

China

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Since its first nuclear explosion in 1964, China has maintained what it calls a “minimum deterrent” and a no-first use (NFU) pledge, both of which it says are aimed at avoiding a costly nuclear arms race. As its 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 is in line with an NFU policy. Specifically, it has a smaller arsenal with a lower alert status than what is generally considered to be required for a first-use option. The Second Artillery Corps, which is 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.² There is currently no evidence China will change its long-standing NFU nuclear doctrine.³ China’s nuclear force posture is determined primarily by its strategy, not financial or technological constraints.⁴

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 guideline [for their development] is few but effective (shao er jing). Few means numbers and effectiveness should increase with each generation.”⁵ Since the 1980s, the Chinese government says it has been pursuing its nuclear force structure as a “lean and effective” nuclear deterrent.

For China, the “minimum acceptable” nuclear force is one that will survive a first nuclear strike and overcome a missile defense system to reach its designated targets. The number of the “minimum” nuclear warheads to reach a target 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 of Chinese missiles and their ability to permeate missile defence systems. China’s officials have never declared the specific number of weapons needed for its “minimum” nuclear force.

China’s ongoing nuclear weapons modernisation aims to increase the survivability, reliability, safety, and permeating ability of its small nuclear arsenal and thereby assure a limited, reliable, and effective counterattack capability in order to “deter” a first nuclear strike. Hu Side, the former president of Chinese Academy of Engineering Physics (the Chinese Los Alamos) emphasised, “China’s nuclear modernisation [is conducted] under the guideline of China’s nuclear policy, maintaining the principle of counterattack in self-defense and avoiding [an] arms race.”⁶

Since 2015 China has shown it is quickly modernising its nuclear force through adding more and “better” intercontinental ballistic missiles (ICBMs) and 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, medium- and long-range precision strike ability, as well as strategic check-and-balance capacity to build a strong and modern Rocket Force.”⁷

Some Western officials and scholars have often expressed growing concerns about Chinese nuclear buildup and, in particular, that Beijing has been pursuing nuclear parity with the United States (US) and Russia after the New START arms control agreement was signed in 2010.⁸ But China maintains that its nuclear force and modernisation 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 material, which at



Rusted out radiation warning sign
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present would not support an arsenal of more than 1,000 warheads.⁹ By comparison, the US and Russia each possess a total over 6,000 warheads.

Under the guidance of its self-defence nuclear strategy, China will continue to modernise its nuclear force in order to maintain a reliable second-strike retaliatory capability. China's nuclear weapon modernisation has been responsive to the advances of military capabilities of other countries, particularly the US. As Hu Side emphasised, "The sole purpose for China to maintain a limited nuclear counterattack force is to deter a potential nuclear strike. However, the development of US missile defense and the long-rang 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."¹⁰

Status of China's nuclear forces

There are various estimates of the size of China's nuclear arsenal. The Federation of American Scientists (FAS) estimated in 2021 that China has a total stockpile of approximately 350 nuclear warheads for delivery by approximately 280 operational land-based ballistic missiles, 72 sea-based ballistic missiles, and 20 nuclear gravity bombs.¹¹ Based on Chinese publications and Western governmental and non-governmental estimates, this author estimates that in 2021 China has a total inventory of approximately 391 ± 56 nuclear warheads,

including approximately 299 ± 56 nuclear warheads for delivery by approximately 193 ± 26 land-based nuclear ballistic missiles (of which approximately 141 ± 12 can reach the continental United States), approximately 72 warheads for its submarine-launched ballistic missiles (SLBMs) and approximately 20 nuclear gravity bombs (see table 1).¹² This stockpile is likely to grow further over the next decade as additional nuclear capable missiles become operational. In particular, the number of China's ICBMs have increased significantly since 2015, driven mainly by expansion in US missile defence programmes as many Chinese believe. China's arsenal is significantly expanding, but is smaller than that of the US and Russia.

Recently, China is reported to be building about 300 new ICBM silos in at least three sites.¹³ However, Beijing has not publicly acknowledged the construction of the silo fields. Some Chinese media have said those silos are wind farms. Also China reportedly tested an orbital bombardment system with a hypersonic glider vehicle.¹⁴ The 2021 US Defense Department (DOD) report emphasises that, "The accelerating pace of the PRC's nuclear expansion may enable the PRC to have up to 700 deliverable nuclear warheads by 2027. The PRC likely intends to have at least 1,000 warheads by 2030, exceeding the pace and size the DoD projected in 2020."¹⁵ If all these above come true, it would show China pursues to expand its arsenal at unprecedented pace. But even if China has 1,000 warheads by 2030, it would still be roughly about one-sixth of the US stockpile of a total over 6,000 warheads.

Table 1: China's nuclear force, 2021

TYPE WARHEADS	NATO DESIGNATION	LAUNCHER NUMBERS	YEAR DEPLOYED	RANGE (KILOMETERS)	WARHEAD X YIELD (KILOMETERS)	WARHEAD NUMBERS
Land-based ballistic missiles						
DF-4	CSS-3	3	1980	5,500	1 x 3,300	3
DF-5A	CSS-4 Mod2	9	1990s	13,000	1 x 4,000-5,000	9
DF-5B	CSS-4 Mod3	9	2015	13,000	5 x 200-300?	45
DF-21	CSS-5 Mods2/6?	18-36	2000/2016?	2,100+	1 x 200-300?	18-36
DF-26	?	20-30	2016	4000	1 x 200-300?	20-30
DF-31	CSS-10 Mod 1	4	2006	7,200	1 x 200-300?	4
DF-31A	CSS-10 Mod 2	48-72	2007	11,200	1 x 200-300?	48-72
DF-31AG	CSS-10 Mod 2	36	2017	11,200	1 x 200-300?	36
DF-41	CSS-X-20	20	2020	12,000	(3-6) x 200-300?	60-120
Subtotal:193/(167-219)					299/(243-355)	
Submarine-launched ballistic missiles						
JL-2	CSS-NX-4	72	2014	7,000+	1 x 200-300?	72
Bombers						
H-6K?	B-6	20	1965/2009	3,100+	1 x bomb	20
Total:285/(259-311)					~391/(335-447)	

Land-based missiles

China's nuclear weapons modernisation has focused on improving the survivability of its land-based strategic missiles by developing mobile missiles and increasing the ability to overcome missile defences by MIRVing its ICBMs. As shown in Table 1, this author estimates that as of 2021 China has approximately 193±26 nuclear-capable land-based missiles that can deliver approximately 299±56 nuclear warheads. In particular, approximately 141±12 ICBMs with about 247±42 warheads can reach the continental US.

China continues phasing out its old liquid-fueled missiles. It is estimated that China has approximately three DF-4 ICBMs as of 2021. The DF-4 is a two-stage, transportable, liquid-fueled ICBM. It is expected to be retired soon. China has around three brigades to operate approximately 18 liquid-fueled, silo-based DF-5s ICBMs—this is assuming that 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 each DF-5B ICBM could carry up to eight warheads.¹⁶ The 2020 US DOD report mentioned that DF-5B is capable of carrying up to five MIRVs.¹⁷ It is estimated that approximately 45 warheads could be delivered by nine DF-5B ICBMs, assuming there are five 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.¹⁸

One focus of China's nuclear weapon modernisation programme over 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 7,200km. One major mission of the DF31 was to replace the DF-4s. It is estimated that only about eight DF-31 missiles had ever been deployed, and are now being phased out. It is estimated that about four DF-31 ICBMs could be now 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

11,200km. It is estimated that China operates about four DF-31A brigades. This author estimates China could have about 48-72 DF-31A ICBMs, dependent 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—which are an improved version of the 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 those 16 DF-31AG ICBMs were from two brigades.¹⁹ It is assumed that China has at least three brigades to operate the new missiles. This author estimate China could have equipped the new brigades with about 36 DF-31AG ICBMs by 2021, and more could be deployed in coming years.

The latest generation of the Dongfeng series strategic missiles—the DF-41, a new MIRV-capable, road-mobile ICBM—was displayed during the China National Day military parade on 1 October 2019.²⁰ 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 US. It has been reported each DF-41 ICBM can carry 6 to 10 warheads.²¹ A Chinese military expert also emphasised on China Central Television (CCTV) that each DF-41 ICBM can carry six or 10 warheads.²² Chinese official media stated 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. The author estimates that China could have equipped the new brigades with about 20 DF-41 ICBMs that can deliver approximately 60-120 warheads, assuming there are three-six 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 could be replaced by new variants including the DF-26 IRBMs. The author assumes that DF21A missiles have been reduced to about 18-36 missiles.

The most significant development for the regional deterrence is the deployment of a significant number of DF-26 IRBMs since 2016.²³ The DF-26 is a road-mobile, two-stage, solid-fueled IRBM with a range of over 4,000km. The DF-26 IRBM was first publicly displayed at the country's military parade on 3 September 2015 in celebration of the 70th anniversary of Japan's surrender at the end of World War II. Sixteen DF-26 IRBMs were also shown 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.²⁴ It is estimated that four or five DF26 brigades have become operational, and several more are in progress.²⁵ The US Pentagon stated DF26 force has grown to 200 launchers with more than 200 missiles in 2020.²⁶ While some reports state that 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. The author assumes a small portion of the deployed DF-26s (approximately 20-30 DF-26) are assigned for nuclear missions, and could be deployed by 2021, and more could be delivered to fully equip those new brigades.

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 that “The PLAN endeavours to accelerate the modernisation of its integrated combat forces, enhance its capabilities in strategic deterrence and counterattack, and develops its capabilities in conducting operations in distant waters and in countering non-traditional security threats.”²⁷

In 2014, the first of the second-generation ballistic missile submarines (SSBNs), the Type 094 Jin-class entered service, replacing its ageing Xia-class SSBN (Type-092) commissioned in early 1980. A 2019 US DOD report states China has constructed six Type 094 Jin-class SSBNs, and that four are operational. The DoD report emphasises that “China's four operational JIN-class SSBNs represent China's first credible, sea-based nuclear deterrent.”²⁸ A 2021 US DOD report noted that all six Type 094 Jin-class SSBNs are operational.²⁹

Each Jin-class SSBN can carry 12 JL-2 submarine-launched ballistic missile (SLBMs) with a much longer range of over 7,000km than that of JL-1 SLBMs assigned for the Jin-class SSBN. Twelve JL-2 SLBMs were displayed during China's National Day military parade on 1 October 2019. It is estimated China has 72 warheads for the SLBMs assuming each missile has a single warhead.³⁰

The 2021 DOD report states, “The PRC's next-generation Type 096 SSBN, which likely began construction in the early 2020s, will reportedly carry a new type of SLBM. The PLAN is expected to operate the Type 094 and Type 096 SSBNs concurrently and could have up to eight SSBNs by 2030.” It is reported that China conducted four flight tests of JL-3 missiles between 2018 and

2019.³¹ 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 US territory, while operating from Chinese coastal waters. The Type 096 SSBN is expected to be much quieter and more difficult to track. Given that China has significantly enhanced its land-based nuclear force, it is expected that China will speed up the modernisation of its sea-based strategic force to secure a second-strike force in the coming years.

Bombers

China’s air-based nuclear force is the weakest leg of its deterrent triad. The PLA Air Force (PLAAF) has been pursuing enhancements to its strategic deterrence by upgrading its H-6 bomber series and developing next generation bombers. It is estimated China could have a small inventory of about 20 gravity bombs.³² China’s small arsenal of strategic bombers mainly has symbolic meaning and a minor “deterrent” effect.

The H-6K, a more modern version of the 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. The 2019 DOD report emphasises that “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.³³ 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 2016 China has been testing a new air-launched ballistic missile (ALBM) designated by the US intelligence community as CH-AS-X-13.³⁴ The 2019 US 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”.³⁵

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 require it.³⁶ In practice, there is no evidence to show China deploys any kind of tactical nuclear weapons.

Fissile materials

It is believed that China stopped production of plutonium and highly enriched uranium (HEU) in 1987. All its previous military production facilities have been closed, converted, or are being decommissioned.³⁷

China has produced HEU for weapons in two complexes: the Lanzhou gaseous diffusion plant (GDP) (Plant 504) and the Heping GDP (Plant 814). The Lanzhou GDP began operations in 1964 and ended HEU production in 1979. It has since shifted to making low-enriched uranium (LEU) for civilian power reactors and possibly for naval reactors. The plant was shut down on 31 December 2000 and demolished in 2017. The Lanzhou GDP produced an estimated 1.2 million separative work units (SWU).

The Heping GDP was a “Third Line” facility that began operating in 1970 and stopped production of HEU in 1987. Since then, it is believed to have produced enriched uranium products for non-weapon military or dual use purposes. Heping GDP is likely closed by 2019. It is estimated that the Heping GDP produced 2.2 million SWU.

Together, the Lanzhou and Heping gaseous diffusion plants therefore produced roughly 3.4 million SWU. Taking into account HEU and separative work consumed by research and naval reactors, tritium production reactors, used in nuclear tests, and lost in waste, the total amount of weapon-grade HEU in China’s stockpile is estimated to be 14±3 tons.

China produced plutonium for weapons at two nuclear complexes, Jiuquan (Plant 404) and Guangyuan (Plant 821). Each has a single natural uranium-fueled, graphite-moderated, water-cooled production reactor with an original design power of 600 megawatts thermal. China also used its plutonium production reactors to produce tritium.

The Jiuquan reactor began operation in 1966 and stopped plutonium production in 1986. Decommissioning began after 1990. Based on new information, the Jiuquan reactor could have produced a total of about 2 tons of weapon-grade plutonium.

The second is the Guangyuan plutonium production complex, located at Guangyuan in Sichuan province (Plant 821). This was also a “Third Line” plant backing up the Jiuquan complex and also included a plutonium reactor

and reprocessing facility. The reactor began operation in 1973 and stopped plutonium production in 1984. Decommissioning work began after 1990. The Guangyuan reactor could have produced a total of 1.4 tons of weapon-grade plutonium.

Together therefore, the Jiuquan and Guangyuan reactors could have produced a total of about 3.4 tons of weapon-grade plutonium. After considering China used its plutonium production reactors to produce tritium as well and allowing for uncertainties, the Jiuquan and Guangyuan reactors could have produced a total of about 3.2 ± 0.6 tons of weapon-grade plutonium.

Taking into account the amount of plutonium consumed in nuclear tests and lost in reprocessing and fabrication, China's current inventory of plutonium for weapons is estimated to be about 2.9 ± 0.6 tons.

Finally, it should be noted that China's current stocks of plutonium and highly enriched uranium (HEU) would be difficult to support an arsenal of warheads expanding over two times. However, if China desires to produce additional materials for weapons, it can do so by its civilian sector including centrifuge enrichment facilities and plutonium recycling programmes.³⁸

Economics

It is difficult to estimate the cost of China's nuclear weapon force. Chinese nuclear weapons experts believe China invests at a very low level for its nuclear weapon programmes.³⁹ China's officially announced military budget of 1.35 trillion yuan (US \$209 billion) for 2021 is an increase of 6.8 per cent over the 2020 budget of 1.27 trillion yuan.⁴⁰ This accounted for less than two per cent of its gross domestic product (GDP).

Beijing insists that it coordinates military modernisation with national economic development. As stated in its 2019 White Paper on defence, China is pursuing, "the coordinated development of national defense and the economy. Following the principle of building the armed forces through diligence and thrift, China takes into consideration the development of the economy and the demands of national defense, decides on the appropriate scale and composition of defense expenditure, and manages and applies these funds in accordance with law."⁴¹

However, some foreign analysts suspect that official Chinese data misrepresents the real Chinese military spending. For instance, the Stockholm International Peace Research Institute (SIPRI) estimated that total Chinese military spending in 2018 was about US \$250 billion, about 1.5 times that of China's official figure in 2018.⁴²

It is even more difficult to estimate the spending on nuclear forces without knowing the specific portion of the overall military budget dedicated to nuclear weapons. Assuming that China consistently maintains five per cent of its overall military expenditure for its nuclear weapon programme,⁴³ China would thus have spent between US \$10.5 billion and US \$15.7 billion on its nuclear programme in 2021.

International law and doctrine

China signed the Comprehensive Test Ban Treaty (CTBT) in 1996 but has not yet ratified it, partly because its ratification by the United States was rejected by the US Senate in 1999, which disincentivised China to proceed with its own ratification. Some Chinese nuclear experts argue that the US should take a lead to ratify the Treaty. They further assert that if the US does not ratify the CTBT, it may send a signal to Chinese officials and experts that despite having conducted over 1,000 nuclear tests, the US still lacks confidence on having a safe and reliable arsenal in which case China, with only around 40 tests, may feel that more testing is required. This would make CTBT ratification less likely. Most likely, China would ratify the CTBT after the US does so.

In practice, the CTBT will constrain China's nuclear modernisation more than other nuclear-armed states parties to the nuclear Non-Proliferation Treaty (NPT). It conducted only 45 tests before its testing moratorium commitment in 1996. This leaves China with a very limited number of tested warhead designs certified for deployment. The lack of test data would limit China to further develop new and smaller warheads.

China officials have stated that, "China supports the objectives and purposes of the Comprehensive Nuclear-Test-Ban Treaty (CTBT). Committed to promoting the early entry-into-force of the Treaty, China has honoured the commitment of moratorium on nuclear tests and made steady progress regarding domestic preparation for the implementation of the Treaty."⁴⁴

Chinese officials have stated that, "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."⁴⁵

Although Beijing supports the FMCT negotiations, its concerns about US missile defence and US development of outer space weapons could affect its position. Indeed,

due to its concerns in this regard, China had 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 US missile defences and space weapon programmes, it might decide to build more ICBMs for maintaining its nuclear 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'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.⁴⁶ 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."

However, China did not participate in the negotiation of the Treaty on the Prohibition of Nuclear Weapons (TPNW) and has said it will not sign or ratify it. In a 2018 joint statement with the other NPT nuclear-armed states parties, China said it is opposed to the TPNW because it "fails to address the key issues that must be overcome to achieve lasting global nuclear disarmament" and "contradicts and risks undermining the NPT."⁴⁷

Recently, some US officials have demanded that China agree to join the US and Russia in a negotiation aimed at nuclear arms reduction. Beijing has rejected such a request.⁴⁸

Beijing has long maintained 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."⁴⁹ 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."⁵⁰ It emphasises the deployment of the global missile defence system undermines both the strategic stability and 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 complete 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."⁵¹

Given the asymmetric nature of the arsenals of Russia and the US versus that of China, both in quantity and quality, Beijing believes the transparency of its own nuclear strategy and nuclear doctrine is more important than that of its force posture. Further, China contends that the opacity of its force posture can serve to enhance the deterrence effect of its small nuclear force, which is helpful for keeping strategic stability between the weaker player and the superpowers.

However, certain nuclear transparency measures, including stating nuclear strategic intentions and nuclear capabilities are necessary to maintain nuclear strategic stability among nuclear-armed states. As a responsible stakeholder and in order to defuse "China threat theory," China should consider releasing more information about its nuclear weapon programme.

Public discourse

Beijing has made its nuclear policies clear by issuing defence white papers since 1998, but China has kept information about its stocks of fissile materials and nuclear weapons secret. The Chinese public gets information about its nuclear force posture mainly through Western publications. While some scholars and security analysts in China frequently challenge the government's official nuclear policies, in particular its unconditional no-first-use pledge, there are few civil society groups that engage in critical analysis of China's nuclear weapons policies and programmes. The voices against China's nuclear weapon programme have been very weak within China. However, concerns about the safety of nuclear facilities, in particular in the wake of Japan's Fukushima nuclear energy disaster in March 2011, are increasing along with the emergence of antinuclear movement in some local communities within China.⁵²

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