

China's nuclear weapons strategy and modernization program

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Abstract

Recently published documents, news reports, and other sources of open-source information indicate that China is accelerating its current nuclear force modernization programme. It is clear that it is driven largely in response to the growing United States (U.S.) mis-

sile defense program, which China perceives as a threat to its minimum credible deterrence. While China is not altering its nuclear doctrine, it believes that it needs to enhance the reliability, survivability, and effectiveness of its retaliatory capability in response to a first-strike. In addition to expanding the size of its nuclear arsenal, it is enhancing its delivery capabilities, for example, by increasing the number of ICBMs and making them more sophisticated. It is building more Multiple Independently Targetable Re-entry Vehicle (MIRV) warheads as well as a new class of ballistic missile submarines. China's ongoing nuclear modernization aims to increase the survivability, reliability, safety, and penetration capability of its small nuclear arsenal and thereby assures a limited, reliable, and effective counterattack capability that will deter a nuclear first-strike. China's nuclear modernization program will likely continue to be guided by its nuclear policy, which is characterized by a no-first-use pledge and a commitment to "minimum nuclear deterrence." Finally, while China supports the total elimination of nuclear weapons, it does not believe it is in China's interest to participate in discussions about nuclear disarmament until the U.S. and Russia reduce their arsenals to one thousand each, or lower.

China's self-defense nuclear strategy

Since its first nuclear explosion in 1964, China has maintained a minimum deterrent and a no-first use (NFU) pledge, both aimed at avoiding a costly nuclear arms race. China's 2019 White Paper on Defense states:

"China is always committed to a nuclear policy of no-first use of nuclear weapons at any time and under any circumstances, and not using or threatening to use nuclear weapons against non-nuclear-weapon states, or nuclear-weapon-free zones unconditionally. China advocates the ultimate complete prohibition and thorough destruction of nuclear weapons. China does not engage in any nuclear arms race with any other country and keeps its nuclear capabilities at the minimum level required for national security. China pursues a nuclear strategy of self-defense, the goal of which is to maintain national strategic security by deterring other countries from using or threatening to use nuclear weapons against China."¹

While some western experts and scholars are suspicious of China's NFU pledge, China's nuclear force posture

1 Information Office of the State Council of the People's Republic of China, "China's National Defense in the new Era," July 2019, http://eng.mod.gov.cn/publications/2019-07/24/content_4846452.htm.

has followed a meaningful no-first-use policy. Specifically, it has a smaller arsenal with a much lower alert status than what is required for a first-use option. The Second Artillery Corps, the military unit in control of China's strategic missile forces, conducts war planning and training under the assumption that China will absorb a first nuclear blow and use its nuclear forces only to retaliate. All these facts indicate that China's NFU pledge is true.² In fact, there is no evidence China will change its long-standing NFU nuclear doctrine. This policy has been consistently embraced by top Chinese leaders from Mao Zedong to the present. China's nuclear force posture is determined primarily by its strategy, not financial or technological constraints.³

For China, the minimum acceptable nuclear force is designed to survive a first nuclear strike and penetrate a missile defense system to reach its designated targets. In 1978, Deng Xiaoping provided the guidance for the future development of China's nuclear force. He emphasised that China's strategic weapons "should be updated (gengxin) and the guidelines [for their development] are few and effective (shao er

jing). Few means numbers and effectiveness should increase with each generation."⁴ Since the 1980s, China has been pursuing its nuclear force structure as a "lean and effective" nuclear deterrent. "Minimum" nuclear warheads to reach targets would be relatively constant. However, the total number of warheads required to support an effective nuclear force is changeable, depending on a number of factors, including estimates about the survivability and penetrating abilities of Chinese missiles. China's officials have never declared the specific number of weapons needed for its minimum nuclear force.

China's ongoing nuclear modernization aims to increase the survivability, reliability, safety, and penetrating ability of its small nuclear arsenal and thereby assure a limited, reliable, and effective counterattack capability that will deter a first nuclear strike. China's nuclear modernization is to be conducted under the guidance of China's nuclear policy. As Hu Side, the former president of Chinese Academy of Engineering Physics (the Chinese Los Alamos) emphasised, "China's nuclear modernization [is conducted] under the guideline of China's nuclear policy, maintaining the principle of counterattack in

self-defense and avoiding an arms race."⁵

Since 2015 China appears to have been quickly modernising its nuclear force, and significantly enhancing its nuclear deterrence through adding more and better intercontinental ballistic missiles (ICBMs) and warheads, which are multiple independently targetable reentry vehicles (MIRVs). In December 2015, in a major military reform of the People's Liberation Army (PLA), the PLA Second Artillery Force was renamed as the PLA Rocket Force (PLARF), thus upgrading its status from an independent branch to the level of full service. At the inauguration ceremony for the PLARF in December 2015 Chinese leader Xi Jinping emphasised the PLA Rocket Force as "China's core force for strategic deterrence, a strategic buttress for China's position as a major power, and an important cornerstone for defending national security." Xi also called on the Rocket Force to "enhance nuclear deterrence and counter-strike capacity, which is credible and reliable, having medium- and long-range precision strike ability, as well as strategic check-and-balance capacity to build a strong and modern Rocket Force."⁶

2 See more in Hui Zhang, "China's Perspective on a Nuclear-Free World," *The Washington Quarterly*, 32 (2010) 2: pp.139-155.

3 Hu Side, "The Road toward China's Nuclear Weapons," *Global Science* (Chinese version of *Scientific American*), No.12, 2007 (in Chinese).

4 Selection of Deng Xiaoping's discussions on army building in the new period, (Beijing: Bayi Publisher, 1993), p. 99.

5 Hu, "The Road toward China's Nuclear Weapons", op.cit.

6 See, e.g. "China Inaugurates PLA Rocket Force as Military Reform Deepens," *Xinhua*, January 1, 2016, http://news.xinhuanet.com/english/2016-01/01/c_134970418.htm.

Some western officials and scholars have often expressed growing concerns about Chinese nuclear build-up and, in particular, that Beijing has been pursuing nuclear parity with the United States (U.S) and Russia after the New START arms control agreement was signed in 2010.⁷ Yet in practice it appears that China's nuclear force and modernization activities are determined mainly by its minimum deterrence and NFU nuclear policy. Further, any expansion of the Chinese nuclear arsenal would still be constrained by its inventory of fissile materials, which at present would not support an arsenal of more than 1,000 warheads.⁸ By

7 Such voices were amplified when Georgetown University professor Phillip Karber released a study indicating the 3,000-mile-long network of underground tunnels – sometimes called China's "underground great wall" – could host as many as 3,000 nuclear weapons. Phillip A. Karber, Strategic Implications of China's Underground Great Wall, Georgetown University, September 2011, http://www.fas.org/nuke/guide/china/Karber_UndergroundFacilities-Full_2011_reduced.pdf.

8 This author estimates that China's current weapons-grade stockpile is about 14 ± 3 tons of HEU and 2.9 ± 0.6 tons of plutonium (Hui Zhang, China's Fissile Material Production and Stockpile, IPFM Research Report No. 17, 2018 .Princeton, NJ: Princeton University, <http://fissilematerials.org/library/rr17.pdf>). As an estimate, assuming each modern Chinese warhead contains about 4 kg of plutonium in its primary stage and about 20 kg of HRU in the secondary, a military inventory of about 2.9 tons of plutonium and 14 tons of weapons grade HEU would support perhaps around 730 thermonuclear warheads. In practice, it is likely that part of China's fissile-material stocks will be

comparison, the U.S and Russia each possess a total over 6,000 warheads.

Under the guidance of its self-defense nuclear strategy, China will continue to modernize its nuclear force in order to maintain a reliable second-strike retaliatory capability. China's nuclear modernization has been responsive to the advances of military capabilities of other countries, particularly the U.S. As Hu Side emphasised, "The sole purpose for Chinese maintaining a limited nuclear counterattack force is to deter a potential nuclear strike. However, the development of U.S missile defense and the long-range strike capability with high accuracy to target mobile missiles is in practice to decrease the effectiveness of Chinese nuclear deterrence. Thus, it surely leads to Chinese attention."⁹

The missile defense plans of the United States will be a major driver for China's nuclear weapon modernization, including an expansion of the nuclear arsenal with more and better ICBMs. However, China's nuclear modernization program will likely continue to be guided by its nuclear policy, which is characterized by a no-first-use pledge and a commitment to "minimum nuclear deterrence". The nuclear force will likely be kept at the minimum level Beijing

held in reserve for future needs.

9 Hu, "The Road toward China's Nuclear Weapons," op.cit.

feels is required to deter a nuclear attack.

Speeding up China's nuclear forces modernization

China recently demonstrated that its on-going nuclear force modernization programme is accelerating by adding more and better ICBMs, and a new class of ballistic missile submarines. As discussed in the following, in its recent military parades, China has shown a number of new missiles, including silo-based, liquid-fueled MIRVed DF-5B ICBMs, road-mobile solid-fueled DF-31AG ICBMs, road-mobile solid-fueled DF-41 ICBMs capable of carrying MIRVs, and DF-26 intermediate-range ballistic missile (IRBM).

There are various estimates of the size of China's nuclear arsenal. The Federation of American Scientists (FAS) estimated in 2019 that China has a total stockpile of approximately 290 nuclear warheads for delivery by a combination of about 180-190 land-based ballistic missiles, 48 sea-based ballistic missiles, and bombers.¹⁰ Based on Chinese publications and Western governmental and non-governmental estimates, this author estimates that in 2020 Chi-

10 Hans M. Kristensen and Matt Korda "Chinese nuclear forces, 2019," Bulletin of the Atomic Scientists, Volume 75, 2019, Issue 4.

na had a total inventory of approximately 360 ± 50 nuclear warheads, including approximately 280 ± 50 nuclear warheads for delivery by approximately 175 ± 24 land-based nuclear ballistic missiles. Approximately

grow further over the next decade as additional nuclear capable missiles become operational. In particular, the number of ICBMs has increased significantly since 2015, which is driven mainly by U.S missile defense pro-

the U.S. and Russia.

Land-based missiles

China’s nuclear modernization has focused on improving the survivability of its land-based strategic

Table 1. China’s Nuclear Force (2020)

Type	NATO Designation	Launchers Number	Year Deployed	Range (kilometers)	Warhead x yield (kilotons)	Warheads Number
Land-based ballistic missiles						
DF-4	CSS-3	3	1980	5,500+	1x3,300	6
DF-5A	CSS-4 Mod2	9	1990s	13,000	1x4,000-5,000	9
DF-5B	CSS-4 Mod3	9	2015	13,000	3-4 x200-300?	27-36
DF-21	CSS-5 Mods2/6?	18/?	2000 /2016?	2,150	1 x 200-300?	36-72
DF-26	?	20-30	2015	5000+?	1 x 200-300?	20-30
DF-31	CSS-10 Mod 1	4	2006	7,200	1x 200-300?	4
DF-31A	CSS-10 Mod 2	48-72	2007	1,1200	1x 200-300?	48-72
DF-31AG	?	20-30	2017	11,200	1x 200-300?	20-30
Df-41	CSS-X-20	20-24	2019?	12,000+	3x200-300?	60-72
<i>Subtotal:</i>		<i>175/(151-199)</i>			<i>281/(230-331)</i>	
Submarine-Launched ballistic missiles						
JL-2	CSS-NX-4	48	2014	7,000+	1x 200-300 ?	48
Bombers						
H-6K?	B-6	20?	1965/2009	3,100+	1x bomb	20
Total	243 /(219-267)			~ 349/(298-399)		

Note: (1) An estimate of more than 10 additional warheads includes those for retired JL-1, for a total inventory of approximately 360 ± 50 nuclear warheads.

132 ± 19 of them can reach the continental U.S. It also includes approximately 80 warheads for its submarine-launched ballistic missiles (SLBMs), bombers, and retired warheads (see table 1)¹¹. This stockpile is likely to

grams, as many Chinese believe. China’s arsenal may be somewhat larger than France’s, but smaller than

missiles by developing mobile missiles and increasing the ability to penetrate missile defenses by MIRVing its ICBMs. As shown in Table 1 this author estimates that as of 2020 China has approximately 175 ± 24 nuclear-capable land-based missiles that can deliver ap-

11 This table is based on parts of Hans M. Kristensen and Matt Korda work

(see, e.g. Hans M. Kristensen and Matt Korda “Chinese nuclear forces, 2019,” Bulletin of the Atomic Scientists , Volume 75, 2019, Issue 4.). The estimated numbers of launchers and warheads are based mainly on Chinese sources.

proximately 280 ± 50 nuclear warheads. In particular, approximately 132 ± 19 ICBMs with about 202 ± 28 warheads can reach the continental U.S.

China continues phasing out its old liquid-fueled missiles. It is estimated that China has approximately six DF-4 ICBMs as of 2020. The DF-4 is a two-stage, transportable, liquid-fueled ICBM. It is expected to be retired in a few years. China has about three brigades to operate approximately 18 liquid-fueled, silo-based DF-5s ICBMs—assuming half of the silos assigned for the DF-5A and MIRVed DF-5Bs. The DF-5B ICBM was first officially displayed at a September 2015 military parade in Beijing, and the official parade commentators affirmed the DF-5B is capable of carrying multiple warheads. Some Chinese accounts mentioned that each DF-5B ICBM could carry up to eight warheads.¹² It is estimated approximately 27-36 warheads could be delivered by 9 DF-5B ICBMs assuming there are 3-4 warheads for each missile. The DF-5As are expected to be replaced by the MIRVed DF-5B or DF-5C. On 21 January 2017, it was reported that China tested a new variant of the missile, the DF-5C, that is equipped with 10 MIRVs.¹³

One focus of China's modernization programme over the last two decades has been the development of solid-fueled, road-mobile ICBMs. China started to field the solid-fueled, road-mobile DF-31 ICBMs in 2006. The three-stage solid propellant ballistic missile has a range of about 7,200 km. One major mission of the DF31 was to replace the DF-4s. It is estimated that only about 8 DF-3 missiles had ever been deployed, and it is recently being phased out. Now it is estimated about four DF-31 ICBMs could be deployed and are expected to be retired in a few years. Since 2007 China has deployed a significant number of DF-31A ICBMs, an improved version of DF-31, with a range of over 11,200 km. It is estimated that China operates about 4 DF-31A brigades. This author estimates that China could have between 48 and 72 DF-31A ICBMs, depending on how many launchers each brigade has. It is assumed each of the DF31/31A ICBM has a single warhead.

During the PLA's 90th anniversary parade in 2017, DF-31AG ICBMs—an improved version of DF-31A—were first showcased. The new missile uses an improved transporter-erector-launcher to increase its mobility and survivability. Once again, 16 DF-31AG were displayed during the 2019 national day military parade.

Chinese official media stated that those 16 DF-31AG ICBMs were from two brigades,¹⁴ which means China has at least two brigades to operate the new missiles. This author estimates that China could have equipped the new brigades with about 20-30 DF-31AG ICBMs by 2020, and more could be deployed in the coming years.

The latest generation of the Dongfeng series of strategic missiles—the DF-41, a new MIRV-capable, road-mobile ICBM—was displayed during the China National Day military parade on 1 October 2019.¹⁵ The new DF-41 ICBM also uses the improved transporter-erector-launcher with greater mobility. It is estimated to have an operational range over 12,000 km which is able to cover all of the continental U.S. It has been reported that each DF-41 ICBM can carry 6 to 10 warheads.¹⁶ A Chinese military expert also emphasized on China Central Television (CCTV) that each DF-41 ICBM can carry 6 or 10 war-

12 See, e.g. "Scholars analyzing how many warheads DF-5B has," military news, September 10, 2015. <https://news.qq.com/a/20150910/019883.htm>.

13 Bill Gertz, "China Tests Missile with 10 Warheads," January 31, 2017, The Washington Free Beacon, [http://](http://freebeacon.com/national-security/china-tests-missile-10-warheads/)

14 "DF31 AG --China's precision strike nuclear missiles reviewed in military parade," Xinhua news, Oct.1,2019, http://www.xinhuanet.com/english/2019-10/01/c_138439146.htm.

15 "China unveils most advanced Dongfeng-41 intercontinental strategic nuclear missiles," Xinhua news, Oct.1,2019, http://www.xinhuanet.com/english/2019-10/01/c_138439120.htm.

16 Gertz, B. 2016. "China Flight Tests New Multiple-Warhead Missile," Washington Free Beacon. April 19. <http://freebeacon.com/national-security/china-flight-tests-multiple-warhead-missile/>.

heads.¹⁷ Chinese official media stated that the 16 DF-41 ICBMs displayed in the military parade were from two brigades, which means China has at least two brigades to operate the new missiles. This author estimates that China could have equipped the new brigades with about 20-24 DF-41 ICBMs that can deliver approximately 60-72 warheads, assuming there are three warheads for each missile.

The PLARF is also enhancing its regional nuclear deterrent. The DF-21A, a two-stage, solid-propellant, single-warhead medium-range ballistic missile (MRBM), had been the major system in this area. It is being replaced by new variants including the DF-26 IRBM. It is estimated that several DF21A brigades have been reduced to one or two brigades with about 36-72 missiles each.

The most significant development for the regional deterrence is the deployment of a significant number of DF-26 IRBMs since 2016.¹⁸ The DF-26 is a road-mobile, two-stage solid-fueled IRBM with a range of over 4,000 km. The DF-26 IRBM was first publicly displayed at the country's military parade on 3 September 2015 in cele-

bration of the 70th anniversary of Japan's surrender at the end of World War II. Sixteen DF-26 IRBMs were shown up again during the China National Day military parade on 1 October 2019. Official commentary during the parade described the missile as possessing both nuclear and conventional capabilities as well as conventional strikes against naval targets. The official media also emphasised those 16 DF-26 missiles were from two brigades,¹⁹ which means China has at least two brigades to operate the new missiles. More missiles can be expected to be fielded and the U.S. Pentagon stated in 2019 that 80 DF-26s have been deployed.²⁰ While some reports mention the DF26 is MIRV-capable, there is no evidence to confirm this so far. It is believed the DF-26 has three versions including nuclear, conventional, and anti-ship. If about one third of those deployed DF-26 are assigned for nuclear mission, about 20-30 DF-26 could be deployed by 2020, and more could be delivered to fully equip those new brigades.

19 "Dongfeng-26 conventional and nuclear missiles reviewed in National Day parade, Xinhua news, Oct.1, 2019, http://www.xinhuanet.com/english/2019-10/01/c_138439090.htm.

20 U.S. Defense Department, "Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2019." Office of the Secretary of defense. May 3.2019, https://media.defense.gov/2019/May/02/2002127082/-1/-1/1/2019_CHINA_MILITARY_POWER_REPORT.pdf.

Submarine-launched ballistic missiles

The People's Liberation Army Navy (PLAN) has recently sped up modernising its sea-based strategic force. China's 2011 Defense White Paper states: "The PLA Navy endeavours to accelerate the modernization of its integrated combat forces, enhances its capabilities in strategic deterrence and counterattack, and develops its capabilities in conducting operations in distant waters and in countering non-traditional security threats."²¹

In 2014, the first of the second-generation ballistic missile submarines (SSBN), the Type 094 Jin-class entered service, replacing its sole aging Xia-class SSBN (Type-092) commissioned in early 1980. The 2019 U.S. Defense Department (DOD) report states China has constructed six Type 094 Jin-class SSBNs, and four are currently operational. The DoD report emphasises that "China's four operational JIN-class SSBNs represent China's first credible, sea-based nuclear deterrent."²²

Each Jin-class SSBN can carry 12 JL-2 submarine-launched ballistic missiles (SLBMs) with a much

21 "China's National Defense in 2011," Information Office of the State Council of the People's Republic of China, 2011.

22 U.S. Defense Department, "Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2019," op.cit.

17 "Dongfeng 41 in service next year "triggered a strong earthquake, the media speculated its performance limits. News, Global Times, November 20, 2017, <http://mil.huangqi.com/observation/2017-11/11385462.html>.

18 See, Kristensen and Korda "Chinese nuclear forces, 2019", op.cit.

longer range of over 7000 km than that of JL-1 SLBMs assigned for the Jin-class SSBN. Twelve JL-2 SLBMs were displayed during the China National Day military parade on 1 October 2019. It is estimated China has 48 warheads for the SLBMs assuming each missile has a single warhead.²³

The 2019 DOD report states "China's next-generation Type 096 SSBN reportedly will be armed with the follow-on JL3 SLBM, which will likely begin construction in the early-2020s." It is reported that China conducted four flight tests of JL-3 missiles between 2018 and 2019.²⁴ The JL-3 SLBM could be MIRVed with about 3-6 warheads. The JL-3 missile is reported to have a great range to cover U.S. territory, while operating from Chinese coastal waters. The Type 096 SSBN is expected to be much quieter and more difficult to track. Given China has significantly enhanced its land-based nuclear force, it is expected that China will speed up the modernization of its sea-based strategic force to secure a second-strike force in the coming years.

Bombers

23 See, Kristensen and Korda "Chinese nuclear forces, 2019", op.cit.

24 Bill Gertz, "China's test of sub-launched missile a threat to peace, retired captain warns," The Washington Times - Tuesday, December 24, 2019. <https://www.washingtontimes.com/news/2019/dec/24/china-tests-submarine-launched-jl-3-missile-capabl/>.

The bombers are the weakest leg in China's nuclear triad. The PLA Air Force (PLAAF) has been pursuing enhancements to its bomber fleet by upgrading its H-6 bomber series and developing next generation bombers. It is estimated that China could have a small inventory of about 20 gravity bombs.²⁵ China's small arsenal of strategic bombers mainly has a symbolic meaning and a minor "deterrent" effect.

The H-6K, a much more modern version of Chinese H-6 bomb series, was first seen in a military parade on 3 September 2015 celebrating the 70th anniversary of Japan's surrender at the end of World War II. According to the 2019 DOD report: "since at least 2016, Chinese media have been referring to the H-6K as a dual nuclear-conventional bomber." The most up-to-date version, the H-6N bomber was showcased during the China National Day military parade on 1 October 2019, It has a much longer combat range.²⁶ The PLA air force is currently developing the next generation bomber, the H-20, a new nuclear-capable strategic stealth bomber with much longer range. It is expected to enter service as early as 2025. Meanwhile, since

25 See, Kristensen and Korda "Chinese nuclear forces, 2019", op.cit.

26 "China unveils new long-range strategic bombers in National Day parade," Xinhua News, Oct.1,2019, http://www.xinhuanet.com/english/2019-10/01/c_138439152.htm.

2016 China has been testing a new air-launched ballistic missile (ALBM) designated by the U.S. intelligence community as CH-AS-X-13.²⁷ The 2019 DOD report states that once deployed and integrated, this nuclear ALBM would "for the first time, provide China with a viable nuclear 'triad' of delivery systems dispersed across land, sea, and air forces".²⁸

Tactical nuclear weapons

There have been rumors for many years that China has tactical nuclear weapons. However, the deployment of tactical nuclear weapons is not consistent with China's no-first-use policy. From the beginning of China's nuclear weapons programme, Mao Zedong and following generations of leaders have viewed nuclear weapons as strategic tools to deter the use of nuclear weapons against China, not as war-fighting tools. While China mastered the design of a neutron bomb in the 1980s, China did not manufacture and deploy it because its defensive nuclear strategy did not re-

27 Tyler Rogoway, "Is This China's DF-21D Air Launched Anti-Ship Ballistic Missile Toting Bomber." The Drive. August 15,2017. <http://www.thedrive.com/the-war-zone/13511/is-this-chinas-df-21d-air-launched-anti-ship-ballistic-missile-toting-bomber>.

28 U.S. Defense Department. "Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2019." Op. cit.p.67.

quire it.²⁹ In practice, there is no evidence to show China deploys any kind of tactical nuclear weapons.

China and FMCT

Chinese officials have stated: "China supports negotiating a non-discriminatory, multilateral and internationally effectively verifiable fissile materials cut-off treaty (FMCT) under the framework of the Conference on Disarmament (CD) on the basis of the Shannon Mandate as early as possible. China opposes any attempt, even in disguised form, to start the negotiation of the FMCT out of the framework of the CD."³⁰

Although Beijing supports the FMCT negotiations, its concerns about U.S. missile defense and outer space weapon programmes could affect its position. Indeed, due to its concerns in this regard, China strongly indicated its preference to simultaneously address both the FMCT and a treaty on the prevention of an arms race in outer space (PAROS) during the early 2000s. In recent years, while China's

position has not demanded simultaneous negotiations, it continues to promote a draft treaty on preventing space weaponisation along with Russia. If Beijing remains concerned about U.S. missile defenses and space weapons programs, it might decide to build more ICBMs for maintaining its deterrence, which might require more plutonium and HEU to fuel those weapons. A calculation of this measure would undermine possible Chinese support for FMCT negotiations.

China and nuclear disarmament

China's official policy has long called for "the complete prohibition and thorough destruction of nuclear weapons" which was reiterated in its 2010 White Paper on Defense.³¹ Furthermore, the White Paper stated that to "attain the ultimate goal of complete and thorough nuclear disarmament, the international community should develop, at an appropriate time, a viable, long-term plan with different phases, including the conclusion of a convention on the complete prohibition of nuclear weapons."

Beijing maintains that "countries possessing the largest nuclear arsenals bear special and primary responsibility for nuclear disarmament" and thus they

"should further drastically reduce their nuclear arsenals in a verifiable, irreversible, and legally-binding manner, so as to create the necessary conditions for the complete elimination of nuclear weapons."³² However, Beijing does not state when China itself would participate in the process of nuclear reduction. Many Chinese analysts believe Beijing may wish to wait until the United States and Russia reduce their stockpiles to about 1,000 total warheads each. China may then need to reveal the size of its nuclear force as a way to create the necessary confidence for the United States and Russia to continue their reductions.

Beijing maintains that "nuclear disarmament must abide by the principles of maintaining the global strategic balance and stability; and undiminished security for all."³³ It emphasizes that the deployment of the global missile defense system undermines both the strategic stability and the nuclear disarmament efforts. China believes that "effectively downplaying the role of nuclear weapons in national security policy will provide an important precondition and essential step to com-

29 Sun Xiangli, "Strategic Choice in the Nuclear Age: on China's nuclear strategy". The center of strategy study of Chinese Academy of Engineering Physics, 2013 (in Chinese).

30 Statement by the Chinese Ambassador FU Cong at the Thematic Debate on Nuclear Weapons at the First Committee of the 71th Session of the UNGA, 2016. <http://www.china-un.org/eng/tpxw/t1407351.htm>.

31 "China's National Defense in 2011," op.cit.

32 China 2008 National Defense document, http://www.gov.cn/english/official/2009-01/20/content_1210227_16.htm.

33 Statement by the Chinese Ambassador FU Cong at the Thematic Debate on Nuclear Weapons at the First Committee of the 71th Session of the UNGA, op.cit.

plete prohibition and total elimination nuclear weapons” as well as that a “No-First-Use commitment by nuclear weapon states is the most realistic step in this direction.”³⁴

Conclusion

Under the guidance of its self-defense nuclear strategy, China will continue its nuclear modernization to assure a reliable retaliation capability under any circumstances. U.S. missile defense plans are a major driver for China’s nuclear weapons modernization, which includes an expansion of its nuclear arsenal with more and better ICBMs. China will surely take necessary measures to maintain the strategic balance as U.S seeks to gain strategic nuclear primacy over China. The nation has also the technological capacity and economic resources to do so. However, to avoid a costly arms race between the world’s two largest economies and to constrain China’s expansion of nuclear forces significantly, the U.S should abandon its pursuit of absolute security and accept mutual vulnerability with China. If the

U.S. pledges to limit its missile defense plans so that they do not weaken China’s nuclear deterrence, China should reciprocate by constraining its nuclear expansion,

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³⁴ Statement by the Chinese Ambassador FU Cong at the Thematic Debate on Nuclear Weapons at the First Committee of the 71th Session of the UNGA, op.cit.

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