

Introduction

For nearly half a century after the first use of nuclear weapons, the world was stuck in the middle of a nuclear arms race between the United States and Soviet Union. During and after this period, arms control agreements played a major role in preventing a nuclear holocaust, and continue to do so today.

- Despite the competition between the two, U.S. and Soviet leaders recognized the need to discuss, and ultimately constrain, their respective nuclear capabilities.
- This recognition led to seminal agreements between Moscow and Washington. Notable agreements include:
 - The Strategic Arms Limitation Talks (SALT) I;
 - SALT II;
 - The Strategic Arms Reduction Treaty (START) I;
 - START II;
 - The Intermediate-Range Nuclear Forces Treaty (INF Treaty);
 - The Strategic Offensive Reductions Treaty (SORT or Moscow Treaty) and;
 - New START.
- New START is the last existing nuclear arms control agreement between the U.S. and Russia.
 - New START is set to expire in February 2021.
 - New START's expiration would allow unlimited nuclear weapons construction and deployment by Russia and the United States.

Nuclear Weapons Stockpiles and Delivery Systems

The U.S., Russia, and China all possess advanced nuclear arsenals. However, a major difference in these arsenals is the number of warheads possessed by the U.S. and Russia relative to China. Under New START, while land-based and submarine-based warheads are counted individually, a deployed heavy bomber is counted as a single warhead, regardless of how many it carries. In the chart on the following page, bombers are not included in the warhead count for China, as it is not a party to New START. Additionally, these numbers may be considered approximate, as they typically fluctuate due to maintenance, deployment, and replacement cycles.

- The U.S., Russia, and China all possess the full nuclear triad.
 - The nuclear triad refers to the ability to deliver nuclear weapons in three ways: via land-based missile (long-range intercontinental ballistic missiles being the biggest threat), aircraft, or submarine.
- Determining accurate counts and capabilities is difficult with publicly available information, as neither Russia nor China publicly disclose these numbers. Russia's arsenal is disclosed to the U.S. under New START rules, but not publicly.
- The number of systems possessed by the U.S. and Russia relative to China shows the disparity in capabilities. China has a large variety of systems, but significantly fewer weapons, especially intercontinental-range.

Nuclear Capabilities by Country

Nuclear Warheads Based on New START			
	Deployed Warheads	Non-Deployed Warheads	Total Arsenal Size
U.S.	1,372 ¹	4,050 ²	5,415
Russia	1,326 ³	4,805 ⁴	6,266
China	0 ⁵	320 ⁶	320

Note: China's deployed warhead count is zero based on China's no first use policy – meaning China will not be the first to use a nuclear weapon during war – and thus does not keep warheads mated to delivery systems in times of peace.⁷ However, the DoD's 2020 report on Chinese military capabilities suggests that Beijing could be moving towards a limited 'launch on warning' posture.^{7A}

Comparing Nuclear Triads				
	Total ICBMs	Deployed Heavy Bombers	Ballistic Missile Subs	Totals
U.S.	660 ⁸	47 ⁹	14 ¹⁰	740
Russia	400* ¹¹	76 ¹²	10 ¹³	426
China	98** ¹⁴	4+*** ¹⁵	4**** ¹⁶	202

*Russia is estimated to have 302 ICBMs deployed, but 400 "on combat duty."
 **China also possesses 152 nuclear capable intermediate- and medium-range ballistic missiles.
 ***4+ nuclear aircraft include only the nuclear capable H-6N, as the current active nuclear-armed status of its roughly 100 H-6K bombers is less clear.
 ****China currently has 4 operational Jin-class SSBNs. 2 more are currently being outfitted and are expected to enter active duty soon.

Comparing Operational Nuclear Missiles by Country

Russian Nuclear Missiles ²¹			U.S. Nuclear Missiles ¹⁷			Chinese Nuclear Missiles ²³		
Type	#	Range ²²	Type	#	Range ¹⁸	Type	#	Range ²⁴
<i>Intercontinental Ballistic Missiles</i>								
RS-12M <i>Topol</i> (SS-25 <i>Sickle</i>)	36	10,500-11,000 km	LGM-30G <i>Minuteman</i> III*	400	13,000 km	DF-4	10	4500-5500 km
RS-12M2 <i>Topol-M</i> (SS-27 Mod 1)	78	11,000 km				DF-5A/B	20	13,000+ km
RS-18 (SS-19 <i>Stiletto</i> ; mostly Mod 3)	30	10,000 km				DF-31	8	8,000-11,700 km
RS-20 (SS-18 <i>Satan</i> ; mostly Mod 5)	46	10,200-16,000 km				DF-31A	24	11,000+ km
RS-24 <i>Yars</i> (SS-27 Mod 2)	150	10,500 km				DF-31A(G)	18	8,000-11,700 km
						DF-41*	18	12,000-15,000 km
						<i>Medium/Intermediate-Range Ballistic Missiles</i>		
						DF-26	72	3,000-4,000 km
						DF-21A/E	80	2,150 km
<i>Air-Launched Cruise Missiles</i>						<i>Air-Launched Ballistic Missiles</i>		
Kh-55SM	Unknown	2,500 km	AGM-86B	536 ¹⁹	2,500 km	In-development	N/A	N/A
Kh-102	Unknown	2,500-2,800 km						
<i>Sub-Launched Ballistic Missiles</i>								
SS-N-18 <i>Stingray</i>	Max of 16/SSBN	6,500 km	UGM-133A <i>Trident</i> D-5/ D-5LE	Up to 280**	2,000-12,000 km	JL-2 (CH-SS-N-14)	Up to 48**	8,000-9,000 km
SS-N-23 <i>Skiff</i>	Max of 16/SSBN	8,300 km	*Each Minuteman missile is equipped with a Mk12A or Mk21 re-entry vehicle. **Each of the 14 <i>Ohio</i> submarines can carry up to 20 SLBMs. ²⁰			*Entering Service **Each operational <i>Jin</i> submarine can carry up to 12 SLBMs, ²⁵ 2 more will become operational soon, increasing the total. Note: China does not appear to field any air-launched cruise missiles equipped with a nuclear payload; it is developing a nuclear air-launched ballistic missile.		
SS-N-32 <i>Bulava</i>	Max of 16/SSBN	8,300 km						
Note: Estimates include silo-based and road mobile where applicable								

China's Role in Nuclear Arms Control Negotiations

- China's nuclear capability is already playing a critical role in the current status of arms control agreements, particularly as Beijing is building up its nuclear capabilities.
- The U.S. withdrew from the INF Treaty in 2019, citing Russian violations of the treaty, but also contended that the Chinese arsenal's non-inclusion in the INF Treaty as a reason for the withdrawal.²⁶
 - Roughly 60 percent of China's nuclear capable missiles are INF range (1,000-5,500 km) weapons and would not be covered by current New START classifications.
 - These missiles threaten U.S. allies and interests in East and Southeast Asia as well as Alaska.
- The U.S. has pointed to Chinese participation in New START or its replacement as being important as Washington decides how to approach the forthcoming expiration of the treaty in February 2021.
 - China has said it would "be happy to" join a trilateral arms control agreement under the condition the U.S. reduces its nuclear arsenal to the same level as China's (which would require a 95% cut).²⁷
 - Should China join New START, much of Beijing's nuclear arsenal would be covered by the limits on ICBMs, SLBMs, and heavy bombers. But the current levels in comparison to Russia and the United States would encourage China to expand its arsenal to match the limits imposed on the other countries.
- Given the enormous disparity in numbers between the Chinese arsenal and those of the U.S. and Russia, it is unlikely a trilateral nuclear arms control agreement will come to fruition in the near future.

Moscow's Position

- The last remaining nuclear arms control agreement – New START – is a bilateral treaty between the U.S. and Russia.
 - Russia has called for an extension of the treaty, but the U.S. has not yet agreed to an extension while it has advocated for Chinese inclusion in a trilateral agreement, and other changes to New START.
- Russia does not oppose China's participation in arms control discussions but warns that China's participation may be "unrealistic."²⁸
 - Russian Deputy Foreign Minister Sergei Ryabkov has said Russia would prefer arms control talks to be multi-lateral, but "we [Russia] cannot 'force' or 'persuade' anyone to join such talks."²⁹
- Russia's position on Chinese participation leaves the ball squarely in the U.S.' court to decide how to proceed with renewing New START.

Policy Options

There are a number of options the U.S. could take as negotiations with Russia over New START continue.

Option One: Insist on Chinese participation but refuse to take measures needed to bring Beijing to the table.

- In order for the U.S. to meet China's condition of equivalent sized nuclear arsenals, the U.S. would have to reduce its nuclear arsenal by 95%.
- Not meeting China's request could mean New START will lapse, based on how the Trump administration handled the INF Treaty withdrawal and China's perceived role in that decision. This will allow Russia to expand its deployed nuclear arsenal without limits.

Option Two: Accept China's offer to participate and reduce the U.S. nuclear arsenal to equal China's.

- Meeting China's demand would leave Russia – also a strategic competitor – with a far superior nuclear force.

- Russia would need to be convinced to make a similar level of reductions, or be left with a severe nuclear advantage.
- Reducing the nuclear arsenal would require a significant nuclear policy reversal as the U.S. is currently entering a period of nuclear investment and modernization.

Option Three: Proceed with renewing the bilateral agreement with Russia.

- Renewing New START would mean the limits on strategic offensive weapons deployed & number of delivery systems deployed/non-deployed remain intact.
- Renewing New START would retain the verification measures, which gives both the U.S. and Russia critical information about each other's capabilities.
- Renewing New START will allow 5 years to negotiate a future nuclear arms control agreement.
- China's nuclear arsenal is not in the same league as the U.S. and Russia when it comes to nuclear weapons, so allowing the more significant threat of the Russian arsenal to go unrestrained would be unwise.

Chinese Participation in a Nuclear Agreement

Although unlikely at this time, Beijing's participation in arms control could be possible in the future. A realistic nuclear arms control deal with China might require some or all of the following:

1. Removal of U.S. ballistic missile defense systems from East Asia;
2. Some level of asymmetry on nuclear numbers given the disparity in size of China's arsenal vs. the U.S./Russia's;
3. A focus on the technological capabilities behind the weapons, not only the number of weapons themselves;
4. U.S. conventional weapons constraints;
5. Framing an agreement as one without "winners" and "losers;"
6. Consultation on current U.S.-Russian arms control negotiations.

Endnotes

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