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2022

# Nuclear Deterrence and Arms Control Agreements between three Peer Adversaries

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Monterey, California: Naval Postgraduate School

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## NPS NRP Executive Summary

Nuclear Deterrence and Arms Control Agreements between Three Peer Adversaries

Period of Performance: 10/24/2021 – 10/22/2022

Report Date: 10/22/2022 | Project Number: NPS-22-N053-B

Naval Postgraduate School, Space Systems Academic Group (SSAG)



NAVAL RESEARCH PROGRAM

NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

# NUCLEAR DETERRENCE AND ARMS CONTROL AGREEMENTS BETWEEN THREE PEER ADVERSARIES EXECUTIVE SUMMARY

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**Additional Researcher(s):** No additional researchers participated in this research project

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**Prepared for:**

Topic Sponsor Lead Organization: N3/N5 - Plans & Strategy

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### Project Summary

China has emerged as a peer military and economic adversary to the United States and Russia. This changes the balance of power and dynamics of nuclear deterrence, which has traditionally been based on a bilateral contest between the old cold-war nuclear-armed superpowers. In some cases, adjustments to U.S. policy, agreements, and nuclear deterrence strategy may be warranted.

This project draws on the expertise of many students at the Naval Postgraduate School in the Space Nuclear Command, Control, and Communications four-course certificate program. The students in this certificate program have experience in nuclear deterrence as their military operational specialty. The students were required to write a final paper for the class considering the research questions posed and use minimum of sixteen credible references to support their findings. These students have considered the problem, conducted analysis, and synthesized the works they referenced and presented their findings. They worked independently, and some of their conclusions were similar.

The U.S. and China are peers militarily and economically, while Russia lags in these areas. However, Russia is the only nuclear peer to the U.S., while China lags. China's nuclear arsenal has been smaller for decades due to a policy of minimum deterrence; however, it seems a shift is occurring in this strategy as China increases its nuclear forces.

Students generally agreed that arms control agreements that included the U.S. and Russia, but not China, would come under strain as China would be free to pursue weapons and other nuclear systems prohibited by the agreement between the other two. Although China has rebuffed past efforts to participate in arms control agreements, the U.S. should continue to seek agreements and attempt to convince Beijing of the security and stability nuclear arms control agreements could bring.

**Keywords:** *nuclear command, control, and communications; NC3; nuclear command and control; NC2; nuclear deterrence; China; Russia*

### Background

Classical nuclear deterrence strategy was based mainly on the existence of two nuclear-armed peer adversaries. However, China has emerged as a third nuclear superpower. China is already a peer economically and militarily. While its nuclear arsenal is substantially smaller than that of the U.S. or Russia, it is actively expanding and increasing its nuclear capabilities. There have never existed three nuclear-armed superpowers, and these may upend assumptions on which previous nuclear deterrence strategy was built. At a minimum, the U.S. should reevaluate nuclear deterrence in light of this new reality to determine if changes should be made to U.S. nuclear deterrence strategy and policy.

While China and Russia have no formal alliance, Sino-Russian relations are generally agreed to be on friendlier terms than they have been since the 1950s, and they have agreed informally to build an alliance against the U.S. (Trofimov, 2019).

This research seeks to shed light on the following questions and provide policy recommendations to add future stability and help the U.S. maintain a credible nuclear deterrent.



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The research questions considered were:

1. How does the dynamics of nuclear deterrence change when there are three peer nuclear adversaries?
2. How might the new peer adversary's behavior change as they move status within the nuclear deterrence framework?
3. How might the current peer adversary behavior change as a third peer actor changes the deterrence framework?

Students in the Space Nuclear Command, Control, and Communications certificate at the Naval Postgraduate School studied this problem, considered these questions, and presented their findings in the technical report. Students analyzed the problem from personal experience and various resources available and referenced them in their final papers.

### Findings and Conclusions

The U.S. and Russia maintain nuclear arsenals about 20 times larger than China's, but China is increasing the size of its nuclear arsenal. China summarily rejected the Trump administration's efforts to include China in the New Start Treaty in 2019 and released a statement stating that the U.S. and Russia must first reduce their own numbers of nuclear weapons before participating in multi-lateral nuclear arms agreements.

The New Start Treaty is currently the only nuclear arms control agreement between Russia and the U.S.. This treaty also provides on-site inspections, required notifications between countries, bilateral meetings, and data exchanges, which generally offer robust compliance verification. Meanwhile, China has begun expanding its nuclear arsenal, and it is expected to reach 700 warheads by 2027 and 1000 warheads by 2030 (Bugos, 2021).

Ideally, the U.S. and Russia would continue to make arms control progress and further reduce arms bilaterally. This is a challenge due to Russia's unprovoked invasion of Ukraine, threats to use its nuclear weapons, and Vladimir Putin's general unwillingness to continue to reduce nuclear weapons (even before the war). The outcome for Ukraine, Russia, and the world due to this war is uncertain, but the U.S. should remain ready to engage with Russia (and China) at any time. Further reduction in nuclear arms bilaterally with Russia may not be feasible in the short term. Still, the U.S. should remain ready to continue reducing nuclear arms along with Russia as soon as Russia is again amiable to such a course of action.

The U.S. seems to have few options to pressure China or offer incentives to keep the number of nuclear arms small relative to the U.S. and Russia. At first glance, it may seem hypocritical for the U.S. to ask this of China, while the number of weapons in the U.S. arsenal is much larger. However, diplomatic or economic incentives might still persuade China. The U.S. has not declared a policy of "no first use"; however, it could take this policy but only towards nations with a nuclear arsenal much smaller than the U.S., such as 25% or fewer warheads. Additionally, if China acquires a much larger nuclear arsenal, it might become more difficult to persuade Russia to reduce the size of its arsenal. Therefore, the U.S. should work to find common ground with China (in nuclear deterrence) with open dialogue and find methods to mutually pressure Moscow to reduce the size of its nuclear weapons cache. It should be clear to China that the U.S. is wholly interested in reducing the role of nuclear weapons.



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Recommendations may need to be adjusted based on the world situation in the near future. Nonetheless, there is potential to spiral into the next nuclear arms race. The U.S. must continue pursuing nuclear stability with Russia and China through regular dialogue. The U.S. should continue to understand China's nuclear ambitions and what motivates its leadership to expand its arsenal now while it has remained small for many decades.

### Recommendations for Further Research

Future research should aim to understand how the Chinese leadership perceives nuclear deterrence and how they view the U.S. nuclear posture. This should include finding common ground with China in realm of nuclear deterrence and, if possible, investigate how it might be possible to present a united front and place pressure on Russia to further reduce the number of nuclear weapons in its arsenal.

The U.S. Naval War College (USNWC) Wargaming Department already conducts an annual nuclear deterrence wargame on behalf of the US Strategic Command (USSTRATCOM). USSTRATCOM or other appropriate government agencies should commission a wargame or series of wargames to consider the problems of three peer nuclear-armed adversaries, emphasizing the most effective strategies to deter the use of nuclear weapons and deter expanding nuclear arsenals. The USNWC may be the most experienced in strategic nuclear deterrence wargames at a classified level.

### References

- Bugos, S. (2021, December). *Pentagon Sees Faster Chinese Nuclear Expansion*. Arms Control Association. <https://www.armscontrol.org/act/2021-12/news/pentagon-sees-faster-chinese-nuclear-expansion>
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### Acronyms

NC2	nuclear command and control
NC3	nuclear command, control, and communications
USNWC	US Naval War College
USSTRATCOM	US Strategic Command

