of China, August 18).

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Notes:

1. *National Defense Report 2011*, Republic of China’s Ministry of National Defense, July 2011, p. 57. Available online at <<http://www.mnd.gov.tw/2011mndreport/index1.html>>

2. Ibid., p. 60.
3. Ibid., pp. 39–45.
4. Ibid., p. 105.
5. Ibid., pp. 92–97.
6. Ibid., pp. 104–105.
7. Ibid., p. 150.
8. Ibid., p. 149.
9. *Defense and National Security Report, 1Q/2011*, U.S.-Taiwan Business Council, May 2011.

Xi Jinping: China's Conservative Strongman-in-Waiting

By Willy Lam

The world caught a rare glimpse of Chinese Vice President Xi Jinping during U.S. Vice President Joe Biden's five-day visit to China last month. Xi is due to succeed Hu Jintao as General Secretary of the Chinese Communist Party (CCP) at its 18th Congress in October 2012, and state president soon afterwards. In an apparent attempt to let the global media know more about himself, Xi took the unusual step of accompanying Biden on a side trip to Sichuan Province in western China. While the 58-year-old “princeling”—a reference to the offspring of party elders—did not say anything earth-shattering during Biden's tour, Xi confirmed earlier impressions of being a conservative who is a fervent believer in many aspects of Chairman Mao Zedong's teachings. Moreover, his strong ties to the “princeling generals” in the People's Liberation Army (PLA) may predispose him toward seeking a hawkish foreign policy, or at least support the PLA's organizational interests.

According to senior aides traveling with Biden, Xi, who is also Vice Chairman of the policy-setting Central Military Commission (CMC), was “very confident, very assured” in his dealing with American officials. “Xi did not refer to notes [when talking to Biden],” one official said. “He had a very clear idea of what he wanted to convey... very strategic in his approach, quite confident in his interaction with his colleagues” (*Wall Street Journal*, August 18; *Ming Pao* [Hong Kong] August 19). Part of Xi's confidence and sophistication has emerged through having a better grasp on world affairs, especially China-U.S. relations. During

his trip to Mexico in early 2009, Xi made headlines when he appeared to have scolded the United States in a talk to representatives of the Chinese community in Mexico City. “There are some foreigners with full bellies who have nothing better to do than pointing fingers at our country,” Xi said. “China does not export revolution, hunger and poverty, nor does China cause you any headaches. Just what else do you want?” (*The Telegraph* [London], February 16, 2009; *Chinadigitaltimes.net* [San Francisco], February 17, 2009). Footage of Xi's fulmination, which was broadcast in Hong Kong, was banned on mainland Chinese television.

Xi sounded a lot more statesmanlike in his tête-à-tête with Biden. The Chinese Vice President indicated both countries should “ceaselessly boost Sino-American strategic mutual trust.” Xi continued “Both sides should objectively and rationally look at each other's development and make correct judgments on the each other's strategic intentions.” Even more significant is that fact that Xi appeared to give a vote of confidence to the American economy. “The U.S. economy is highly resilient and has a strong capacity to repair itself,” he said in a forum of Chinese and American businessmen. “We believe that the U.S. economy will achieve even better development as it rises to challenges” (*Xinhua*, August 18; *People's Daily*, August 19; *Asia Times* [Hong Kong], August 23). This was in sharp contrast to the scores of commentaries in the official Chinese media that expressed a lack of confidence in the Barack Obama administration's ability to pull the U.S. out of the current debt and financial crises.

Tell-tale signals, however, seem to betray Xi's less-than-enthusiastic proclivities toward the United States. Before Biden's arrival in Chengdu, capital of Sichuan Province, a dozen-odd dissidents were either detained briefly or given severe warnings not to try to present any petitions to the American VIP. Xi was nowhere to be found during Biden's speech at Sichuan University in which the veteran U.S. politician made a pitch for “openness, free exchange of ideas, free enterprise and liberty” (*Los Angeles Times*, August 21; *Radio Free Asia*, August 21). Xi did accompany Biden to Qingchengshan High School, which had been newly reconstructed after the horrendous 2008 Sichuan Earthquake. However, while Biden engaged in a spirited pep talk with the students, Xi, who was sitting nearby, did not seem to be paying much attention to his guest. He frequently was looking in a different direction and

appeared to be either bored or lost in thought (*New York Times*, August 21; Radio Free Asia, August 24).

According to People's University (*renmin daxue*) foreign affairs specialist Shi Yinhong, Xi was being particularly cautious because of his status of leader-in-waiting. "Xi has his own personality," said Professor Shi, "when he has become the highest leader at the 18th Party Congress, his personality will show through in a more conspicuous manner" (*Ming Pao*, August 23; *Oriental Daily News* [Hong Kong] August 23). The Chinese vice president, however, demonstrated some strongly held convictions in his remarkable talk to the students at Qingchengshan High School. "The world is yours and it is also ours; but ultimately, the world belongs to you," he said, "Young people are like the sun at eight or nine in the morning. The future rests with you." Xi was repeating verbatim what Chairman Mao told a group of Chinese students at Moscow University when he visited the Soviet Union in 1957 (Sina.com [Beijing], August 21; *Wen Wei Po* [Hong Kong], August 21).

While there is no evidence to suggest that Xi deliberately used Mao's famous Moscow speech to embarrass his guest, there is little doubt that China's Fifth Generation leader is an ardent believer in many aspects of Maoism. Together with another high-profile princeling, Chongqing Party Secretary Bo Xilai, Xi has been responsible for a far-reaching restitution of Maoist norms in the past two years. (See "The CCP's Disturbing Revival of Maoism," *China Brief*, November 19, 2009). For example, at a seminal address to students at the CCP Central Party School earlier this year, Xi urged students to "pay attention to the Marxist canon," especially Mao's classics. "Cadres must seriously study Marxist theory to ensure that they can maintain political resoluteness," he said. Xi added that since Marxist classics were voluminous, "we should focus on the salient points, and concentrate on studying the quintessence—particularly the important works of Mao Zedong" (*People's Daily*, May 13; Sina.com, May 13).

Conservative—and hawkish—elements in the party and the PLA have been resurrecting a number of the Great Helmsman's dictums on foreign and military affairs to justify the country's new-found assertiveness on the diplomatic front. Hard-line theorists have heaped high praise on the Great Helmsman's so-called "three major dictums," which he put forward in the heady months

before October 1, 1949. They were, one, "setting up a separate stove;" two, "put our house in order before inviting guests;" and, three, "one-sidedly favoring [the Soviet Union]". According to Zhang Baijia, Deputy Director of the CCP Research Office of Party History, the first two principles "enabled new China to seize the strategic initiative in foreign affairs" by "banishing the influence and impact of imperialism in China." The third precept, Zhang added, "enabled China to join the international pacifist camp" (Xinhua, June 13; China News Service, June 13). Popular media commentator Major General Luo Yuan praised Mao for daring to confront the "American imperialists" by entering the Korean War in 1950. Mao's decision, Luo said, "has served as an inspiration for the Chinese race as well as for all the suppressed peoples in the world." For Major General Zhang Zhaozhong, who thinks that "Mao Thought is very correct," the late chairman's pugilistic policies toward the West worked much better than the "*tao guang yang hui*" stance of "keeping a low profile and never taking the lead" (Club.china.com [Beijing], June, 20, 2010; Wyzxsx.com [Beijing], October 6, 2010). "*Tao guang yang hui*" refers to the largely conciliatory policy which Deng Xiaoping laid down in the early 1990s so as to improve relations with the U.S. and Europe.

Vice President Xi has never gone on the record on whether he shares Mao's hard-line policies toward the U.S. Yet he has spoken highly of such Maoist dictums as *pingzhan beyi*, or "the synthesis of [the needs of] peacetime and war." This means a more extensive program of training reservists and that civilian resources and facilities should be used for military purposes in times of war. Moreover, it is significant that the PLA being an important power base of the supremo-in-waiting, Xi has lent his support to the no-holds-barred modernization of military hardware. (See "PLA Gains Clout: Xi Jinping Elevated to CMC Vice-Chairman," *China Brief*, October 22, 2010). Indeed, a good part of the confidence with which Xi has impressed the Biden delegation may have sprung from the fact that the vice president's fellow princelings have become arguably the largest faction within the military establishment, compared to, for instance, officers who still profess allegiance to President Hu.

Generals with illustrious "revolutionary bloodline" who are tipped to either remain—or be inducted into—the CMC to be restructured at the 18th Party Congress

include the following senior officers. Current Air Force Commander Xu Qiliang (son of the late Air Force Lieutenant General Xu Lefu), is expected to be appointed one of the CMC Vice-chairmen at the 18th Congress. Deputy Chief of the General Staff Ma Xiaotian (son of Ma Zaiyao, former provost of the Political Institute of the PLA), may be promoted Air Force Commander. Two princelings also have become candidates for the key slot of Director of the General Political Department, which controls personnel and ideological matters. They are General Logistics Department Political Commissar Liu Yuan, 60, (son of state president Liu Shaoyi) and Chengdu Military Region Political Commissar Zhang Haiyang, 62, (son of Long March generation General Zhang Zhen). Both Liu and Zhang are considered Xi's cronies. Finally, Shenyang Military Region commander Zhang Youxia (son of Gen Zhang Zongwun, who was among the first batch of generals after the founding of the People's Republic of China), may be promoted Director of the General Armament Department next year (*South China Morning Post*, August 5; *Apple Daily* [Hong Kong], August 24; *Wen Wei Po*, August 3).

Several of these prominent princeling officers, including Ma Xiaotian, Liu Yuan, Zhang Haiyang and Zhang Youxia, only became full generals in the past three years. Since Xi became CMC Vice Chairman last year, he has maneuvered to elevate the political fortunes of the princeling generals. For example, General Liu Yuan was earlier this year transferred from the post of Political Commissar of the Academy of Military Sciences to the much more strategic slot of Political Commissar of the General Logistics Department (*Xinhua*, July 23). The possibilities are high that to quickly consolidate his power base after the 18th Party Congress, Xi may unreservedly back the generals' ambitious goals of global hard-power projection. This could intensify already ferocious competition between China and the U.S. in theaters such as the Asia-Pacific Region.

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Assessing China's Response to U.S. Reconnaissance Flights

By Kenneth W. Allen and Jana Allen

On June 29, 2011, for the first time in a decade, a People's Liberation Army (PLA) Air Force (PLAAF) J-11 crossed the center line of the Taiwan Strait in an attempted intercept of a U.S. Air Force (USAF) U-2 reconnaissance aircraft conducting a monitoring mission in international airspace. In response, the Taiwan Air Force scrambled two F-16s and sent them to the area (*Taipei Times*, July 28; *Jane's Defence Weekly*, July 27). Although Taiwan's Ministry of Defense reportedly did not consider it a provocative act, the incident generated much discussion about Chinese intentions. An official at Taiwan's Air Force Command later claimed the crossing was accidental (*Central News Agency* [Taiwan], August 22), but it remains beneficial to consider possible ramifications of similar activity in the future. U.S. reconnaissance flights are not uncommon, and aggressive intercepts on the part of China are not likely to convince the United States to reduce or stop them. On the contrary, they inadvertently could lead to another mid-air accident like the one that briefly derailed U.S.-China relations in 2001. Given the increasing number of civil aircraft flights through the Taiwan Strait, which exceeded 1.2 million flights in 2010, such intercepts threaten the safety, security, and economic prosperity of the Taiwan Strait and East Asia [1].

Differing Views of International Waters and Airspace

The United States and China have repeatedly articulated key differences in their views of manned aircraft flights conducted near China's borders to conduct intelligence, surveillance, and reconnaissance (ISR). U.S. reconnaissance flights occur along China's entire coast. As the Chairman of the U.S. Joint Chiefs of Staff, Admiral Michael G. Mullen, noted during a press conference on July 25, the United States conducts these missions in international airspace, defined by the International Civil Aviation Organization (ICAO) as the airspace beyond 12 nautical miles of a country's contiguous borders.

China does not accept the U.S. explanation that it has the legal authority to conduct ISR missions anywhere near its borders. Beijing sees these missions as an obstacle to military relations and an encroachment into China's sovereign territory. At the same time, however, China has stepped up its own ISR capabilities in the East China Sea over the past few years. People's Liberation Army Navy (PLAN) Y-8 surveillance aircraft and JH-7s have flown into Japan's air defense identification zone (ADIZ) near the Senkaku/Diaoyu Islands. In response, Japanese F-15s have conducted numerous intercepts as they neared the ADIZ (*The Telegraph* [London], December 30, 2010).

A Dangerous Game

The April 1, 2001 collision between a U.S. Navy (USN) EP-3 and a PLAN J-8 in the South China Sea clearly illustrates the potential for confrontation, not to mention loss of life, when something goes wrong during a seemingly routine mission. At the time, China noted that the United States was sending about 200 reconnaissance flights a year near China's coast. The Pentagon responded that China was intercepting about one-third of those flights (Agence France Presse [AFP], April 16, 2001). According to the commander of the U.S. Pacific Command at the time, Admiral Dennis Blair, when conducting an intercept the Chinese aircraft typically "come up, take a look, report what they see and fly back." However, in the months leading up to the collision, the intercepts were increasingly aggressive to the point the United States felt they were endangering the safety of Chinese and U.S. aircraft (BBC News, April 5, 2001). Neither country accepted responsibility for the collision, with each side blaming the other.

At the time of the collision, President Bush stated "Reconnaissance flights are a part of a comprehensive national security strategy that helps maintain peace and stability in our world" (*Los Angeles Times*, April 13, 2001). In response, China's Foreign Ministry spokesman stated "Such flights 'constitute a grave threat to China's security' and China has the right to protect its national sovereignty. Therefore, interceptions are 'necessary and very reasonable' and in line with international practice" (*People's Daily*, May 8, 2001).

According to an American assigned to the U.S. Embassy in 2001, "The Chinese government views U.S. reconnaissance missions along China's coast as evidence that the United States sees China as an enemy, or something other than a normal, friendly country." He also stated that Beijing's protests ignore their lack of military transparency, military threats aimed at Taiwan, and China's own reconnaissance operations in the region [2]. China allowed the EP-3 crewmembers to return home on April 11, and the United States resumed reconnaissance flights in May (CNN, May 15, 2001).

Although no similar incidents have been reported since 2001, reconnaissance flights remain a consistent topic of conversation between senior military leaders. When Admiral Mullen visited China in July 2011, the PLA's Chief of the General Staff, General Chen Bingde, stated during a joint press conference that recent U.S. military reconnaissance aircraft have flown to within only 16 nautical miles of China's coast, which is close to China's territorial waters. Furthermore, he stated that it is not necessary for the United States to conduct such surveillance, as it will hinder overall bilateral relations. As such, the United States should reduce and stop such reconnaissance activity (*China News*, July 11). In a press conference on July 25, Admiral Mullen responded that the United States will not be deterred from flying in international space near China (JCS.mil, July 25).

Airborne Reconnaissance Missions: Nothing New

The United States and Taiwan have a long history of reconnaissance activity over and near China [3]. Since the early 1950s, the USN and USAF operated several types of aircraft near Chinese territory to collect radar and other electronic signals, to intercept communications and to collect aerial debris from nuclear tests.

From 1959 to 1967 the Nationalists flew 100 CIA-sponsored U-2 reconnaissance flights over China [4]. From 1963 to 1967, the PLAAF shot down five of the Nationalist-flown U-2s over the Chinese mainland [5]. During the Vietnam conflict, China also shot down several U.S. reconnaissance aircraft near or over its southern border [6].

Although Sino-U.S. relations improved during the 1980s, the United States continued flying various missions along

China's borders. Following the rise in tensions between China and Taiwan in 1995 and 1996, the United States increased its flights around China's coastal periphery.

Flight Activity over the Taiwan Strait

Until 1996, the Taiwan Air Force (TAF) basically owned the skies over the Strait, but it still observed the center line, which, in fact, is closer to the mainland coast than to Taiwan. Although the PLAAF routinely reacted to TAF flights over the Strait, the PLAAF's aircraft flew parallel to the TAF's aircraft but remained above the mainland coast, not venturing even into the internationally recognized portion of China's airspace over the Strait [7]. Not until 1996, when Beijing reacted to Taiwan's first presidential election, did the PLAAF fly its first flights out over the Strait. The PLAAF did not conduct its first flights to the center line until Beijing reacted to President Lee Teng-hui's "two states" comments in July 1999 (Federal News Service, August 3, 1999).

In November 1998, a TAF Mirage group commander confirmed that there was a tacit agreement between the two air forces that "we leave when you come, and we come when you leave" (*Taipei Tzu-Li Wan-Pao*, November 26, 1998).

Over the past decade, the PLAAF has increased its flights to the center line, such that they are now considered "routine." For example, Taiwan's 2006 *National Defense Report* reported the number of PLAAF flights in the Strait from 1998 (400) through 2005 (1,700). Unfortunately, the figure does not have data for the number of TAF flights, nor have subsequent reports provided any updated data.

Military aircraft flights make up only a small portion of the air traffic over the Strait. Civil aircraft flights have increased exponentially since direct charter flights across the Strait began in 2003. New agreements signed in 2007 increased the number of weekly flights from Taiwan to various locations in China to 370, and, in 2011, they increased again to 558 (*China Post*, July 26). Together with international air traffic, the number of civil aircraft flights through the Strait exceeded 1.2 million in 2010. This is a stark increase from the 400,000 total flights of 1999, and is a significant amount of traffic given the 100-mile width of the Strait (China News Agency, August 10, 1999).

Although no PLAAF aircraft have reportedly crossed the center line between the EP-3/J-8 collision in 2001 and the June 29 incident, Beijing and Taipei previously have traded accusations about each other's fighters approaching the line. These accusations typically coincide with significant or controversial political events in Taiwan, such as comments or activities by Taiwan's presidents Lee Teng-hui and Chen Shui-bian. In the past, both sides have apparently provided information officially and unofficially to the media to escalate the situation and influence public opinion. One apparent reason such activity is not provided to the press on a regular basis is that, if reported too often, it becomes routine and the public might lose interest. By publicizing certain situations, Taipei hopes to move U.S. and regional perceptions against China. Beijing, on the other hand, wants to keep pressure on Taiwan from moving toward independence. Equally important, Beijing also wants to pressure the United States to discontinue foreign military sales to Taiwan.

The June 29, 2011 Incident

The U-2 flight on June 29 was nothing out of the ordinary to warrant the change in Chinese response. According to Taiwanese military sources, the incident occurred while the U-2 was flying a mission along China's coast that began at the USAF's Osan Air Base in South Korea, passed south through the Taiwan Strait, and then flew back north to the USAF's Kadena Air Base in the Japanese prefecture of Okinawa. The USAF reportedly informed Taiwan's military in advance of the monitoring mission, whose route passed through Taiwan's ADIZ (*United Daily News*, July 25). A spokesman for the U.S. Pacific Command confirmed that the U-2 was on a routine mission in the East China Sea, and that these types of missions in general are conducted in international airspace. Although the U-2's altitude was not identified, they normally fly at 70,000 feet (*Jane's Defence Weekly*, July 27).

According to Taiwan's Ministry of Defense, two PLAAF aircraft shadowed the U-2 in international airspace over the Strait (*Jane's Defence Weekly*, July 27). When one of the Chinese aircraft crossed the center line, the TAF scrambled two F-16s in response. As the F-16s approached the center line, the Chinese aircraft departed. The Ministry of Defense stated it did not consider the incident as provocative (AFP, July 25). According to

one news report, officials reported that the U-2 aborted its flight upon being alerted to the J-11 interceptors (*Washington Times*, July 25).

During the July 25 press conference, Admiral Mullen indicated that in addition to not being deterred from flying in international airspace near China, U.S. reconnaissance flights are important, so the United States should be careful about how it flies them and China should be careful about how it intercepts them.

On July 27, *China Daily* stated it is the U.S. military's dangerous war games around China's air and maritime territory that triggered China's legitimate response. Furthermore, the onus is on the United States to avoid such provocations, which can and will cause grave damage to relations between the two countries. Finally, China welcomes the U.S. military presence in the Asia-Pacific region for its constructive role in maintaining regional stability, but will not compromise on issues relating to its territorial integrity.

Conclusions

Whether the PLAAF aircraft intentionally crossed the center line on June 29 or not, the incident definitely received media attention. How the PLAAF and Naval Aviation respond to future reconnaissance flights will answer any questions about Beijing's intent and motivation.

The United States and Taiwan have a long history of conducting reconnaissance flights near China's borders, and the United States is not likely to cease these flights in the near future. Although China does not approve, Beijing should exercise restraint when conveying that disapproval. While conducting aggressive intercepts and espousing hard-line rhetoric may play well at home, these actions do little to reassure the United States and the rest of Asia of China's peaceful intentions in the region or that further reconnaissance missions are unnecessary, especially as China's military continues to remain opaque about its weapons acquisitions and training. As the number of civil aircraft flights increases through the Strait, the possibility of an inadvertent mid-air accident occurring when military fighters react to each other at the center line also increases. In order to avoid any miscalculation, and to ensure the safety of all aircraft

transiting the Strait, the United States, China and Taiwan must be careful about how they conduct their military missions in the Strait.

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Notes

1. According to correspondence in July 2001 with the Taipei Economic and Cultural Representative Office (TECRO) in Washington, DC, a total of 1,205,529 civil aircraft transited the Taiwan Strait in 2010.
2. John Keefe, "Anatomy of the EP-3 Incident, April 2001," The CNA Corporation, January 2002.
3. For a more detailed account, see Kenneth W. Allen, "Air Force Deterrence and Escalation Calculations for a Taiwan Strait Conflict: China, Taiwan, and the United States," in Michael D. Swaine, Andrew N.D. Yang, and Evan S. Medeiros, eds., *Assessing the Threat: The Chinese Military and Taiwan's Security*, Washington, DC, 2007, pp. 153–184.
4. http://area51specialprojects.com/u2_blackcat_taiwan.html
5. Luo Xionghuai, *Zhongguo kongjun jishi* [Chronicle of China's Air Force], Beijing: Central Compilation & Translation Press, February 2006, Chapter 14, pp. 271–298.
6. Hua Qiang, Xi Jirong, Meng Qinglong, eds., *Zhongguo kongjun bainian shi* [China's Air Force: One Hundred Years of History], Shanghai: People's Press, January 2006, p. 228.
7. Until the late 1990s, the PLAAF did not fly over water anywhere along China's coast. That mission was the responsibility of PLA Naval Aviation. Today, PLAAF aircraft fly over water

in each of the PLA Navy's three fleet areas of operation.

China's Uranium Quest Part 2: The Turn to Foreign Markets

By Richard Weitz

On August 24, the head of Kazakhstan's national nuclear monopoly Kazatomprom announced plans to increase its uranium fuel pellet shipments to China by one hundredfold, from 2 metric tons this year to 200 metric tons in 2013 or 2014 (Bloomberg, August 22). This is welcome news in Beijing since, according to most experts, China's own deposits of uranium are insufficient to support the country's projected electricity output. The uranium deposits that were sufficient to supply China's nascent nuclear energy program now account for less than half of its annual uranium consumption. Although Chinese energy managers naturally would like to mine domestic uranium rather than wrangle for foreign deals, the international uranium market will inevitably play a large role in China's nuclear energy drive as the first part of this series demonstrated. By 2020, China is expected to account for 20 percent of global uranium demand (*Uranium Investing News*, August 25). The Chinese will need to manage a predicted excess of global demand over global supply in coming years as well as corruption, political instability and other problems with the source countries, many of which are in Central Asia and Africa.

This is the second part in a two-part series examining the feasibility of China's nuclear ambitions by evaluating its access to uranium. The first part analyzed the domestic bottlenecks that challenge the feasibility of China's nuclear power ambitions.

China Looks to Foreign Reserves

The largest uranium reserves are in Australia (1.6 million tons, 31 percent of the world's supply), Kazakhstan (651,000 tons, 12 percent), Canada (485,000 tons, 9 percent) and Russia (480,000 tons, 9 percent). South Africa, Namibia, Niger and Brazil each have about 282,000 tons (5 percent). Availability however does not

necessarily mean export or production potential. The largest producers of uranium are Kazakhstan (33 percent of world supply), Canada (18 percent) and Australia (11 percent) (World Nuclear Association, "World Uranium Mining," April 2011; "Supply of Uranium," December 2010). Moreover, the quality of uranium held by each country varies considerably. Among the largest producers, only Canada has high-quality uranium (Council on Foreign Relations, January 14, 2010).

China's state-run companies are increasingly importing uranium from each of the countries listed above as well as others. The total Chinese uranium imports in 2010 were 17,136 tons, a threefold increase from 2009 (Flanders-China Chamber of Commerce, April 14). The drop in uranium spot prices by two-thirds during the global recession in 2008 created favorable economic conditions for China to stockpile uranium to meet future demand. China's ambitious plans to expand its nuclear program suggest that increase in imported uranium is not a fluke.

Two large State-Owned Enterprises (SOEs)—the China National Nuclear Corporation (CNNC) and the China Guangdong Nuclear Power Company (CGNPC), as well as their subsidiaries—are the main companies responsible for procuring overseas uranium for China. While CNNC is larger, CGNPC has been more aggressive in securing foreign deals. The two SOEs are negotiating contracts in some of the same regions with some of the same foreign companies.

In exchange for access to uranium supplies, China has increased its engagement with its suppliers creatively. For example, Beijing has granted Kazakhstan's SOE Kazatomprom equity in Chinese nuclear fuel processing facilities, researched alternative nuclear power production methods with AECL and provided interest-free soft loans to the governments of Uzbekistan, Niger and other uranium-rich countries (*World Nuclear News*, June 10, 2010; November 4, 2008; Reuters, April 24, 2010).

Chinese Efforts in Central Asia

Chinese policy makers naturally prefer to buy their uranium from neighboring countries ruled by friendly governments. It is therefore unsurprising that China has become a major buyer of Central Asian uranium. For instance, CNNC and CGNPC currently hold stakes

in several Kazakhstan uranium mines. In November 2008, the Chinese and Kazakh prime ministers signed a nuclear cooperation agreement between two countries, following an earlier memorandum in 2007. The state-owned Kazatomprom has signed deals with CGNPC on joint development and exploration of uranium resources, fuel production, long-term trade and power plant construction. Its deals with CNNC include long-term nuclear projects, investment in uranium venture and Kazatomprom's investment opportunities in China's nuclear power sector (*World Nuclear News*, November 4, 2008).

On June 18, 2010, Chinese president Hu Jintao and Kazakhstan leader Nazarbayev signed an additional deal to increase uranium sales between Kazatomprom and CGNPC. Under its terms, China will import 24,000 tons of uranium from 2008 to 2012 (*Oil and Gas Journal*, June 18, 2010). The first results of the above agreements were the Semizbay-U joint venture in Irkol, Kazakhstan, launched in April 2009. Semizbay-U is capable of producing 750 tons of uranium annually. A later 2011 deal enables China to import an additional 55,000 tons of Kazakhstan's uranium over the next decade (Roman Muzalevsky, "Global Struggle for Kazakh Uranium Resources," *Eurasia Daily Monitor*, April 15).

Chinese companies also want to obtain uranium from other Central Asian countries. In June 2010, CGNPC signed a contract to import uranium from Uzbekistan's state-owned Navoi Mining & Metallurgy Combine, which has a state monopoly on producing, enriching and exporting uranium in Uzbekistan (Market Watch, March 9). In August 2009, China's CGNPC Uranium Resources Co. and Uzbekistan's Geology and Mineral Resources Committee established the Uz-China Uran LLC joint venture on a parity basis, with a charter capital of \$4.6 million, to prospect for uranium in the Navoi region of southwest Uzbekistan (Region.uz, September 9, 2009).

As of 2008, Uzbekistan was estimated to contain approximately 185,800 tons of uranium. Uranium production however is limited to three leaching operations in Uchkuduk, Zafarabad and Nurabad, under the control of the Navoi Mining and Metallurgy Combine. The Uzbekistan government wants to develop the country's uranium sands fields in cooperation with Chinese companies since they can provide the large

capital required (World Nuclear Association, "Uranium in Central Asia," February 2011; Joao Peixe, "Uzbekistan and China look at uranium producing project," Oilprice.com, August 25, 2011).

In 2008, the Chinese company Sinosteel and an Australian company Monaro Mining NL reached an agreement whereby Sinosteel would take charge of all Monaro's uranium mining operations in Kyrgyzstan. This arrangement allows Sinosteel to own up to 60 percent of two uranium mines. Moreover, Hebai Mining, a Chinese company, possesses 10.94 percent of Raisama Ltd, a company that takes part in uranium mining activities in Kyrgyzstan (World Nuclear Association, "Uranium in Central Asia," February 2011).

China's uranium quest in Central Asia has met some obstacles. The region's underdeveloped energy infrastructure has necessitated additional Chinese investment. For instance, China has helped build gas pipelines and hydroelectric power stations in Kazakhstan, where China accounts for 26 percent of total foreign investment (*Asia Times*, March 31). Furthermore, the Central Asian uranium market is very competitive. Russia, Japan and South Korea buy significant amounts of uranium there, while India and Iran want to raise their imports. Kazakhstan in particular has mastered the art of balancing customers, preventing leading buyer China from achieving a monopoly position.

Domestic opinion could hamper China uranium imports from Kazakhstan. Japan's nuclear accident has stirred up some anti-nuclear sentiment, already present due to Kazakhstan's poor environmental and safety record in the Soviet period. The Chinese have apparently sought to decrease this risk by partnering with the state-owned Kazatomprom. Russia however offers an attractive alternative given its promise to enrich Kazakh uranium, giving it added value, and offer to build nuclear reactors jointly (Muzalevsky, "Global Struggle for Kazakh Uranium Resources"). Beijing needs to exercise skillful diplomacy to maximize imports from a diverse range of sellers in the face of such strong foreign competition.

Imports from Africa

China imports uranium from several African countries and sought to expand its access. In 2008, CGNPC acquired

49 percent of a French AREVA-owned mining group that holds deposits throughout Africa including a 42,000 ton project in Namibia and 30,000 ton project in South Africa. The company has recently sought to increase its stake in Namibia by gaining access to the Husab uranium mine, the fifth-largest deposit in the world, with estimated reserves of 166,600 tons (Caixin, March 9).

Namibia also has the largest uranium mine in Africa, the Rossing mine, which produced approximately 3,449 tonnes in 2008. The French company Areva agreed to sell the CGNPC and Chinese sovereign wealth funds a 49 percent stake in its Areva Resources Southern Africa, which will “provide CGNPC with access to more than half” (the precise amount was undisclosed) of ARSA’s output, most of which will initially come from the Namibian Trekkopje mine (Roger Murray, “Uranium: Getting Ready for a Nuclear Surge,” *The Africa Report*, July 27, 2009). In Namibia, a UK-based company, Kalahari Mineral PLC, indirectly controls 43 percent of the Husab mine through a company called Extract Resources Ltd., which owns the mine. CNNC wanted to buy Kalahari’s share but eventually withdrew its offer (Miningweekly.com, May 10).

Niger possesses the Akouta and Arlette mines, which together supply around 6 percent of all the uranium mined in the world (World Nuclear Association, “Uranium Mining,” April 2011). Moreover, in December 2010, the CNNC began a probationary period of operating its first mine in Niger. SinoU began uranium extraction at a mine in Azelik, of which the Chinese control 37 percent (*World Nuclear News*, January 4). The mine should produce some 700 tons a year once in full production and Niger received a loan for \$99 million from the Export-Import bank of China to help support the mine (Reuters, April 1; *China Daily*, March 24).

CNNC has also negotiated with the Nigerian government to develop the Azelik deposit in the Agadez region, estimated to contain over 12,500 tons of uranium with a mining capacity of 700 tons per year.

Furthermore, China is trying to secure uranium from South Africa, the tenth largest supplier of uranium in the world in 2007 (ResourceInvestor.com, May 23). China has been begun seeking uranium in Tanzania, Zambia and Zimbabwe as well (*China Daily*, March 24). China holds a

joint-venture agreement to mine uranium in Zimbabwe, which has an estimated 455,000 tons of uranium (*The Times* [Zimbabwe], May 7).

China’s involvement in Africa’s uranium, like Beijing’s other ties with the continent, is not without controversy. China’s development of uranium resources in Africa is frequently accompanied by funds for infrastructure investment projects. However, unlike Western aid, few strings are attached to this money, providing autocrats access to easy money. Africans complain about poor working conditions and restricted labor rights at Chinese-owned projects. In Niger, ethnic strife among uranium exploration workers has alarmed Chinese managers (*Christian Science Monitor*, March 29, 2010). Chinese diplomats have sought a proactive approach toward resolving these problems. They have argued that economic cooperation with China benefits Africans by enabling the building of hospitals, schools and other infrastructural needs as well as mutual gains through trade. (Raymond Hu, “Chinese Investment in Africa: A Dangerous Game,” *American Foreign Policy*, March 16).

Other Foreign Uranium Sources

China’s uranium quest extends to other continents as well. Early in 2006, China signed two important agreements with Australia (CNN, April 3, 2006). The Nuclear Transfer Agreement permits China use Australian uranium in specified installations, while the Nuclear Cooperation Agreement allows the Chinese search Australia for uranium. Altogether, China imports around 500 tons of uranium every year from Australia (World Nuclear Association, “Australia’s Uranium,” February 2011; *World Nuclear News*, November 21, 2008). In addition, Chinese companies have been investing heavily in uranium mining operations in Australia. On February 7, 2007, China’s Sinosteel and Australia’s PepinNini Minerals signed a joint venture agreement to explore uranium deposits in Australia’s heartland (*World Nuclear News*, February 8, 2007). Yet, the Rio Tinto mining scandal has since cast a shadow over future business between the two countries (*Time*, August 3, 2010).

Elsewhere on the Eurasian landmass, in 2007, the China Nuclear Energy Industry Corporation agreed with Century City International to help discover and exploit uranium in eastern Mongolia (World Nuclear

Association, “Uranium in Mongolia,” March 2011). In 2009, China Nuclear International Uranium Corporation (CNIUC), a CNNC subsidiary, acquired a 69 percent share of a Mongolian mining company that is developing the Gurvanulag deposit in Saddle Hills, which has an estimated 14,000 tons of uranium. In 2008, China and Russia signed a \$1 billion deal on building an enrichment facility in China that would supply low-enriched uranium to China’s expanding civilian nuclear power sector (*USA Today*, May 23, 2008).

China has also sought uranium from the West. CNNC’s China Nuclear Energy Corporation signed a long-term contract on June 24, 2010 with Canada’s Cameco to import 10,000 tons of uranium over a 10-year period (CNNC Press Release, July 15, 2010). That November, Cameco signed an agreement with China Guangdong Nuclear Power Holding to import 13,000 tons of the mineral through 2025 (*Bloomberg*, November 24, 2010). Canada’s Cameco has also contracted to sell 29 million pounds of uranium concentrate through 2025 to CGNPC (*Wall Street Journal*, January 21; *Uranium Investing News*, June 28). Australia is another large supplier of uranium products to China’s two importing behemoths, selling processed fuel rather than impure ore. Furthermore, in November 2010, during Chinese President Hu Jintao’s visit to France, the French nuclear giant AREVA signed deals with CNNC and CGNPC to construct reactors and export uranium. CGNPC and AREVA signed a \$3.5 billion contract to export as much as 20,000 tons of uranium to China over a ten year period (AREVA Press Release, November 4, 2010).

Conclusion

Chinese companies have responded to the current depressed international uranium market—due to the March meltdown in Japan and the subsequent decision by Germany to phase out its large civilian nuclear power sector—by attempting to renegotiate outstanding bids and positions. In early May 2011, CGNPC reneged on its \$1.24 billion bid to acquire a controlling interest in Kalahari Minerals PLC, which is developing a nearly \$1.5 billion uranium mine in Namibia. The bid, placed only a few days before the earthquake on March 11 in Japan, was completely overvalued considering the subsequent fall in global uranium demand and prices. When regulators denied CGNPC’s revised bid, the company withdrew its

offer entirely. This decision was made only after over two months of negotiations, indicating China’s reluctance to abandon such a large uranium acquisition (*Wall Street Journal*, March 22).

Moving forward, China will need to contend with further volatility in international uranium markets. Although it has procured foreign supplies with relatively little controversy, China must manage possible diplomatic tensions in Central Asia and political instability in Africa. Future complications could arise in other foreign areas once global demand rebounds and uranium prices rise. The Chinese will face especially stiff competition for uranium from Russia, India and South Korea. Russia has contracted with some of the same countries as China in its many uranium deals, especially Kazakhstan and Mongolia. The Indians have sought to buy uranium from Kazakhstan, Namibia, Niger and Mongolia, and are vigorously searching for opportunities elsewhere (*MiningWeekly.com*, May 13).

Although Chinese companies continue to look for uranium resources around the world, they are wary to overbid for mines that lack proven valued resources. But the Chinese have shown they will often pay above market prices for those mines, companies and other assets that are genuinely rich in natural resources.

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