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Chinese Perceptions on Nuclear Weapons, Arms Control and Nonproliferation

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Chairman Poe, Ranking Member Keating, distinguished members of the committee, thank you for the opportunity to testify on China's nuclear posture, a complex and evolving topic that has significant implications for the security of the United States, its allies, and global nonproliferation efforts. My testimony will address China's nuclear doctrine and the current state of its nuclear arsenal, its views on arms control, and its record on nonproliferation. I will conclude with several policy recommendations based on my analysis of these issues.

CHINA'S NUCLEAR DOCTRINE AND NUCLEAR ARSENAL

China's Nuclear Doctrine

China has historically sustained a relatively small nuclear arsenal that is focused on deterring a nuclear attack by maintaining a reliable second-strike capability—i.e. the ability to deliver a retaliatory nuclear strike in response to an adversary's initial nuclear attack. Such a strategy requires robust surveillance and radar capabilities to facilitate early detection, the survivability of nuclear forces from an incoming attack, and counter-strike capabilities that can penetrate an adversary's missile defense system and inflict significant damage.[1] According to China's latest defense white paper published in 2015, the Chinese government is

[1] Nan Li, "China's Evolving Nuclear Strategy: Will China Drop 'No First Use?'" *China Brief* 18, no. 1 (2018), https://jamestown.org/program/chinas-evolving-nuclear-strategy-will-china-drop-no-first-use/.

committed to pursuing a defensive nuclear strategy and intends to keep its nuclear capabilities at a "minimum level" that is solely focused on deterring others from threatening China with nuclear weapons.[2]

Since China conducted its first nuclear test in 1964, it has adopted a 'no first use' policy which commits it to refrain from attacking any entity first with nuclear weapons, and to never use or threaten the use of nuclear weapons against a non-nuclear-weapons state. China's latest defense white paper released in 2015 reaffirms this policy. [3]

Some have raised the question of whether China will remain committed to its 'no first use' policy, pointing to debates among Chinese strategists on the utility of upholding such a policy. For instance, some Chinese strategists have called on Beijing to qualify its 'no first use' policy by exempting certain types of non-nuclear attacks that cause extreme destruction or situations in which China's conventional forces are unable to defend against a large-scale foreign invasion. Others have called for abandoning the policy all together to deter states from challenging China's territorial claims. These arguments have been countered by Chinese strategists who contend abandoning the 'no first use' policy would actually increase China's vulnerability and damage its international image, among other consequences. It is important to note that these debates are largely fueled by retired military officials and academics within China and do not represent official views of the Chinese government. However, they do provide a window into how China's nuclear strategy could evolve if more hawkish voices were to prevail.[4]

Present State of China's Nuclear Arsenal and Delivery Systems

While China does not release official information on its nuclear arsenal, it is believed to possess a small but expanding arsenal of about 280 nuclear warheads. [5] In addition to adding about 40 warheads to its arsenal since 2010, Beijing has also focused its efforts on advancing its nuclear delivery systems in recent years as part of its broader drive to expand its military capabilities to become a "fully-developed great power" by 2049.[6]

China's nuclear modernization program has focused primarily on increasing the survivability of its nuclear forces and increasing retaliatory capability. Most notably, China has shifted away from its older liquid-fueled, silo-based missiles to road-mobile, solid-fueled missiles, and has developed multiple independently targetable re-entry vehicle (MIRV) capable intercontinental ballistic missiles (ICBM) that boost its ability to penetrate missile defense systems. China has also developed a ballistic missile submarine (SSBN) in recent years, giving Beijing access to a new sea-based nuclear deterrent.[7] In the coming years, China will continue to "optimize its

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[2] *China's Military Strategy*, State Council of the People's Republic of China, May 27, 2015 http://english.gov.cn/archive/white_paper/2015/05/27/content_281475115610833.htm.

[3] Ibid.

[4] Eric Heginbotham et al., *China's Evolving Nuclear Deterrent: Major Drivers and Issues for the United States* (Santa Monica: Rand Corporation, 2017), 129-33, https://www.rand.org/content/dam/rand/pubs/research_reports/RR1600/RR1628/RAND_RR1628.pdf. See also Li, "China's Evolving Nuclear Strategy," and see *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2017*, U.S. Department of Defense, 2017, 60, https://www.defense.gov/Portals/1/Documents/pubs/2017_China_Military_Power_Report.PDF.

[5] This estimate comes from the Stockholm International Peace Research Institute's *SIPRI Yearbook 2018* (Oxford University Press, 2018), https://sipri.org/media/press-release/2018/modernization-nuclear-weapons-continues-number-peacekeepers-declines-new-sipri-yearbook-out-now.

[6] For an overview of China's general military expansion, see *Understanding China's Military Expansion and Implications for U.S. Policy*: *Hearing on China's Worldwide Military Expansion, Before the House Permanent Select Committee on Intelligence*, 115th Cong. (2018) (Statement of Patricia M. Kim), https://cfrd8-files.cfr.org/sites/default/files/report_pdf/Patricia%20Kim%20-%20Testimony%20on%20China%20Military%20Expansion%20-%20HPSCI%20May%2017.pdf.

[7] Hans M. Kristensen and Robert S. Norris, "Chinese nuclear forces," *Bulletin of the Atomic Scientists* 72, no. 4 (2016), 205-211, https://www.tandfonline.com/doi/pdf/10.1080/00963402.2016.1194054

nuclear force structure, improve strategic early warning, command and control, missile penetration, rapid reaction, and survivability and protection," as declared in its 2015 defense white paper. [8]

It is important, however, not to overstate China's nuclear capabilities and to place its nuclear modernization in the broader comparative context. The United States and Russia still possess an overwhelming majority—over 90 percent—of the world's nuclear weapons and are in the midst of their own nuclear modernization programs.[9] Furthermore, China lags far behind the United States in terms of nuclear delivery capabilities. For instance, the PLA Air Force still does not have a nuclear mission although a strategic bomber with a nuclear delivery capability is currently under development. As a result, China is limited to a land and sea-based nuclear force structure, unlike the United States which also has strategic aircraft capabilities.[10] Barring fundamental changes in China's internal or external environment that wholly transform China's nuclear calculus, it is unlikely China will abandon its emphasis on minimum deterrence and strive to reach parity with the United States' nuclear capabilities in the foreseeable future.[11]

It is also vital to note that the United States has the greatest influence on the trajectory of China's nuclear force modernization.[12] Beijing is especially wary of U.S. capabilities that can challenge its minimum nuclear deterrent and its retaliatory-strike capabilities. As such, the United States' expansion of ballistic missile defense and prompt global strike capabilities in particular have raised concerns about vulnerability in Beijing.[13] Chinese strategists insist that these developments hinder smaller nuclear powers (like China) from pursuing nuclear disarmament and instead force them to enhance their own retaliatory-strike capabilities. Beijing is especially wary of the expansion of the United States' theater missile defense systems in East Asia, which is sees as a means to contain China. The United States efforts to develop a conventional prompt global strike capability has also raised concerns about preserving China's retaliation capabilities. As the United States continues to develop ballistic missile defense and global strike capabilities, Chinese enhancements of its own nuclear weapons system will follow.[14]

CHINA'S VIEWS ON ARMS CONTROL AND NONPROLIFERATION

China's Participation in Multilateral Arms Control Agreements

China is party to several major multilateral arms control agreements and treaties, including the Nuclear Non-proliferation Treaty, the Convention on Physical Protection of Nuclear Material, the Chemical Weapons Convention, the Biological Weapons Convention, and the International Convention for the Suppression of Acts of Nuclear Terrorism. China has signed but not ratified the Comprehensive Test Ban Treaty. China is also a member of the Nuclear Suppliers Group, the International Atomic Energy Agency, and the Global Initiative to Combat Nuclear Terrorism. Despite the rejection of its membership to the Missile Technology Control Regime in 2004 on the grounds that China does not adequately restrict missile and technology exports, China has pledged to abide by the rules of the group.

China is not a participant in the Hague Code of Conduct against Ballistic Missile Proliferation or the Proliferation Security Initiative (PSI). Beijing has chosen not to participate in PSI, which aims to stop

[8] *China's Military Strategy*, 2015.
[9] *SIPRI Yearbook 2018.*
[10] *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2017*, 61.
[11] See Gregory Kulacki, *The Chinese Military Updates China's Nuclear Strategy* (Cambridge: Union of Concerned Scientists, 2015), https://www.ucsusa.org/sites/default/files/attach/2015/03/chinese-nuclear-strategy-full-report.pdf and "David Logan, Hard Constraints on China's Nuclear Forces," *War on the Rocks*, November 8, 2017, https://warontherocks.com/2017/11/china-nuclear-weapons-breakout/. See also Heginbotham et al., *China's Evolving Nuclear Deterrent*, 38, 47, 129-133.
[12] Heginbotham et al., 57.
[13] Kulacki, 5.
[14] Heginbotham et al., 61-68.

trafficking of weapons of mass destruction (WMD) by increasing interdiction efforts on the grounds that interdictions may "go beyond the international law."[15] China's reluctance to participate has been rooted more directly in its desire not to alienate North Korea, a principle target of PSI, and in its principled objection against what it views as the selective targeting of certain regimes like North Korea and Iran, but not others, like India and Israel.[16]

Prospects for China's Participation in Arms Reductions Negotiations

Prospects for arms control dialogues with China remain dim given the reality that China has a dramatically smaller nuclear arsenal compared to the United States and Russia. First, negotiations require an open accounting of existing capabilities. China is reluctant to embrace full transparency, given its desire to maintain opacity to enhance the survivability of its small nuclear arsenal.[17] In addition, Chinese strategists insist that Washington and Moscow must first commit to significant reductions in their own arsenals before asking China to reduce its weapons.[18] Given strained U.S.-Russia relations and accusations on both sides of violations of the Intermediate-range Nuclear Forces Treaty, the appetite for new arms control initiatives between Washington and Moscow seems non-existent in the near-term, which means arms control dialogue with China will also be difficult to pursue.[19]

China and Nonproliferation

According to China's 2005 white paper on arms control, disarmament, and nonproliferation, China "firmly opposes the proliferation of weapons of mass destruction and their means of delivery" and has "actively participated" in international non-proliferation efforts by tightening export controls and law enforcement.[20] In practice, however, China has not always lived up to these commitments. The United States has long been concerned about China's involvement in the proliferation of WMD and its laxity in nonproliferation efforts. Chinese entities, such as state-owned defense industrial corporations, are known to have aided Pakistan's nuclear and missile programs throughout the 1990s, in addition to providing sensitive technologies and materials to Saudi Arabia, Iran, Libya, and North Korea.[21] China's willingness to assist the nuclear programs of other states in the past were driven by both strategic motives, such as the desire to arm Pakistan to balance against India, a mutual rival, as well as economic incentives that overrode concerns about proliferation and nuclear terrorism.[22]

Since the early 2000s, China has expressed greater willingness to crack down on proliferation through official statements and measures to tighten export controls. While Beijing participated in the maximum pressure campaign against North Korea to an unprecedented degree this past year, it has customarily been unwilling to

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[15] "The Proliferation Security Initiative," Ministry of Foreign Affairs of the People's Republic of China, April 7, 2011, http://www.fmprc.gov.cn/mfa_eng/wjb_663304/zzjg_663340/jks_665232/kjlc_665236/fkswt_665240/t410725.shtml

[16] Bates Gill, "China and Nuclear Arms Control: Current Positions and Future Policies," *SIPRI Insights on Peace and Security* (April 2010), 6 https://www.sipri.org/sites/default/files/files/insight/SIPRIInsight1004.pdf

[17] Hui Zhang, "A Discussion of China's Nuclear Transparency Options." Paper, 42nd Annual Meeting of the Institute for Nuclear Materials Management (July 2001), 2 https://www.belfercenter.org/sites/default/files/files/publication/inmm01-chinatrans.pdf

[18] Heginbotham et al., 153.

[19] Steven Pifer, "The Death of the INF Treaty Could Signal a U.S.-Russia Missile Race," *The National Interest*, December 6, 2017, http://nationalinterest.org/feature/the-death-the-inf-treaty-could-signal-us-russia-missile-race-23532

[20] "China issues white paper on arms control, disarmament & non-proliferation," Mission of the People's Republic of China to the European Union, http://www.chinamission.be/eng/zywj/bps/t1255353.htm

[21] Shirley A. Kan , "China and Proliferation of Weapons of Mass Destruction and Missiles: Policy Issues," Congressional Research Service, January 5, 2015, https://fas.org/sgp/crs/nuke/RL31555.pdf. See also "The Missile Technology Control Regime at a Glance," Arms Control Association, July 2017, https://www.armscontrol.org/factsheets/mtcr

[22] Li Bin, "Chinese Thinking on Nuclear Weapons," Arms Control Association, December 2015, https://www.armscontrol.org/ACT/2015_12/Features/Chinese-Thinking-On-Nuclear-Weapons

sign onto expansive sanctions on its traditional security partners. For instance, Beijing has often shielded Pyongyang in the past from crippling sanctions, given its desire not to destabilize the Kim regime. These tendencies have also been reinforced by disgruntlement with the fact that the economic burden of pressuring North Korea falls largely on China's shoulders.

China's lax enforcement of existing sanctions has driven the U.S. government to impose sanctions on Chinese companies over the years.[23] According to the State Department's compliance report on arms control, nonproliferation, and disarmament agreements and commitments released earlier this year, "Chinese entities continued to supply missile programs of proliferation concern" in 2017.[24] While it is unlikely that these entities were directed by the central government to engage in transactions that violate sanctions, the Chinese government has not always done its utmost to constrain various domestic entities who are most likely motivated by economic profit. And laxity is consistent with Beijing's desire to prioritize stability above all. Instead of using punitive measures, Beijing often pushes for "equal-footed dialogue" to "remove the root causes of nuclear terrorism and nuclear proliferation."[25] However, Beijing will cooperate on sanctions and enforcement if and when it deems doing so will prevent greater instability, as it judged during the tense months of late last year and early this year when North Korea's successive nuclear and missile tests and the Trump administration's threats to launch a limited military strike against Pyongyang spurred unparalleled Chinese cooperation in the maximum pressure campaign.

While China may not be a model state when it comes to efforts for nonproliferation, it will most likely start to adopt a more responsible attitude as it consolidates its great power status and its global interests grow. As China's economic and military footprint abroad increases, its citizens and assets will become more vulnerable nuclear terrorism and proliferation-related threats. As such we can expect China to take a more conservative approach on nuclear proliferation in the coming years.

POLICY RECOMMENDATIONS

Based on these observations of China's nuclear doctrine and arsenal, and its views on arms control and nonproliferation, I would like to suggest the following policy recommendations:

- **Engage in bilateral confidence building and avoid spurring an action-reaction dynamic.** As discussed above, China's nuclear force modernization will largely be influenced by the United States' own efforts to modernize its nuclear trajectory. As such, the United States should seek to engage in high-level dialogues with China to clarify respective nuclear policies, doctrine and capabilities, and to engage in confidence building measures to reduce the prospects of an action-reaction arms race that will not only be destabilizing for the world, but also prove highly costly for U.S. taxpayers. On a related note, the United States should think holistically about developing ballistic missile defense and pursuing new nuclear and non-nuclear capabilities that can increase the strategic vulnerability of other states.

- **Strengthen alliances and the credibility of the United States' security commitments.** China will continue to modernize its nuclear forces into the foreseeable future in order to maintain its minimum deterrent capabilities in the nuclear realm, and as part of its larger campaign to strengthen its military capabilities. In the midst of China's military expansion, it is vital the United States reassures its allies, especially in East Asia, of the credibility of its security commitments by clarifying and reinforcing its

[23] "Iran, North Korea, and Syria Nonproliferation Act: Imposed Sanctions," U.S. Department of State, May 29, 2013, https://www.state.gov/t/isn/inksna/c28836.htm
[24] "2018 Report on Adherence to and Compliance With Arms Control, Nonproliferation, and Disarmament Agreements and Commitments," U.S. Department of State, https://www.state.gov/t/avc/rls/rpt/2018/280532.htm
[25] "Statement by H.E. Xi Jinping President of the People's Republic of China at the Nuclear Security Summit," Ministry of Foreign Affairs of the People's Republic of China, http://www.fmprc.gov.cn/mfa_eng/wjdt_665385/zyjh_665391/t1140583.shtml

security assurances, conducting joint exercises to strengthen alliance capabilities and interoperability, and resolving disputes with allies in a discreet and cooperative manner. Neglecting our allies could drive these states to develop their own nuclear weapons on the one hand, triggering a dangerous arms race in the East Asian region, or force them to accommodate China's demands on the other hand, at the expense of alliance solidarity. The United States' alliances are an invaluable asset that enable Washington to lead collective challenges against Chinese aggression and to generally shape outcomes in the global arena, and their maintenance must be prioritized.

- **Leverage China's desire for stability and its growing international profile and interests to encourage its active participation in nonproliferation efforts.** Chinese President Xi Jinping has set out ambitious goals to develop China into a world class power by 2049. None of these goals can be achieved if China is beset with chaos and instability, such as a war stemming from a nuclear crisis on the Korean Peninsula. Furthermore, as more and more Chinese assets and citizens move abroad, they will also become increasingly vulnerable to nuclear terrorism and other proliferation-related instability. U.S. leaders should leverage China's desire for stability and its need to protect its growing interests to encourage Beijing to do more to curb nuclear proliferation.

- **Set a leading tone on arms control.** The United States' most recent Nuclear Posture Review announced that it would introduce two new types of nuclear weapons in light of the growing threat from China and Russia, among other actors. As a responsible great power, the United States should instead lead the charge against introducing new nuclear weapons, work to raise the threshold for nuclear conflict, and continue to rally its counterparts to work toward reducing and ultimately ridding the world of nuclear weapons.