A Nuclear Net Assessment

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The US is indeed facing two peer adversaries in China and Russia which will have combined some 10,000 nuclear warheads in 2035, some multiple thousands greater than their joint nuclear stockpiles today. A key question is to what extent do nuclear weapon numbers matter? Certainly, in the seven strategic nuclear weapons treaties between the United States and the USSR and then Russia, numbers allowed for each side were identical. The Posture Commission of October 2023 addressed this question and concluded that while the US may need a greater future nuclear deterrent capability the United States did not necessarily have to match the Chinese and Russian nuclear weapons forces "warhead for warhead" while also concluding the US nuclear deterrent was strong today.

However, before laying out the assessment of the US nuclear enterprise in the context of other nuclear threats, some points need to be made about the US modernization effort, especially what it is and what it is not.

First, the US modernization effort of acquiring 12 Columbia class submarines, the requisite number of D-5 missiles, (16 per submarine), the 400 Sentinel ICBMs, upgraded B52 bombers and at least some 20 nuclear B21 "Raider" strategic bombers are entirely consistent with the 2010 New START nuclear arms agreement and US obligations under the Nuclear Non-Proliferation Treaty.

In short, the US modernization effort is consistent with international law and is not in any way engineering or beginning an "arms race." It is insulting to the nuclear industry given their heroic work to overcome multiple decades of nuclear neglect to claim their current work is somehow endangering US security through pursuing some kind of "arms race."

Second, the cost of the US nuclear modernization is not $1.2 trillion over thirty years as CBO (the Congressional Budget Office) claimed in their initial 2010 assessment. A very large portion of the cost of the nuclear enterprise is supporting the legacy US nuclear forces that are now aging, are being kept well beyond their intended life-cycle, and are costing more each year and will within the next decade go out of service due to technological factors that can only be marginally changed.

In fact, as SAC defense subcommittee member Senator John Hoeven explained at a TRIAD conference in September 2024, the research development, test, evaluation and acquisition costs of the new modernized Triad elements are $19 billion in FY2026 as approved by the Senate Appropriations Committee. The overall nuclear enterprise in the current fiscal year (FY2025) costs a total of $52 billion, (including only the nuclear capable portion of the B21 Raider program and not the full planned acquisition of 100 strategic bombers.)

Third, the choice isn't choosing between keeping or extending the life of what we now have, exercising "restraint" and foregoing modernization vs the current modernized program of record.

As Senator Shaheen of New Hampshire has also explained, relying on our legacy systems only and not modernizing risks the danger of the US as Clark Murdock warned "rusting to obsolescence." And the administrator of the National Nuclear Security Administration (NNSA) Dr. Jill Hruby has also pointed out, the $22 billion NNSA budget is in part necessary to sustain the US nuclear warheads without which the US would have to get out of the nuclear business.

And as former Commander of the US Strategic Command Admiral Charles Richard also explained, the alternative to modernization is not keeping what we have but it means getting out of the nuclear deterrent business and unilaterally disarming.

These are the only two choices.

Fourth, however much we may seek a nuclear weapons free world, there is zero chance any such deal is on the horizon. As North Korea's leader is purported to have told a US official about the idea of global zero being adopted by the DPRK, "Sure, you first." Therefore, claims that the US nuclear deterrent strategy is immoral, or in the words of Annie Jacobson "mad," are dangerous. What would be the current alternative? If nuclear deterrence won't work as Jacobson and the New York Times both argue, in her book "Nuclear War: A Scenario" and the Times series "At

the Brink," respectively, they both have an obligation to tell us what is the alternative? Like previous nuclear initiatives such as the nuclear freeze, such ideas as "global nuclear zero" have to be tested in the context of the real world.

The Nuclear Balance

The United States

The US nuclear deterrent consists of those forces currently in the field, as well as those that could be placed in the field in a relatively short period of time, and the overall force that in the much longer term could be fielded by the United States. The New START agreement of 2010 laid out what force could be deployed, but it did not restrict the total available inventory of nuclear warheads the US maintained as a "hedge" in case the assumptions that underpinned the New START agreement might change. That hedge gives the United States a total of 3300 warheads or some 1300 additional warheads the US could put into the long-range strategic nuclear force.

Currently the US deploys a possible 1090 Ohio class submarine based warheads as allowed by the New START agreement, and somewhat less than 1000 deployed day to day. For our ICBM Minuteman force, we have very close to all 400 missiles and their 400 warheads, (Actual alert rates are 99..5%), plus upward of 60 allowable B2 and B52 strategic bombers, none of which are on-alert on a day to day basis. These bombers can carry from 8-20 gravity bombs or cruise missiles.

The US now has 14 Ohio class submarines but only 12 are counted as deployed, each with 20 D-5 missiles. The US has 400 Minuteman III missiles, and 60 nuclear strategic bombers. But starting in 2032, the Columbia class submarine and the Sentinel ICBM will gradually replace our legacy systems so that between 2050-52 the US will have a fully modernized some 652 strategic nuclear platforms, (192 sub missiles, 400 Sentinel ICBMs, and 60 strategic bombers).

Now the US could add 50 ICBM silos still available but not now used. The Sentinel or in the interim some of the Minuteman III missiles could hold more warheads and thus over some four years increase the US deployed arsenal by hundreds of additional warheads. Similarly, the upgraded D-5 missile can carry 8 warheads and if all 192 missiles aboard 12 Columbia class submarines were loaded, the US could deploy 1536 SLBM warheads. And with 60 strategic bombers each with a notional 10-12 weapons, the US bombers could be deployed with some 600-720 warheads. All combined, the US could over time deploy some 1536 +800+720 warheads, or 3056 warheads, just short of the warheads available in our nation's stockpile. (Some 200 warheads are gravity bombs that would be deployed aboard regional/theater capable US fighter plans based in Europe---none are deployed currently in the Pacific.)

Now what about Russia and China?

Russia

First Russia no longer abides by the New START agreement. Second, a number of Russian strategically capable systems are not counted against the New START treaty limits. Third, because Russia places so many of its warheads on large, multiple warhead capable missiles, it only deploys roughly 540 what are termed SNDV or Strategic Nuclear Delivery Vehicles although the New START agreement allows 700 SNDVs. That means the Russians could add considerably more such platforms and thus thousands of additional warheads if they wished to do so given the relative size of their arsenal today. Fourth, to fit within the New START limits, Russia is by the US State Department assumed to have limited its warheads per missile to a number consistent with the New START agreement, although Russian declarations to that affect have stopped being issued.

If Russia uploaded with more warheads per its currently deployed long range nuclear systems, the Russian strategic nuclear force would easily exceed 3500 deployed warheads, without having to add any additional land based or sea based missiles than what they have today. Mark Schneider of NIPP and Chris Yeaw of the University of Nebraska both project Russia's strategic nuclear force is headed to 3500-4500 warheads by the middle of the next decade.

China (These numbers are in some instances notional and need to be updated)

As for China, the current buildup has been described by retired Admiral Charles Richard as “breathtaking.” The current nuclear force is around 600 strategic long range deployed warheads, having grown by at least 100 this past year. The Chinese are building the H-20 stealth bombers, 096 SSBNs or submarines, and the land based missiles DF-45/51s, all of which are in some stage of development from 1-2 yrs to 5-6 years to production.

Included in the Chinese force structure are 300 new ICBM silos, along with 100 mobile ICBMs; six submarines each with 6 sea launched ballistic missiles. The silos are capable of holding the DF-31 or DF-41 which each have between 2-10 warheads, respectively. The submarines will carry the JL-3 or JL-4 missile, with the capability to carry some 1-4 warheads each. [Our Navy Pacific commander says the PRC is currently beginning to deploy the advanced multiple warhead submarine launched ballistic missile.)

And finally, the PRC has some 20 strategic bombers, each with the capability of deploying 6-12 nuclear weapons. The current build or acquisition rate of these systems is 1-2 years in the near term and 4-5 years for the long term. Projected from today’s level China will have in 2035 some 1400 strategic long range warheads .

In addition, China and Russia have what are termed theater or regional, short range nuclear weapons. Officially, Russia has 1900 such weapons according to the US intelligence services, while China according to unofficial estimates is estimated to have only a few hundred. According to Yeaw and Schneider, however, Russia could easily have 4000 such theater weapons today. As for China, Yeaw says China today has 578 theater weapons and by 2035 he projects that China will have 2184.

Taking this data int account, combined, Russia will have some 7500 theater and strategic warheads by 2035 and China will have some 3500. There are no technological barriers to this projected growth. The PRC is building new production facilities for nuclear weapons grade material, with significant help from Moscow. And the balance reviewed here does not including the current North Korea force, nor what Iran might produce. As for Israeli, French and British forces those are estimated to collectively be around a few hundred warheads.

Conclusion

The US faces within the next decade the prospects of two nuclear armed peer adversaries with at least a three to one advantage in deployed (in the field) nuclear weapons. This would be the case even if the United States implements a near 50% hedge increase in its own nuclear forces over the next decade. The US could build more Navy nuclear armed regionally capable cruise missiles, which the Congress has put in the budget and the Navy has now determined to support. The number of such submarine based cruise missiles that would be deployed has not been determined but a number of dozens of such weapons is most plausible. The United States could also build more Columbia class submarines, but given the limits of our shipyard capacity, that new acquisition might not begin until 2043, after the currently planned build of the Columbia class SSBN has been concluded.

PART II

What approval is required for new nuclear deterrent policy?

The history of national security defense directives or presidential defense directives vary from administration to administration. There is no legally required process to secure approval except new deterrent policy or targeting, for example, must be signed by the President, and then sent to the Secretary of Defense and the Joint Staff and then transmitted to US Strategic Command for implementation. Of course, if the President wants to add force structure such as subs, land based missiles, cruise missiles or strategic bombers to the force, such requests must be approved by Congress.

The process for such decisions often goes through an interagency review policy, although this again is a matter of choice among the relevant officials. The interagency process can be used to delay or obstruct decision making or can be used to make sure all interested parties within the executive branch of the US government have a say in policy. However, there is also a dearth of knowledge of the nuclear enterprise throughout the executive branch and that must be taken into account when formulating policy.

There are former senior members of previous administrations that have developed such policy such as targeting and deterrence strategy and then personally walked the guidance through the necessary approval levels including and up through the Secretary of Defense and National Security Adviser to the President.

One General Officer told me for approving any policy, you may wish to assemble a team that supports the policy as it could be helpful on getting such a policy implemented, similar to the teams put together to write/staff a nuclear policy review. The NSC would lead, and then contributions would come from OSD-Nuclear Matters, OSD Policy, JS/J5, STRATCOM and J8, NNSA, the USAF A10 office, and Navy both SSP and SSBN. Particularly important would be BGen Peter Bonetti.

Other senior General Officers reminded that there are a considerable number of statutory limitations on what one can do re ICBMs and Sentinel that would require Congressional approval is the number of ICBMs was changed from the currently required 450 silos and 400 deployed.

An Admiral (retired) said a new Nuclear Posture Review is inviting a great number of cooks into the nuclear kitchen. Such a new assessment is probably not needed, given especially when the two Congressionally mandated reports have already laid out the options the United States has and that will not change with another NPR –which might just serve to delay decision making.

PART III

Options for the United States

Overall adopt a sense of urgency (Admiral Charles Richard) and acquire systems "at the speed of relevance" (Gen John Hyten)

- Deploy +400 more ICBM warheads up to +800
- Deploy ICBM missiles in the 50 additional silos
- Acquire a Navy nuclear armed cruise missile
- Acquire more B21 Raider bombers than the projected 100 so additional nuclear capability is added to the US nuclear arsenal
- Build a new government owned, company operated shipyard for building Columbia class submarines
- Add warheads to the D-5/SLEP missile up to the warhead capacity of 8 warheads per missile.
- Add warheads to the current 20-24 D5 missiles in each of the Ohio class submarines, knowing however that the Ohio class submarine is planned to go out of service between 2031-42 and the number of D5 missiles fall from 20-24 to 16 when the Columbia class submarine is deployed. .
- Develop a Tritium Mine Production Capability
- Build missile defenses for protection of the US land based ICBMs and other nuclear assets such as strategic bomber/tanker bases